

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In The Matter of the Application of )  
 )  
HAWAIIAN ELECTRIC COMPANY, INC., ) DOCKET NO. 2015-0389  
HAWAII ELECTRIC LIGHT COMPANY, INC. )  
MAUI ELECTRIC COMPANY, LIMITED )  
 )  
For Approval to Establish a Rule to Implement )  
a Community-Based Renewable Energy Program, )  
and Other Related Matters. )  
\_\_\_\_\_ )

**THE HAWAIIAN ELECTRIC COMPANIES'**

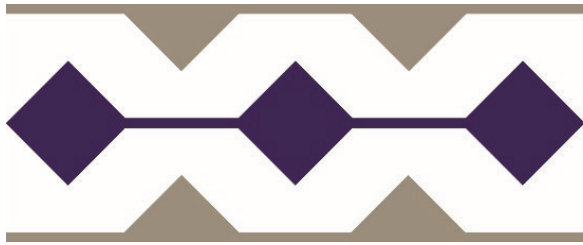
**COMMUNITY BASED RENEWABLE ENERGY (CBRE) - PHASE 2  
DRAFT TARIFF AND APPENDICES, AND RFPS AND  
MODEL CONTRACTS FOR LMI CUSTOMERS, MOLOKAI AND LANAI**

**BOOK 2 OF 3**

**Filed July 9, 2020**

# EXHIBIT 6

Draft CBRE Request for Proposals  
for the Island of Molokai



**Maui  
Electric**

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

This Request for Proposals (“RFP”) is a DRAFT only. Maui Electric Company, Ltd. (“Maui Electric”) will employ a competitive bidding process to select renewable energy projects including Community Based Renewable Energy consistent with the State of Hawai‘i Public Utilities Commission’s (“PUC”) Competitive Bidding Framework. Under the Competitive Bidding Framework, Maui Electric will file the initial draft RFP with the PUC. Then, Maui Electric will seek input from prospective Proposers and other stakeholders through a Technical Conference as described in the draft RFP and will modify the draft RFP to the extent feasible to address input received in order to foster a robust competitive process. The proposed final RFP will be submitted to the PUC for approval and is subject to further revision based upon direction received from the PUC. After approval by the PUC, Maui Electric will issue the final RFP.

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## **Chapter 1: Introduction and General Information**

Maui Electric Company, Ltd. (“Maui Electric” or the “Company”) seeks proposals for Community-Based Renewable Energy (“CBRE”) projects for the Maui Electric System on the island of Moloka‘i in accordance with this Request for Proposals (“RFP”).

The Company or its Affiliates may submit a Proposal in response to this RFP subject to the requirements of this RFP.

The Company seeks new variable photovoltaic (“PV”) generation projects paired with energy storage systems in this RFP. For projects 250 kW or greater in size, up to 2.5 MW, a pre-approved mid-tier RDG PPA will be used in the form of Appendix L (“Standard Form Contract”). For projects greater than 2.5 MW in size, the Company intends to contract for variable renewable dispatchable generation projects through this RFP using its Model Renewable Dispatchable Generation Power Purchase Agreement (“RDG PPA”), which treats variable generation facilities as fully dispatchable. The Company has created a PV version (the “PV RDG PPA”) of its RDG PPA attached as Appendix K.

Each successful Proposer will provide PV generation paired with energy storage to the Company pursuant to the terms of an RDG PPA or Standard Form Contract. Selected projects greater than 2.5 MW in size will be subject to PUC review and approval by the State of Hawai‘i Public Utilities Commission (“PUC”), while projects selected in this RFP that are 2.5 MW or smaller will not be subject to further regulatory review and approval of the Standard Form Contract.

The Company will evaluate Proposals using the evaluation and selection process described in Chapter 4. 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 number of Projects that the Company may acquire from this RFP depends on, among other things, the quality and cost-effectiveness of bids received in response to this RFP; economic comparison to other RFP responses; updates to the Company’s forecasts; distribution availability; and changes to regulatory or legal requirements. If attractive Proposals are received that will provide energy and energy storage in excess of the targeted amounts, the Company will consider selecting such Proposal(s) if benefits to customers are demonstrated.

All requirements necessary to submit a Proposal(s) are stated in this RFP. A description of the technical requirements for Proposers is included in the body of this RFP, Appendix B, and in the RDG PPA and Standard Form Contract attached as Appendix K and L.

All capitalized terms used in this RFP shall have the meaning set forth in the glossary of defined terms attached as Appendix A. Capitalized terms that are not included in Appendix A shall have the meaning ascribed in this RFP.

### **1.1 Authority and Purpose of the Request for Proposals**

1.1.1 This RFP is issued in response to Order No. 37070 issued on April 20, 2020 and Order No. 37139 issued on May 14, 2020 in Docket No. 2015-0389 as part of a procurement process established by the PUC.

1.1.2 This RFP is subject to Decision and Order (“D&O”) No. 23121 in Docket No. 03-0372 (To Investigate Competitive Bidding for New Generating Capacity in Hawai‘i), which sets forth the PUC’s Framework for Competitive Bidding (“Framework” or “Competitive Bidding Framework”).

## **1.2 Scope of the RFP**

1.2.1 Proposals submitted in response to this RFP shall meet the requirements identified in Part II of Tariff Rule No. 29, Community-Based Renewable Energy Program Phase 2, attached as Appendix J.

1.2.2 The Company will only accept Proposals for PV generation paired with energy storage Projects (“Paired Projects”).

1.2.3 At least 40% of the Project’s capacity must be reserved for residential subscribers with unsubscribed compensation subject to the requirements in Article 2 of the RDG PPA or 1.C of the Standard Form Contract.

1.2.4 Preference will be given to Projects whose subscriber portion reserves an amount greater than 40% of Project capacity for residential customers and/or any additional amount of Project capacity dedicated to Low- and Moderate-Income (“LMI”) customers, which means a member of a household with a household income equal to or less than the income limit established by the U.S. Department of Housing and Urban Development (“HUD”) for a LMI Household. To qualify, a household’s income must be equal to or less than the income limit established by HUD for the customer’s household size in the appropriate county. Refer to the HUD website<sup>1</sup> to obtain the income limits.

1.2.5 Each Proposal submitted in response to this RFP must represent a Project that is capable of meeting the requirements of this RFP without having to rely on the completion or implementation of any other Project, or without having to rely on a proposed change in law, rule, or regulation.

1.2.6 Proposals that will require system upgrades and the construction of which, in the reasonable judgment of the Company (in consultation with the Independent Observer), creates a significant risk that their Project’s Guaranteed Commercial Operations Date (“GCOD”) will not be met will not be considered in this RFP.

1.2.7 Projects submitted in response to this RFP must be located on the Island of Moloka‘i.

1.2.8 Proposers will determine their Project Site. Proposers have the option of submitting a Proposal using potential Sites offered and described in Section 3.11. Proposers must locate all Project infrastructure within areas of their Site that are outside the 3.2 feet sea level rise exposure area (SLR-XA) as described in the Hawai‘i Sea Level Rise

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<sup>1</sup> <https://www.huduser.gov/>.

Vulnerability and Adaptation Report (2017)<sup>2</sup> and are not located within a Tsunami Evacuation Zone.<sup>3</sup> All equipment required for a Proposer's project must be sited within the Proposer's project site with no assumptions that any equipment will be sited on Company property unless specified by the Company.

- 1.2.9 Projects must interconnect to the Company's System at the distribution level (12 kV or lower). Projects interconnecting at the distribution level must not exceed 3 MW.
- 1.2.10 Projects submitted in response to this RFP must be 250 kW or larger. No single point of failure from the Facility shall result in a decrease in net electrical output greater than 2.7 MW AC. Proposers for CBRE projects smaller than 250 kW should refer to the Company's CBRE website for instructions on how to submit proposals at <https://www.hawaiianelectric.com/products-and-services/customer-renewable-programs/community-solar>.
- 1.2.11 Contracts for Projects selected through this RFP must use the RDG PPA or Standard Form Contract, as described in Section 3.8. Under the RDG PPA and Standard Form Contract, the Company shall maintain exclusive rights to fully direct dispatch of the Facility, subject to availability of the resource and Section 1.2.12 below.
- 1.2.12 The storage component of a Paired Project will be charged during periods when full potential export of the generation component is not being dispatched by the Company, and the storage component can be used to provide energy to the Company during other times that are beneficial to the system. The storage component of a Paired Project must be sized to support the Facility's Allowed Capacity (in MW) for a minimum of four (4) continuous hours throughout the term of the RDG PPA or the Standard Form Contract.  
  
For example, for a 3 MW facility, the storage component must be able to store and discharge at least 12 MWh of energy in a cycle throughout the term of the RDG PPA or Standard Form Contract.
- 1.2.13 All Paired Projects must be able to be charged from the grid at the direction of the Company after the 5-year Investment Tax Credit ("ITC") recapture period has lapsed. Paired Projects that are incapable of claiming the ITC must be capable of being 100% charged from the grid from the GCOD.
- 1.2.14 The amount of energy discharged from any energy storage component in a year will be limited to the energy storage contract capacity (in MWh) multiplied by the number of Days in that year.

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<sup>2</sup> Hawai'i Climate Change Mitigation and Adaptation Commission. 2017. Hawai'i Sea Level Rise Vulnerability and Adaptation Report. Prepared by Tetra Tech, Inc. and the State of Hawai'i Department of Land and Natural Resources, Office of Conservation and Coastal Lands, under the State of Hawai'i Department of Land and Natural Resources Contract No: 64064. This report is available at: [https://climateadaptation.hawaii.gov/wp-content/uploads/2017/12/SLR-Report\\_Dec2017.pdf](https://climateadaptation.hawaii.gov/wp-content/uploads/2017/12/SLR-Report_Dec2017.pdf)

<sup>3</sup> See Hawai'i Sea Level Rise Viewer at <https://www.pacioos.hawaii.edu/shoreline/slr-hawaii/>, and National Oceanic and Atmospheric Administration (NOAA) interactive map in partnership with the State of Hawai'i at <https://tsunami.coast.noaa.gov/#/>. Projects infrastructure must be outside the "Tsunami Evacuation Zone" (but not necessary to be outside the "Extreme Tsunami Evacuation Zone").



- 1.2.15 If selected, Proposers will be responsible for all costs throughout the term of the PPA or Standard Form Contract, including but not limited to Project development, completion of an Interconnection Requirements Study (“IRS”), the cost of conducting a greenhouse gas analysis, land acquisition, permitting, financing, construction of the Facility and all Interconnection Facilities, and the operation and maintenance (“O&M”) of the Facility.
- 1.2.16 If selected, Proposers will be solely responsible for the decommissioning of the Project and the restoration of the Site upon the expiration of the PPA, as described in Attachment G, Section 7 of the RDG PPA or the Standard Form Contract.
- 1.2.17 If selected, Proposers shall pursue all available applicable federal and state tax credits. Proposal pricing must be set to incorporate the benefit of such available federal tax credits. However, to mitigate the risk on Proposers due solely to potential changes to the state’s tax credit law before a selected project reaches commercial operations, Proposal pricing shall be set without including any state tax credits. If a Proposal is selected, the PPA for the project will require the Proposer to pursue the maximum available state tax credit and remit tax credit proceeds to the Company for customers’ benefit as described in Attachment J of the RDG PPA or the Standard Form Contract. The PPA will also provide that the Proposer will be responsible for payment of liquidated damages for failure to pursue the state tax credit.

### **1.3 Competitive Bidding Framework**

Consistent with the Framework, this RFP outlines the Company’s requirements in relation to the resources being solicited and the procedures for conducting the RFP process. It also includes information and instructions to prospective Proposers participating in and responding to this RFP.

### **1.4 Role of the Independent Observer**

- 1.4.1 Part III.C.1 of the Framework sets forth the circumstances under which an Independent Observer is required in a competitive bidding process. The Independent Observer will advise and monitor all phases of the RFP process and will coordinate with PUC staff throughout the RFP process to ensure that the RFP is undertaken in a fair and unbiased manner. In particular, the Company will review and discuss with the Independent Observer decisions regarding the evaluation, disqualification, non-selection, and selection of Proposals.
- 1.4.2 The role of the Independent Observer, as described in the Framework, will include but is not limited to:
- Monitor all steps in the competitive bidding process
  - Monitor communications (and communications protocols) with Proposers
  - Monitor adherence to the Company’s Code of Conduct
  - Submit comments and recommendations, if any, to the PUC concerning the RFP
  - Review the Company’s Proposal evaluation methodology, models, criteria, and assumptions
  - Review the Company’s evaluation of Proposals

- Advise the Company on its decision-making
- Participate in dispute resolution as set forth in Section 1.10
- Monitor contract negotiations with Proposers
- Report to the PUC on monitoring results during each stage of the competitive bidding process
- Provide an overall assessment of whether the goals of the RFP were achieved

1.4.3 The Independent Observer for this RFP is: **Arroyo Seco Consulting**.

## **1.5 Communications Between the Company and Proposers – Code of Conduct Procedures Manual**

1.5.1 Communications and other procedures under this RFP are governed by the “Code of Conduct Procedures Manual,” (also referred to as the “Procedures Manual”) developed by the Company as required by the Framework, and attached as Appendix C.

1.5.2 All pre-Proposal communication with prospective Proposers will be conducted via the Company’s RFP website, Electronic Procurement Platform, and/or electronic mail (“Email”) through the address specified in Section 1.6 (the “RFP Email Address”). Phone communication or face-to-face meetings will not be supported. Frequently asked questions submitted by prospective Proposers and the answers to those questions may be posted on the Company’s RFP website, or sent through either Email or the Electronic Procurement Platform to registered individuals. The Company reserves the right to respond only to comments and questions it deems are appropriate and relevant to the RFP. Proposers shall submit questions no later than fifteen Days before the Proposal Due Date (RFP Schedule in Section 3.1, Items 6 and 7). The Company will endeavor to respond to all questions no later than five Days before the Proposal Due Date.

1.5.3 After Proposals have been submitted, the Company may contact individual Proposers for purposes of clarifying their Proposal(s).

1.5.4 Any confidential information deemed by the Company, in its sole discretion, to be appropriate to share, will only be transmitted to the requesting party after receipt of a fully executed CBRE Mutual Confidentiality and Non-Disclosure Agreement (“NDA”). See Appendix E.

1.5.5 Except as expressly permitted and in the manner prescribed in the Procedures Manual, any unsolicited contact by a Proposer or prospective Proposer with personnel of the Company pertaining to this RFP is prohibited.

## 1.6 Company Contact for Proposals

The primary contact for this RFP is:

[TBD]  
Energy Contract Manager  
Hawaiian Electric Company, Inc.  
Central Pacific Plaza Building, Suite 2100  
220 South King Street  
Honolulu, Hawai'i 96813

RFP Email Address: [cbrerfp@hawaiianelectric.com](mailto:cbrerfp@hawaiianelectric.com)

## 1.7 Proposal Submission Requirements

- 1.7.1 All Proposals must be prepared and submitted in accordance with the procedures and format specified in the RFP. Proposers are required to respond to all questions and provide all information requested in the RFP, as applicable, and only via the communication methods specified in the RFP.
- 1.7.2 Detailed requirements regarding the form, submission, organization and information for the Proposal are set forth in Chapter 3 and Appendix B.
- 1.7.3 Proposals must not rely on any information that is not contained within the Proposal itself in demonstrating compliance for any requirement in this RFP.
- 1.7.4 In submitting a Proposal in response to this RFP, each Proposer certifies that the Proposal has been submitted in good faith and without fraud or collusion with any other unaffiliated person or entity. The Proposer shall acknowledge this in the Response Package submitted with its Proposal. Furthermore, in executing the NDA provided as Appendix E, the Proposer agrees on behalf of its Representatives (as defined in the NDA) that the Company's negotiating positions will not be shared with other Proposers or their respective Representatives.

In addition, in submitting a Proposal, a Proposer will be required to provide Company with its legal counsel's written certification in the form attached as Appendix B Attachment 1 certifying in relevant part that irrespective of any Proposer's direction, waiver, or request to the contrary, that the attorney will not share a Proposer's confidential information associated with such Proposer with others, including, but not limited to, such information such as a Proposer's or Company's negotiating positions. If legal counsel represents multiple unaffiliated Proposers whose Proposals are selected for the Final Award Group, such counsel will also be required to submit a similar certification at the conclusion of power purchase agreement negotiations that he or she has not shared a Proposer's confidential information or the Company's confidential information associated with such Proposer with others, including but not limited to, such information as a Proposer's or Company's negotiating positions.

- 1.7.5 All Proposals must be submitted via the Electronic Procurement Platform by 2:00 pm Hawai'i Standard Time ("HST") on the Proposal Due Date shown in the RFP Schedule in Section 3.1. No hard copies of these Proposals will be accepted by the Company.<sup>4</sup>

It is the Proposer's sole responsibility to ensure that complete and accurate information has been submitted on time and consistent with the instructions of this RFP. With this assurance, Company shall be entitled to rely upon the completeness and accuracy of every Proposal. Any errors identified by the Proposer or Company after the Proposal Due Date has passed may jeopardize further consideration and success of the Proposal. If an error or errors are later identified, Company, in consultation with the Independent Observer, may permit the error(s) to be corrected without further revision to the Proposal, or may require Proposer to adhere to terms of the Proposal as submitted without correction. Additionally, and in Company's sole discretion, if such error(s) would materially affect the Priority List or Final Award Group, Company reserves the right, in consultation with the Independent Observer, to remove or disqualify a Proposal upon discovery of the material error(s). The Proposer of such Proposal shall bear the full responsibility for such error(s) and shall have no recourse against Company's decision to address Proposal error(s), including removal or disqualification. The Energy Contract Manager, in consultation with the Independent Observer, will confirm that the Self-Build Proposals were submitted by milestone (6) Self-Build Proposal Due Date in Section 3.1, Table 1. The Electronic Procurement Platform automatically closes to further submissions after milestone (7) IPP and Affiliate Proposal Due Date in Table 1.

## **1.8 Proposal Fee**

- 1.8.1 IPP and Affiliate proposers are required to tender a non-refundable Proposal Fee of \$2,000 for each Proposal submitted.
- 1.8.2 Proposers may submit multiple Proposal variations for a Project for a single Proposal Fee. If such Proposals are on different Sites, a separate Proposal Fee must be paid for each Proposal. The method of submitting multiple Proposals within this RFP is described in Appendix B.
- 1.8.3 Proposers may also submit up to a total of two (2) variations of their Proposal, one variation of which is the base variation of the Proposal. Variations of pricing terms or Facility size can be offered. Whether or not a separate Proposal Fee is required, all unique information for each variation of a Proposal, no matter how minor such variation is, must be clearly identified and separated by following the instructions in Appendix B Section 4.
- 1.8.4 The Proposal Fee must be in the form of a cashier's check or equivalent or equivalent from a U.S.-chartered bank made payable to "Maui Electric Company, Ltd." and must be delivered and received by the Company by 2:00 pm (HST) on the Proposal Due Date shown in the RFP Schedule in Section 3.1. The cashier's check should include a reference to the Proposal(s) for which the Proposal Fee is being provided. Proposers are

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<sup>4</sup> Proposals for the SBO(s) have additional submission requirements to the PUC specified in Section 1.9 below.

strongly encouraged to utilize a delivery service method that provides proof of delivery to validate delivery date and time.

If the Proposal Fee is delivered by U.S. Postal Service (with registered, certified, receipt verification), the Proposer shall address it to:

[TBD]  
Energy Contract Manager  
Hawaiian Electric Company, Inc.  
Mail Code CP21-IU  
PO Box 2750  
Honolulu, Hawai'i 96840

If the Proposal Fee is delivered in person, or via an alternative registered, certified delivery service, the Proposer shall use the address specified in Section 1.6.

## **1.9 Procedures for the Self-Build or Affiliate Proposals**

- 1.9.1 Order 37070 states that the CBRE RFPs will be open to all bidders, including the Companies. The Competitive Bidding Framework allows the Company the option to offer a Proposal(s) in response to this RFP (“Self-Build Option” or “SBO”). Accordingly, the Company must follow certain requirements and procedures designed to safeguard against and address concerns associated with: (1) preferential treatment of the SBO or members, agents or consultants of the Company formulating the SBO (the “Self-Build Team”); and (2) preferential access to proprietary information of the Self-Build Team. These requirements are specified in the Code of Conduct (“CBRE Code of Conduct”) required under the Framework and implemented by certain rules and procedures found in the Procedures Manual submitted to the PUC in Docket No. 2015-0389 on July 9, 2020. The CBRE Code of Conduct will apply to all CBRE Phase 2 RFPs, regardless of whether the Company will submit an SBO Proposal. A copy of the Procedures Manual is attached as Appendix C.

The Competitive Bidding Framework also allows Affiliates of the Company to submit Proposals<sup>5</sup> to RFPs issued by the Company. All Self-Build and Affiliate Proposals are subject to the Company’s Code of Conduct and the Procedures Manual. Affiliate Proposals are also subject to any applicable Affiliate Transaction Requirements issued by the PUC in Decision and Order No. 35962 on December 19, 2018, and subsequently modified by Order No. 36112, issued on January 24, 2019, in Docket No. 2018-0065. Affiliate Proposals will be treated identically to an IPP Proposal and must be submitted electronically through the Electronic Procurement Platform by Milestone (7), IPP and Affiliate Proposal Due Date in RFP Table 1.

- 1.9.2 The Company will require that the Proposal for the SBO(s) and Affiliate Proposals be submitted electronically through the Electronic Procurement Platform. SBO Proposals will be due a minimum of one (1) Day before other Proposals are due. A Proposal for the

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<sup>5</sup> A Proposal will also be treated as an Affiliate Proposal if the Affiliate is a partner for the Proposal.

SBO will be uploaded into the Electronic Procurement Platform in the same manner Proposals from other Proposers are uploaded. The Energy Contract Manager, in consultation with the Independent Observer, will confirm that the Self-Build Proposals are timestamped by Milestone (6) Self-Build Proposal Due Date in RFP Table 1.

- 1.9.3 Detailed requirements for an SBO Proposal can be found in Appendix G. These requirements are intended to provide a level playing field between SBO Proposals and third-party Proposals. Except where specifically noted, an SBO Proposal must adhere to the same price and non-price Proposal requirements as required of all Proposers, as well as certain PPA or Standard Form Contract requirements, such as milestones and liquidated damages, as described in Appendix G. The non-negotiability of the Performance Standards shall apply to any SBO to the same extent it would for any other Proposal. Notwithstanding the fact that it will not be required to enter into an RDG PPA or Standard Form Contract with the Company, a Self-Build Proposer will be required to note its exceptions, if any, to the RDG PPA in the same manner required of other Proposers, and will be held to such modified parameters if selected. In addition to its Proposal, the Self-Build Team will be required to submit Appendix G Attachment 1, Self-Build Option Team Certification Form, acknowledging it has followed the rules and requirements of the RFP to the best of its ability and has not engaged in any collusive actions or received any preferential treatment or information providing an impermissible competitive advantage to the Self-Build Team over other proposers responding to this RFP, as well as adherence to PPA or Standard Form Contract terms and milestones required of all proposers and the SBO's proposed cost protection measures.

The cost recovery methods between a regulated utility SBO Proposal and IPP Proposals are fundamentally different due to the business environments they operate in. As a result, the Company has instituted a process to compare the two types of proposals for the initial evaluation of the price related criteria on a 'like' basis through comparative analysis.

At the core of an SBO Proposal are its total project capital cost and any associated annual operations and maintenance ("O&M") costs. During the RFP's initial pricing evaluation step, these capital costs<sup>6</sup> and O&M costs will be used in a revenue requirement calculation to determine the estimated revenues needed from customers which would allow the Company to recover the total cost of the project. The SBO revenue requirements are then used in a levelized price calculation to determine a Levelized Benefit ("LB") (\$/MWh) which will then be used for comparison to IPP Proposals.

The Company, in conjunction with the Independent Observer, may also conduct a risk assessment of the SBO Proposal to ensure an appropriate level of customer cost protection measures are included in such Proposal.

The SBO will be permitted to submit a shared savings mechanism with its Proposal to share in any cost savings between the amount of cost bid in the SBO Proposal and the actual cost to construct the Project. If the SBO Proposal is selected to the Final Award

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<sup>6</sup> Self-Build Proposals will be required to provide a table identifying project costs by year. These capital costs should be all inclusive, including but not limited to costs associated with equipment, Engineering, Procurement, and Construction ("EPC"), interconnection, overhead, and Allowance for Funds Used During Construction ("AFUDC").

Group, the proposed shared savings mechanism will need to be approved by the PUC. Submission of a shared savings mechanism is not required and will not be considered in the evaluation of the SBO Proposal.

### **1.10 Dispute Resolution Process**

- 1.10.1 If disputes arise under the RFP, the provisions of Section 1.10 and the dispute resolution process established in the Framework will control. See Part V of the Framework.
- 1.10.2 Proposers who challenge or contest any aspect of the RFP process must first attempt to resolve their concerns with the Company and the Independent Observer (“Initial Meeting”). The Independent Observer will seek to work cooperatively with the parties to resolve any disputes or pending issues and may offer to mediate the Initial Meeting to resolve disputes prior to such issues being presented to the PUC.
- 1.10.3 Any and all disputes arising out of or relating to the RFP which remain unresolved for a period of twenty (20) Days after the Initial Meeting takes place may, upon the agreement of the Proposer and the Company, be submitted to confidential Mediation in Honolulu, Hawai‘i, pursuant to and in accordance with the Mediation Rules, Procedures, and Protocols of Dispute Prevention Resolution, Inc. (“DPR”) (or its successor) or, in its absence, the American Arbitration Association then in effect (“Mediation”). The Mediation will be administered by DPR. If the parties agree to submit the dispute to Mediation, the Proposer and the Company shall each pay fifty percent (50%) of the cost of the Mediation (i.e., the fees and expenses charged by the mediator and DPR) and shall otherwise each bear their own Mediation costs and attorney’s fees.
- 1.10.4 If settlement of the dispute is not reached within sixty (60) Days after commencement of the Mediation, or if after the Initial Meeting, the parties do not agree to submit any unresolved disputes to Mediation, then as provided in the Framework, the Proposer may submit the dispute to the PUC in accordance with the Framework.
- 1.10.5 In accordance with the Framework, the PUC will serve as the arbiter of last resort for any disputes relating to this RFP involving Proposers. The PUC will use an informal expedited dispute resolution process to resolve the dispute within thirty (30) Days, as described in Parts III.B.8 and V of the Framework.<sup>7</sup> There will be no right to hearing or appeal from this informal expedited dispute resolution process.
- 1.10.6 If any Proposer initiates a dispute resolution process for any dispute or claim arising under or relating to this RFP, other than that permitted by the Framework and Section 1.10 (e.g., a court proceeding), then such Proposer shall be responsible for any and all

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<sup>7</sup> The informal expedited dispute resolution process does not apply to PUC review of contracts that result from the RFP. See Decision and Order No. 23121 at 34-35. Further, the informal expedited dispute resolution process does not apply to the Framework’s process relating to issuance of a draft and final RFP, and/or to the PUC approval of the RFP because: (1) the Framework (and the RFP) set forth specific processes whereby interested parties may provide input through the submission of comments; and (2) the Framework’s dispute resolution process applies to “Bidders” and there are no “Bidders” at this stage in the RFP process.

attorneys' fees and costs that may be incurred by the Company or the PUC in order to resolve such claim.

### **1.11 No Protest or Appeal**

Subject to Section 1.10, no Proposer or other person will have the right to protest or appeal any award or disqualification of a Project made by the Company.

By submitting a Proposal in response to the RFP, the Proposer expressly agrees to the terms and conditions set forth in this RFP.

### **1.12 Modification or Cancellation of the Solicitation Process**

- 1.12.1 Unless otherwise expressly prohibited, the Company may, at any time up to the final execution of an RDG PPA or Standard Form Contract, as may be applicable, in consultation with the Independent Observer, postpone, withdraw, and/or cancel any requirement, term, or condition of this RFP, including deferral of the award or negotiation of any contract, and/or cancellation of the award all together, all of which will be without any liability to the Company.
- 1.12.2 The Company may modify this RFP subject to requirements of the Framework, whereby the modified RFP will be reviewed by the Independent Observer and submitted to the PUC thirty (30) Days prior to its issuance, unless the PUC directs otherwise. See Framework Part IV.B.10. The Company will follow the same procedure with regard to any potential postponement, withdrawal, or cancellation of the RFP or any portion thereof.

## **Chapter 2: Resource Needs and Requirements**

### **2.1 Performance Standards**

Proposals must meet the attributes set forth in this RFP, the technical requirements identified in Appendix I of Rule 14H, and either the requirements of the RDG PPA for proposals greater than 2.5 MW or the Standard Form Contract for proposals between 250 kW and up to 2.5 MW. This RFP, Rule 14H, and either the RDG PPA or the Standard Form Contract set forth the minimum requirements that all Proposals must satisfy to be eligible for consideration in this RFP. If there is a conflict between the Performance Standards in Rule 14H and the RDG PPA or applicable Standard Form Contract, the contract terms will control. Additional Performance Standards may be required based on the results of the IRS.

Facilities that are 1 MW or larger must be able to operate in grid-forming mode when directed by the Company as defined in the RDG PPA or Standard Form Contract.



Black start capability<sup>8</sup> is required for Paired Projects that are 1 MW or larger.

- 2.1.1 For Paired Projects, the functionality and characteristics of the storage must be maintained throughout the term of the PPA or Standard Form Contract. To be clear, Proposers may not propose any degradation for either capacity or efficiency in their Proposals.

## 2.2 Distribution-Level System Information

Proposers are encouraged to use the Locational Value Maps located at <https://www.hawaiianelectric.com/clean-energy-hawaii/integration-tools-and-resources/locational-value-maps> to determine circuit capacity. However, while the Locational Value Map provides information regarding an initial assessment of the potential MW hosting capacity for distribution level circuits, these numbers should only be used as a screening tool to select a circuit that will provide a higher likelihood of interconnection. This is because the methodology used to develop these hosting capacity numbers is geared towards smaller distributed energy resources (“DER”) and does not include the scenario of a larger DER interconnecting at one point. As a result, load flow analyses are required to confirm the impact to line capacities and voltage limits. Detailed load flow analyses will be performed as part of the project selection process.

- 2.2.1 A detailed IRS, when performed, may reveal other adverse system impacts that may further limit a Project’s ability to interconnect and/or further limit the net output of the Facility without upgrades.

## 2.3 Interconnection to the Company System

- 2.3.1 The Proposer must provide all information pertaining to the design, development, and construction of the Interconnection Facilities as specified in Appendix B. Interconnection Facilities includes both: (1) Seller-Owned Interconnection Facilities; and (2) Company-Owned Interconnection Facilities.

- 2.3.2 All Proposals must include a description and conceptual or schematic diagrams of the Proposer’s plan to transmit power from the Facility to the Company System. The proposed Interconnection Facilities must be compatible with the Company System. In the design, Projects must adequately consider Company requirements to address impacts on the performance and reliability of the Company System.

- 2.3.2.1 In addition to the Performance Standards and findings of the IRS, the design of the Interconnection Facilities, including power rating, Point(s) of Interconnection with the Company System, and scheme of interconnection, must meet Company standards. The Company will provide its construction standards and procedures to the Proposer

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<sup>8</sup> The ability to provide power to the Company's grid without relying on any services or energy from the Company's grid to recover from a total or partial shutdown. When the Company's grid blacks out, the Project may experience step changes in load and other transient and dynamic conditions as it picks up load without support from other resources on the system during start-up (if the Project remains connected) or while connecting.

(Engineer, Procure, Construct Specifications for Hawaiian Electric Power Lines and Substations) if requested via the communication methods identified in Section 1.5 and upon the execution of a CBRE NDA as specified in Section 3.12.1. These specifications are intended to illustrate the scope of work typically required to administer and perform the design and construction of a Maui Electric substation and power line.

- 2.3.2.2 Interconnection Facilities must be designed such that, it meets or exceeds the applicable single line diagram in Appendix H, Attachment 1 or Attachment 2.
- 2.3.3 Tariff Rule No. 19, a copy of which is attached as Appendix I, establishes provisions for Interconnection and Transmission Upgrades. While the Moloka‘i System does not have a traditional Transmission System, the tariff provisions are intended to simplify the rules regarding who pays for, installs, owns, and operates interconnection facilities in the context of competitive bidding.
- 2.3.4 The Proposer shall be responsible for all costs required to interconnect a Project to the Company System, including all Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities.
- 2.3.5 Proposers are required to include in their pricing proposal all costs for interconnection and equipment expected to be required between their Facility and their proposed Point of Interconnection. Appendix H includes information related to Company-Owned Interconnection Facilities and costs that may be helpful to Proposers. Selected Proposers shall be responsible for the actual final costs of all Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities (see Appendix H, Attachment 1 or Attachment 2), whether or not such costs exceed the costs set forth in a Proposer’s Proposal. No adjustments will be allowed to the proposed price in a Proposal if actual costs for Interconnection Facilities exceed the amounts proposed.
- 2.3.6 Proposers are required to include in their pricing proposal all costs for distribution-level service interconnection for station power.
- 2.3.7 All Projects will be screened for general readiness to comply with the requirements for interconnection. Proposals selected to the Final Award Group will be subject to Section 5.1.1. Proposals selected to the Final Award Group may be subject to further study in the form of an IRS. The IRS process is further described in Section 5.1. The results of the completed IRS or as identified through the Detailed Evaluation process, as well as any mitigation measures identified, will be incorporated into the terms and conditions of a final executed PPA or the Standard Form Contract for proposals 2.5 MW or smaller.

### **Chapter 3: Instructions to Proposers**

#### **3.1 Schedule for the Proposal Process**

Table 1 sets forth the proposed schedule for the proposal process (the “RFP Schedule”). The RFP Schedule is subject to PUC approval. The Company reserves the right to revise the RFP Schedule as necessary. Changes to the RFP Schedule prior to the RFP Proposal Due Date will be posted to the RFP website. Changes to the RFP Schedule after the

Proposal Due Date will be communicated via Email or via the Electronic Procurement Platform to the Proposers.

**Table 1**  
**Proposed RFP Schedule**

| <b>Milestone</b>                              | <b>Schedule Dates</b>               |
|---|-------------------------------------|
| (1) Draft RFP filed                           | July 9, 2020                        |
| (2) Technical Status Conference               | July 29, 2020                       |
| (3) Parties and Participants file Comments by | August 12, 2020                     |
| (4) Proposed Final RFP filed                  | September 8, 2020                   |
| (5) Final RFP is Issued                       | October 20, 2020 <sup>9</sup>       |
| (6) Self-Build Proposal Due Date              | December 21, 2020 at 2:00 pm<br>HST |
| (7) IPP and Affiliate Proposal Due Date       | December 22, 2020 at 2:00 pm<br>HST |
| (8) Selection of Priority List                | March 5, 2021                       |
| (9) BAFOs Due                                 | March 12, 2021                      |
| (10) Selection of Final Award Group           | June 25, 2021                       |
| (11) Contract Negotiations Start              | July 6, 2021                        |

### 3.2 Company RFP Website/Electronic Procurement Platform

3.2.1 The Company has established a website for general information to share with potential Proposers. The RFP website is located at the following link:

<https://www.hawaiianelectric.com/clean-energy-hawaii/selling-power-to-the-utility/competitive-bidding-for-new-generation/molokai-rfp>

The Company will provide general notices, updates, schedules and other information on the RFP website throughout the process. Proposers should check the website frequently to stay abreast of any new developments. This website will also contain the link to the Electronic Procurement Platform employed by the Company for the receipt of Proposals.

“Sourcing Intelligence” developed by Power Advocate is the Electronic Procurement Platform that the Company has licensed and will utilize for this RFP. Proposers who do not already have an existing account with PowerAdvocate and who intend to submit a Proposal for this RFP will need to register as a “Supplier” with PowerAdvocate.

<sup>9</sup> Per Section IV.B.6.e.ii of the Competitive Bidding Framework “[t]he utility shall have the right to issue the RFP if the Commission does not direct the utility to do otherwise within thirty (30) days after the Commission receives the proposed RFP and the Independent Observer’s comments and recommendations.” October 20, 2020 is based on this thirty (30) day timeline. However, this date and all subsequent dates in the proposed schedule are dependent on any further guidance provided by the PUC.

- 3.2.2 There are no license fees, costs, or usage fees to Proposers for the use of the Electronic Procurement Platform.

See [Appendix D](#) for user information on and screenshots of PowerAdvocate's Sourcing Intelligence procurement platform.

### **3.3 Information Conferences**

The PUC has scheduled a Technical Status Conference on July 29, 2020 to discuss the draft RFP. Parties and Participants will then have an opportunity to submit comments on the draft RFP. The Company will then revise the RFP after considering the comments received and file a final RFP for PUC review and approval.

Additionally, the Company will hold a prerecorded webinar for CBRE in accordance with the Competitive Bidding Framework for prospective Proposers to learn about the provisions and requirements of this RFP. Prospective Proposers may also submit written questions regarding the RFP to the RFP Email Address set forth in [Section 1.6](#). The Company will endeavor to address all questions that will be helpful to prospective Proposers via a Q&A section on the RFP website.

Prospective Proposers should review the RFP Website's Q&A section prior to submission of their Proposal. Duplicate questions will not be answered.

### **3.4 Preparation of Proposals**

- 3.4.1 Each Proposer shall be solely responsible for reviewing the RFP (including all attachments and links) and for thoroughly investigating and informing itself with respect to all matters pertinent to this RFP, the Proposer's Proposal, and the Proposer's anticipated performance under the RDG PPA or Standard Form Contract. It is the Proposer's responsibility to ensure it understands all requirements of the RFP, to seek clarification if the RFP's requirements or Company's request is not clear, and to ask for any confirmation of receipt of submission of information. Under [Section 1.7.4](#), the Proposer is solely responsible for all errors in its Proposal(s). The Company will not accept any explanation by a Proposer that it was incumbent on the Company to catch any error.
- 3.4.2 Proposers shall rely only on official information provided by the Company in this RFP when preparing their Proposal. The Company will rely only on the information included in the Proposals, and additional information solicited by the Company to Proposers in the format requested, to evaluate the Proposals received. Evaluation will be based on the stated information in this RFP and on information submitted by Proposers in response to this RFP. Proposals must clearly state all capabilities, functionality and characteristics of the Project; must clearly detail plans to be performed; must explain applicability of information; and must provide all referenced material if it is to be considered during the Proposal evaluation. Referencing previous RFP submissions or projects for support will not be considered. Proposers should not assume that any previous RFP decisions or preferences will also apply to this RFP.

- 3.4.3 Each Proposer shall be solely responsible for, and shall bear all of its costs incurred in the preparation of its Proposal and/or its participation in this RFP, including, but not limited to, all costs incurred with respect to the following: (1) review of the RFP documents; (2) status conference participation; (3) Site visits; (4) third-party consultant consultation; and (5) investigation and research relating to its Proposal and this RFP. The Company will not reimburse any Proposer for any such costs, including the selected Proposer(s).
- 3.4.4 Each Proposal must contain the full name and business address of the Proposer and must be signed by an authorized officer or agent<sup>10</sup> of the Proposer.

### **3.5 Organization of the Proposal**

- 3.5.1 The Proposal must be organized as specified in Appendix B. It is the Proposer's responsibility to ensure the information requested in this RFP is submitted and contained within the defined proposal sections as specified in Appendix B.

### **3.6 Proposal Limitations**

Proposers expressly acknowledge that Proposals are submitted subject to the following limitations:

The RFP does not commit or require the Company to award a contract, pay any costs incurred by a Proposer in the preparation of a Proposal, or procure or contract for products or services of any kind whatsoever. The Company reserves the right, in consultation with the Independent Observer, to accept or reject, in whole or in part, any or all Proposals submitted in response to this RFP, to negotiate with any or all Proposers eligible to be selected for award, or to withdraw or modify this RFP in whole or in part at any time.

- The Company reserves the right, in consultation with the Independent Observer, to request additional information from any or all Proposers relating to their Proposals or to request that Proposers clarify the contents of their Proposals. Proposers who are not responsive to such information requests may be eliminated from further consideration upon consultation with the Independent Observer.
- The Company reserves the right, in consultation with the Independent Observer, to solicit additional Proposals from Proposers after reviewing the initial Proposals. Other than as provided in this RFP, no Proposer will be allowed to alter its Proposal or add new information to a Proposal after the Proposal Due Date.
- All material submitted in response to this RFP will become the sole property of the Company, subject to the terms of the CBRE NDA.

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<sup>10</sup> Proposer's officer or agent must be authorized to sign the Proposal. Such authorization must be in writing and may be granted via Proposer's organizational documents (i.e., Articles of Incorporation, Articles of Organization, By-laws, etc.), resolution, or similar documentation.

### 3.7 Proposal Compliance and Bases for Disqualification

Proposers may be deemed non-responsive and/or Proposals may not be considered for reasons including, but not limited to, the following:

- Any unsolicited contact by a Proposer or prospective Proposer with personnel of the Company pertaining to this RFP as described in Section 1.5.5.
- Any illegal or undue attempts by or on behalf of the Proposer or others to influence the Proposal Review process.
- The Proposal does not meet one or more of the Eligibility Requirements specified in Section 4.2.
- The Proposal does not meet one or more of the Threshold Requirements specified in Section 4.3.
- The Proposal is deemed to be unacceptable through a fatal flaws analysis as described in Section 4.4.2.
- The Proposer does not respond to a Company request for additional information to clarify the contents of its Proposal within the timelines specified by the Company.
- The Proposal contains misrepresentations or errors.

### 3.8 Power Purchase Agreement

- 3.8.1 The Power Purchase Agreement for proposals selected under this RFP that are greater than 2.5 MW in size will be in the form of the RDG PPA, attached as Appendix K.
- 3.8.2 The Power Purchase Agreement for proposals selected under this RFP that are 250 kW or larger, up to and including 2.5 MW in size, will be in the form of a pre-approved Standard Form Contract, attached as Appendix L. The Standard Form Contract will be reviewed and pre-approved by the PUC and as a result, will not be negotiable.
- 3.8.3 If selected, any Affiliate Proposers will be required to enter into the RDG PPA or Standard Form Contract with the Company.
- 3.8.4 If selected, a Self-Build Proposer will not be required to enter into a PPA or Standard Form Contract with the Company. However, the Self-Build Proposer will be held to the proposed modifications to the RDG PPA, if any, it submits as part of the SBO in accordance with Section 3.8.6. Moreover, the SBO will be held to the same performance metrics and milestones set forth in the RDG PPA or Standard Form Contract to the same extent as all Proposers, as attested to in the SBO's Appendix G Attachment 1, Self-Build Option Certification submittal. If liquidated damages are assessed, they will be paid from shareholder funds and returned to customers through the Purchased Power Adjustment Clause ("PPAC") or other appropriate rate adjustment mechanisms.

To retain the benefits of operational flexibility for a Company-owned facility, the SBO Proposal will be permitted to adjust operational requirements and performance metrics with the approval of the PUC. The process for adjustment would be similar to a negotiated amendment to a PPA with PUC approval.

- 3.8.5 In general, under the RDG PPA and Standard Form Contract, payment to the Seller consists of a Lump Sum Payment component to cover the costs of the Project. In return, the Seller shall guarantee minimum performance and availability metrics to ensure that the Facility is maintained and available for energy storage and dispatch, as well as provide an indication of the available energy in near real-time for the Company's dispatch. Company shall not be obligated to accept, nor shall it be required to pay for, test energy generated by the Facility during acceptance testing or other test conditions.
- 3.8.6 The Performance Standards identified in Section 2.1 establish the minimum requirements a Proposal must satisfy to be eligible for consideration in this RFP. A proposed Facility's ability to meet these Performance Standards is both a Threshold Requirement and a Non-Price Related Criteria under Sections 4.3 and 4.4.2, respectively. As such, these Performance Standards are non-negotiable by a Self-Build Proposer or any other Proposer. Proposers may propose modifications to other sections of the RDG PPA but are encouraged to accept such terms as written in order to expedite the overall RFP process and potential contract negotiations. As a component of their respective Proposals, a Self-Build Proposer or any other Proposers who elect to propose modifications shall provide a Microsoft Word red-line version of the relevant document identifying specific proposed modifications to the model language that the Proposer is agreeable to, as well as a detailed explanation and supporting rationale for each modification.
- 3.8.6.1 General comments, drafting notes and footnotes such as "parties to discuss," and reservation of rights to propose modifications at a later time, are unacceptable and will be considered non-responsive. Proposed modifications to the RDG PPA will be evaluated as a non-price evaluation criterion as further described in Section 4.4.2. In order to facilitate this process, the Company will make available electronic versions of the model agreements on the RFP website and through the Electronic Procurement Platform for the RFP. Any proposed modifications to the RDG PPA will be subject to negotiation between the Company and the Final Award Group. As stated above, since general comments, drafting notes, and footnotes without accompanying specific proposed language modifications are unacceptable and non-responsive, the Company will not negotiate provisions simply marked by such general comments, drafting notes, and footnotes.
- 3.8.6.2 The Company has an interest in maintaining consistency for certain provisions of the RDG PPAs, such as the calculation of availability and payment terms. Therefore, for such provisions, the Company will endeavor to negotiate similar and consistent language across PPAs for the Final Award Group.
- 3.8.7 Proposals that do not include specific proposed modifications to the attached RDG PPAs will be deemed to have accepted the RDG PPA in its entirety.

### 3.9 Pricing Requirements

- 3.9.1 Proposers must submit pricing for each of their variations associated with each Proposal (if variations as described in [Section 1.8.2](#) and [1.8.3](#) are submitted). Proposers are responsible for understanding the terms of the RDG PPA or Standard Form Contract. Pricing cannot be specified as contingent upon other factors (e.g., changes to federal tax policy or receiving all Investment Tax Credits assumed).
- 3.9.2 Escalation in pricing over the term of the RDG PPA or the term of the Standard Form Contract is prohibited.
- 3.9.3 Pricing information must only be identified within specified sections of the Proposal instructed by this RFP's [Appendix B](#) Proposer's Response Package (i.e., Proposal pricing information must be contained within defined Proposal sections of the Proposal submission). Pricing information contained anywhere else in a Proposal will not be considered during the evaluation process.
- 3.9.4 The Proposer's Response Package must include the following prices for each Proposal (and variation):

For IPP or Affiliate proposals:

- **Lump Sum Payment (\$/year):** Payment amount for full dispatchability of the Facility. Payment will be made in monthly increments.

For Self-Build Proposals:

- **Total Project Capital Costs (\$/year):** Total capital costs for the project (identified by year).
- **Annual O&M Costs (\$/year):** Initial year operations and maintenance costs, annual escalation rate.
- **Annual Revenue Requirement (\$/year):** Annual revenue requirements (ARR) calculated for each year.

See [Appendix G](#) for descriptions and detail on the Total Project Capital Costs, Annual O&M Costs, and Annual Revenue Requirement for the Self-Build Proposals.

- 3.9.5 As identified in the Schedule of Defined Terms in the PPA under "BESS Allocated Portion of the Lump Sum Payment", the allocated portion of the Lump Sum Payment specified for energy storage for the Facility is 50% and shall be a non-negotiable percentage in the PPA.



### 3.10 Project Description

- 3.10.1 Proposals are required to provide a NEP RFP Projection for the Project. The NEP RFP Projection associated with the proposed Project represents the estimated annual net energy (in MWh) that could be produced by the Facility and delivered to the Point of Interconnection over a ten-year period with a probability of exceedance of 95%. For Paired Projects, the energy generated by the Facility in excess of the Facility's Allowed Capacity and stored in the energy storage component of the Facility should be included in the NEP RFP Projection. Any energy generated outside of the proposed Facility that is used to charge the energy storage component should not be factored into the NEP RFP Projection. Any losses that may be incurred from energy being stored and then discharged from the energy storage component should not be factored into the NEP RFP Projection. The NEP RFP Projection will be used in the RFP evaluation process and therefore Proposers will be held to their provided value.<sup>11</sup>
- 3.10.2 Each Proposer must also agree to provide Project financial information, including proposed Project finance structure information specified in Appendix B. Such information will be used to evaluate Threshold Requirements and non-price criteria (e.g., Financial Viability of Proposer, Financial Strength and Financing Plan, State of Project Development and Schedule) set forth in Sections 4.3 and 4.4.2. Upon selection, the Final Award Group may be requested to provide further detailed cost information if requested by the PUC or the Consumer Advocate as part of the PPA approval process. If requested, such information would be provided to the PUC, Consumer Advocate, and Company pursuant to a protective order in the docket.
- 3.10.3 The Proposer agrees that no material changes or additions to the Facility from what is submitted in its Proposal will be made without the Proposer first having obtained prior written consent from the Company. Evaluation of all Proposals in this RFP is based on the information submitted in each Proposal at the Proposal Due Date. If any Proposer requests any Proposal information to be changed after that date, the Company, in consultation with the Independent Observer, and in consideration of whether the evaluation is affected, will determine whether the change is permitted.

### 3.11 Sites Identified by the Company

- 3.11.1 As an alternative to a Site identified by the Proposer, the Company has identified potential Sites where landowners have expressed a willingness to negotiate a lease or purchase of the land to support a renewable energy project. These Sites were identified through a Land RFI. Proposers will be responsible for working directly with the

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<sup>11</sup> If a Proposal is selected to the Final Award Group and a PPA or Standard Form Contract is executed between the Company and the Proposer, the NEP RFP Projection will be further evaluated at several steps throughout the process as set forth in the RDG PPA or Standard Form Contract, and adjustments to the Lump Sum Payment will be made accordingly. Additionally, because the Company will rely on an accurate representation of the NEP RFP Projection in the RFP evaluation, a one-time liquidated damage as described in the RDG PPA or Standard Form Contract will be assessed if the First NEP benchmark is less than the Proposer's NEP RFP Projection. After the Facility has achieved commercial operations, the performance of the Facility will be assessed on a continuing basis against key metrics identified in the RDG PPA or Standard Form Contract. See Article 2 and Attachment U of the RDG PPA or the Standard Form Contract.

landowner and must secure Site Control with such land owner prior to submitting a Proposal. Land RFI information is available to interested parties who sign the CBRE NDA. The Land RFI is further described in Appendix F.

Proposers are not required to select a Site identified in the Land RFI and as noted above may propose any Site for a Project.

### **3.12 Confidentiality**

- 3.12.1 Each prospective Proposer must submit an executed CBRE NDA in the form attached as Appendix E by the Proposal Due Date specified in the RFP Schedule in Section 3.1. The form of the CBRE NDA is not negotiable. Information designated as confidential by the Company will be provided on a limited basis, and only those prospective Proposers who have submitted an executed CBRE NDA will be considered. NDAs that were fully executed for prior Maui Electric RFPs will not be accepted. Proposers must clearly identify all confidential information in their Proposals. However, Proposers should designate as confidential only those portions of their Proposals that genuinely warrant confidential treatment. The Company discourages the practice of marking every page of a Proposal as confidential. The Company will make reasonable efforts to protect any such information that is clearly marked as confidential. Consistent with the terms of the CBRE NDA, the Company reserves the right to share any information, even if marked confidential, to its agents, contractors, or the Independent Observer for the purpose of evaluating the Proposal and facilitating potential contract negotiations.
- 3.12.2 Proposers, in submitting any Proposal(s) to Company in response to this RFP, certify that such Proposer has not shared its Proposal(s), or any part thereof, with any other Proposer of a Proposal(s) responsive to this RFP.
- 3.12.3 The Company will request that the PUC issue a Protective Order to protect confidential information provided by Proposers to the Company and to be filed in a proceeding before the PUC. A copy of the Protective Order, once issued by the PUC, will be provided to Proposers. Proposers should be aware that the Company may be required to share certain confidential information contained in Proposals with the PUC, the State of Hawai‘i Department of Commerce and Consumer Affairs, Division of Consumer Advocacy, and the parties to any docket instituted by the PUC, provided that recipients of confidential information have first agreed in writing to abide by the terms of the Protective Order. Notwithstanding the foregoing, no Proposer will be provided with Proposals from any other Proposer, nor will Proposers be provided with any other information contained in such Proposals or provided by or with respect to any other Proposer.

### **3.13 Credit Requirements**

- 3.13.1 Proposers with whom the Company enters into a PPA or Standard Form Contract must post Development Period Security and Operating Period Security in the form of an irrevocable standby letter of credit from a bank chartered in the United States as required and set forth in Article 14 of the RDG PPA or the Standard Form Contract.

- 3.13.2 The Development Period Security and Operating Period Security identified in the RDG PPAs or the Standard Form Contract are minimum requirements. Proposers shall not propose an amount lower than that set forth in the RDG PPA or the Standard Form Contract.
- 3.13.3 Each Proposer shall be required to provide a satisfactory irrevocable standby letter of credit in favor of the Company from a bank chartered in the United States to guarantee Proposer's payment of interconnection costs for all Company-Owned Interconnection Facilities in excess of the Total Estimated Interconnection Costs and/or all relocations costs in excess of Total Estimated Relocation Costs that are payable to Company as required and set forth in Attachment G to the RDG PPA or the Standard Form Contract.
- 3.13.4 Proposers may be required to provide an irrevocable standby letter of credit in favor of the Company from a bank chartered in the United States in lieu of the required Source Code Escrow in an amount and as required and set forth in Attachment B to the RDG PPA or Standard Form Contract.

#### **Chapter 4: Evaluation Process and Evaluation Criteria**

##### **4.1 Proposal Evaluation and Selection Process**

The Company will employ a multi-step evaluation process. Once the Proposals are received, the Proposals will be subject to a consistent and defined review, evaluation, and selection process. This Chapter provides a description of each step of the process, along with the requirements of Proposers at each step. Figure 1 sets forth the flowchart for the proposal evaluation and selection process.

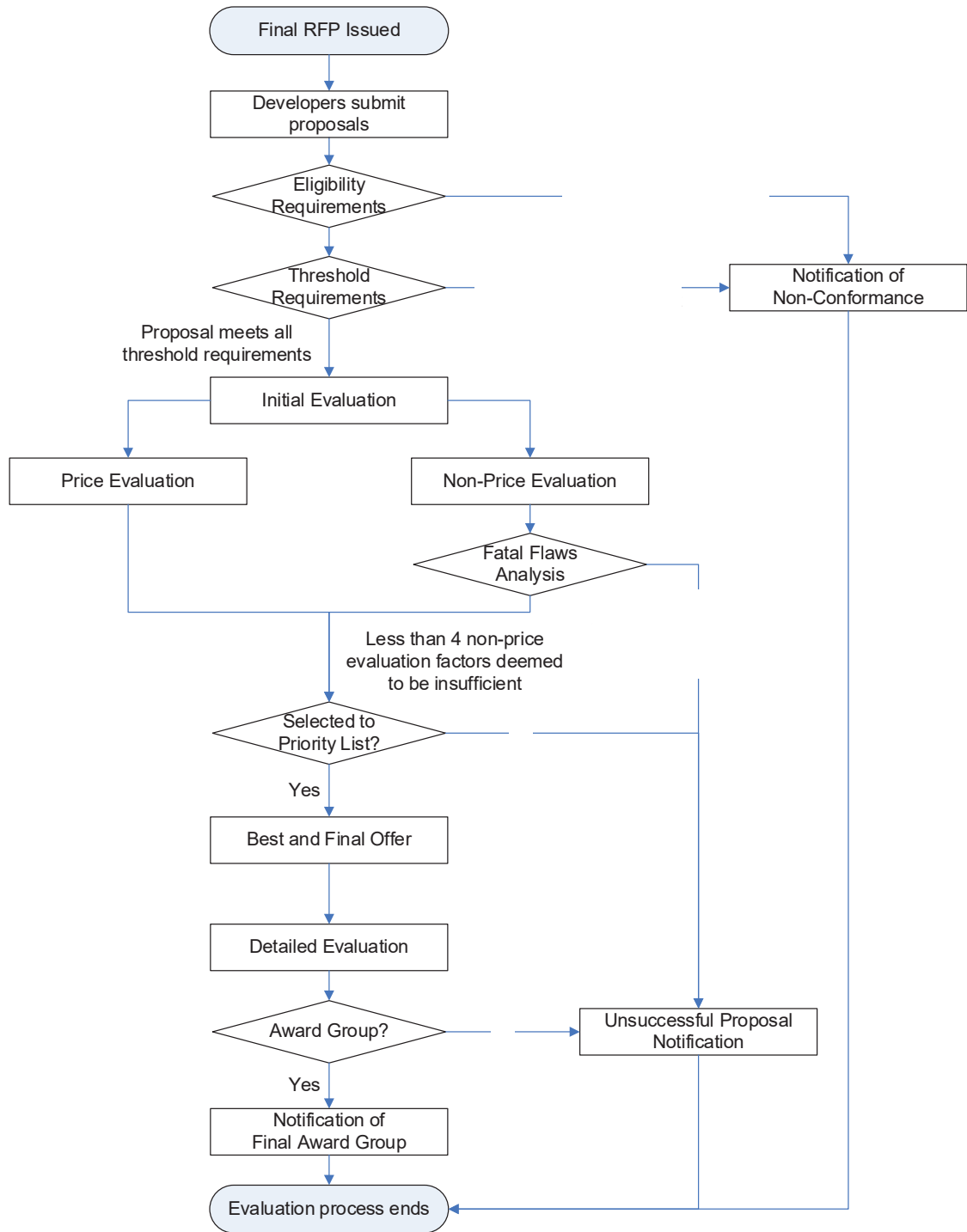
Upon receipt of the Proposals, the Company will review each Proposal submission to determine if it meets the Eligibility Requirements and the Threshold Requirements. The Company, in coordination with the Independent Observer will determine if a Proposer is allowed to cure any aspect of its Proposal or whether the Proposal would be eliminated based on failure to meet either Eligibility or Threshold Requirements.<sup>12</sup> If a Proposer is provided the opportunity to cure any aspect of its Proposal, the Proposer shall be given three (3) business days to cure from the date of notification to cure.<sup>13</sup> Proposals that have successfully met the Eligibility and Threshold Requirements will then enter a two-phase process for Proposal evaluation, which includes the Initial Evaluation resulting in the development of a Priority List, followed by the opportunity for Priority List Proposals to provide Best and Final Offers, and then a Detailed Evaluation process to arrive at a Final Award Group.

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<sup>12</sup> As a general rule, if a Proposer does not include a requested document, inadvertently excludes minor information or provides inconsistencies in its information, it may be given a chance to cure such deficiency. If a Proposer fails to provide material required information in its Proposal and providing the Proposer an opportunity to cure is deemed by the Company, in consultation with the Independent Observer, as an unfair advantage to such Proposer, the Proposal could be classified as non-conforming and eliminated for failure to meet the Eligibility Requirements.

<sup>13</sup> The initial request will be offered 3 business days to cure. Succeeding inquiries on the deficiencies will be offered cure periods deemed sufficient by the Company and Independent Observer.

**Figure 1 – Evaluation Workflow**



## 4.2 Eligibility Requirements Assessment

Upon receipt of the Proposals, each Proposal will be reviewed to ensure that it meets the following Eligibility Requirements.

- A Proposer is not eligible to participate in this RFP if the Proposer, its parent company, or an affiliate of the Proposer has:
  - defaulted on a current contract with the Company, or
  - had a contract terminated by the Company, or
  - any pending litigation with the Company.
- The Proposal including required uploaded files must be received on time via the Electronic Procurement Platform.
- The Proposal Fee must be received on or before the Proposal Due Date.<sup>14</sup>
- The Proposal must not contain material omissions.
- The Proposal must be signed and certified by an officer or other authorized person of the Proposer.
- The Proposer must fully execute the NDA agreement and any other document required pursuant to this RFP.
- The Proposer must provide a Certificate of Vendor Compliance from the Hawai'i Compliance Express dated issued within 60 days of the date of your Proposal submission (a certificate of good standing from the State of Hawai'i Department of Commerce and Consumer Affairs and also federal and Hawai'i state tax clearance certificates for the Proposer may be substituted for the Certificate of Vendor Compliance).
- The Proposal must not be contingent upon changes to existing county, state, or federal laws or regulations.
- The proposed Project must be located on the island of Moloka'i.
- The Proposal must be for a PV project paired with energy storage.
- The proposed project must be 250 kW or larger.
- Projects interconnecting to a distribution circuit must not exceed 3 MW.
- A minimum of 40% of the subscriber portion of the Project must be dedicated to residential subscribers as described in [Section 1.2.3](#).
- No single point of failure from the Facility shall result in a decrease in net electrical output greater than 2.7 MW.
- Project infrastructure and point of interconnection must be located outside the 3.2 feet sea level rise exposure area (SLR-XA) as described in the Hawai'i Sea Level Rise Vulnerability and Adaptation Report (2017), and not located within a Tsunami Evacuation Zone.
- Proposals must meet the grid-charging requirements of [Section 1.2.13](#).
- Proposals for projects that are 1 MW or greater must provide grid-forming and black start capabilities.
- Proposers shall agree to post Development Period Security and Operating Period Security as described in [Section 3.13](#).

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<sup>14</sup> Proposal Fees will not be required for SBO Proposals.

### 4.3 Threshold Requirement Assessment

Proposals that meet all the Eligibility Requirements will then be evaluated to determine compliance with the Threshold Requirements, which have been designed to screen out Proposals that are insufficiently developed, lack demonstrated technology, or will impose unacceptable execution risk for the Company.

Proposers must provide explanations and supporting information demonstrating how and why they believe the Project they are proposing meets each of the Threshold Requirements. Proposals that fail to provide this information or meet a Threshold Requirement will be eliminated from further consideration upon concurrence with the Independent Observer.

The Threshold Requirements for this RFP are the following:

- **Site Control:** The Proposal must demonstrate that the Proposer has Site Control for all real property required for the successful implementation of a specific Proposal at a Site not controlled by the Company, including any Interconnection Facilities for which the Proposer is responsible. The need for a firm commitment is necessary to ensure that Proposals are indeed realistic and can be relied upon as the Company moves through the remainder of the RFP process. In addition, developmental requirements and restrictions such as zoning of the Site and the status of easements must be identified and will be considered in determining whether the Proposal meets the Site Control threshold.

To meet this Site Control requirement, Proposers must do one of the following:

- Provide documentation confirming (1) that the Proposer has an existing legally enforceable right to use and control the Site, either in fee simple or under leasehold for a term at least equal to the term of the PPA or Standard Form Contract (“Site Control”) as specified in the Proposer’s Proposal (taking into account the timelines set forth in this RFP for selection, negotiation, and execution of a PPA or Standard Form Contract and PUC approval as applicable), and (2) the applicable zoning for the Site and that such zoning does not prohibit the development of the Site consistent with the Proposal; or
- Provide documentation confirming, at a minimum, (1) that the Proposer has an executed binding letter of intent, memorandum of understanding, option agreement, or similar document with the land owner (a “binding commitment”) which sets forth the general terms of a transaction that would grant the Proposer the required Site Control, and (2) the applicable zoning for the Site and that such zoning does not prohibit the development of the Site consistent with the Proposal. The binding commitment does not need to be exclusive to the Proposer at the time the Proposal is submitted and may be contingent upon selection of the Proposal to the Final Award Group. If multiple Projects are provided a binding commitment for the same Site, the documents granting the binding commitments must not prevent the Company from choosing the Proposal that otherwise would have been selected.
- **Government/Public Lands Only:** The above two bullet points may not be feasible where government or publicly-owned lands are part of the Site or are

required for the successful implementation of the Proposal. In such a case, at a minimum the Proposer must provide a credible and viable plan, including evidence of any steps taken to date, to secure all necessary Site Control for the Proposal, including but not limited to evidence of sufficient progress toward approval by the government agency or other body vested with the authority to grant such approval (as demonstrated by records of the agency). The Proposer will still be required, however, to demonstrate Site Control as required in the applicable RDG PPA or Standard Form Contract should the Proposal be selected to the Final Award Group.

- **Performance Standards:** The proposed Facility must be able to meet the Performance Standards identified in Section 2.1 of this RFP. Proposals should include sufficient documentation to support the stated claim that the Facility will be able to meet the Performance Standards. The Proposal should include information required to make such a determination in an organized manner to ensure this evaluation can be completed within the evaluation review period.
- **Proven Technology:** This criterion is intended as a check to ensure that the technology proposed is viable and can reasonably be relied upon to meet the objectives of this RFP. The Company will only consider Proposals utilizing technologies that have successfully reached commercial operations in commercial applications (i.e., a PPA) at the scale being proposed. Proposals should include any supporting information for the Company to assess the commercial and financial maturity of the technology being proposed.
- **Experience of the Proposer:** The Proposer, its affiliated companies, partners, and/or contractors and consultants on the Proposer's Project team must have experience in financing, designing, constructing, interconnecting, owning, operating, and maintaining at least one (1) electricity generation project, including all components of the project (i.e., storage or other attributes), similar in size, scope, technology, and structure to the Project being proposed by Proposer. The Company will consider a Proposer to have reasonably met this Threshold Requirement if the Proposer can provide sufficient information in its Proposal's RFP Appendix B Section 2.13 tables demonstrating that at least one member of the Proposer's team (identified in the Proposal) has specific experience in each of the following categories: financing, designing, constructing, interconnecting, owning, operating, and maintaining projects similar to the Project being proposed.
- **Financial Compliance:** The proposed Project must not cause the Company to be subject to consolidation, as set forth in Financial Accounting Standards Board ("FASB") Accounting Standards Codification Topic 810, Consolidation ("ASC 810"), as issued and amended from time to time by FASB. Proposers are required to state to the best of their knowledge, with supporting information to allow the Company to verify such conclusion, that the Proposal will not result in the Seller under the PPA being a Variable Interest Entity ("VIE") and result in the Company being the primary beneficiary of the Seller that would trigger consolidation of the

Seller's finances on to the Company's financial statements under FASB ASC 810. The Company will perform a preliminary consolidation assessment based on the Proposals received. The Company reserves the right to allow a Proposal to proceed through the evaluation process through selection of the Priority List and work with the Proposer on this issue prior to or during PPA negotiations.

- **Community Outreach:** Gaining community support is an important part of a Project's viability and success. A comprehensive community outreach and communications plan ("Community Outreach Plan") is an essential roadmap that guides a developer as they work with various communities and stakeholders to gain their support for a Project. Proposers must include a Community Outreach Plan that describes the Proposer's commitment to work with the neighboring community and stakeholders and to provide them timely Project information during all phases of the Project. The Community Outreach Plan shall include but not be limited to the following information: Project description, community scoping (including stakeholders and community concerns), Project benefits, government approvals, development process (including Project schedule), and a comprehensive communications plan.

Proposers need to also be mindful of the Projects' potential impacts to historical and cultural resources. Proposers should identify: (1) any valued cultural, historical, or natural resources in the area in question, including the extent to which traditional and customary native Hawaiian rights are exercised in the area; (2) the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action; and (3) the feasible action, if any, to be taken to reasonably protect native Hawaiian rights if they are found to exist. Also, Proposers should have already contracted with a consultant with expertise in this field to begin a cultural impact assessment for the Project.

#### 4.4 Initial Evaluation – Price and Non-Price Analysis

Proposals that meet both the Eligibility and Threshold Requirements are Eligible Proposals which will then be subject to a price and non-price assessment. Two teams have been established to undertake the Proposal evaluation process: a Price Evaluation Team and Non-Price Evaluation Team. The results of the price and non-price analysis will be a relative ranking and scoring of all Eligible Proposals. Price-related criteria will account for fifty-one percent (51%) of the total score and non-price-related criteria will account for forty-nine percent (49%) of the total score. The non-price criteria and methodology for applying the criteria are explained in Section 4.4.2.

The Company will employ a closed-bidding process for this solicitation in accordance with Part IV.H.3 of the Framework where the price and non-price evaluation models to be used will not be provided to Proposers. However, the Company will provide the Independent Observer with all necessary information to allow the Independent Observer to understand the evaluation models and to enable the Independent Observer to observe the entire analysis to ensure a fair process.



#### 4.4.1 Initial Evaluation of the Price Related Criteria

For the initial price analysis, an avoided cost screening approach will be used to rank proposals. Using the forecast and planning assumptions developed for the Company's Integrated Grid Planning process and evaluation methodology proposed in the Solution Evaluation & Optimization Working Group, a resource portfolio will be developed using a capacity expansion model to identify proxy resources that serve the grid needs and inform their marginal avoided costs. For each Proposal, the avoided cost of each grid need would be multiplied by the expected ability of the Proposal to provide that service and summed across the services to determine the potential benefit of the Proposal. The benefit would then be normalized by the Net Energy Potential ("NEP") provided in the Proposal to calculate a Levelized Benefit ("LB") (\$/MWh).

The Eligible Proposal with the highest LB will receive 510 points. All other Eligible Proposals will receive points based on a proportionate reduction using the percentage by which the Eligible Proposal's LB is lower than the highest LB. For example, if a Proposal's LB is ten percent (10%) lower than the highest LB, the Proposal will be awarded 459 points (that is, 510 points less 10%). The result of this assessment will be a ranking and scoring of the Proposals.

#### 4.4.2 Initial Evaluation of the Non-Price Related Criteria

For the non-price analysis, each Proposal will be evaluated on each of the eleven (11) non-price criteria categories set forth below:

- Community Outreach and Cultural Resource Impacts
- State of Project Development and Schedule
- Performance Standards
- Locational Value for Community Resilience
- Commitment to Residential Subscriber Participation
- CBRE Program
- Environmental Compliance and Permitting Plan
- Experience and Qualifications
- Financial Strength and Financing Plan
- RDG PPA Contract Exceptions
- Guaranteed Commercial Operations Date

Each of the first six criteria – Community Outreach and Cultural Resource Impacts, State of Project Development and Schedule, Performance Standards, Locational Value for Community Resilience, Commitment to Residential Subscriber Participation, and CBRE Program – will be weighted twice as heavily as the others to reflect the impact these categories have to achieve a successful and timely procurement. The non-price criteria are generally scored on a scale of 1 (poor) to 5 (highly preferable). A score of 3 means that a Proposal meets the minimum standard for that criteria.

The total non-price score will be the sum of the scores for each of the individual non-price criteria. The Company will then award non-price evaluation points in accordance

with the relative ranking of scores within each evaluation category. The Proposal in each evaluation category with the highest total non-price score will receive 490 points, and all other Proposals will receive points equal to the Proposal's score divided by the top score, multiplied by 490.

During the non-price criteria evaluation, a fatal flaws analysis will also be conducted such that any Proposal that is deemed not to meet the minimum standards level for four (4) or more non-price criteria will be disqualified given that the Proposal has failed to meet a majority of non-price factors that are indicative as to the general feasibility and operational viability of a proposed Project. The Locational Value for Community Resilience and Commitment to Residential Subscriber Participation non-price criteria will be excluded from the fatal flaws analysis.

The Companies' evaluation of the non-price criteria will be based on the materials provided by a Proposer in its Proposal. Acceptance of any Proposal into the Final Award Group shall not be assumed or construed to be an endorsement or approval that the materials provided by Proposer are complete, accurate or in compliance with applicable law. The Companies assume no obligation to correct, confirm, or further research any of the materials submitted by Proposers. Proposers retain sole responsibility to ensure their Proposals are accurate and in compliance with all laws.

The non-price criteria are:

- **Community Outreach and Cultural Resource Impacts** – Gaining community support is an important part of a Project's viability and success. An effective Community Outreach Plan will call for early meaningful communications with stakeholders and will reflect a deep understanding and respect for the community's desire for information to enable them to make informed decisions about future projects in their communities. Therefore, Proposals will be evaluated on the quality of the Community Outreach Plan to inform the Project's impacted communities. Proposers need to also be mindful of the Project's potential impacts to historical and cultural resources. Proposers should identify (1) valued cultural, historical, or natural resources in the area in question, including the extent to which traditional and customary native Hawaiian rights are exercised in the area; (2) the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action; and (3) the feasible action, if any, to be taken to reasonably protect the valued cultural, historical, or natural resources in the area in question, or native Hawaiian rights if they are found to exist.

Proposals should include a Community Outreach Plan that describes the Proposer's commitment to work with the neighboring community and stakeholders and to provide timely Project information during project development, construction and operation. The Community Outreach Plan shall include, but not be limited to the following:

- 1) Project description. A thorough description including a map of the location of the Project. This information will help the community understand the impact that the Project may have on the community.
- 2) Community scoping. Identify stakeholders (individuals, community leaders, organizations), community issues and concerns, and community sentiment.
- 3) Project benefits. An explanation of the need for the Project. This will help the community to understand how the Project might benefit their community.
- 4) Government approvals. Required government permits and approvals, public hearings and other opportunities for public comment. This information will help the community to understand the level of public scrutiny and participation that might occur for the Project and the opportunities to provide public comments.
- 5) Development process. A Project schedule that identifies key milestones will facilitate the community's understanding of the development process.
- 6) Communications Plan. A communications plan including a detailed community outreach schedule that will keep the affected communities and stakeholders informed about the Project's outreach efforts during early Project development period through construction and operations.

Preference will be given to Proposers who have already identified established contacts to work with the local community, have used community input to incorporate changes to the final design of the Project and mitigate community concerns, have proposed a community benefits package (including details of the community recipients and benefits package), or have community consultants as part of the Project team doing business in Hawai'i that have successfully worked with communities in Hawai'i on the development of two or more energy projects or projects with similar community issues. These criteria are aligned with the Companies' community engagement expectation whereby all developers will be required to engage in community outreach prior to signing a PPA with the Companies. This process is also outlined in RFP [Section 5.3](#). Further information and details regarding expectations for the Community Outreach Plan are included as [Attachment 4](#), [Attachment 5](#), and [Attachment 6](#) to [Appendix B](#).

Also, Proposers should have already contracted with a consultant with expertise in such field to begin a cultural impact assessment for the Project. Preference will be given to Proposals that are further along in the assessment process and are able to provide a mitigation/action plan or are able to provide a date for when a mitigation/action plan will be available that addresses any identified cultural resource issues.

- **State of Project Development and Schedule** – Projects that are further along in development generally have lower project execution risk and a greater probability of being able to be successfully placed into service prior to the GCOD (specifically identified in each Proposal). At a minimum, Projects should demonstrate how they plan to capture any ITC safe harbor and reach their GCOD specified, including identification of risks and schedule assumptions. (Schedules must identify the IRS completion date and PUC approval dates assumed.)

Proposals should also demonstrate, via a detailed critical path schedule, that there is a high likelihood that the Project will be able to reach commercial operations as specified. Proposals shall include a Gantt chart that clearly illustrates the overall schedule and demonstrates achievement of any ITC safe harbor, if applicable, and commercial operations by their specified GCOD. The Gantt chart shall include task durations and dependencies, identify tasks that will be fast tracked, and identifies slack time and contingencies. This criterion will also look at the high-level Project costs set forth in the Proposal including: costs for equipment, construction, engineering, Seller-Owned Interconnection Facilities, Company-Owned Interconnection Facilities, land, annual O&M, the reasonableness of such costs and the assumptions used for such costs. Project costs that do not appear reasonable for a project of the size proposed may result in a lower ranking for this criterion if the Company reasonably determines that the cost information is unrealistic based on prior experience in the market which may result in a risk that the Project can be built on time and for the price proposed by the Proposer. The Company reserves the right to discuss any cost and financial information with a Proposer to ensure the information provided is accurate and correct.

- **Performance Standards:** The proposed Facility must be able to meet the performance attributes identified in this RFP and the Performance Standards identified in the RDG PPA or the Standard Form Contract. The Company will review the Proposal information received, including design documents and operating procedures materials provided in the Proposal, and evaluate whether the Project as designed is able to meet the Performance Standards identified in the RDG PPA or Standard Form Contract and in this RFP. At a minimum, in addition to meeting the Performance Standards, the Proposals should include sufficient documentation, provided in an organized manner, to support the stated claim that the Facility will be able to meet the Performance Standards. The Proposal should include information required to make such a determination in an organized manner to ensure this evaluation can be completed on a timely basis. Preference will be given to Proposals that provide detailed technical and design information showing how each standard can be met by the proposed Facility.
- **Locational Value for Community Resilience** – The Company has identified areas on the grid where the siting of a CBRE project would support community resilience. For Projects to support community resilience the requirement for storage with grid-forming and black start capability is needed in areas identified with potential microgrids or critical customers/facilities following a disruption in service. Proposers are encouraged to and will be scored more favorably for locating projects in the following:

**Table 2: Community Resilience**

[NOTE: Community resilience areas to be identified in prior to Final RFP submittal]

- **Commitment to Residential Subscriber Participation** – Proposals will be evaluated on the planned commitments of the Project’s Subscriber Organization to encourage participation of residential Subscribers. At a minimum, Subscriber Organizations will be required to set aside 40% of the Project’s Capacity for residential Subscribers. Proposers that commit to reserving a portion larger than 40% of their Project Capacity for residential Subscribers will be given more favorable scoring. In addition, Proposals will also be evaluated on the planned commitments of the Project’s Subscriber Organization to encourage participation of LMI subscribers. Proposers that commit to reserving a separate portion of the Project’s Capacity for LMI Subscribers will be given more favorable scoring.
- **CBRE Program** – Proposals will be evaluated on several facets of the CBRE program being proposed.
  - **Program Offering:** Proposals will be evaluated to give preference to program offerings that are most likely to succeed with and provide the most benefits to residential and LMI customers, as applicable. Financing options, upfront fees, payment over time, public funding options, and other creative approaches will be preferred along with programs that offer higher expected customer level savings, favorable payback periods and mechanisms, and other customer benefits.
  - **Marketing and Outreach Plans:** Proposals will be evaluated on the proposed strategies and methods to educate, inform, and stimulate the market in order to achieve their target levels of participation.
  - **Program Experience:** Consideration will be given to Proposers that have demonstrated success in the past with projects in other community-based renewable energy programs.
- **Environmental Compliance and Permitting Plan** – This criterion relates to the potential (short- and long-term) environmental impacts associated with each project, the quality of the plan offered by the Proposer to mitigate and manage any environmental impacts (including any pre-existing environmental conditions), and the plan of Proposers to remain in environmental compliance over the term of the contract. These impacts are reflected on a technology-specific basis. Completing any necessary environmental review and obtaining the required permitting in a timely manner is also important and Proposals will be evaluated on their plan to identify, apply for, and secure the required permits for the Project, any permitting activity that has been completed to date, including having initial discussions with U.S. Fish and Wildlife and the State of Hawai‘i Department of Land and Natural Resources’ Division of Forestry and Wildlife, to the extent applicable, prior to submitting a Proposal, and the degree of certainty offered by the Proposer in securing the necessary permits.

At a minimum, proposed Projects should be expected to have minimal environmental impact for most areas and Proposals should provide a

comprehensive plan to mitigate the identified potential or actual significant environmental impacts to remain in environmental compliance. The proposed mitigation plans should be included in the Project timeline. Preference will be given to Proposals that provide a more detailed plan as well as those that have proactively taken steps to mitigate potential environmental impacts.

Also, this criterion requires that, at a minimum, Proposers should have identified, and disclosed in their Proposal(s), all major permits, approvals, appurtenances and entitlements (including applicable access, rights of way and/or easements) (collectively, the “permits”) required and have a preliminary plan for securing such permits. Preference will be given to Proposals that are able to provide a greater degree of certainty that its plan to secure the required permits is realistic and achievable or have already received all or a majority of the required permits. The Proposer should disclose all identified (a) discretionary permits required, i.e., those requiring public or contested case hearings and/or review and discretionary approval by an appropriate government agency and (b) ministerial permits required, i.e., those requiring the submission of documents or other ministerial conditions without discretionary approval conditions. In all cases, the Proposer must provide a credible and viable plan to secure all necessary and appropriate permits necessary for the project. For example, if the project is located within an agricultural district, the Proposer shall provide evidence of Proposer’s verification with the appropriate government agency that the project complies with HRS Section 205-2 and Section 205-4.5, relating to solar energy facilities placed on agricultural land, provided, however that where a special use permit (under Section 205-6), exemption (under Section 205-6), or amendment to land use district boundary lines (under Section 205-4) is required to secure such compliance, Proposer shall identify the need for such permit, exemption or amendment and provide a list of required prerequisites and/or conditions and a realistic timeline necessary to obtain such permit, exemption or amendment satisfactory for Proposer to still meet its designated GCOD.

- **Experience and Qualifications** –Proposals will be evaluated based on the experience of the Proposer in financing, designing, constructing, interconnecting, owning, operating, and maintaining projects (including all components of the project) of similar size, scope and technology. At a minimum, Proposals must show via the table format specified in RFP Appendix B Section 2.13 that at least one (1) member must have specific experience in each of the following categories: financing, designing, constructing, interconnecting, owning, operating, and maintaining at least one electricity generation project including all components of the project similar to the Project being proposed. Preference will be given to Proposers with experience in successfully developing multiple projects that are similar to the one being proposed and/or that have prior experience successfully developing and interconnecting a utility scale project to the Company’s System.
- **Financial Strength and Financing Plan** – This criterion addresses the comprehensiveness and reasonableness of the financial plan for the Project as

well as assesses the financial strength and capability of the Proposer to develop the Project. A complete financial plan addresses the following issues: Project ownership, capital cost and capital structure, sources of debt and equity, and evidence that credit-worthy entities are interested in financing the Project. The financial strength of Proposers or their credit support providers will be considered, including their credit ratings. The financing participants are expected to be reasonably strong financially. Developers and their sources of capital that have investment grade credit ratings from a reputable credit rating agency (S&P, Moody's, Fitch) will also be given preference, with those that have higher credit ratings ranked higher.

- **RDG PPA Contract Proposed Modifications** – Proposers are encouraged to accept the contract terms identified in the model agreements in their entirety in order to expedite the overall RFP process and potential contract negotiations. Proposers who accept the model agreements without edits or utilize the Standard Form Contract will receive a higher score and will be the only proposals that can achieve the highest scoring for this non-price evaluation. Technology-specific or operating characteristic-required modifications, with adequate explanation as to the necessity of such modifications, will not jeopardize a project's ability to achieve the highest score. Proposers who elect to propose modifications to the model agreements shall provide a Microsoft Word red-line version of the applicable document identifying specific proposed modifications to the model agreement language, as well as a detailed explanation and supporting rationale for each modification. General comments without proposed alternate language, drafting notes without explanation or alternate language, footnotes such as “parties to discuss,” or a reservation of rights to make additional modifications to the model agreements at a later time are unacceptable, will be considered unresponsive, and will result in a lower score. See also Section 3.8. The Company and Independent Observer will evaluate the impact that the proposed modifications will have on the overall risk assessment associated with the evaluation of each Proposal.
- **Guaranteed Commercial Operations Date:** Proposers that are able to design for and commit to an earlier GCOD will be given more favorable scoring. Proposers will be held to the Guaranteed Commercial Operations Date identified in their Proposal. The GCOD will be a Guaranteed Milestone and will be inserted without amendment into the RDG PPA or Standard Form Contract, as applicable.

#### 4.5 Selection of a Priority List

At the conclusion of both the price and non-price analysis, a total score will be calculated for each Eligible Proposal using the 51% price-related criteria / 49% non-price-related criteria weighting outlined above. The price and non-price analysis, and the summation of both price and non-price scores described above, will result in a ranking of Proposals.

The Company will determine a Priority List from the highest scoring Proposals. The Companies will develop the Priority Lists in consultation with the Independent Observer.

The Companies reserve the right, in consultation with the Independent Observer, to limit the projects allowed for further consideration in the initial evaluation to projects that fall within 15% of the highest Levelized Benefit. Selection to the Priority List does not assure an eligible Project's inclusion in the selection of the Final Award Group.

#### **4.6 Best and Final Offer (BAFO)**

4.6.1 The Company will solicit a Best and Final Offer from Proposers selected to the Priority List. If the SBO is selected to the Priority List, the SBO will not be eligible to provide a Best and Final Offer and the original pricing submitted in its Self-Build Proposal will be used in the Detailed Evaluation. All other Proposers selected to the Priority List will have the opportunity to update (downward only)<sup>15</sup> the pricing elements in their Proposal to improve the competitiveness of their Proposal prior to being further assessed in the Detailed Evaluation phase. At this point in the process, updates may only be made to the following pricing elements:

- Lump Sum Payment (\$/year) amount

Proposers will not be allowed to increase their price<sup>16</sup> but may elect to maintain the same pricing submitted in their original Proposal. Proposers will not be allowed to make any other changes to their Proposal during the Best and Final Offer.

4.6.2 If a Proposer does not propose improvements to their pricing elements during the Best and Final Offer solicitation, the original Proposal pricing elements will be deemed its Best and Final Offer.<sup>17</sup>

#### **4.7 Detailed Evaluation**

The Best and Final Offers of the Priority List Proposals as well as any original Self-Build Proposals, if advanced to the Priority List, will be further assessed in the Detailed Evaluation to identify the Proposals selected to the Final Award Group.

The detailed evaluation process will consist of assessment of combinations of Proposals from the Priority List. A capacity expansion model will use the same assumptions as in the Initial Evaluation but replace the generic resource costs and performance characteristics with the specific costs and performance characteristics of the Projects. Due to computational limitations, all Proposals from the Priority List may not be evaluated simultaneously. The ranking developed in the Initial Evaluation can be used to screen the Proposals in the Detailed Evaluation to those that provide the highest potential benefit to

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<sup>15</sup> Proposers will only be allowed to adjust pricing elements downward. No upward adjustment to the pricing elements will be permitted or considered. All other characteristics of the Proposal and Facility capabilities must remain valid and unchanged (e.g., NEP, GCOD, etc.)

<sup>16</sup> Proposers will not be allowed to increase the pricing in their Proposals to address interconnection and/or system upgrade costs or for any other reason.

<sup>17</sup> The Company reserves the right, in consultation with the Independent Observer, to adjust the parameters of the BAFO, in the unlikely event that system needs have evolved in a way that the Proposals received do not fully address.



the system. A production simulation model will then be used to provide a feasibility check on the final resource portfolio of Projects.

The evaluation will evaluate the benefits and costs of integrating the Project or combination of Projects onto the Company's System which includes:

1. The cost to dispatch the Project or combination of Projects and the energy and storage purchased;
2. The fuel cost savings (benefits) and any other direct savings (IPP savings from dispatchable fossil fuel savings) resulting from the displacement of generation by the Priority List Proposals, including consideration of round-trip efficiencies for facilities with storage;
3. The estimated increase (or decrease) in operating cost, if any, incurred by the Company to maintain system reliability; and
4. The cost of imputed debt, if applicable.

As noted, the Company will take into account the cost of rebalancing its capital structure resulting from any debt or imputed debt impacts associated with each Proposal (including any costs to be incurred by the Company, as described above, that are necessary in implementing the Proposal). The Company proposes to use the imputed debt methodology published by S&P that is applicable to the Proposal being evaluated. S&P views long-term PPAs as creating fixed, debt-like financial obligations that represent substitutes for debt-financed capital investments in generation capacity. By adjusting financial measures to incorporate PPA-fixed obligations, greater comparability of utilities that finance and build generation capacity and those that purchase capacity to satisfy new load are achieved.

During the Detailed Evaluation and before the Proposals advance to the Final Award Group, the Company will perform load flow analyses to determine if certain Projects or combinations of Projects introduce circuit constraints that will factor into the selection process. This is to address the possibility that even though sufficient line capacity was identified for an individual Project, Projects on separate circuits that are in close proximity with each other could introduce additional circuit constraints. The Company reserves the right, in consultation with the Independent Observer, to allow minor modifications (i.e., downsize project) to a Proposal to avoid such additional constraints. If such modification resulted in a reduced size of the Facility, the pricing proposed would also need to be revised. Under no circumstances would a Proposer be allowed to increase their price as a result of such minor modification.

Also in the Detailed Evaluation, other factors will be validated to ensure that the final combination of Projects provides the contemplated benefits that the Company seeks. The Company will evaluate the collateral consequences of the implementation of a combination of Projects, including consideration of the geographic diversity, resource diversity, interconnection complexity, and flexibility and latitude of operation control of the Projects.

The Company may assess additional combinations of Projects if requested by the Independent Observer and if the time and capability exist to perform such analyses.

Projects interconnecting to distribution circuits may be subject to the Technical Review process of Rule 14H. The Companies may consider a Project's performance through this process in the Detailed Evaluation.

#### **4.8 Selection of the Final Award Group**

Based on the results of the Detailed Evaluation and review of the results with the Independent Observer, the Company will select a Final Award Group. Projects selected to the Final Award Group up to 2.5 MW in size will execute a Standard Form Contract with the Company in the form of Appendix L. Projects larger than 2.5 MW will enter into PPA negotiations. All Proposers will be notified at this stage of the evaluation process whether their Proposal is included in the Final Award Group.

Selection to the Final Award Group and/or entering into contract negotiations does not guarantee execution of a PPA or Standard Form Contract.

Further, if at any time during the evaluation process it is discovered that a Proposer's Proposal contains incorrect or misrepresented information that have a material effect on any of the evaluation processes, including selection of the Priority List or the Final Award Group, the Company reserves the right, at any time prior to submission of the PPA Application with the PUC application, in consultation with the Independent Observer, to disqualify the Proposer from the RFP. If discovery of the incorrect or misrepresented information is made after the Company has filed its PUC application for approval of the PPA with the Proposer, the Company will disclose the incorrect or misrepresented information to the PUC for evaluation and decision as to whether such Proposer should be disqualified and the Company's application dismissed.

Following any removal of a proposal from the Final Award Group, either by disqualification noted immediately above, or via any other removal or withdrawal of a proposal, including failure to reach agreement to the PPA, the Company, taking into consideration the timing of such removal and the current status of the Company's needs under the RFP, in consultation with and concurrence from the Independent Observer, will review the Priority List to determine (1) if another proposal should be added to the Final Award Group; or (2) if the remaining proposals in the Final Award Group should remain unchanged.

### **Chapter 5: Post Evaluation Process**

#### **5.1 Project Interconnection Process**

##### **5.1.1 Interconnection Modeling Process**

A complete package of Project Interconnection Data Request worksheets, Project single line diagram(s), models for equipment and controls, list(s) to clearly identify the components and respective files (for inverters and power plant controller), and complete

documentation with instructions shall be submitted with each Proposal within 30 days after selection to the Final Award Group. See Section 2.11.1 of Appendix B. PSSE Generic models, PSSE User models, and ASPEN models shall be configured to represent all of the functional equipment with settings in place to comply with the Company's performance requirements. These must be checked for functionality by the Proposer or its vendors and consultants prior to submission to the Company. Similar and fully accurate PSCAD models shall be submitted in a condition that complies with the PSCAD modeling guidelines provided by the Company. Overlaid validation plots of PSSE Generic models, PSSE User models, and PSCAD models shall be submitted as described in the Project Interconnection Data Request worksheets to ensure compatible responses from each model.

If the Company determines that an IRS is not required, the Company will provide an Interconnection Modelling Letter Agreement for each selected project, with a statement of required deposit for individual work for: (a) a technical model checkout for each project, and (b) any considerations that are specific to a particular project and location. After proposals and models are submitted, the Company will inspect the data packages for general completeness. For any incomplete submissions, a list of missing or non-functional items will be provided. Proposers will be given 15 Days to resolve data and modeling deficiencies. The Company, in consultation with the Independent Observer, may remove Proposals if their submission requirements are deemed incomplete for the lack of requested models and validation plots.

The technical model checkouts will be conducted first. Upon identification of any functional problems or deficiencies, corrective action shall be taken immediately and on an interactive basis so that the problems or deficiencies can be resolved within 15 Days, including re-submission of data and updated models, or the Project shall be deemed withdrawn. At the discretion of the Company and provided that there is a demonstration of good faith action to minimize delay that would affect the schedule, a second round of model checkout and problem solving may proceed. Thereafter, any notice that a Project is deemed withdrawn for lack of completeness shall be final. Subject to consultation with the Independent Observer, failure to provide all requested material within the time(s) specified, or changes to the data provided after the due date(s), shall result in elimination from consideration.

#### 5.1.2 Interconnection Requirements Study Process

The Detailed Evaluation or Appendix III of Rule 14H shall determine the need for an IRS. Upon notification of selection to the Final Award Group, and subject to Rule 14H, the Company will provide an IRS Letter Agreement (in lieu of an Interconnection Modeling Letter Agreement) for each selected project, with a statement of required deposit for individual and prorated work as part of an IRS Scope for: (1) a System Impact Study that will involve (a) technical model checkout for each project, (b) any considerations that are specific to a particular project and location, and (c) system impact analyses of the projects as a group; and (2) a Facilities Study that includes the Interconnection cost and schedule, including cost of any required system upgrades. After proposals and models are submitted, the Company will inspect the data packages for

general completeness. For any incomplete submissions, a list of missing or non-functional items will be provided. Proposers will be given 15 Days to resolve data and modeling deficiencies. The Company, in consultation with the Independent Observer, may remove Proposals if their submission requirements are deemed incomplete for the lack of requested models and validation plots.

The technical model checkouts will be conducted first. Upon identification of any functional problems or deficiencies, corrective action shall be taken immediately and on an interactive basis so that the problems or deficiencies can be resolved within 15 Days, including re-submission of data and updated models, or the Project shall be deemed withdrawn. At the discretion of the Company and provided that there is a demonstration of good faith action to minimize delay that would affect the schedule, a second round of model checkout and problem solving may proceed. Thereafter, any notice that a Project is deemed withdrawn for lack of completeness shall be final. Subject to consultation with the Independent Observer, failure to provide all requested material within the time(s) specified, or changes to the data provided after the due date(s), shall result in elimination from consideration.

Proposers shall be responsible for the cost of the IRS, under separate agreements for the System Impact Study and the Facilities Study. The overall IRS will provide information including, but not limited to, an estimated cost and schedule for the required Interconnection Facilities for a particular Project and any required mitigation measures. Proposers will be responsible for the actual final costs of all Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities. Upon reviewing the results of the IRS, Detailed Evaluation or Technical Review process, if required, pursuant to Rule 14H, Appendix III, Proposers will have the opportunity to declare the PPA or Standard Form Contract null and void in the event that the estimated interconnection costs and schedule for the Project are higher than what was estimated in the Project Proposal. See Section 12.4 of the RDG PPA.

## **5.2 Contract Negotiation Process**

Within five (5) business Days of being notified by the Company of its intent to enter into contract negotiations or execute a Standard Form Contract, Proposers selected for the Final Award Group will be required to indicate, in writing to the Company's primary contact for this RFP, whether they intend to proceed with their Proposals. Proposers who elect to remain in the Final Award Group will be required to keep their Proposal valid through the award period. Contract negotiations will take place in parallel with the IRS process. The Company intends to execute and file the PPA with the PUC for approval and later amend the PPA to include the results of the IRS.

## **5.3 Community Outreach and Engagement**

The public meeting and comment solicitation process described in this Section and Section 29.21 of the RDG PPA (Community Outreach Plan) or the Standard Form Contract do not represent the only community outreach and engagement activities that can or should be performed by a Proposer.

The Company will publicly announce the Final Award Group no more than five (5) business Days after the notification is given to Proposers who are selected to the Final Award Group. Selected Proposers shall not disclose their selection to the public before the Company publicly announces the Final Award Group selection.

The Proposer will launch a Project website that will go live on the day the Company publicly announces the Final Award Group selection. On the business Day following Company's notification to the Proposer of Proposer's selection to the Final Award Group, the Proposer shall provide the Company with links to their Project website, which the Company will post on the Company's website. Information on what should be included on the Project website is identified in Appendix B, Attachment 4.

Within five (5) business Days of notification of selection to the Final Award Group, Proposers must provide the Company with an updated comprehensive Community Outreach Plan to work with and inform neighboring communities and stakeholders and to provide them timely information during all phases of the Project. The Community Outreach Plan shall include but not be limited to the following information: Project description, Project stakeholders, community concerns and Proposer's efforts to address such concerns, Project benefits, government approvals, Project schedule, and a comprehensive communications plan. The Proposer's Community Outreach Plan shall be a public document identified on the Proposer's Project website and made available to the public upon request. Details on the Community Outreach Plan can be found in Appendix B, Attachments 4, 5, and 6.

Prior to the execution date of the PPA, Proposers shall also host a public meeting in the community where the proposed Project is to be located for community and neighborhood groups in and around the vicinity of the Project Site that provided the neighboring community, stakeholders and the general public with: (i) a reasonable opportunity to learn about the proposed Project; (ii) an opportunity to engage in a dialogue about concerns, mitigation measures, and potential community benefits of the proposed Project; and (iii) information concerning the process and/or intent for the public's input and engagement, including advising attendees for projects greater than 2.5 MW in size that they will have thirty (30) calendar days from the date of said public meeting to submit written comments to Company and/or Proposer for inclusion in the Company's submission to the PUC of its application for a satisfactory PUC Approval Order. The Proposer shall collect all public comments, and then provide the Company copies of all comments received in their original, unedited form, along with copies of all comments with personal information redacted and ready for filing. If a PPA is executed by the Proposer and the Company, the Company may submit any and all public comments (presented in its original, unedited form) as part of its PUC application for this Project. Proposers shall notify the public at least three weeks in advance of the meeting. The Company shall be informed of the meeting. The Company will provide Proposers with detailed instructions regarding the community meeting requirement after the selection of the Final Award Group. (For example, notice will be published in county or regional newspapers/media, as well as media with statewide distribution. The Proposer will be directed to notify certain individuals and organizations. The Proposer will be provided templates to use for the public meeting notices, agenda, and presentation.) Proposers

must also comply with any other requirement set forth in the PPA or Standard Form Contract relating to Community Outreach.

Following the submission of the PUC application for the Project, and prior to the date when the Parties' statements of position are to be filed in the docketed PUC proceeding for the Project, the Proposer shall provide another opportunity for the public to comment on the proposed Project. The Proposer's statement of position filed in the docket associated with the Project will contain an attachment including those comments.

The Proposer shall be responsible for community outreach and engagement for the Project, and that the public meeting and comment solicitation process described in this section do not represent the only community outreach and engagement activities that can or should be performed.

#### **5.4 Greenhouse Gas Emissions Analysis**

Proposers whose Proposal(s) are selected for the Final Award Group and are greater than 2.5 MW in size shall cooperate with and promptly provide to the Company and/or Company's consultant(s) upon request all information necessary, in the Company's sole and exclusive discretion, for such consultant to prepare a greenhouse gas ("GHG") emissions analysis and report in support of a PUC application for approval of the PPA for the project (the "GHG Review"). Proposers shall be responsible for the full cost of the GHG Review associated with their project under a separate agreement between the Proposer and the Company. The GHG Review is anticipated to address whether the GHG emissions that would result from approval of the PPA and subsequent to addition of the Project to the Company's system are greater than the GHG emissions that would result from the operations of the Company's System without the addition of the Project, whether the cost for renewable, dispatchable generation, and/or energy storage services as applicable under the PPA is reasonable in light of the potential for GHG emissions, and whether the terms of the PPA are prudent and in the public interest in light of its potential hidden and long-term consequences.

#### **5.5 PUC Approval**

Any signed PPA resulting from this RFP, greater than 2.5 MW in size, is subject to PUC approval as described in the RDG PPA, including Article 12 and Section 29.20 thereof. Selected projects that are 2.5 MW or smaller will execute a Standard Form Contract with the Company which will not be subject to further regulatory review and approval.

#### **5.6 Facility In-Service**

In order to facilitate the timely commissioning of the projects selected through this RFP, the Company requires the following be included with the 60% design drawings: relay

settings and protection coordination study, including fuse selection and ac/dc schematic trip scheme.

For the Company to test the Facility, coordination between the Company and Project is required. Drawings must be approved by the Company prior to testing. The entire Facility must be ready for testing to commence. Piecemeal testing will not be allowed. Communication infrastructure and equipment must be tested by the IPP and ready for operation prior to Company testing.

If approved drawings are not available, or if the Facility is otherwise not test ready as scheduled, the Project will be moved to the end of the Company's testing queue. If tests are not completed within the allotted scheduled testing time, the Project will be moved to the end of the Company's testing queue. The IPP will be allowed to cure if successful testing is completed within the allotted scheduled time. No adjustments will be made to PPA or Standard Form Contract milestones if tests are not completed within the original allotted time. Liquidated damages for missed milestones will be assessed pursuant to the PPA or Standard Form Contract.

**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix A – Definitions*



**Maui  
Electric**



“Affiliate” means any person or entity that possesses an “affiliated interest” in a utility as defined by section 269-19.5, Hawaii Revised Statutes (“HRS”), including a utility’s parent holding company but excluding a utility’s subsidiary or parent which is also a regulated utility.

“Allowed Capacity” has the meaning set forth in the RDG PPA and Standard Form Contract.

“Best and Final Offer” or “BAFO” means the final offer from a Proposer, as further described in Section 4.6 and elsewhere in this RFP.

“Code of Conduct” means the code of conduct approved by the PUC in Docket No. 03-0372 (Decision and Order No. 23614, August 28, 2007) with respect to a Self-Build Option. An updated code of conduct was submitted to the PUC in Docket No. 2017-0352 on October 23, 2017.

“Code of Conduct Procedures Manual” or “Procedures Manual” means the manual approved by the PUC, which was put in place to address and to safeguard against preferential treatment or preferential access to information in a Hawaiian Electric, Maui Electric, or Hawaii Electric Light RFP process. The Procedures Manual is attached as Appendix C to this RFP.

“Commercial Operations” has the meaning set forth in the RDG PPA and Standard Form Contract.

“Community Outreach Plan” is a community outreach and communication plan described in Section 4.3 and 4.4.2 of this RFP.

“Company” means Maui Electric Company, Ltd., a Hawai‘i corporation.

“Company-Owned Interconnection Facilities” has the meaning set forth in the RDG PPA and Standard Form Contract.

“Competitive Bidding Framework” or “Framework” means the Framework for Competitive Bidding contained in Decision and Order No. 23121 issued by the Public Utilities Commission on December 8, 2006, and any subsequent orders providing for modifications from those set forth in Order No. 23121 issued December 8, 2006.

“Consumer Advocate” means the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs of the State of Hawai‘i.

“Day” means a calendar day, unless the term “business day” is used, which means calendar day excluding weekends and federal and State of Hawai‘i holidays.

“Development Period Security” has the meaning set forth in Section 14.2 of the RDG PPA and Standard Form Contract.

“Dispatchable” means the ability to turn on or turn off a generating resource at the request of the utility’s system operators, or the ability to increase or decrease the output of a generating resource from moment to moment in response to signals from a utility’s Automatic Generation Control

System, Energy Management System or similar control system, or at the request of the utility's system operators.

“Electronic Procurement Platform” means the third-party web-based sourcing platform that will be used for the intake of Proposals and associated electronic information, storage and handling of Proposer information, and communication.

“Eligibility Requirements” has the meaning set forth in Section 4.2 of this RFP.

“Eligible Proposals” means Proposals that meet both the Eligibility and Threshold Requirements.

“Energy Contract Manager” is the primary Company contact for this RFP.

“Evaluation Team” means agents of the Company who evaluate Proposals.

“Facility” has the meaning set forth in the RDG PPA and Standard Form Contract.

“Facility Studies” means a study to develop the interconnection facilities cost and schedule estimate including the cost associated with the design and construction of the Company-owned interconnection facilities.

“Final Award Group” means the group of Proposers selected by the Company from the Priority List, with which the Company will begin contract negotiations, based on the results of the Company's detailed evaluation.

“Generation Projects” means a Project proposed that offers only energy generation facilities.

“Greenhouse Gas” or “GHG” are gases that contribute to the greenhouse gas effect and trap heat in the atmosphere.

“Guaranteed Commercial Operations Date” or “GCOD” means the date on which a Facility first achieves Commercial Operations.

“Hawaiian Electric” means Hawaiian Electric Company, Inc., a Hawai'i corporation.

“Hawaiian Electric Companies” or “Companies” means Hawaiian Electric Company, Inc. and its subsidiaries, Hawaii Electric Light Company, Inc. and Maui Electric Company, Limited.

“HRS” means the Hawai'i Revised Statutes as of the date of this Request for Proposals.

“Imputed Debt” means adjustments to the debt amounts reported on financial statements prepared under generally accepted accounting principles (“GAAP”). Certain obligations do not meet the GAAP criteria of “debt” but have debt-like characteristics; therefore, credit rating agencies “impute debt and interest” in evaluating the financial ratios of a company.

“Independent Observer” has the meaning set forth in Section 1.4 of this RFP.

“Independent Power Producer” or “IPP” means an entity that owns or operates an electricity generating facility that is not included in the Company's rate base.

“Interconnection Facilities” means the equipment and devices required to permit a Facility to operate in parallel with, and deliver electric energy to, the Company System (in accordance with applicable provisions of the Commission’s General Order No. 7, Company tariffs, operational practices, interconnection requirements studies, and planning criteria), such as, but not limited to, transmission and distribution lines, transformers, switches, and circuit breakers. Interconnection Facilities includes Company-Owned Interconnection Facilities and Seller-Owned Interconnection Facilities.

“Interconnection Requirements Study” or “IRS” means a study, performed in accordance with the terms of the IRS Letter Agreement, to assess, among other things, (1) the system requirements and equipment requirements to interconnect the Facility with the Company System, (2) the Performance Standards of the Facility, and (3) an estimate of interconnection costs and project schedule for interconnection of the Facility.

“kV” means kilovolt.

“Land RFI” refers to a Request for Information activity conducted by the Company to identify interested parties willing to make land available for utility-scale renewable energy projects and gather relevant property information.

“Levelized Benefit” or “LB” means a calculation (\$/MWh) used for comparison of Proposals based on information provided in the Proposal submission in this RFP.

“Low- and Moderate-Income” or “LMI” customer or subscriber means a member of a household with a household income equal to or less than the income limit established by the U.S. Department of Housing and Urban Development (“HUD”) for an LMI Household.

“Lump Sum Payment” has the meaning set forth in the RDG PPA or Standard Form Contract. It may also be referred to as a monthly Lump Sum Payment to reflect the portion of the payment made each month.

“Maui Electric” means Maui Electric Company, Ltd., a Hawai‘i corporation.

“Maui Electric System” or “System” means the electric system owned and operated by Maui Electric on the island of Moloka‘i (including any non-utility owned facilities) consisting of power plants, transmission and distribution lines, and related equipment for the production and delivery of electric power to the public.

“Mediation” means the confidential mediation conducted in Honolulu, Hawai‘i, pursuant to and in accordance with the Mediation Rules, Procedures, and Protocols of Dispute Prevention Resolution, Inc. (or its successor) or, in its absence, the American Arbitration Association then in effect.

“MW” means megawatt.

“MWh” means megawatt hour.

“NDA” means the Mutual Confidentiality and Non-Disclosure Agreement attached to this RFP as Appendix E.

“NEP” means Net Energy Potential.

“Non-Price Evaluation Team” means Employees and consultants of the Company who evaluate the Proposal non-price related criteria as set forth in Section 4.4 of this RFP. Non-Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.

“O&M” means operation and maintenance.

“Operating Period Security” has the meaning set forth in Section 14.4 of the RDG PPA and Standard Form Contract.

“Paired Projects” means a Project proposed that incorporates both an energy generation component and an energy storage component as part of its Facility.

“Performance Standards” means the various performance standards for the operation of the Facility to the Company as set forth in Section 3 of Appendix B, as such standards may be revised from time to time pursuant to Article 23 of the RDG PPA or Standard Form Contract, and as described in Chapter 2 of this RFP.

“Point of Interconnection” has the meaning set forth in the RDG PPA and Standard Form Contract.

“Power Purchase Agreement” or “PPA” means an agreement between an electric utility company and the developer of a renewable energy generation facility to sell the power generated by the facility to the electric utility company.

“Price Evaluation Team” means Employees and consultants of the Company who evaluate the Proposal price related criteria as set forth in Section 4.4 of this RFP. Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.

“Priority List” means the group of Proposals selected by Maui Electric as described in Section 4.5 of this RFP.

“Project” means a Facility proposed to Maui Electric by a Proposer pursuant to this RFP.

“Proposal” means a proposal submitted to Maui Electric by a Proposer pursuant to this RFP.

“Proposal Due Date” means the date stated in RFP Schedule - Row 6 for the Self-Build Proposal and Row 7 for the IPP and Affiliate Proposal of this RFP.

“Proposal Fee” means the non-refundable fee for each proposal submitted as set forth in Section 1.8 of this RFP.

“Proposer” means a person or entity that submits a Proposal to Maui Electric pursuant to this RFP.

“Proposer’s Response Package” means the form in which the Proposal should be submitted, which is attached as Appendix B to this RFP.

“PUC” means the State of Hawai‘i Public Utilities Commission.

“RDG PPA” means the Model PV and/or Wind Renewable Dispatchable Generation Power Purchase Agreement that will be used for projects greater than 2.5 MW in size, attached as Appendix K to this RFP.

“Renewable Portfolio Standards” or “RPS” means the Hawai‘i law that mandates that the Company and its subsidiaries generate or purchase certain amounts of their net electricity sales over time from qualified renewable resources. The RPS requirements in Hawai‘i are currently codified in HRS §§ 269-91 through 269-95.

“Request for Proposals” or “RFP” means a request for Proposals issued pursuant to a competitive bidding process authorized, reviewed, and approved by the PUC.

“RFP Schedule” means the schedule set forth in Table 1, Section 3.1 of this RFP.

“Self-Build Option” or “SBO” means a Proposal submitted by the Company that is responsive to the resource need identified in the RFP, as required by Section VI of the Framework.

“Self-Build Team” means agents of the Company who develop Self-Build Option proposals.

“Seller” means the entity that the Company is contracting with, as set forth in the RDG PPA and Standard Form Contract.

“Seller-Owned Interconnection Facilities” has the meaning set forth in the RDG PPA and Standard Form Contract.

“Site” means the parcel of real property on which the Facility, or any portion thereof, will be constructed and located, together with any Land Rights reasonably necessary for the construction, ownership, operation and maintenance of the Facility.

“Site Control” has the meaning set forth in Section 4.3 of this RFP.

“Standard Form Contract” means the pre-approved standard form contract that will be used for projects 250 kW or greater in size, up to 2.5 MW, in the form of Appendix L of this RFP.

“Threshold Requirements” has the meaning set forth in Section 4.3 of this RFP.

Any capitalized term not defined in this RFP has the meaning set forth in the RDG PPA and Standard Form Contract.

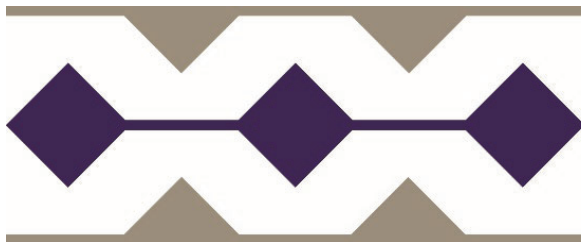
**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix B – Proposer’s Response Package /  
Project Interconnection Data Request*



**Maui  
Electric**

## 1.0 GENERAL INSTRUCTIONS TO PROPOSERS

The Company has elected to use the services of PowerAdvocate®, a third-party electronic platform provider. Sourcing Intelligence®, developed by PowerAdvocate®, is the Electronic Procurement Platform that the Company has licensed and will utilize for the RFP process. All Proposals and all relevant information must be submitted via the Electronic Procurement Platform, in the manner described in this RFP.

Proposers must adhere to the response structure and file naming conventions identified in this Appendix for the Proposer's response package. Information submitted in the wrong location/section or submitted through communication means not specifically identified by the Company will not be considered by the Company.

Proposers must provide a response for every item. If input/submission items in the RFP are not applicable to a specific Proposer or Proposal variation, Proposers must clearly mark such items as "N/A" (Not Applicable) and provide a brief explanation.

Proposers must clearly identify all confidential information in their Proposals, as described in more detail in Section 3.12 Confidentiality of the RFP.

All information (including attachments) must be provided in English. All financial information must be provided in U.S. Dollars and using U.S. credit ratings.

It is the Proposer's sole responsibility to notify the Company of any conflicting requirements, ambiguities, omission of information, or the need for clarification prior to submitting a Proposal.

The RFP will be conducted as a "Sealed Bid" event within Sourcing Intelligence, meaning the Company will not be able to see or access any of the Proposer's submitted information until after the event closes.

### 1.1 ELECTRONIC PROCUREMENT PLATFORM

To access the RFP event, the Proposer must register as a "Supplier"<sup>1</sup> on Sourcing Intelligence (Electronic Procurement Platform). One Proposal may be submitted with each Supplier registration. Minor variations, as defined in Section 1.8.2 and 1.8.3 of this RFP may be submitted along with the Proposal under the same registration.

If a Proposer is already registered on Sourcing Intelligence, the Proposer may use their current login information to submit their first Proposal. Minor variations of a Proposal will be submitted together with the base variation Proposal, following the instructions outlined in this Appendix. If the Proposer chooses to submit more than one Proposal, the Proposer must register as a new "Supplier" on Sourcing Intelligence for each additional Proposal.

Each registration will require a unique username, unique Email address, and unique Company name. Proposers that require multiple registrations to submit multiple Proposals should use the Company name field to represent

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<sup>1</sup> The language in Appendix B sometimes refers to "Energy Contract Managers" as "Bid Event Coordinator" and to "Proposers" as "Suppliers" (Bid Event Coordinator and Supplier are terms used by PowerAdvocate).

the Company name and Proposal number (ex: CompanyNameP1). Proposers may use shorthand or clear abbreviations.

Proposers can register for an account on Sourcing Intelligence by clicking on the “Registration” button (located in the top right corner of the webpage) on the PowerAdvocate website at the following address:

[www.poweradvocate.com](http://www.poweradvocate.com)

The Proposer’s use of the Electronic Procurement Platform is governed by PowerAdvocate’s Terms of Use. By registering as a “Supplier” on the Electronic Procurement Platform, the Proposer acknowledges that the Proposer has read these Terms of Use and accepts and agrees that, each time the Proposer uses the Electronic Procurement Platform, the Proposer will be bound by the Terms of Use then accessible through the link(s) on the PowerAdvocate login page.

Once a Proposer has successfully registered as a “Supplier” with PowerAdvocate, the Proposer shall request access to the subject RFP event from the Company Contact via Email through the RFP Email Address set forth in Section 1.6 of the RFP. The Email request must list the Company Name field and username under which the Proposer has registered with PowerAdvocate. If the Proposer plans to submit multiple Proposals and has registered multiple accounts in accordance with the instructions above, the Email request must contain the Company Name field and username for each account that will be used to submit the Proposals. After being added to the event, the Proposer will see the bid event on their dashboard upon logging into Sourcing Intelligence. Once the RFP event opens, the Proposer may begin submitting their Proposal(s).

After registering and prior to the opening of the RFP, Proposers are encouraged to familiarize themselves with the Electronic Procurement Platform, including tabs, the dashboard, the messaging feature, the Sourcing Intelligence Quick Start for Suppliers, etc. Proposers should note that they will not be able to access any bid documents until the event officially opens.

Proposers may contact PowerAdvocate Support for help with registration or modification of registration if desired. Support is available from 8 AM to 8 PM Eastern Time (2 AM to 2 PM Hawai‘i Standard Time when daylight savings is in effect) Monday to Friday, except for Holidays posted on the PowerAdvocate website, both by phone (857-453-5800) and by Email ([support@poweradvocate.com](mailto:support@poweradvocate.com)).

Contact information for PowerAdvocate Support can also be found on the bottom border of the PowerAdvocate website: [www.poweradvocate.com](http://www.poweradvocate.com)

Once the RFP event is opened, registered Proposers will have online access to general notices, RFP-related documents, and other communications via the Electronic Procurement Platform. Proposers should also monitor the RFP Website throughout the RFP event.

## **1.2 PROPOSAL SUBMISSION PROCEDURES**

An Email notification will be sent to all registered Proposers via the messaging feature in the Electronic Procurement Platform when the event has been opened to receive Proposals.

After logging onto the Electronic Procurement Platform, the RFP will be visible on the Proposer’s dashboard with several tabs, including the following:



- “**1. Download Documents:**” Documents stored under this tab are provided for the Proposer’s use and information. All documents can be downloaded and/or printed, as required.
- “**2. Upload Documents:**” Proposal submission documents requested in Appendix B must be uploaded using this tab.
- “3. Commercial Data:” This tab is NOT USED for this event.
- “4. Technical Data:” This tab is NOT USED for this event.
- “5. Pricing Data:” This tab is NOT USED for this event.

Step-by-step instructions for submitting a complete Proposal are provided below:

1. Proposers must upload their Proposal files, including all required forms and files, to submit a complete Proposal. All files must be uploaded before the Proposal Due Date.
2. Submit (upload) one consolidated PDF representing your Proposal via the “2. Upload Documents” tab. That Proposal PDF must abide by the format specified in this Appendix B. A MSWord.docx template that outlines the format of this document is available under the “1. Download Documents” tab for the Proposer’s use. **Response information must be provided in the order, format, and manner specified in this Appendix B and must clearly identify and reference the Appendix B section number that the information relates to.**
  - a. Proposers shall use a filename denoting: CompanyName\_Proposal#.pdf.  
(example: AceEnergy\_P1.pdf)
3. Proposal information that cannot be easily consolidated into the PDF file described in Step 2 (such as large-scale drawing files) or files that must remain in native file format (such as computer models and spreadsheets) shall be **uploaded separately but must be referenced from within the main Proposal PDF file** (e.g., “See AceEnergyP1V2\_2.5\_SiteControlMap.kmz”). Such additional files must follow the naming convention below:
  - a. File names must include, in order, Company Name, Proposal number (if more than one Proposal being submitted per Proposer), Variation (if any variations are being submitted), Appendix B section number, and a file descriptor, as shown in the example file name below:  
AceEnergyP1V2\_2.5\_SiteControlMap.kmz  
Proposers may use abbreviations if they are clear and easy to follow.
4. Upload files using the “**2. Upload Documents**” tab on the Electronic Procurement Platform.
  - a. For all documents identify the “Document Type” as “Technical Information.” (Do not identify any documents as “Commercial and Administrative” or “Pricing.”)
  - b. “Reference ID” may be left blank.
  - c. Select “Choose File...” Navigate to and choose the corresponding file from your computer. Select “Open” and then “Submit Document.”

There is no limit to the number or size of files that can be uploaded. Multiple files may be grouped into a .zip archive for upload. (Any zipped files must still adhere to the naming directions in #3 above.) When successfully uploaded, documents will appear under the “Bid Submissions” section on the bottom of the tab’s page, organized within the “Technical Information” Document Type. Repeat steps a, b, and c, as required for each file upload.

If a file with the same name is uploaded twice, the Platform will automatically append a unique numerical extension to the Document Name. To delete a file that has been previously uploaded, click on the “X” button in the “Actions” column for the file to be deleted. Do not upload any files prior to the issuance of the Final RFP.

5. The Company will not be responsible for technical problems that interfere with the upload or download of Proposal information. Support is available to answer technical questions about PowerAdvocate’s Sourcing Intelligence from 8 AM to 8 PM Eastern Time (2 AM to 2 PM Hawai‘i Standard Time when daylight savings is in effect) Monday to Friday, except for Holidays posted on the PowerAdvocate website, both by phone (857-453-5800) and by Email (support@poweradvocate.com).
6. Proposers are strongly encouraged to start early and avoid waiting until the last minute to submit the required information. Proposers are allowed to add, modify, and/or delete documents that have been previously submitted any time prior to the event close deadline.
7. Any questions or concerns regarding the RFP, may be submitted to the Company Contact via the RFP Email address provided in Section 1.6 of the RFP or via the PowerAdvocate Messaging tab. Per RFP Section 1.4.2, the Independent Observer will monitor messages within the bid event. Proposers are responsible for following instructions and uploading documents in their appropriate locations. Documents uploaded in the wrong tab will not be considered by the Company.

### 1.3 PROPOSAL COMPLETION AND CONFIRMATION PROCEDURES

To confirm the submission of all proposal files, in the “Status” tab on the Electronic Procurement Platform, confirm that the “Total Uploaded Files” is the number of expected files to be included in the submission by checking it against your list of submitted files.

Example “Status” tab view:

| Your Bid Intention: Bidding  |        |                       |
|------------------------------|--------|-----------------------|
| Total Uploaded Files:        | 18     | Last Upload: 02/08/18 |
| Saved Commercial Datasheets: | 1 of 1 | Last Saved: 02/08/18  |
| Saved Technical Datasheets:  | 0 of 0 |                       |
| Saved Pricing Datasheets:    | 1 of 1 | Last Saved: 02/08/18  |

### 2.0 PROPOSAL SUMMARY TABLE

Base variation Proposal Summary. If proposal variations are submitted, any changes to the summary information for such variations must be specifically identified in a similar table placed in Section 4.2 of this Appendix, as applicable.

To be filled out by ALL Projects:

|   |   |  |
|---|---|--|
| 1 | <b>Proposer Name (Company Name)</b>                           |  |
| 2 | <b>Parent Company/Owner/Sponsor/Business Affiliation/etc.</b> |  |
| 3 | <b>Project Name</b>   |  |
| 4 | <b>Net AC Capacity of the Facility (MW)</b>                   |  |
| 5 | <b>Proposed Facility Location in/near what City/Area</b>      |  |

|    |  |  |
|----|--|--|
| 6  | <b>TMK(s) of Facility Location (9 digits)<sup>3</sup></b>  |  |
| 7  | <b>Point of Interconnection’s Circuit or Substation Name</b>   |  |
| 8  | <b>Proposal Contract Term (Years)</b>  |  |
| 9  | <b>Proposal Guaranteed Commercial Operations Date (MM/DD/YYYY)</b>   |  |
| 10 | <b>The Proposer hereby certifies that the Project meets all performance attributes identified in Section 2.1 of the RFP? (Yes/No)</b>  |  |
| 11 | <b>The Proposer hereby certifies that no single point of failure from the Facility shall result in a decrease in net electrical output greater than 2.7 MW. (Yes/No)</b>   |  |
| 11 | <b>The Proposer hereby certifies that the Proposal (including its pricing elements) is not contingent upon changes to existing County, State or Federal laws or regulations. (Yes/No)</b>  |  |
| 12 | <b>The Proposer hereby agrees to provide Development Period Security and Operating Period Security as set forth in the applicable RDG PPA or Standard Form Contract. (Yes/No)</b>  |  |
| 13 | <b>The Proposer hereby certifies under penalties of perjury that this Proposal has been made in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business partnership, corporation, union, committee, club, or organization, entity, or group of individuals. (Yes/No)</b> |  |

IPP or Affiliate proposals: complete the summary table items in part A below.

Self-Build proposals: complete the summary table items in part B below.

**A. To be filled out by IPP or Affiliate proposals:**

|    |   |  |
|----|---|--|
| 14 | <b>Net Energy Potential (NEP) Projection for the Facility (MWh)</b>   |  |
| 15 | <b>Lump Sum Payment (\$/Year)</b>   |  |
| 19 | <b>Project Energy Storage Technology</b>  |  |
| 20 | <b>Energy Storage Capability for the Facility (MW and MWh)</b>  |  |
| 21 | <b>Is the Project capable of claiming the Federal Investment Tax Credit (ITC)? (Yes/No)</b>   |  |
| 23 | <b>If the Project is capable of claiming the Federal ITC, is the Project capable of being 100% charged from the grid after the ITC recapture period? (Yes/No)</b> |  |
| 24 | <b>If the Project is not capable of claiming the Federal ITC, is the Project capable of being 100% charged from the grid from the GCOD? (Yes/No)</b>              |  |

**B. To be filled out by Self-Build Option proposals:**

|    |   |  |
|----|---|--|
| 14 | <b>Net Energy Potential (NEP) Projection for the Facility (MWh)</b>                         |  |
| 17 | <b>Project Energy Storage Technology</b>  |  |
| 18 | <b>Energy Storage Capability for the Facility (MW and MWh)</b>                              |  |
| 19 | <b>Is the Project capable of claiming the Federal Investment Tax Credit (ITC)? (Yes/No)</b> |  |

<sup>3</sup> Island Number (1 digit); Zone Number (1 digit); Section Number (1 digit); Plat Number (3 digits, add leading zeros if less than 3 digits); Parcel Number (3 digits, add leading zeros if less than 3 digits)

|    |   |  |  |
|----|---|--|--|
| 23 | <b>If the Project is capable of claiming the Federal ITC, is the Project capable of being 100% charged from the grid after the ITC recapture period? (Yes/No)</b> |  |  |
| 24 | <b>If the Project is not capable of claiming the Federal ITC, is the Project capable of being 100% charged from the grid from the GCOD? (Yes/No)</b>              |  |  |
| 26 | <b>Year (YYYY)</b>  | <b>Project Capital Cost (\$)</b>       | Extend the table for questions 26, 27, and 28 for as many years as needed. |
|    |   |  |  |
|    |   |  |  |
|    |   |  |  |
| 27 | <b>Year (YYYY)</b>  | <b>O&amp;M Cost (\$)</b>               |  |
|    |   |  |  |
|    |   |  |  |
|    |   |  |  |
| 28 | <b>Year (YYYY)</b>  | <b>Annual Revenue Requirement (\$)</b> |  |
|    |   |  |  |
|    |   |  |  |
|    |   |  |  |

## 2.1 REQUIRED FORMS ACCOMPANYING PROPOSAL PDF

The following forms must accompany each proposal, must be attached to the Proposal PDF, and uploaded via the “2. Upload Documents” tab:

- Document signed by a representative for the Proposer **authorizing the submission** of the Proposal
- Fully executed **Mutual Confidentiality and Non-Disclosure Agreement** (Appendix E to the RFP, may be downloaded from the “1. Download Documents” tab in the Electronic Procurement Platform)
- **Certificate of Vendor Compliance** for the Proposer
  - **Certificate of Good Standing** for the Proposer and **Federal and State tax clearance certificates** for the Proposer may be provided in lieu of the Certificate of Vendor Compliance
- **Certification of Counsel for Proposer**, if applicable. (See Appendix B Attachment 1.)
- Completed applicable **Interconnection Requirement Study Data Request form** for the proposed technology and **project single line diagram(s)**. **Models for equipment and controls, list(s)** identifying components and **respective files** (for inverters and power plant controller), and **complete documentation with instructions** as specified in the Data Request form shall be submitted within the respective timeframes specified in Section 5.1 of the RFP.<sup>4</sup> (See Section 2.11.1 below)

<sup>4</sup> If the Models, lists, respective files and complete documentation are not submitted with the Proposal upload, they shall be submitted via PowerAdvocate’s Messaging as attachments within the respective timeframes specified in Section 5.1 of the RFP.

- [For Self-Build Only] **Self-Build Option Team Certification Form**. See Appendix G Attachment 1.
- [For Self-Build Only] **Revenue Requirements Worksheets** that support the annual revenue requirements estimates shall be submitted. A starter revenue requirements template file can be requested by the Self-Build Team via email to the RFP Email Address or through the PowerAdvocate Messaging function once the RFP event opens. The revenue requirements worksheets submitted will be modified to reflect the details of the Project's Proposal. All assumptions used will be reflected in an assumptions input tab.

## 2.2 PROPOSAL SUMMARY/CONTACT INFORMATION

2.2.1 Provide a **primary point of contact** for the Proposal being submitted:

- Name
- Title
- Mailing Address
- Phone Number
- Email Address

2.2.2 **Executive Summary of Proposal**. The executive summary must include an approach and description of the important elements of the Proposal, including additional descriptions for each minor variation to the Proposal being submitted. Refer to Section 1.8.2 and 1.8.3 of the RFP for an explanation of minor variations allowed. If variations are proposed, a **table summarizing the differences among the variations shall be included**.

2.2.3 **Pricing information**. Pricing information must be filled out in the Section 2.0 Proposal Summary Table above. If variations are proposed, each variation's pricing summary **must** be identified in a similar pricing table in Section 4.2 as applicable. **Provide any pricing information only in those table sections – do not embed pricing information in any other portion of the Proposal PDF.**

2.2.4 Provide a **high-level overview of the proposed Facility**, including at a minimum the following information:

- Facility Generation Size (MW<sub>AC</sub> and MW<sub>DC</sub>)
- Net Maximum Output Capacity of the Facility at the Point(s) of Interconnection (MW<sub>AC</sub>)
- Identified Available Hosting Capacity of the Distribution-level Circuit Facility Interconnecting to (MW<sub>AC</sub>)
- Number of Generators
- Rated Output of each Generator
- Generator Facility Design Characteristics

For projects that include a storage component:

- Technology Type (i.e. lithium ion battery)
- Discharge Duration (hours)
- Storage Capacity (i.e. amount of energy released to fully discharge and amount of energy required to fully charge, in MW and MWh)
- Operational Limitations, such as, but not limited to: number of charge/discharge cycles per day-month-year (see the energy discharge requirement in Section 1.2.12 and 1.2.14 of the RFP).

- Minimum and Maximum Operational Ranges, such as minimum and maximum required state of charge
- Round Trip Efficiency at rated power measured at the Point of Interconnection (i.e. discharge energy divided by charge energy, expressed as a percentage)
- Round Trip Efficiency using full duty cycle for a fixed duration measured at the Point of Interconnection (%)

## 2.3 FINANCIAL

Provide the following financial information identified below.

### 2.3.1 Identification of Equity Participants

2.3.1.1 Who are the **equity participants** in the Project (or the equity partners' other partners)?

2.3.1.2 Provide an **organizational structure** for the Proposer including any general and limited partners and providers of capital that identifies:

- Associated responsibilities from a financial and legal perspective
- Percentage interest of each party

### 2.3.2 Project Financing

2.3.2.1 **How will the Project be financed** (including construction and term financing)? Address at a minimum:

- The Project's projected financial structure
- Expected source of debt and equity financing

2.3.2.2 [For IPP and Affiliate Proposals] Identify all **estimated development and capital costs** for, at a minimum:

- Equipment
  - Identify the manufacturer and model number for all major equipment
- Construction
- Engineering
- Seller-Owned Interconnection Facilities
- Company-Owned Interconnection Facilities
- Land
- Annual O&M
- Specify the percentage of the total cost associated with the storage component of the Facility

[For Self-Build Only] Identify all **estimated development and capital costs** for, at a minimum:

- Facility (including any generation and storage components)
- Outside Services
- Interconnection
- Overhead Costs
- Allowance for Funds Used During Construction

- Annual O&M
- Specify the percentage of the total cost associated with the storage component of the Facility

2.3.2.3 Discuss and/or provide **supporting information on any project financing guarantees**.

2.3.2.4 Describe any **written commitments obtained from the equity participants**.

2.3.2.5 Describe any **conditions precedent to project financing**, and the Proposer's plan to address them, other than execution of the Power Purchase Agreement or any other applicable project agreements and State of Hawaii Public Utilities Commission approval of the Power Purchase Agreement and other agreements.

2.3.2.6 Provide any **additional evidence to demonstrate that the Project is financeable**.

2.3.3 Project Financing Experience of the Proposer

Describe **the project financing experience of the Proposer** in securing financing for projects of a similar size (i.e., no less than two-thirds the size) and technology as the one being proposed including the following information for any referenced projects:

- Project Name
- Project Technology
- Project Size
- Location
- Date of Construction and Permanent Financing
- Commercial Operations Date
- Proposer's Role in Financing of the Project
- Off-taker
- Term of the Interconnection Agreement
- Financing Structure
- Major Pricing Terms
- Name(s) of Finance Team Member(s); Time (i.e., years, months) worked on the project and Role/Responsibilities

2.3.4 Evidence of the Proposer's Financial Strength

2.3.4.1 Provide **copies of the Proposer's audited financial statements** (balance sheet, income statement, and statement of cash flows):

- Legal Entity
  - Three (3) most recent fiscal years
  - Quarterly report for the most recent quarter ended
- Parent Company
  - Three (3) most recent fiscal years
  - Quarterly report for the most recent quarter ended

2.3.4.2 Provide the **current credit ratings** for the Proposer (or Parent Company, if not available for Proposer), affiliates, partners, and credit support provider:

- Standard & Poor's

- Moody's
- Fitch

2.3.4.3 Describe any **current credit issues** regarding the Proposer or affiliate entities raised by rating agencies, banks, or accounting firms.

2.3.4.4 Provide any **additional evidence that the Proposer has the financial resources and financial strength** to complete and operate the Project as proposed.

2.3.5 Provide evidence that the Proposer can provide the required securities

2.3.5.1 Describe the Proposer's **ability (and/or the ability of its credit support provider) and proposed plans to provide the required securities** including:

- Irrevocable standby letter of credit
- Sources of security
- Description of its credit support provider

2.3.6 Disclosure of Litigation and Disputes

Disclose any **litigation, disputes, and the status of any lawsuits or dispute resolution** related to projects owned or managed by the Proposer or any of its affiliates

## 2.4 CONTRACT EXCEPTIONS AND FINANCIAL COMPLIANCE

2.4.1 If Proposers elect to propose modifications to the Model PPA, **provide a Microsoft Word red-line version of the Model PPA** identifying specific proposed modifications to the model language that the Proposer is agreeable to and a detailed explanation and supporting rationale for each modification. General comments, drafting notes and footnotes such as "parties to discuss" are unacceptable and will be considered non-responsive.

Proposers that do not upload redlines of the applicable PPA with their Proposal submission will be deemed to have accepted the Model PPA in its entirety.

The Standard Form Contract for projects 250 kW to 2.5 MW will be preapproved by the Commission and as a result, modifications may not be proposed to it.

2.4.2 State to the best of the Proposer's knowledge: Will the Project result in **consolidation** of the Developer entity's finances onto the Company's financial statements under FASB 810. **Provide supporting information** to allow the Company to verify such conclusion.

## 2.5 SITE CONTROL

2.5.1 The Proposal must demonstrate that the Proposer has Site Control for all real property required for the successful implementation of a specific Proposal at a Site not controlled by the Company, including any Interconnection Facilities for which the Proposer is responsible. In addition, developmental requirements and restrictions such as zoning of the Site and the status of easements must be identified. **Provide documentation set forth in RFP Section 4.3 to prove Site Control.**

2.5.2 Provide a **map of the Project site** that clearly identifies:



- Location of the parcel on which the site is located
- Tax map key number (9-digit format: Island Number (1 digit), Zone Number (1 digit), Section Number (1 digit), Plat Number (3 digits, add leading zeros if less than 3 digits), Parcel Number (3 digits, add leading zeros if less than 3 digits)
- Site boundaries (if the site does not cover the entire parcel)
- Total acreage of the site
- Point(s) of Interconnection
- Relationship of the site to other local infrastructure

2.5.3 Provide a **site layout plan** which illustrates:

- Proposed location of all equipment
- Proposed location of all facilities on the site, including any proposed line extensions

2.5.4 Describe the **Interconnection route** and include:

- Site sketches of how the facility will be interconnected to the Company's System (above-ground and/or underground)
- Identify the approximate latitude and longitude of the proposed Point of Interconnection, in decimal degrees format, to six (6) decimal places.
- Description of the rationale for the interconnection route

2.5.5 Identify **any rights-of-way or easements** that are required for access to the site or for interconnection route:

- Describe the status of rights-of-way or easement acquisition
- Describe the plan for securing the necessary rights-of-way or easement, including the proposed timeline

## 2.6 ENVIRONMENTAL REVIEW, PERMITTING PLAN, ENVIRONMENTAL COMPLIANCE/IMPACTS

2.6.1 Describe your **overall land use and environmental permits and approvals strategy** and approach to obtaining successful, positive results from the agencies and authorities having jurisdiction, including:

- Explanation of the conceptual plans for siting
- Studies/assessments
- Permits and approvals
- Gantt format schedule which identifies the sequencing of permit application and approval activities and critical path. (Schedule must be in MM/DD/YY format.)

2.6.2 Discuss the **City Zoning and State Land Use Classification**:

- Identify present and required zoning and the ability to site the proposed Project within those zoning allowances.
- Identify present and required land use classifications and the ability to site the proposed Project within those classifications.
- Provide evidence of proper zoning and land use classifications for selected site and interconnection route.

- If changes in the above are required for the proposed Project, provide a plan and timeline to secure the necessary approvals.

2.6.3 Identify all required discretionary and non-discretionary **land use, environmental and construction permits, and approvals** required for development, financing, construction, and operation of the proposed Project, including but not limited to zoning changes, Environmental Assessments, and/or Environmental Impacts Statements.

Provide a **listing of such permits and approvals** indicating:

- Permit Name
- Federal, State, or Local agencies and authorities having jurisdiction over the issuance
- Status of approval and anticipated timeline for seeking and receiving the required permit and/or license
- Explanation of your basis for the assumed timeline
- Explain any situation where a permit or license for one aspect of the Project may influence the timing or permit of another aspect (e.g. a case where one permit is contingent upon completion of another permit or license), if applicable.
- Explain your plans to secure all permits and approvals required for the Project.

2.6.4 Provide a **preliminary environmental assessment of the site** (including any pre-existing environmental conditions) and potential short- and long-term **impacts** associated with, or resulting from, the proposed Project – including direct, indirect, and cumulative impacts associated with development, construction, operation, and maintenance of the proposed Project in every area identified below. Discuss if alternatives have been or will be considered. The assessment shall also include Proposer’s short- and long-term plans to mitigate such impacts and explanation of the mitigation strategies for, but not limited to, each of the major environmental areas as presented below:

- Natural Environment
  - Air quality
  - Biology (Natural habitats and ecosystems, flora/fauna/vegetation, and animals, especially if threatened or endangered)
  - Climate
  - Soils
  - Topography and geology
- Land Regulation
  - Land Uses, including any land use restrictions and/or pre-existing environmental conditions/contamination
  - Flood and tsunami hazards
  - Noise
  - Roadways and Traffic
  - Utilities
- Socio-Economic Characteristics
- Aesthetic/Visual Resources
- Solid Waste
- Hazardous Materials
- Water Quality
- Public Safety Services (Police, Fire, Emergency Medical Services)
- Recreation
- Potential Cumulative and Secondary Impacts

2.6.5 Provide a **decommissioning plan**, including:

- Developing and implementing program for recycling to the fullest extent possible, or otherwise properly disposing of installed infrastructure, if any, and
- Demonstrating how restoration of the Site to its original ecological condition is guaranteed in the event of default by the Proposer in the applicable Site Control documentation.

## 2.7 CULTURAL RESOURCE IMPACTS

2.7.1 Provide a **plan to address the below requirements** as they pertain to the Project Site and interconnection route including the status of any consultant/s with expertise in this field that have been identified and/or contracted with, and documentation of any assessments or work that has been planned or performed to date. Identify any cultural, historical or natural resources in the area in question. For any impacts identified to the categories listed below, provide a mitigation strategy and the expected impact on the Project schedule. Detail the potential impacts of the Proposal on cultural resources in the short- and long-term and the Proposer's plan to mitigate such impacts. Proposers must provide as much information as possible to allow the Company to understand the considerations.

- Archaeological Resources
- Cultural Practices and Resources

## 2.8 COMMUNITY OUTREACH

2.8.1 Provide a **detailed Community Outreach Plan** to work with and inform neighboring communities and stakeholders and to provide them timely information during all phases of the Project. The plan shall address, but not be limited to, the following items:

- Project description
- Community scoping
- Project benefits
- Government approvals
- Development process
- Identification of communities and other stakeholders that may be affected by the proposed Project:
  - How will they be affected?
  - What mitigation strategies will the Proposer implement?
- Comprehensive communication strategy with affected communities and the general public regarding the proposed Project:
  - Describe frequency of communication
  - Provide source of information
  - Identify communication outlets
  - Describe opportunities, if any for affected communities and general public to provide the developer with feedback and comments on the proposed Project

2.8.2 Provide any **documentation of local community support or opposition** including any letters from local organizations, newspaper articles, or communications from local officials.

2.8.3 Provide a **description of community outreach efforts** already taken or currently underway, including the names of organizations and stakeholders contacted about the proposed Project.

2.8.4 Describe any anticipated or negotiated investment in the community and other **community benefits** that the Proposer proposes to provide in connection with the Project, along with an estimated value of the community benefits in dollars (including the cost to Proposers providing the benefits and supporting details on how those costs and benefits were derived).

## 2.9 OPERATIONS AND MAINTENANCE (O&M)

2.9.1 To demonstrate the long-term operational viability of the proposed Project, describe the **planned operations and maintenance**, including:

- Operations and maintenance funding levels, annually, throughout the term of the contract.
- Description of the operational requirements by frequency (daily, weekly, monthly, yearly, as-necessary, run hour interval) and maintenance requirements by frequency (daily, weekly, monthly, yearly, as-necessary, run hour interval).
- A discussion of the staffing levels proposed for the Project and location of such staff. If such staff is offsite, describe response time and ability to control the Project remotely.
- Technology specific maintenance experience records.
- Identification of any O&M providers.
- The expected role of the Proposer (Owner) or outside contractor.
- Scheduling of major maintenance activity.
- Plan for testing equipment.
- Estimated life of Generation and/or Storage Facilities and associated Interconnection Facilities.
- Safety plan, including historical safety records with environmental history records, violations, and compliance plans.
- Security plan.
- Site maintenance plan.
- Substation equipment maintenance plan.

2.9.2 State whether the Proposer would **consider 24-hour staffing**. Explain how this would be done.

2.9.3 Describe the **Proposer's contingency plan**, including the Proposer's mitigation plans to address failures. Such information should be described in the Proposal to demonstrate the Project's reliability with regard to potential operational issues.

2.9.4 Describe if the Proposer will **coordinate their maintenance schedule** for the Project with the Company's annual planned generation maintenance. See Article 5 of the model RDG PPA.

2.9.5 Describe the **status of any O&M agreements or contracts** that the Proposer is required to secure. Include a discussion of the Proposer's plan for securing a long-term O&M contract.

2.9.6 Provide **examples of the Proposer's experience** with O&M services for other similar projects.

## 2.10 PERFORMANCE STANDARDS

2.10.1 Design and operating information. Provide a **description of the project design**. Description shall include:

- Configuration description
- Overview of the Facility Control Systems – central control and inverter- or resource-level control
- Diagrams approved by a Professional Electrical Engineer registered in the State of Hawai‘i, indicated by the presence of the Engineer’s Professional seal on all drawings and documents. Including but not limited to:
  - A single-line diagram, relay list, trip scheme and settings of the generating facility, which identifies the Point of Interconnection, circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes.
  - A three-line diagram which shows the Point of Interconnection, potential transformer (PT) and current transformer (CT) ratios, and details of the generating facility configuration, including relays, meters and test switches.

2.10.1.1 Provide the projected **hourly annual energy potential production profile of the Facility<sup>5</sup> (24 hours x 365 days, 8760 generation profile)** for the provided RFP NEP Projection.

2.10.1.2 Provide the **sample rate of critical telemetry** (i.e. frequency and voltage) based on inputs to the facility control systems.

2.10.1.3 Provide a description of the Facility’s **capability to be grid-forming and have black start capability** for Projects that are 1 MW or greater.

2.10.2 **Capability of Meeting Performance Standards.** The proposed Facility must meet the performance attributes identified in Section 2.1 of the RFP. Provide **confirmation that the proposed Facility will meet the requirements identified** or provide clarification or comments about the Facility’s ability to meet the performance standards. Proposals should include sufficient documentation to support the stated claim that the Facility will be able to meet the Performance Standards. The Proposal should include information required to make such a determination in an organized manner to ensure this evaluation can be completed within the evaluation review period.

2.10.3 **Reactive Power Control:** Provide the facility's **ability to meet the Reactive Power Control capabilities**, including Voltage Regulation at the point of interconnection, required in the Performance Standards, including contribution from the inverters of generation and/or storage and means of coordinating the response. Provide the inverter capability curve(s). Confirm ability to provide reactive power at zero active power.

2.10.4 **Ramp Rate** for Generation Facilities: Confirm the ability to meet the ramp rate requirement specified in the Model PPA or standard form contract.

2.10.5 **Undervoltage ride-through:** Provide the facility’s terminal voltage level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

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<sup>5</sup> The projected hourly annual energy production profile is the projected output from the generating facility without curtailment and before any energy is directed to an energy storage component, if one will be provided.

2.10.6 **Overvoltage ride-through:** Provide the facility's terminal voltage level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

2.10.7 **Transient stability ride-through:** Provide the facility's ability to stay online during Company System: (1) three-phase fault located anywhere on the Company System and lasting up to \_\_ cycles; and (2) a single line to ground fault located anywhere on the Company System and lasting up to \_\_ cycles. Provide the Facility's ability to withstand subsequent events.

2.10.8 **Underfrequency ride-through:** Provide the facility's terminal frequency level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

2.10.9 **Overfrequency ride-through:** Provide the facility's terminal frequency level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

2.10.10 **Frequency Response:** Provide the facility's frequency response characteristics as required by the Model PPA or standard form contract, including time of response, tunable parameters, alternate frequency response modes and means of implementing such features.

2.10.11 **Auxiliary Power Information:** Proposer must provide the maximum auxiliary power requirements for:

- Start-up
- Normal Operations (from generator)
- Normal Operating Shutdown
- Forced Emergency Shutdown
- Maintenance Outage

2.10.12 **Coordination of Operations:** Provide a description of the control facilities required to coordinate generator operation with and between the Company's System Operator and the Company's System.

- Include a description of the equipment and technology used to facilitate dispatch to the Company and communicate with the Company.
- Include a description of the control and protection requirements of the generator and the Company's System.

2.10.13 **Cycling Capability:** Describe the Facility's ability to cycle on/off and provide limitations.

2.10.14 **Active Power Control Interface:** Describe the means of implementing active power control and the Power Possible, including the contribution to the dispatch signal from paired storage, if any. Provide the Proposer's experience dealing with active power control, dispatch, frequency response, and ride-through.

2.10.15 Provide the details of the **major equipment** (i.e. batteries, inverters, battery management system), including, but not limited to, name of manufacturer, models, key metrics, characteristics of the equipment, and performance specifications.

2.10.16 **Energy Storage performance standards:** For projects that include a storage component, provide additional performance standard descriptions as follows:

- Number of cycles per day, or equivalent MWh storage output for a full year
- Ramp Rate: Provide the Facility's ramp rate, which should be no more than 2 MW/minute for all conditions other than those under control of the Company System Operator and/or those due to desired frequency response.
- System Response Time – Idle to Design Maximum (minutes)
- Discharge Start-up time (minutes from notification)
- Charge Start-up time (minutes from notification)
- Start and run-time limitations, if any
- Ancillary Services provided, if any (i.e. Spinning Reserves, Non-Spinning Reserves, Regulation Up, Regulation Down, Black Start capability, other )

2.10.17 Provide the description and details of the **grid-charging capabilities of the Facility**. Include a description on the ability to control the charging source.

## 2.11 INTERCONNECTION REQUIREMENT STUDY

2.11.1 Provide the appropriate completed **Project Interconnection Data Request form** for the proposed technology with the Proposal submission. (The forms can be found in the "1. Download Documents" tab as Appx B Att 2 Project Interconnection Data Request Form (PV Generation) MSEExcel files.) Also provide all **project single line diagram(s)** with the Proposal submission. **Models for equipment and controls, list(s)** identifying components and **respective files** (for inverters and power plant controller), and **complete documentation with instructions** shall be submitted within the timeframes specified in Section 5.1 of the RFP.<sup>4</sup> Proposers may also download the PSCAD model requirements memo labelled as Appx B Att 3 from the "1. Download Documents" tab also.

## 2.12 PROVEN TECHNOLOGY

2.12.1 Provide all supporting information for the Company to assess the **commercial and financial maturity of the technology** being proposed. Provide any supporting documentation that shows examples of projects that:

- Use the technology at the scale being proposed
- Have successfully reached commercial operations (for example, by submitting a PPA)
- Demonstrate experience in providing Active Power dispatch

## 2.13 EXPERIENCE AND QUALIFICATIONS

Proposers, its affiliated companies, partners, and/or contractors and consultants are required to demonstrate project experience and management capability to successfully develop and operate the proposed Project.

2.13.1 Provide an **organizational chart** for the Project that lists the project participants and identifies the management structure and responsibilities.

- For each of the project participants (including the Proposer, partners, and proposed contractors), fill out the table below and provide statements that list the specific experience of the firm in: financing, designing, constructing, interconnecting, owning, operating, and maintaining renewable energy generating or storage facilities, or other projects of similar size and technology, and
- Provide any evidence that the project participants have worked jointly on other projects.

| <b>EXPERIENCE:</b>   |           |           |              |                 |        |           |             |
|--|-----------|-----------|--------------|-----------------|--------|-----------|-------------|
| In the applicable columns below, include project details (i.e., project name, location, technology, size) and relevant job duties (role/responsibilities) and time (in years/months) spent on the project. List multiple projects if applicable. |           |           |              |                 |        |           |             |
| Participant Name:  | Financing | Designing | Constructing | Interconnecting | Owning | Operating | Maintaining |
| 1.   |           |           |              |                 |        |           |             |
| 2.   |           |           |              |                 |        |           |             |
| 3.   |           |           |              |                 |        |           |             |
| ...  |           |           |              |                 |        |           |             |

2.13.2 Identify those **member(s) of the team** the Proposer is submitting to meet the experience Threshold Requirement and demonstrate the member(s) firm commitment to provide services to the Proposer.

2.13.3 Identify those **members of the team with experience and qualifications**, including affiliates, and their principal personnel who will be involved in the project contracting to sell and deliver energy. If the Proposer consists of multiple parties, such as joint ventures or partnerships, provide this information for each party, clearly indicating the proposed role of each party, including an ownership chart indicating direct and indirect ownership, and percentage interests in the partnership or joint venture.

2.13.4 Provide a **management chart** which lists the key personnel dedicated to this Project and provide **biographies / resumes** of the key personnel, including position, years of relevant experience, and similar project experience. Provide specifics as they relate to financing of renewable energy projects. Identify architects and engineers or provision to provide same that are licensed to practice in the State of Hawai'i.

2.13.5 Provide a **listing in the table format below, of all renewable energy generation or energy storage projects** the Proposer has successfully developed or that are currently under construction. Describe the Proposer's role and responsibilities associated with these projects (lead developer, owner, investor, etc.). Provide the following information as part of the response:

| Project Name | Location (City, State) | Technology (wind, PV, hydro, plus storage, etc.) | Size (MW/ MWh) | Commercial Operation Date | Offtaker (if applicable) | Role & Responsibilities |
|--------------|------------------------|--|----------------|---------------------------|--------------------------|-------------------------|
| 1.           |                        |  |                |                           |                          |                         |
| 2.           |                        |  |                |                           |                          |                         |
| 3.           |                        |  |                |                           |                          |                         |



|     |  |  |  |  |  |  |
|-----|--|--|--|--|--|--|
| ... |  |  |  |  |  |  |
|-----|--|--|--|--|--|--|

## 2.14 STATE OF PROJECT DEVELOPMENT AND SCHEDULE

2.14.1 Provide a **project schedule in GANTT chart format** with complete **critical path activities** identified for the Proposal from the Notice of Selection of the Proposal to the start of Commercial Operations.

- The **schedule** must include:
  - Interconnection Requirement Study (IRS) assumptions
  - Anticipated contract negotiation period assumptions
  - Regulatory assumptions
  - Anticipated submittal and approval dates for permitting (including but not limited to environmental and archaeological compliance)
  - Siting and land acquisition
  - Cultural Resource implications and mitigation activities
  - Community outreach and engagement activities
  - Energy resource assessment
  - Financing
  - Engineering
  - Procurement
  - Facility construction including construction management events
  - Applicable reporting milestone events specified in the Model PPA or standard form contract
  - Testing
  - Interconnection (including engineering, procurement, and construction)
  - Commercial Operations Date
  - All other important elements outside of the direct construction of the Project
- For each project element, list the start and end date (must be in MM/DD/YY format), and include predecessors to clearly illustrate schedule dependencies and durations.
- Proposers must also list and describe critical path activities and milestone events, particularly as they relate to the integration and coordination of the project components and the Company's Electric System. Proposers must ensure that the schedule provided in this section is consistent with the milestone events contained in the PPA or Standard Form Contract and/or other agreements.

2.14.2 Describe the **construction execution strategy** including:

- Identification of contracting/subcontracting plans
- Modular construction
- Safety plans<sup>6</sup>
- Quality control and assurance plan
- Labor availability

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<sup>6</sup> A document that describes the various safety procedures and practices that will be implemented on the Project and how applicable safety regulations, standards, and work practices will be enforced on the Project.

- Likely manufacturing sites and procurement plans
- Similar projects where these construction methods have been used by the Proposer.

2.14.3 Provide a description of any **project activities that have been performed to date**.

2.14.4 Explain how you plan to reach **safe harbor milestones** (if applicable) and **guaranteed commercial operations**, including durations and dependencies which support this achievement.

### 3.0 PROPOSED CBRE PROGRAM

Provide a detailed description of the CBRE program that will be offered to eligible subscribers, including at a minimum, but not limited to, a discussion of the following:

- Financing Options
  - Subscriber fees and payments
    - Upfront payments
    - Ongoing payments
  - Public funding options
  - Extent to which subscribers will be financially responsible for any facility underperformance
- Percentage of the project's capacity that will be available to subscribers vs. unsubscribed capacity
  - Commitments to residential subscribers
  - Commitments to low- and moderate- income ("LMI") subscribers
- Marketing or outreach plans to advertise the proposed project/program to LMI (if applicable) and non-LMI eligible customers
- Strategies for LMI (if applicable) and non-LMI customer retention and maintaining LMI (if applicable) and non-LMI customer participation levels
- Estimated benefits to LMI (if applicable) and non-LMI customer participants
  - Expected savings
  - Payback periods
  - Payback mechanisms
  - Other benefits
- Prior experience, specifically relating to community-based renewable energy projects
- Plans for CBRE program administration

### 4.0 MINOR PROPOSAL VARIATIONS

Proposers submitting minor variations to a Proposal must provide the **details of each variation in the below section(s)**. In each proposal variation section below, Proposers must add the applicable tables from Section 2.0 Proposal Summary of this Appendix B. The information in these tables should reflect the information for the variation being proposed. Additionally, Proposers must identify all changes to the information provided in response to Sections 2.1 through 3.0 of this Appendix B for the proposal variation. If differences are not identified for the Section 2.0 Proposal Summary or a particular section in Sections 2.1 through 2.14, the Company will assume that the information contained in the base Proposal also applies to the proposal variation.

Note: Section 2.2.2 above requires a table summarizing the differences among the variations, if variations are proposed.

#### 4.1 PROPOSAL VARIATION 1 (BASE VARIATION)

N/A (All information for the base variation is identified in sections 2.0 through 3.0 above.)

## **4.2 PROPOSAL VARIATION 2 (AS NECESSARY)**

Identified changes to Sections 2.0 through 3.0, as required for each variation.

Appendix B Attachment 1

**Certification of Counsel for Proposer  
Hawaiian Electric Company, Inc., Maui Electric Company, Ltd, and Hawai'i Electric Light  
Company, Inc.**

Pursuant to Section 1.7.4 of Hawaiian Electric Company, Inc., Hawai'i Electric Light Company, Inc. and Maui Electric Company, Limited's (each a "Company" and collectively, the "Companies") Request For Proposals for Community-Based Renewable Energy Projects, Island of Moloka'i ("RFP"), the Companies may require legal counsel who represent multiple unaffiliated proposers to sign a certification that they have not shared confidential information obtained through the representation of one proposer with any other unaffiliated proposer.

Accordingly, by signing below, I hereby acknowledge, agree and certify that:

(1) in connection with the RFP, I represent the following company that has submitted a proposal(s) for the RFP: \_\_\_\_\_ ("Proposer");

(2) irrespective of any proposer's direction, waiver or request to the contrary, I will not share a proposer's confidential information or the Company's confidential information associated with such proposer, including, but not limited to, a proposer's or Company's negotiating positions, with third parties unaffiliated with Proposer (by contract or organizational structure), including other proposers responding to the RFP;

(3) the Companies may rely on this certification for purposes of the RFP; and

(4) at the conclusion of power purchase agreement negotiations, if any, the Company may require me to sign a certificate certifying that I have not shared a proposer's confidential information or the Company's confidential information associated with such proposer, including, but not limited to, a proposer's or Company's negotiating positions, with third parties unaffiliated with Proposer (by contract or organizational structure), including other proposers responding to the RFP.

\_\_\_\_\_  
Name (print)

\_\_\_\_\_  
Law Firm (if applicable)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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Section 1.7.4 of the RFP provides in relevant part that:

In submitting a Proposal in response to this RFP, each Proposer certifies that the Proposal has been submitted in good faith and without fraud or collusion with any other unaffiliated person or entity. The Proposer shall acknowledge this in the Response Package submitted with its Proposal. Furthermore, in executing the NDA provided as Appendix E, the Proposer agrees on behalf of its Representatives (as defined in the NDA) that the Company's negotiating positions will not be shared with other Proposers or their respective Representatives.

In addition, in submitting a Proposal, a Proposer will be required to provide Company with its legal counsel's written certification in the form attached as Appendix B Attachment 1 certifying in relevant part that irrespective of any proposer's direction, waiver, or request to the contrary, that the attorney will not share a proposer's confidential information associated with such Proposer with others, including, but not limited to, such information such as a Proposer's or Company's negotiating positions. If legal counsel represents multiple unaffiliated proposers whose Proposals are selected for the Final Award Group, such counsel will also be required to submit a

Appendix B Attachment 1

similar certification at the conclusion of power purchase agreement negotiations that he or she has not shared a proposer's confidential information or the Company's confidential information associated with such Proposer with others, including but not limited to, such information as a Proposer's or Company's negotiating positions.

Appendix B Attachment 2

**Project Interconnection Data Request  
FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|   | Response |
|---|----------|
| 1) Please provide a plan map of the Non-Utility Generation (NUG) facility. Please indicate the interconnection point to the HECO system.  |          |
| 2) Please provide the following generation and load information for the NUG facility:   |          |
| a. Gross and net output of the facility   |          |
| b. Expected KW and KVAR loads including, but not limited to, generators' auxiliary load curve, process load(s) profile(s), etc.   |          |
| c. Expected minimum and maximum MW and MVAR "import from" AND "export to" HECO.   |          |
| 3) Please provide Single-Line Diagram(s), Three-Line Diagram(s), and Protective Relay List & Trip Schedule for the generation and interconnection facilities:   |          |
| a. The Single-line diagram(s) and Three-line diagram (s) should include:  |          |
| i. For main and generator step up transformer(s), please show:  |          |
| • Transformer voltage and MVA ratings.  |          |
| • Transformer impedance(s).   |          |
| • Transformer winding connections and grounding. If neutrals are grounded through impedance, please show the impedance value.   |          |
| ii. The protective relaying and metering for the generators, transformers, buses, and all other main substation equipment.  |          |
| iii. For the potential transformers, please indicate the type, quantity, ratio, and accuracy rating.  |          |
| iv. For the current transformers, please indicate the type, quantity, ratio, and accuracy rating, and thermal rating factor.  |          |
| v. Auxiliary power devices (e.g. capacitors, reactors, storage systems, etc.) and their rating(s); additional inquiries may be made to obtain technical data for these devices.   |          |
| vi. For the interconnection / tie lines (overhead or underground) and the plant's generation system, please provide the following, as applicable:   |          |
| • Installation details such as cross-section(s), plan and profiles, etc.  |          |
| • Conductor data such as size, insulation, length etc.  |          |
| • Continuous and emergency current ratings.   |          |
| • Voltage rating (nominal and maximum KV).  |          |
| • BIL rating.   |          |
| • Positive, negative, and zero-sequence impedances (resistance, reactance, and susceptance)   |          |
| • Capacitance or charging current.  |          |
| • Short-circuit current capability.   |          |
| vii. Include station power for facility and all applicable details.   |          |
| viii. All applicable notes pertaining to the design and operation of the facility.  |          |
| b. The Protective relay list & trip schedule should list the protected equipment; the relay description, type, style number, quantity, ANSI Device No., and range; and the breaker(s)/switching device(s) tripped, for both the generator protection and the interconnection facilities protection. |          |
| c. Please provide both a paper and an electronic version (e.g. dgn, dxf, or pdf) of the single-line diagram(s) and the protective relay list & trip schedule.   |          |
| d. Single-line diagrams should be provided for both the generation plant and the interconnection substation.  |          |

Appendix B Attachment 2

**Interconnection Requirement Study - Data Request  
 FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|   | Response |
|---|----------|
| 4) <b>For the PV Inverter Based Generating Facility, please provide the following data:</b>   |          |
| a. Inverter manufacturer, Type, Size, Impedances. Attach copy of inverter data sheet.   |          |
| b. Power Factor Range Capability  |          |
| c. Inverter Reactive Power Capability Curve   |          |
| d. Auxillary loads (P, Q, Power Factor)   |          |
| e. Ramp rates (up, down) Typical and Measured Proxy Data  |          |
| f. Inverter's Internal Isolation Transformer Grounding Method, if used (i.e. effectively grounded, resonant grounded, low inductance grounded, high-resistance grounded, low-resistance grounded, ungrounded). If the transformer is not solidly grounded, provide the impedance value for the grounding neutral and the impedance for the isolation transformer. |          |
| g. Diagram for Inverter's internal isolation transformer  |          |
| h. Switching and service restoration practice   |          |
| i. Protection data (voltage ride-through and trip settings, frequency ride-through and trip settings etc.). Include setpoint and clearing time ranges for voltage and frequency settings.   |          |
| j. Details of filters etc. at Point of Interconnection  |          |
| k. Description of harmonic spectrum of inverter injection (order, magnitude)  |          |
| l. Description of PV inverter with respect to varying levels of solar irradiance  |          |
| 5) <b>Energy Storage System, if applicable</b>  |          |
| a. Operation characteristics  |          |
| b. Voltage level  |          |
| c. Capacity (how long and how much can the battery support)   |          |
| d. Deployment strategy/schedule   |          |
| e. Energy storage system data sheet   |          |
| 6) <b>For the PV plant's collector system, please provide the following, as applicable:</b>   |          |
| a. Conductor data such as size, insulation, etc.  |          |
| b. Continuous and emergency current ratings.  |          |
| c. Voltage rating (nominal and maximum kV).   |          |
| d. BIL rating.  |          |
| e. Positive, negative, and zero-sequence impedances (resistance, reactance, and susceptance).   |          |
| f. Capacitance or charging current.   |          |
| g. Short-circuit current capability.  |          |

Appendix B Attachment 2

**Interconnection Requirement Study - Data Request  
FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|    |  | Response |
|----|--|----------|
| 7) | <b>Please provide the following software models that accurately represent the Facility:</b>  |          |
|    | a. Validated PSS/E load flow model up to the point of interconnection. The PSS/E model shall include the main transformer, collection system, generator step-up transformers, inverter systems, and any other components including capacitor banks, energy storage systems, DVAR, etc. An equivalent representation of the collection system, generator step-up transformers, and inverter systems is acceptable. Documentation on the model shall be provided.  |          |
|    | b. Validated PSS/E dynamic model for the inverter; and other components including energy storage system, DVAR, etc. if applicable. The inverter model shall include the generator/converter, electrical controls, plant-level controller, and protection relays. Generic and Detailed models shall be provided. Documentation on the model(s) shall be provided, including the PSS/E dyre file with model parameters.  |          |
|    | i. Generic models shall parameterize models available within the PSS/E standard model library.   |          |
|    | ii. Detailed models shall be supplied by the vendor/manufacturer as user-written models. The uncompiled source code for the user-written model shall be provided to ensure compatibility with future versions of PSS/E. In lieu of the uncompiled source code, a compiled object file and applicable library files shall be provided in PSS/E versions 33 AND 34 format. Updates of the object file compatible with future PSS/E versions must be provided as requested for the life of the project as written in the power purchase agreement. Documentation shall include the characteristics of the model, including block diagrams, values, names for all model parameters, and a list of all state variables. |          |
|    | c. Validated PSCAD model of the inverter; and other components including energy storage system, DVAR, auxiliary plant controllers, etc. if applicable. Documentation on the model(s) shall be provided. Refer to PSCAD Technical Memo for model requirements.  |          |
|    | d. Overlaid plots validating the performance of the three dynamic models for a three-phase fault. Plots shall include voltage, real and reactive power, real and reactive current.   |          |
|    | e. Voltage plot validating the performance of inverter to meet the Companies' Transient Overvoltage (TrOV-2) policy. Plot shall show the inverter trip and resulting voltage and current waveforms. Refer to Appendix E of Companies' Grid Supportive Utility-Interactive Inverter Qualification Requirements.   |          |
|    | f. Validated Aspen Oneliner short circuit model that accurately represents the facility (including energy storage system if applicable), and is valid for all faults conditions anywhere on the Utility system. Documentation on the model(s) shall be provided. (OTHERWISE SEE ADDITIONAL TABS FOR REQUIRED INFORMATION TO MODEL INVERTER AS A GENERATOR OR A VOLTAGE CONTROLLED CURRENT SOURCE)  |          |
| 8) | <b>For the main transformer and generator step-up transformers, please provide:</b>  |          |
|    | a. Transformer voltage and MVA ratings, and available taps. Attach copy of transformer test report or data sheet   |          |
|    | b. The tap settings used.  |          |
|    | c. The LTC Control Scheme.   |          |
|    | d. Transformer winding connections and grounding used. If the transformer is not solidly grounded, provide the impedance value for the grounding method.   |          |
|    | e. Positive, negative, and zero sequence impedance values.   |          |
| 9) | <b>For the circuit breakers and fault-clearing switching devices, including the generator breakers, please provide:</b>  |          |
|    | a. The voltage, continuous current and interrupting capability ratings.  |          |
|    | b. The trip speed (time to open).  |          |



Appendix B Attachment 2

**Interconnection Requirement Study - Data Request  
 FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|     |  | Response |
|-----|--|----------|
| 10) | <b>For the power fuses, please provide:</b>  |          |
|     | a. The manufacturer, type, size, and interrupting capability.  |          |
|     | b. The minimum melt and total clearing curves.   |          |
| 11) | <b>For the protective relaying, please provide:</b>  |          |
|     | a. Data for the CTs used with the relaying including the manufacturer, type of CT, accuracy class, and thermal rating factor.  |          |
|     | b. Data for the PTs used with the relaying including the manufacturer, type of PT, voltage ratings, and quantity.  |          |
| 12) | <b>Please provide protective relay settings for existing and proposed generators, including but not limited to, reverse power, negative sequence, over and underfrequency, over and under voltage, volts per hertz, etc.</b> |          |

Appendix B Attachment 2

Instructions:

Please fill in the data in the green blanks below

(Note: This does not include the internal isolation transformer, if used)

[1] Maximum rated output power =  kVA

[2] Impedances in **Per Unit** based on kVA from [1]

|                     | R                    | X                    |
|---------------------|----------------------|----------------------|
| Subtransient =      | <input type="text"/> | <input type="text"/> |
| Transient =         | <input type="text"/> | <input type="text"/> |
| Synchronous =       | <input type="text"/> | <input type="text"/> |
| Negative Sequence = | <input type="text"/> | <input type="text"/> |
| Zero Sequence =     | <input type="text"/> | <input type="text"/> |

[3] Neutral impedance (if any) in actual **Ohms**:

| R                    | X                    |
|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> |

NOTE: These parameters should reflect the inverter response for all types of faults at any point on the electrical system to which the inverter is connected. This includes faults at the inverter output terminals, and also on the 138 kV transmission system. If the stated parameters do not cover this range, please state the adjustments needed to these parameters to accurately represent the inverter response across this range.

These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:

**Generating Unit Info**

ID=  Unit rating=  MVA

Impedances (pu based on unit MVA)

|              |                                   |    |                                   |                                     |
|--------------|-----------------------------------|----|-----------------------------------|-------------------------------------|
| Subtransient | <input type="text" value="0.1"/>  | +j | <input type="text" value="0.1"/>  | <input type="button" value="Fill"/> |
| Transient    | <input type="text" value="0.1"/>  | +j | <input type="text" value="0.1"/>  |                                     |
| Synchronous  | <input type="text" value="0.1"/>  | +j | <input type="text" value="0.1"/>  |                                     |
| - sequence   | <input type="text" value="0.15"/> | +j | <input type="text" value="0.15"/> |                                     |
| o sequence   | <input type="text" value="9999"/> | +j | <input type="text" value="9999"/> |                                     |

Neutral Impedance (in actual Ohms)

|                                |    |                                |
|--------------------------------|----|--------------------------------|
| <input type="text" value="0"/> | +j | <input type="text" value="0"/> |
|--------------------------------|----|--------------------------------|

Scheduled generation. Enter MVAR for PQ buses only

|                                    |                                      |
|------------------------------------|--------------------------------------|
| MW= <input type="text" value="0"/> | MVAR= <input type="text" value="0"/> |
|------------------------------------|--------------------------------------|

P and Q limits (MW and MVAR)

|  |  |
|--|--|
| Pmax= <input type="text" value="9999"/>  | Qmax= <input type="text" value="9999"/>  |
| Pmin= <input type="text" value="-9999"/> | Qmin= <input type="text" value="-9999"/> |

Appendix B Attachment 2

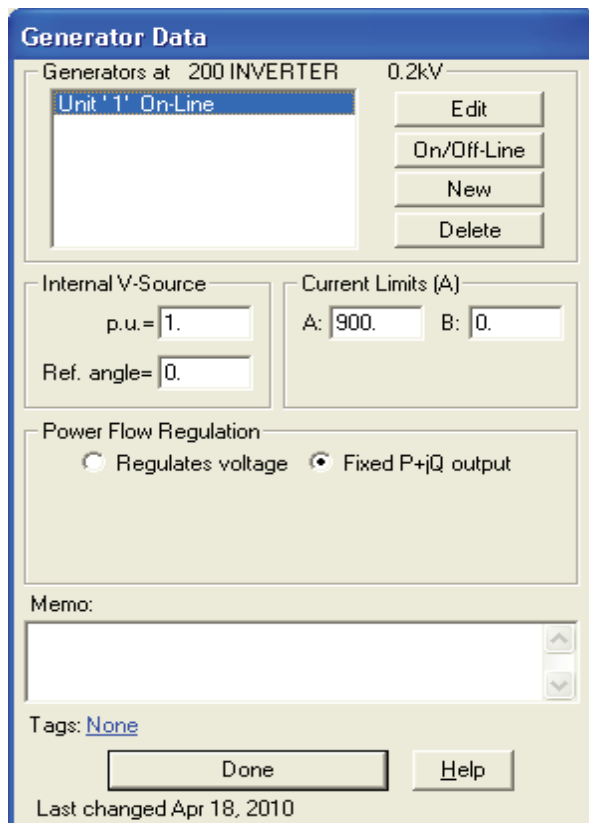
Instructions:

Please fill in the data in the green blanks below

- [1] Internal open circuit voltage  
Magnitude =  Per Unit  
Angle =  Degrees
- [2] AC Output Current Limit =  Amps

NOTE: These parameters should reflect the inverter response for all types of faults at any point on the electrical system to which the inverter is connected. This includes faults at the inverter output terminals, and also on the 138 kV transmission system. If the stated parameters do not cover this range, please state the adjustments needed to these parameters to accurately represent the inverter response across this range.

These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:



Appendix B Attachment 2

Instructions:

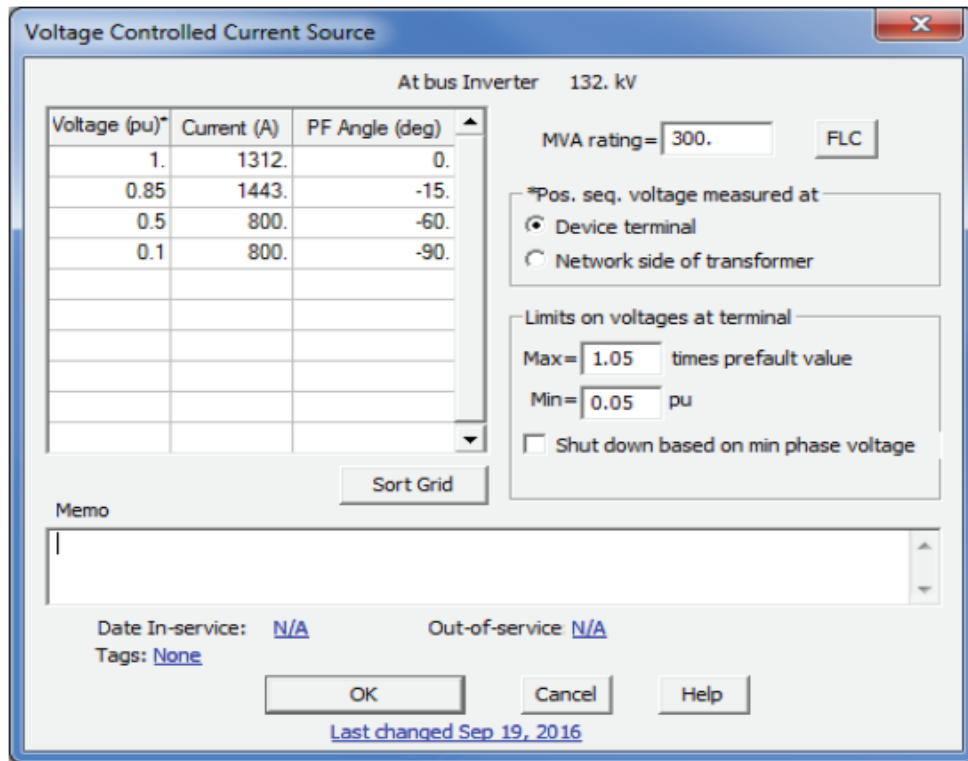
Please fill in the data in the green blanks below

- [1] Inverter MVA Rating:  MVA
- [2] Voltage-Current Characteristics:
 

| Voltage PU | Current (A) | PF Angle (deg) |
|------------|-------------|----------------|
|            |             |                |
|            |             |                |
|            |             |                |
|            |             |                |
- [3] Location of Voltage Measurement:
 

|  |                             |
|--|-----------------------------|
|  | Device Terminal OR          |
|  | Network side of Transformer |
- [4] Maximum Voltage:  Times prefault value
- [5] Minimum Voltage  Per Unit

These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:



Appendix B Attachment 2

Instructions:

Please fill in the data in the green blanks below

(Note: This is not required if an internal isolation transformer is not used)

[1] Transformer rated power =  kVA

[2] Winding Configuration  
 Inverter Side =  Delta/Wye  
 Customer Side =  Delta/Wye

[2] Impedances in **Per Unit** based on kVA  
 Positive Sequence =  R X  
 Zero Sequence =

[3] Neutral impedance (if any) in actual **Ohms**:  
 R X

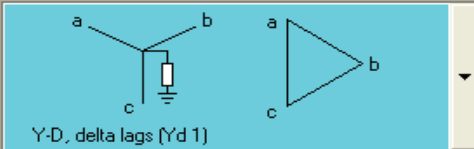
These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:

**2-Winding Transformer Data**

100 480 V TERM 0.48kV - 200 INVERTER 0.2kV

Name= INV ISOL TX Ckt ID= 1 MVA1= 0.25 MVA2= 0.25 MVA3= 0.25

MVA base for per-unit quantities= 0.25 Change

 Y-D, delta lags (Yd 1)

R= 0.01 X= 0.03  
 B= 0.  
 Ro= 0.01 Xo= 0.03  
 Bo= 0.

480 V TERM 0.48 kV INVERTER 0.2 kV Neutral grounding Z (ohms)

Tap kV= 0.48 Tap kV= 0.2 Zg1= 14. +j 0.

G1\*= 0. G2\*= 0.  
 B1\*= 0. B2\*= 0.  
 G10\*= 0. G20\*= 0.  
 B10\*= 0. B20\*= 0.

\*Based on system MVA Metered at: 480 V TERM 0.48 kV

Memo:

Tags: None

LTC... Swap sides OK Cancel Help

Last changed Apr 18, 2010

Appendix B Attachment 3

# HECO FACILITY TECHNICAL MODEL REQUIREMENTS AND REVIEW PROCESS

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March 17, 2020

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# 1 INTRODUCTION

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This document summarizes requirements of generation facility technical model submittals for request for proposals for variable renewable dispatchable generation and energy storage and describes the review process for model submittals.



## 2 FACILITY TECHNICAL MODEL REQUIREMENTS

---

To fully investigate impacts of the proposed generation facility on Hawaiian Electric's system and correctly identify any mitigation measures, the proposed generation facility technical model, along with related technical documents, will need to be submitted as part of the project interconnection review and prior to the Interconnection Requirements Study (IRS). The generation facility technical model includes:

1. PSCAD model
2. Generic PSS/E power flow model
3. User defined PSS/E dynamic model
4. Generic PSS/E dynamic model, and
5. ASPEN model

Along with the technical models, following documents should also be submitted for review:

6. User manual for all technical models
7. Generation facility one-line diagram
8. Generation unit manufacturer datasheet
9. Generation unit reactive power capability curve
10. Overlaid generation facility technical model output data for three-phase fault and single-phase fault. (Sample plots are shown in Appendix A)

### 2.1 General requirements for all technical models

All technical models need to represent the whole generation facility, not only a generation unit such as one inverter. At minimum, the following equipment shall be included in the generation facility model:

1. Generation unit, such as inverter with DC side model, rotation machine with model of exciter and governor.
2. Step up transformer
3. Collection system
4. Main interconnection transformer, or GSU, with its tap changer if applicable
5. Grounding transformer
6. Conductor
7. Var compensation device, such as cap bank or STATCOM, if applicable
8. Power plant controller (not for ASPEN model)
9. Documentation
10. Gen-tie line (as applicable)

An equivalent representation of the collection system, generator step-up transformers, and inverter systems is acceptable.

## 2.2 Requirements for generation facility PSCAD model

In addition to the general requirements mentioned above, the generation facility PSCAD model shall satisfy requirements as described in the document "PSCAD Model Requirements Rev. 9" provided by Hawaiian Electric.

## 2.3 Requirements for generation facility generic PSS/E power flow model

The generation facility PSS/E power flow model shall be provided for both PSS/E version 33 and version 34. Besides the general requirements mentioned above, the following modeling data shall be provided in the model:

1. Conductor
  - a. Impedance, both positive sequence and zero sequence
  - b. Rating: Rating A – normal rating, and Rating B – emergency rating
2. Transformer
  - a. Nominal voltages of windings
  - b. Impedance data: specified R and X
  - c. Tap ratios
  - d. Min and Max tap position limits
  - e. Number of tap positions
  - f. Regulated bus
  - g. Ratings: Rate A – normal rating; Rate B – emergency rating
  - h. Winding configuration
3. Reactive power compensation, if applicable
  - a. Fixed Shunts: G-Shunt (MW), B-Shunt (MVar)
  - b. Switched Shunts: Voltage limits (V<sub>hi</sub> and V<sub>low</sub>), mode of operation (fixed, discrete, continuous), regulated bus, Binit (MVar), steps and step size (MVar)
4. Generation unit
  - a. P<sub>max</sub>
  - b. P<sub>min</sub>
  - c. Q<sub>max</sub>
  - d. Q<sub>min</sub>
  - e. Name plate MVA
  - f. Transformer data: R<sub>Tran</sub>, X<sub>Tran</sub>, and G<sub>entap</sub>.
  - g. Voltage control point

## 2.4 Requirements for generation facility user defined PSS/E dynamic model

The submitted user defined PSS/E dynamic model should meet the following requirements:

1. The generation facility PSS/E dynamic model shall be provided for both PSS/E version 33 and version 34.
2. The project shall be modeled at full output per the project's Interconnection Request.
3. User defined dynamic models must accurately model all the relevant control modes and characteristics of the equipment, such as:

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- a. All available voltage/reactive power control modes
  - b. Frequency/governor response control modes
  - c. Voltage and frequency ride-through characteristics
  - d. Power plant controller or group supervisory functionality
  - e. Appropriate aggregate modeling capability
  - f. Charging mode if applicable (e.g., for a battery energy storage device)
4. Dynamic model source code (.flx) or dynamic linked library (.dll), and PSS/E dyr file shall be provided.
  5. User defined dynamic model plant-specific settings shall comply with requirements listed in the Power Purchase Agreement, including ride-through thresholds and other specified control settings if applicable.
  6. User defined dynamic models related to individual units shall be editable in the PSS/E graphic user interface. All model parameters (CONS, ICONS, and VARS) shall be accessible and shall match the description in the model's accompanying documentation.
  7. User defined dynamic models shall have all their data reportable in the "DOCU" listing of dynamics model data, including the range of CONS, ICONS, and VARS numbers. Models that apply to multiple elements (e.g., park controllers) shall also be fully formatted and reportable in DOCU.
  8. User defined dynamic models shall be capable of correctly initializing and run through the simulation throughout the range of expected steady state starting conditions without additional manual adjustments.
  9. User defined dynamic models shall be capable of allowing all documented (in the model documentation) modes of operation without error.
  10. User defined dynamic model shall be accompanied by the following documentation:
    - a. A user's guide for each model
    - b. Appropriate procedures and considerations for using the model in dynamic simulations
    - c. Technical description of characteristics of the model
    - d. Block diagram for the model, including overall modular structure and block diagrams of any sub-modules
    - e. List of plant-specific settings, which may include:
      - i. Ride-through thresholds and parameters
      - ii. Plant-level voltage controller settings
      - iii. Power ramp rate settings
      - iv. ICON flag parameters for specific control modes
      - v. Deadbands
      - vi. Initial State of Charge (SOC)
    - f. Values, names and detailed explanation for all model parameters
    - g. List of all state variables, including expected ranges of values for each variable

## 2.5 Requirements for generation facility generic PSS/E dynamic model

The submitted generic PSS/E dynamic model should meet the following requirements:

1. All generic PSS/E dynamic models must be standard library models in PSS/E.

Appendix B Attachment 3

2. The generation facility PSS/E dynamic model shall be provided for both PSS/E version 33 and version 34.
3. The project shall be modeled at full output per the project's Interconnection Request.
4. Generic dynamic models must accurately model all the relevant control modes and characteristics of the equipment, such as:
  - a. All available voltage/reactive power control modes
  - b. Frequency/governor response control modes
  - c. Voltage and frequency ride-through characteristics
  - d. Power plant controller or group supervisory functionality
  - e. Appropriate aggregate modeling capability
  - f. Charging mode if applicable (e.g., for a battery energy storage device)
5. PSS/E dyr file shall be provided.
6. Generic dynamic models' plant-specific settings should comply with requirements listed in the Power Purchase Agreement, including ride-through thresholds and other specified control settings if applicable.
7. Generic dynamic models shall be capable of correctly initializing and run through the simulation throughout the range of expected steady state starting conditions without additional manual adjustments.
8. Generic dynamic models shall be accompanied by the following documentation:
  - a. A user's guide for each model
  - b. Appropriate procedures and considerations for using the model in dynamic simulations
  - c. Technical description of characteristics of the model
  - d. List of plant-specific settings, which may include:
    - i. Ride-through thresholds and parameters
    - ii. Plant-level voltage controller settings
    - iii. Power ramp rate settings
    - iv. ICON flag parameters for specific control modes
    - v. Deadbands
    - vi. Initial State of Charge (SOC)

## 2.6 Requirements for generation facility ASPEN model

Besides the general requirements, validation results of single phase and three-phase fault current from the generation unit represented in the generation facility ASPEN model shall be provided.

## **3** GENERATION FACILITY TECHNICAL MODEL REVIEW PROCESS

---

To review the generation facility technical model, the following procedures are performed in the PSCAD and PSS/E environment. A review of the results will be documented and provided to the Customer for confirmation of model acceptance or further model updates.

### **3.1 Model review in PSCAD**

- 1) Review model data against “Technical memo PSCAD requirements V5.pdf” provided by Hawaiian Electric. In this step, it will be determined whether the model is complete, generation facility settings are according to the Power Purchase Agreement, and if the model can be compiled and run without any error.
- 2) Initialization test:  
In this step, the generation facility PSCAD model will be determined whether the model initialization is acceptable. Hawaiian Electric requires that:
  - a. The PSCAD model shall initialize as quickly as possible (e.g. <1-3 seconds) to user defined terminal conditions.
  - b. Project PSCAD model shall initialize properly and that the same power flow and voltage conditions shall be observed between the PSCAD and PSS/E models after initialization.
- 3) Voltage and frequency ride-through tests:  
In this step, the generation facility PSCAD model ride-through performance will be reviewed by performing voltage and frequency ride-through simulations in PSCAD. The review will focus on the generation facility model dynamic response during and after ride-through and generation facility trip time.
- 4) Fault simulation tests:  
Two types of fault tested at the Point of Interconnection bus of the generation facility will be performed in this step.
  - i) 3-phase to ground fault with 6-cycle clearing time (same as the PSS/E ring down model test described in the following section).
  - ii) 1-phase to ground fault simulation with 6-cycle clearing time.

In this test, fault current contribution from the generation facility observed in the simulation will be reviewed by comparing it against the generation facility technical document.

### **3.2 Model review in PSS/E**

- 1) Model data review:  
Review model data based on the requirements for PSS/E power flow and dynamic model provided by Hawaiian Electric. In this step, the review determines whether the model is complete, generation facility settings is according to the PPA, and model can be compiled and run without any error.
- 2) Flat start test:

Appendix B Attachment 3

PSS/E models shall initialize correctly and be capable of successful “flat start” testing using the 20 Second No-Fault simulation: This test consists of a 20 second simulation with no disturbance applied.

3) Ring down test:

PSS/E models shall initialize correctly and be capable of successful “ring down” testing using the 60 Second Disturbance Simulation: This test consists of the application of a 3-phase fault for 6 cycles at POI bus, followed by removal of the fault without any lines being tripped. The simulation is run for 60 seconds to allow the dynamics to settle.

4) Voltage and frequency ride-through tests:

In this step, the generation facility PSS/E model ride-through performance will be reviewed by performing voltage and frequency ride-through simulation in PSS/E. The review will focus on the generation facility model dynamic response during and after ride-through and generation facility trip time.

## 4 TYPICAL ISSUES IDENTIFIED FROM THE FACILITY MODEL SUBMITTALS DURING THE PAST RFP PROCESS

---

1. Missing documentation

Only generation technical facility models are submitted, but no model user manual or any other documentation. Without model documentation, it is very difficult to know the correct procedures of using the technical models and identifying issues during the review.

2. Model incompleteness

Often, the model of a single generation unit, such as an inverter, is submitted instead of model of the whole generation facility, which is insufficient. The model of the generation facility should include models for all equipment listed in the section of "General requirements for all technical models".

3. Settings in the model

Type issues in this category are:

- The PSCAD and PSS/E model ride-through settings are not consistent with the settings defined in the Power Purchase Agreement.
- Generation MW is not set as defined.
- Model is set for 50 Hz instead of 60 Hz

4. Model function issues

Some models do not function as expected during different test scenarios. For example:

- Fault current contribution from the generation facility is higher than what is described in the generation facility datasheet
- Generation level is not stable as settings during the initialization test
- Long time oscillation observed in the ringdown test
- Ride-through performance does not reach requirements defined in the Power Purchase Agreement

## REFERENCE

---

- [1] New England Iso Planning procedure – Interconnection planning procedure for generation and elective transmission upgrades
- [2] ERCOT Planning Guide, 2019
- [3] PJM MOD-032 Steady State, Dynamics, and Short Circuit Modeling Data Requirements and Reporting Procedures Document



## APPENDIX A: SAMPLE OVERLAID GENERATION FACILITY TECHNICAL MODEL OUTPUT PLOT FOR THREE-PHASE FAULT

---

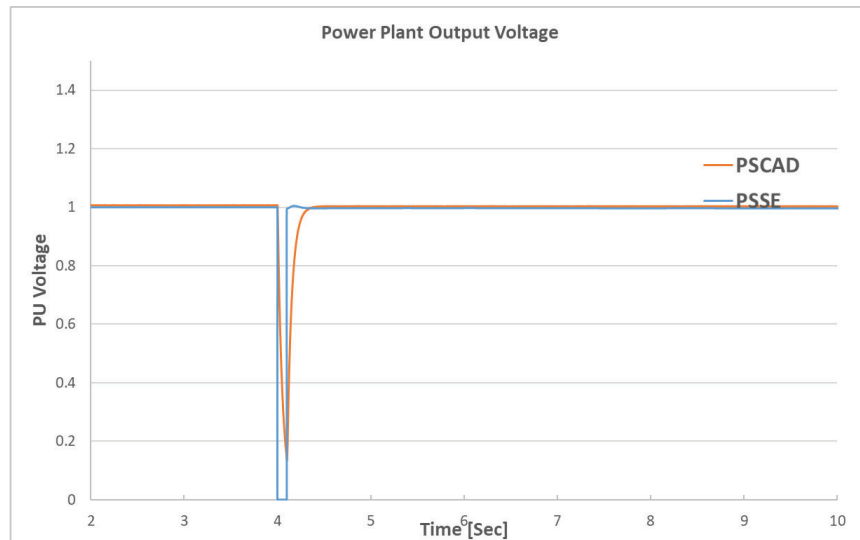


Figure 1: Overlaid plot for power plant voltage

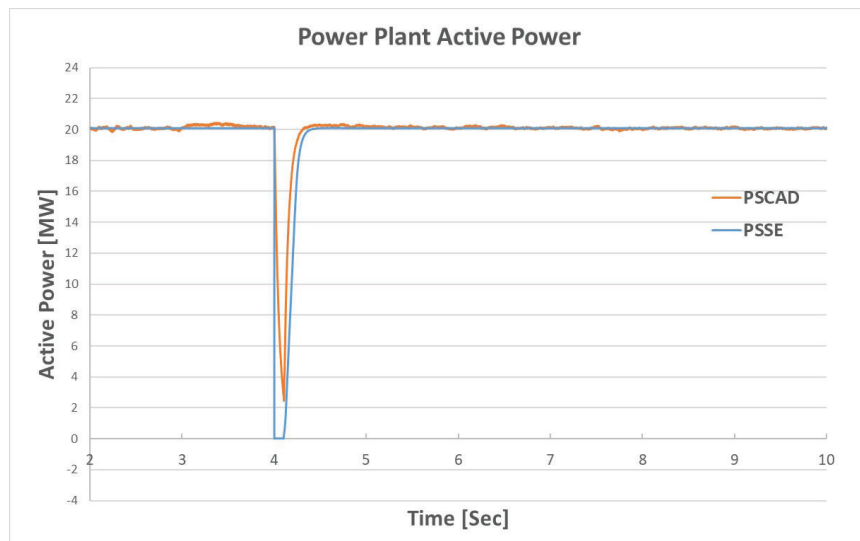


Figure 2: Overlaid plot for power plant active power generation

Appendix B Attachment 3

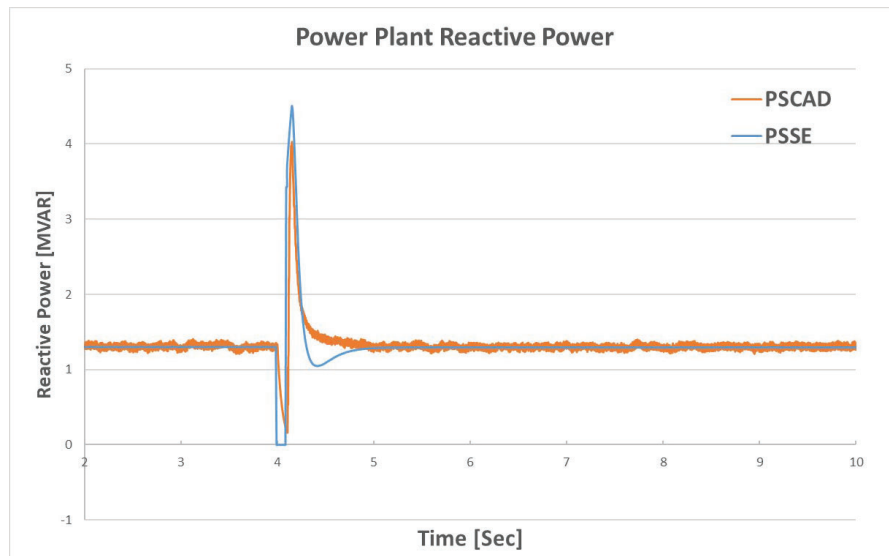


Figure 3: Overlaid plot for power plant reactive power generation

## APPENDIX B: SAMPLE TEST SYSTEM TOPOLOGY INFORMATION

On weak grids such as island systems, it is important to test the models using a representative high Thevenin equivalent impedance.

A typical topology of testing circuit which represents Hawaiian Electric system for 46 kV project is shown in Figure 4. Sample 46 kV Thevenin equivalent impedance is available upon request for model testing.

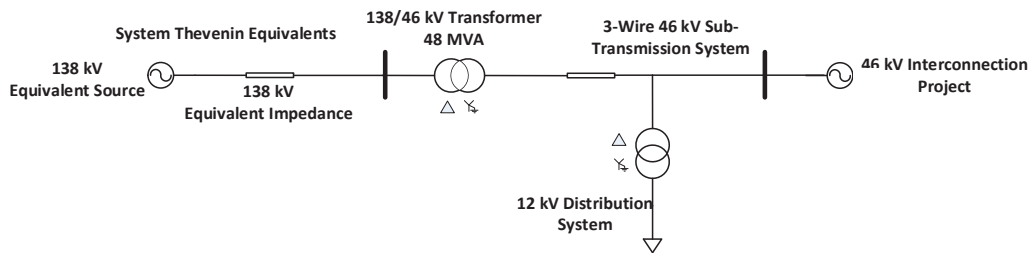


Figure 4: Testing circuit single line diagram for 46 kV project

A typical topology of testing circuit which represents Hawaiian Electric system for 138 kV project is shown in Figure 5. Sample 138 kV Thevenin equivalent impedance is available upon request for model testing.

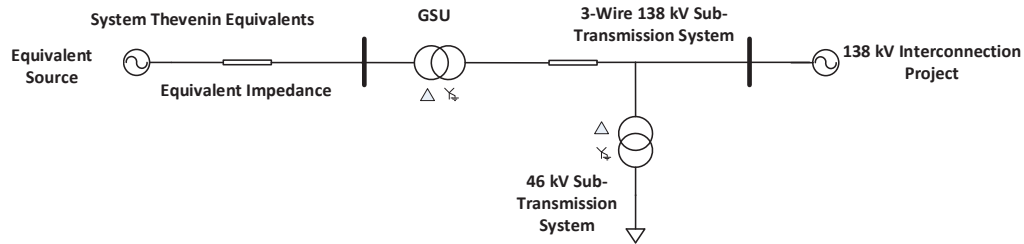


Figure 5: Testing circuit single line diagram for 138 kV project

## PSCAD Model Requirements Rev. 9

**Date:** May 8, 2020  
**Prepared By:** Andrew L. Isaacs  
Lukas Unruh  
Garth Irwin

**This document includes the following attachments:**

**Attachment #1: PSCAD Model Test Checklist**

**Attachment #2: PSCAD Model Requirements Supplier Checklist**

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### *Introduction*

Specific model requirements for a PSCAD study depend on the type of study being done. A study with a scope covering weak system interconnections, ride-through evaluation, short term<sup>1</sup> event response, and fast control interaction with nearby devices (for example) would require a model which has the following characteristics. Some specialty studies may require other features. Refer to “Attachment #1: PSCAD Model Test Checklist” and “Attachment #2: PSCAD Model Requirements Supplier Checklist”, appended to this document, for additional information on how these requirements may applied.

### *Model Accuracy Features*

For the model to be sufficiently accurate, it must:

- A. *Represent the full detailed inner control loops of the power electronics.* The model cannot use the same approximations classically used in transient stability modeling, and should fully represent all fast inner controls, as implemented in the real equipment. Models which embed the actual hardware code into a PSCAD component are currently wide-spread, and this is the recommended type of model.<sup>2</sup>
- B. *Represent all control features pertinent to the type of study being done.* Examples include external voltage controllers, plant level controllers, customized PLLs, ride-through controllers, SSCI damping controllers and others. As in point A, actual hardware code is recommended to be used for most control and protection features. Operating modes that require system specific adjustment should be user accessible. Plant level voltage control should be represented along with adjustable droop characteristics. If multiple plants are controlled by a common controller, this functionality should be included.
- C. *Represent all pertinent electrical and mechanical configurations.* This includes any filters and specialized transformers. There may be other mechanical features such as gearboxes, pitch controllers, or others which should be modelled if they impact electrical performance within the timeframe of the study. Any control or dynamic features of the actual equipment which may influence behaviour in the simulation period which are not represented or which are approximated should be clearly identified.

---

<sup>1</sup> Example analysis periods could be 2 to 10 seconds from fault inception. Some studies could require longer periods.

<sup>2</sup> The model must be a full IGBT representation (preferred), or may use a voltage source representation that approximates the IGBT switching but maintains full detail in the controls. A three phase sinusoidal source representation is not acceptable. Models manually translated block-by-block from MATLAB or control block diagrams may be unacceptable because the method used to model the electrical network and interface to the controls may not be accurate, or portions of the controls such as PLL circuits or protection circuits may be approximated or omitted. Note that firmware code may be directly used to create an extremely accurate PSCAD model of the controls. The controller source code may be compiled into DLLs or binaries if the source code is unavailable due to confidentiality restrictions.

It is not recommended to assemble the model using standard blocks available in the PSCAD master library, as approximations are usually introduced, and specific implementation details for important control blocks may be lost. In addition, there is a significant risk that errors will be introduced in the process of manually assembling the model. For this type of manually assembled model, (not using a direct “real code” embedding process), extra care is required, and validation is required.

- D. *Have all pertinent protections modeled in detail for both balanced and unbalanced fault conditions.* Typically this includes various OV and UV protections (individual phase and RMS), frequency protections, DC bus voltage protections, converter overcurrent protections, and often other inverter specific protections. As in point A, actual hardware code is recommended to be used for these protection features.
- E. *Be configured to match expected site-specific equipment settings.* Any user-tunable parameters or options should be set in the model to match the equipment at the specific site being evaluated, as far as they are known. Default parameters may not be appropriate.

#### *Model Usability Features*

In order to allow study engineers to perform system analysis using the model, the PSCAD model must:

- F. *Have control or hardware options which are pertinent to the study accessible to the user.* Examples of this could include protection thresholds, real power recovery ramp rates, or SSCI damping controllers.<sup>3</sup> Diagnostic flags (eg. flags to show control mode changes or which protection has been activated) should be visible to aid in analysis.
- G. *Be accurate when running at a simulation time step of 10  $\mu$ s or higher.* Often, requiring a smaller time step means that the control implementation has not used the interpolation features of PSCAD, or is using inappropriate interfacing between the model and the larger network. Lack of interpolation support introduces inaccuracies into the model at larger simulation time-steps. In cases where the IGBT switching frequency is so high that even interpolation does not allow accurate switching representation at 10  $\mu$ s (eg. 40 kHz), an average source approximation of the inverter switching may be used to allow a larger simulation time step<sup>2</sup>.
- H. *Operate at a range of simulation time steps.* The model should not be restricted to operating at a single time step, but should be able to operate within a range (eg. 10  $\mu$ s – 20  $\mu$ s)
- I. *Have the ability to disable protection models.* Many studies result in inadvertent tripping of converter equipment, and the ability to disable protection functions temporarily provides study engineers with valuable system diagnostic information.
- J. *Include documentation and a sample implementation test case.* Test case models should be configured according to the site-specific real equipment configuration up to the Point of Interconnection. This would include (for example): aggregated generator model, aggregated generator transformer, equivalent collector branch, main step up transformers, gen tie line, and any other static or dynamic reactive resources. Test case should use a single machine infinite bus representation of the system, configured with an appropriate representative SCR, such as 2.5. Access to technical support engineers is desirable.
- K. *Have an identification mechanism for configuration.* The model documentation should provide a clear way to identify the specific settings and equipment configuration which will be used in any

---

<sup>3</sup> Care should be taken to ensure that any user-settable options are not changed in a way that is not implementable in the real hardware, and that any selectable options are actually available at the specific site being considered. Discussion is recommended with the manufacturer prior to any changes being made in model configuration.

- study, such that during commissioning the settings used in the studies can be checked. This may be control revision codes, settings files, or a combination of these and other identification measures.
- L. *Accept external reference variables.* This includes real and reactive power ordered values for Q control modes, or voltage reference values for voltage control modes. Model should accept these reference variables for initialization, and be capable of changing these reference variables mid-simulation, ie. dynamic signal references.
  - M. *Be capable of initializing itself.* Once provided with initial condition variables, the model must initialize and ramp to the ordered output without external input from simulation engineers. Any slower control functions which are included (such as switched shunt controllers or power plant controllers) should also accept initial condition variables if required.
  - N. *Have the ability to scale plant capacity.* The active power capacity of the model should be scalable in some way, either internally or through an external scaling transformer<sup>4</sup>. This is distinct from a dispatchable power order, and is used for modeling different capacities of plant or breaking a lumped equivalent plant into smaller composite models.
  - O. *Have the ability to dispatch its output to values less than nameplate.* This is distinct from scaling a plant from one unit to more than one, and is used for testing plant behaviour at various operating points.
  - P. *Initialize quickly.* Model must reach its ordered initial conditions as quickly as possible (for example <5 seconds) to user supplied terminal conditions.

#### *Study Efficiency Features*

In addition, the following elements are required to improve study efficiency, model compatibility, and enable other studies which include the model to be run as efficiently as possible. If these features are not supported, additional discussion is required<sup>5</sup>:

- Q. Model should be compatible with Intel Fortran compiler version 12 and higher.
- R. Model should be compatible with PSCAD version 4.5.3 and higher.
- S. Model supports multiple instances of its own definition in the same simulation case.
- T. Model supports the PSCAD “timed snapshot” feature accessible through project settings.
- U. Model supports the PSCAD “multiple run” feature.
- V. Model does not use or rely upon global variables in the PSCAD environment.
- W. Model should not utilize multiple layers in the PSCAD environment, including ‘disabled’ layers.

---

<sup>4</sup> A free publicly available scaling transformer suitable for this purpose is available in the E-Tran library.

<sup>5</sup> Electrenix has parallelization tools available (E-Tran Plus for PSCAD) which can circumvent compatibility concerns in some cases.

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## Attachment #1: PSCAD Model Test Checklist

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**Purpose**

This document is a test checklist meant to accompany “PSCAD Model Requirements Rev. 9” provided above and “Attachment #2: PSCAD Model Requirements Supplier Checklist”. The procedures provided in this document are intended to provide an indication of the core model accuracy, performance, and usability features specified in the model requirements. These procedures cannot ultimately prove that the model is compliant with all requirements, as black box models usually hide the details of the equipment controls and protection. It is recommended that the equipment manufacturer supply additional confirmation that the model meets each individual requirement. The requirements in this document do not necessarily represent interconnection criteria for specific individual systems, and may be supplemented or adjusted based on interconnection region.

The tests outlined here are considered “basic”, and may be supplemented by more rigorous testing, including various fault types, depths, and durations, as well as more extensive protection testing and benchmarking against phasor models. This document is not intended to be a guide for thorough benchmarking between PSCAD, PSS/E, and actual equipment, and is subject to revision as the state of the art in EMT modeling evolves.

| <i>Model test Summary</i>        |  |
|----------------------------------|--|
| Model Test date:                 |  |
| Project Name:                    |  |
| Manufacturer:                    |  |
| Equipment type: (eg. PV or Wind) |  |
| Equipment version:               |  |
| Documentation file:              |  |
| Model Files supplied:            |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |

### Verification Procedure and Checklist

|  |   | Pass/Fail | Comments |
|--|---|-----------|----------|
| <i>Vendor and site specific model verification</i> |   |           |          |
| 1a   | The Vendor's name and the specific version of the model should be clearly observable in the .psc model file.  |           |          |
| 1b   | Documentation and supporting model filenames should not conflict with model version shown in the .psc model file.   |           |          |
| 1c   | Model is supplied with a test circuit which is configured for the site specific application. <sup>6</sup>   |           |          |
| <i>"Real Code" model verification</i>              |   |           |          |
| 2a   | Controls are black-boxed, and no PSCAD master library control blocks are visible within control circuits. <sup>7</sup> If the model is not based on "real code", a separate validation report is required showing model comparison against hardware tests. <sup>8</sup> |           |          |
| <i>Model usability verification</i>                |   |           |          |
| 3a   | Model uses a timestep greater than 10 $\mu$ s <sup>9</sup>  |           |          |
| 3b   | Model allows a variation in simulation timestep   |           |          |
| 3c   | Model compiles using Intel FORTRAN version 12   |           |          |
| 3d   | Model initializes in 5 seconds or less with a POI level SCR of 2.5. Real power, reactive power, and RMS voltage should reach steady state by this time.   |           |          |
| 3e   | Model allows multiple instances of itself to be run together in the same case <sup>10</sup>   |           |          |
| <i>Model electrical configuration verification</i> |   |           |          |
| 4a   | Plant level electrical single line diagram (SLD) is included.   |           |          |

<sup>6</sup> The test circuit should model all relevant electrical components of the plant and contain a system equivalent. Parameters will be assumed to be site-specific, unless there are obvious indications otherwise, such as an incorrect grid base frequency.

<sup>7</sup> Black-boxing of controls to a high level does not guarantee that real-code is embedded into the model, however the visibility of PSCAD master-library control blocks in the inner control loops (PLL, inner current controllers, etc.) suggest that the model is generic in nature. Model documentation may contain information on use of real-code in the model.

<sup>8</sup> All aspects of the controller operation are required to be validated by utilizing a "hardware in loop" platform or other hardware test systems. Model should not be validated against other software models. Validations should include control responses to various types of faults, changes in power and voltage references, changes in system frequency, testing frequency response in sub and super-synchronous ranges, and testing of protection operation. Tests should also be performed under a variety of system strengths, including very weak systems. Other tests may also be required. The validation report is required along with any model updates that result from the more rigorous validation tests.

<sup>9</sup> Models with timesteps less than 10  $\mu$ s may be acceptable in situations where a small timestep does not significantly increase the runtime of the total simulation

<sup>10</sup> Depending on specific application and whether E-Tran Plus for PSCAD is allowed to be used to overcome the limitation, this requirement may be waived.

|  |   |  |  |
|--|---|--|--|
| 4b   | Generator step-up transformer(s) included, with impedance between 5 and 10% on generator base, and matches SLD. <sup>11</sup>   |  |  |
| 4c   | Lumped collector equivalent(s) included, with total charging equal to between 0.5 and 5% of plant rating, and matches SLD. <sup>11</sup>  |  |  |
| 4d   | Substation transformer(s) included, rated appropriately for plant size, and impedance between 6 and 12% on transformer base, and matches SLD. <sup>11</sup>   |  |  |
| 4e   | Model can be scaled to represent any number inverters/turbines, either using a scaling transformer or internal scaling.   |  |  |
| 4f   | All external devices included in the plant (such as STATCOMs) include appropriate models.   |  |  |
| <i>Plant controller verification</i>               |   |  |  |
| 5a   | Model includes power plant controller (PPC)   |  |  |
| 5b   | PPC accepts an external active power setpoint.  |  |  |
| 5c   | PPC accepts a voltage setpoint.   |  |  |
| 5d   | PPC has a mechanism to implement a settable voltage droop.  |  |  |
| 5e   | Overall plant responds to frequency changes by increasing or decreasing its active power as appropriate. This may be accomplished either at an inverter level or via the PPC. <sup>12</sup>                               |  |  |
| 5f   | Model initializes to the setpoints specified in the PPC. If droops or deadbands are utilized, the initial values may differ from the setpoints. <sup>13</sup>   |  |  |
| 5g   | If external voltage control devices (STATCOM/DVAR, SVC, MSCs) are included in the plant, ensure that the voltage control of these devices is coordinated with the PPC, with no potential for VAR looping or oscillations. |  |  |
| <i>Basic performance verification<sup>14</sup></i> |   |  |  |
| 6a   | Instantaneous voltage and current waveforms have minimal distortion, and no oscillations are observed.  |  |  |

<sup>11</sup> Impedance range is for sanity checking only. Impedances outside this range may be allowed.

<sup>12</sup> Non-compliance with this item may not require model revision as frequency response may not be required in PSCAD models by some utilities. In this case, a description of the under/over frequency response capabilities of the actual equipment should be provided by the manufacturer.

<sup>13</sup> If voltage control with droop is implemented, it is preferred that the PPC model requests an initial Q value to match the voltage setpoint. If no initial Q is requested, the voltage setpoint can be biased by the initial Q before it is sent to the PPC. If a non-zero deadband is included in the voltage controller, the deadband can also be considered in the voltage setpoint sent to the PPC.

<sup>14</sup> Performance testing is recommended with a POI level SCR of 2.5 as this is a representative system condition seen during weak system studies. Testing may be performed at higher SCRs if the stable operating SCR of a model is known to be above 2.5.

|  |  |  |  |
|--|--|--|--|
| 6b   | Model is able to ride-through and recover from a temporary (no line outage or drop in SCR), 6-cycle, zero-impedance, three-phase fault at the high side of the station transformer, with a POI level SCR of 2.5.                         |  |  |
| 6c   | Model responds to a step change in PPC voltage setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. (Various systems may have specific speed requirements, which should be met)  |  |  |
| 6d   | Model responds to a step change in PPC active power setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. <sup>15</sup>   |  |  |
| <i>Basic protection verification</i> <sup>16</sup> |  |  |  |
| 7a   | Protection settings are implemented. These could be available as inputs in the model, or hard-coded in the black-boxed controls. <sup>17</sup>   |  |  |
| 7b   | Option to disable protection models is present. <sup>18</sup>  |  |  |
| 7c   | Model trips or blocks when terminal voltage rises above 1.3 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7d   | Model trips or blocks when terminal voltage falls below 0.2 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7e   | Model clearly displays trip / diagnostic signals indicating the status of all pertinent protection elements  |  |  |
| <i>Documentation</i>                               |  |  |  |
| 8a   | Model documentation states compliance with "PSCAD Model Requirements Rev. 9 Rev. 9" <sup>20</sup> , or is supplied with a completed PSCAD Model Requirements Supplier Checklist.   |  |  |
| 8b   | Model documentation includes instructions for setup and running of the model, including the recommended range of simulation timesteps. Documentation should give a clear description of trip / operation code signals produced by model. |  |  |

<sup>15</sup> Different response time criteria may apply depending on specific interconnection region.

<sup>16</sup> There are many protection functions which should be modelled, per footnote 1, and these basic tests will not be proof that these are modelled.

<sup>17</sup> If settings are not visible in model or documentation, verification that protection settings are implemented in the PSCAD model should be received from the manufacturer.

<sup>18</sup> Non-compliance may not require model revision as many studies do not require testing with protection settings disabled.

<sup>19</sup> Non-compliance with this item should result in verification of protection settings implementation from the manufacturer, as some models may have capabilities beyond what is listed here.

<sup>20</sup> Non-compliance may be waived in systems which do not require compliance with the model requirements document.

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## Attachment #2: PSCAD Model Requirements Supplier Checklist

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## Purpose

This document is a model requirements checklist which should be completed by the supplier of the model and submitted alongside each PSCAD model. This document accompanies the “PSCAD Model Requirements Rev. 9” document above (PMR), which should be used for further reference to describe the requirements associated with each point. Generic testing of the model may be done using “Attachment #1: PSCAD Model Test Checklist”, which may be used as a reference.

Model supplier must review every item in the checklist and indicate compliance for each item. If the supplied model does not meet any of the requirements an explanation of the deficiency should be provided in the comments column.

| <i>Model Submission Summary (to be completed by model supplier)</i> |  |
|---|--|
| Submission date:  |  |
| Project Name:   |  |
| Primary contact information for model related questions:            |  |
| Secondary contact information for model related questions:          |  |
| Manufacturer:   |  |
| Equipment type: (eg. PV or Wind)                                    |  |
| Equipment version:  |  |
| Documentation file(s):  |  |
| Model Files supplied:   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |



**Recommended PSCAD Model Requirements Rev. 9  
May 8, 2020**

| Model Requirements Checklist |   |      |  | Model Complies? (Yes/No) | Comments |
|------------------------------|---|------|--|--------------------------|----------|
| 1                            | <i>Model Accuracy Features</i>  |      |  |                          |          |
| 1.1                          | Power electronic controls are modelled by interfacing with actual firmware code from the inverter (“real code” model), or includes detailed validation report.                            | A, B |  |                          |          |
| 1.2                          | Operating modes which require system specific adjustment are accessible.  | B    |  |                          |          |
| 1.3                          | Plant level controller is included. <sup>21</sup>   | B    |  |                          |          |
| 1.4                          | Model is capable of controlling frequency <sup>22</sup>   | B    |  |                          |          |
| 1.5                          | Includes pertinent electrical and mechanical features, such as gearboxes, pitch controllers, or other features which impact the plant performance in the simulation period. <sup>23</sup> | C    |  |                          |          |
| 1.6                          | All protections which could impact ride-through performance are modelled in detail.   | D    |  |                          |          |
| 1.7                          | Model is configured for the specific site being evaluated, as far as they are known.  | E    |  |                          |          |
| 2                            | <i>Model and Project Documentation</i>  |      |  |                          |          |
| 2.1                          | Model includes documentation.   | J    |  |                          |          |
| 2.2                          | Documentation includes instruction for setup and running the model.   | J    |  |                          |          |

<sup>21</sup> If the plant is part of a multi-plant control scheme, a description of the overall scheme should be provided, and corresponding PPC models should be configured to control multiple plants accordingly.

<sup>22</sup> Frequency control model requirements may vary by region. Example response time may be less than 10 seconds.

<sup>23</sup> Simulation period may vary depending on the model use, but 10 seconds of simulation following an event such as a fault is a typical period.

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|      |  |   |  |  |
|------|--|---|--|--|
| 2.3  | Model is supplied with a sample test case including site specific plant representation.  | J |  |  |
| 2.4  | Plant single line diagram is provided, and aligns with model   | J |  |  |
| 2.5  | Model documentation provides a clear way to identify site-specific settings and equipment configuration.   | K |  |  |
| 3    | <i>Model Usability Features</i>  |   |  |  |
| 3.01 | Control or hardware options are accessible to the user as applicable.  | F |  |  |
| 3.02 | Diagnostic flags are visible to the user.  | F |  |  |
| 3.03 | Model uses a timestep greater than 10 $\mu$ s.   | G |  |  |
| 3.04 | Model allows a range of simulation timesteps (ie. not restricted to a single timestep).  | H |  |  |
| 3.05 | Protection model may be disabled for troubleshooting   | I |  |  |
| 3.06 | Model accepts external reference variables for active and reactive power and voltage setpoint, and these may be changed dynamically during the simulation. | L |  |  |
| 3.07 | Model is capable of initializing itself.   | M |  |  |
| 3.08 | Active power capacity is scalable.   | N |  |  |
| 3.09 | Active power is dispatchable.  | O |  |  |
| 3.10 | Model reaches setpoint P, Q, and V in 5 seconds or less  | P |  |  |
| 3.11 | Model compatible with Intel FORTRAN version 12 and higher.   | Q |  |  |
| 3.12 | Model compiles using PSCAD version 4.5.3 or higher.  | R |  |  |
| 3.13 | Model supports multiple instances of its own definition in a single PSCAD case.  | S |  |  |
| 3.14 | Model supports PSCAD "snapshot" feature.   | T |  |  |

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|      |  |   |  |  |
|------|--|---|--|--|
| 3.15 | Model supports the PSCAD “multiple run” feature. | U |  |  |
| 3.16 | Model does not use PSCAD global variables.       | V |  |  |
| 3.17 | Model does not use PSCAD layer functionality     | W |  |  |



Transmission and Distribution Planning Division - Interconnection Services Department  
Simulation Tests  
CBRE RFP Interconnection Requirement Study-System Impact Study  
Date: July 7, 2020

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## 1. Introduction

This document describes the simulation tests that Hawaiian Electric IRS study consultants will perform to check the models submitted for CBRE IRS. Results of these tests, combined with other checks on project input data and model parameters, will determine if the models are acceptable for the IRS studies. The models to be tested are PSS E user-written model, PSCAD model and ASPEN short-circuit model for each project.

It is recommended that the model submitters should also perform these tests to self-check on your models, so that your models will become acceptable for the IRS study in a timely manner.

## 2. Separate Models Required for Grid Following Mode and Grid Forming Mode

For the CBRE IRS, modeling of inverter Grid Forming capabilities may be required. For each project, separate models should be submitted: one with the project in Grid Forming (GFM) mode (if applicable), and the other with the project in Grid Following (GFL) mode. This requirement applies to all models mentioned above.

## 3. General Requirements

All submitted models should be accompanied by proper documentation.

There should be a reasonable match between the PSS E user-written model and the PSCAD model responses for the simulation tests performed for both models.

## 4. List of Simulation Tests

### 4.1 GFL Mode Simulation Tests

#### 4.1.1 Tests to be performed for PSS E models

- a. Flat run in a two-machine system (one machine is a synchronous machine, e.g., GENCLS model, and the other machine is a project's model.)
- b. Ringdown (3ph-ground fault simulation test) in a two-machine system.



***GFL-Tests to be performed for PSS E models - continued***

- c. Voltage ride-through and response in a two-machine system.
- d. Frequency ride-through and response in a two-machine system.
- e. Weak grid operation in a two-machine system  
Gradually increase/decrease MVA of the synchronous machine within a range and check if the project's model is able to work with the studied MVA range.
- f. Simulation in a relevant HECO island system model for a couple of selected faults  
The purpose here is to identify potential issues with a project's PSS E model ahead of dynamic stability analysis to limit study delays due to model issues.

Note: also refer to "Siemens PTI Model Review process\_200317.pdf".

***4.1.2 Tests to be performed for PSCAD models only (includes model adequacy and documentation checks)***

- g. Tests and checks outlined in "PSCAD Requirements Rev 9 May 2020.pdf", inclusive of ringdown, voltage and frequency ride-through tests.



## 4.2 GFM Mode Simulation Tests

### 4.2.1 Tests to be performed for both PSS E and PSCAD models

Test notes:

- Applicable for projects which include grid-forming BESS only
- Assumption is that BESS has available energy and is dispatched suitably for the tests (i.e. Not at current limit)

- a. Able to black start and operate in island mode

Test sequence: energize main power transformer from project side, then connect project to a load, then apply a bus fault at the POI, then remove the fault. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbances.

- b. Loss of the last synchronous machine

Test system will be a three-machine system including: a synchronous machine modeled by GENROU with a simple excitation system model (e.g., SCRX) and a simple governor model (e.g., TGOV1), a load with both real and reactive components, and duplicates of a project's model. Duplicates of a project's model are utilized here to check if the project is able to share real and reactive power properly with other generators. Test event: trip the synchronous generator. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbance.

- c. Weak grid operation

Test system is the two-machine system. Gradually increase/decrease MVA of the synchronous machine within a range and check if the project's model is able to work with the studied MVA range.

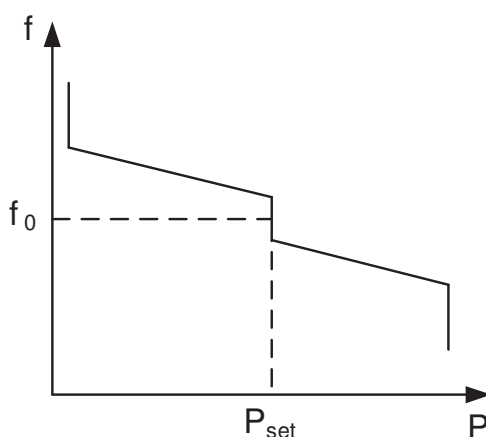
- d. Able to operate in harmony with other converter resources and synchronous machines

Test system is the three-machine system including: a synchronous machine modeled by GENROU with a simple excitation system model and a simple governor model, a load with both real and reactive components, and duplicates of a project's model. Simulation tests to be performed may include load step up/down, ringdown, voltage ride through and frequency ride-through tests. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbances.



***GFM Mode Simulation Tests – Tests to be performed for both PSS E and PSCAD models - continued***

Particularly related to frequency control characteristics, we will test for configurable frequency droop control and configurable deadband characteristics. The frequency deadband should be settable in the range from +/- 0.01 Hz to +/- 1.0 Hz and the frequency droop shall be settable in the range of 0.1% to 10% with a typical value of 4%. A sample characteristic of frequency droop control with deadband is shown in Figure 1.



**Figure 1 – Frequency Droop Control Characteristic with Deadband**

- e. Switching between GFL mode and GFM mode

Test system is the two-machine system. Test sequence: energize main power transformer from project side, then connect project to a load. At this point, the project will be operating in island mode, performing frequency control. Then switch in the synchronous generator; the project will be operating in power/frequency droop control mode. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbances.

**4.2.2 Tests to be performed for PSS E models only**

- a. Reduction in frequency deviation in GFM mode

Test system will be a relevant HECO island system model. Test event is loss of a large generator. Project model will be in GFL mode and GFM mode. Result: less degree of frequency deviation is expected when project is in GFM mode than when the project is in GFL mode.



#### 4.3 ASPEN Model Check

A review of the ASPEN models will be performed. As mentioned above, two models are expected for each project: one model for GFL mode, and the other for GFM mode. Documentation associated with the models should be provided. The model review will check if the components of a project are modeled properly, such as transformers, equivalent collector system, equivalent generator, etc., and that the model data are consistent to the PSS E and PSCAD model data. A fault simulation test will also be performed in a two-machine system. Total current at the fault location and contribution from each machine will be reviewed and documented.



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**Date:** March 17, 2020

**From:** Osazuwa Oriakhi, Wenchun Zhu and Kavita Shenoi, Siemens PTI

**RE: HECO IRS Model Review Process**

Message from Interconnection Services: This document shows you an example of the model data review and tests that a study consultant performs on your model data submittal under the Interconnection Requirement Study, System Impact Study (IRS SIS Agreement). The Test Package that you are receiving is repeated for the IRS. By performing these tests as a Do-it-Yourself (DIY), model data submittals when we receive them for the IRS SIS are understood to be accurate and have usability and efficiency features to integrate the facility model data with the Company's system model data and commence the IRS SIS analyses in a prompt and efficient manner.

Siemens PTI performs the following data checks and tests as a part of our Model review process.

**A. Steady State Data Review**

Siemens PTI will review the ratings and impedances of all equipment in the ASPEN, PSS®E and PSCAD models and check for discrepancies. Table 1 below shows the comparison of power flow data for all equipment in the PSS®E and PSCAD models.

**Table 1. Steady State Data Review**

| Equipment                                    | Comments                                   |
|--|--|
| Gen-Tie line                                 | PSS®E, PSCAD and ASPEN models should match |
| Main Power Transformer Impedance             | PSS®E, PSCAD and ASPEN models should match |
| Main Power Transformer Configuration         | PSCAD and ASPEN models should match        |
| PV Collector System Data                     | PSS®E, PSCAD and ASPEN models should match |
| BESS Collector System Data                   | PSS®E, PSCAD and ASPEN models should match |
| Inverter Pad Mount Transformer Impedance     | PSS®E, PSCAD and ASPEN models should match |
| Inverter Pad Mount Transformer Configuration | PSCAD and ASPEN models should match        |
| Inverter Power Flow Data                     | PSS®E and PSCAD models should match        |
| Voltage Control Point                        | PSS®E and PSCAD models should match        |

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### B. Dynamic Model Data Review

There are three types of models which show the transient/dynamic behavior of the generation facility:

1. A PSS®E user-written dynamic model which is a detailed model of the specific inverters and controls provided by the manufacturer.
2. A PSS®E generic model which utilizes PSS®E library models to specify the dynamic behavior of the facility.
3. A PSCAD model which is a detailed transient model of the inverters and controls

Siemens PTI will compare the various dynamic model parameters across the three models and note any discrepancies in the data fields shown in Table 2.

**Table 2. Comparison of Dynamic Model Parameters**

| Parameters                                  | Comments  |
|---|---|
| Power Plant Controller (PPC)                | Review number of PPCs   |
| Control Flags                               | PSS®E and PSCAD control flags should match.   |
| Control Bus/Point of Measurement            | Control buses should match in PSS®E and PSCAD models.   |
| Frequency Control Dead Band                 | The frequency thresholds for primary and secondary control should match in the PSCAD and PSS®E models.                  |
| Initial State of Charge (SOC)               | Make sure the initial state of charge is set up correctly to prevent initialization issues.                             |
| Voltage and Frequency Ride Through Settings | The voltage and frequency ride through settings should match in the PSS®E user-written, PSS®E generic and PSCAD models. |
| P/Q priority data                           | The P/Q priority flags should match in the PSS®E user-written, PSS®E generic and PSCAD models                           |

### C. Model tests

Siemens PTI will perform the following tests to check the active power, reactive power, voltage and frequency responses of the generation facility and review if the three models (PSS®E user-written, PSS®E generic and PSCAD models) show consistent responses.

1. **Flat Run Test:** This is a no-disturbance simulation to check a model's initialization. This test is applicable to all three types of models.
2. **Ring Down Test:** In this simulation, a fault is placed at the facility's POI for a duration of 6-cycles. The fault is subsequently cleared, and the post-disturbance response of the facility is observed. This test is applicable to all three types of models.
3. **High and Low Frequency Response Test:** In these simulations, the system frequency is varied to test the facility's responses to grid's frequency excursions. In the PSS®E tests, high and low frequency excursions are simulated to mimic the frequency ride through thresholds specified in the PPA and the response of the facility is observed. Both the frequency ride-through capability of the facility and its active power response to frequency excursions are tested in the PSS®E simulations.

In the PSCAD simulations, the focus is on testing the facility's active power responses to frequency excursions, and not on testing the frequency ride-through capability. However, it should be noted that the duration of the frequency excursions in the PSCAD tests are well-



Appendix B Attachment 3

within the no-trip zones according to the PPA, and so the facility is not expected to trip during these simulations. Table 3 and Table 4 show the frequency excursions that were simulated in the PSCAD tests.

**Table 3 Frequency Excursions for PSCAD High Frequency Response Test**

| Frequency level (Hz) | Duration (secs) |
|----------------------|-----------------|
| 60.1                 | 2.0             |
| 63.0                 | 2.0             |

**Table 4 Frequency Excursions for PSCAD Low Frequency Response Test**

| Frequency level (Hz) | Duration (secs) |
|----------------------|-----------------|
| 59.9                 | 2.0             |
| 56.0                 | 2.0             |

- High and Low Voltage Ride-through and Response Tests:** In these simulations, the POI voltage is varied to test the facility’s ride-through capabilities and responses to POI voltage excursions. In the PSS®E simulations, two sets of tests are performed: one for testing the ride-through capabilities and the other for testing the responses to voltage excursions. These two sets of tests are similar, except that the grid equivalent representation is different. For the ride-through tests, the grid equivalent is represented by a generator with a very large MVA, which connects to the POI bus directly. For the voltage excursion response tests, the grid equivalent is represented by a 500 MVA generator which connects to the POI through a branch with a reactance of 0.1 p.u.

In the PSCAD simulations, the focus is on testing the facility’s reactive power responses to POI voltage excursions, and not on testing the voltage ride-through capability. However, it should be noted that the duration of the voltage excursions in the PSCAD tests are well-within the no-trip zones according to the PPA, and so the facility is not expected to trip during these simulations.

Table 5 shows the voltage excursions that will be simulated in the PSCAD tests.

**Table 5 POI Voltage Excursions for PSCAD Voltage Response Test**

| POI Voltage level (pu) | Duration (secs) |
|------------------------|-----------------|
| 1.20                   | 0.8             |
| 1.10                   | 2.0             |
| 0.88                   | 2.0             |
| 0.70                   | 2.0             |

Each of the above discussed tests were performed for the following three generation dispatches:

- PV output only:** In this dispatch, the PV unit is at maximum output and the BESS unit is online at 0 MW.
- BESS output only:** In this dispatch, the BESS unit is discharging at maximum output and the PV unit is online at 0 MW.

Appendix B Attachment 3

- **PV charging BESS:** In this dispatch, the PV unit is at its maximum output and is charging the BESS at its minimum level.

**D. Expected Model Performance**

1. Matching steady-state model parameters between the PSS®E user-written, generic models and the PSCAD model.
2. Matching control options between the three types of models.
3. Matching voltage and frequency ride-through parameters between the three types of models. The settings should meet the ride-through requirements specified in the PPA.
4. Flat run results do not show any movement for any of the three models.
5. Ring-down simulation results show stable and proper responses, and the responses from the three models should show reasonable matches.
6. Ride-through simulation results should show stable and proper responses, and the responses should show reasonable matches. The ride through performance should meet the PPA requirements.

**E. Model Review Reporting Requirements**

1. Simulation tests should be performed using the python scripts provided by Siemens PTI, and should be readily reproducible.
2. Discuss model review results.
3. Include simulation plots for the simulation tests discussed above.
4. Related to high and low frequency ride through tests, document frequency response droops shown in the simulations.

## PSCAD Model Requirements Rev. 9

**Date:** May 8, 2020  
**Prepared By:** Andrew L. Isaacs  
Lukas Unruh  
Garth Irwin

**This document includes the following attachments:**

**Attachment #1: PSCAD Model Test Checklist**

**Attachment #2: PSCAD Model Requirements Supplier Checklist**

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### *Introduction*

Specific model requirements for a PSCAD study depend on the type of study being done. A study with a scope covering weak system interconnections, ride-through evaluation, short term<sup>1</sup> event response, and fast control interaction with nearby devices (for example) would require a model which has the following characteristics. Some specialty studies may require other features. Refer to “Attachment #1: PSCAD Model Test Checklist” and “Attachment #2: PSCAD Model Requirements Supplier Checklist”, appended to this document, for additional information on how these requirements may applied.

### *Model Accuracy Features*

For the model to be sufficiently accurate, it must:

- A. *Represent the full detailed inner control loops of the power electronics.* The model cannot use the same approximations classically used in transient stability modeling, and should fully represent all fast inner controls, as implemented in the real equipment. Models which embed the actual hardware code into a PSCAD component are currently wide-spread, and this is the recommended type of model.<sup>2</sup>
- B. *Represent all control features pertinent to the type of study being done.* Examples include external voltage controllers, plant level controllers, customized PLLs, ride-through controllers, SSCI damping controllers and others. As in point A, actual hardware code is recommended to be used for most control and protection features. Operating modes that require system specific adjustment should be user accessible. Plant level voltage control should be represented along with adjustable droop characteristics. If multiple plants are controlled by a common controller, this functionality should be included.
- C. *Represent all pertinent electrical and mechanical configurations.* This includes any filters and specialized transformers. There may be other mechanical features such as gearboxes, pitch controllers, or others which should be modelled if they impact electrical performance within the timeframe of the study. Any control or dynamic features of the actual equipment which may influence behaviour in the simulation period which are not represented or which are approximated should be clearly identified.

---

<sup>1</sup> Example analysis periods could be 2 to 10 seconds from fault inception. Some studies could require longer periods.

<sup>2</sup> The model must be a full IGBT representation (preferred), or may use a voltage source representation that approximates the IGBT switching but maintains full detail in the controls. A three phase sinusoidal source representation is not acceptable. Models manually translated block-by-block from MATLAB or control block diagrams may be unacceptable because the method used to model the electrical network and interface to the controls may not be accurate, or portions of the controls such as PLL circuits or protection circuits may be approximated or omitted. Note that firmware code may be directly used to create an extremely accurate PSCAD model of the controls. The controller source code may be compiled into DLLs or binaries if the source code is unavailable due to confidentiality restrictions.

It is not recommended to assemble the model using standard blocks available in the PSCAD master library, as approximations are usually introduced, and specific implementation details for important control blocks may be lost. In addition, there is a significant risk that errors will be introduced in the process of manually assembling the model. For this type of manually assembled model, (not using a direct “real code” embedding process), extra care is required, and validation is required.

- D. *Have all pertinent protections modeled in detail for both balanced and unbalanced fault conditions.* Typically this includes various OV and UV protections (individual phase and RMS), frequency protections, DC bus voltage protections, converter overcurrent protections, and often other inverter specific protections. As in point A, actual hardware code is recommended to be used for these protection features.
- E. *Be configured to match expected site-specific equipment settings.* Any user-tunable parameters or options should be set in the model to match the equipment at the specific site being evaluated, as far as they are known. Default parameters may not be appropriate.

#### *Model Usability Features*

In order to allow study engineers to perform system analysis using the model, the PSCAD model must:

- F. *Have control or hardware options which are pertinent to the study accessible to the user.* Examples of this could include protection thresholds, real power recovery ramp rates, or SSCI damping controllers.<sup>3</sup> Diagnostic flags (eg. flags to show control mode changes or which protection has been activated) should be visible to aid in analysis.
- G. *Be accurate when running at a simulation time step of 10  $\mu$ s or higher.* Often, requiring a smaller time step means that the control implementation has not used the interpolation features of PSCAD, or is using inappropriate interfacing between the model and the larger network. Lack of interpolation support introduces inaccuracies into the model at larger simulation time-steps. In cases where the IGBT switching frequency is so high that even interpolation does not allow accurate switching representation at 10  $\mu$ s (eg. 40 kHz), an average source approximation of the inverter switching may be used to allow a larger simulation time step<sup>2</sup>.
- H. *Operate at a range of simulation time steps.* The model should not be restricted to operating at a single time step, but should be able to operate within a range (eg. 10  $\mu$ s – 20  $\mu$ s)
- I. *Have the ability to disable protection models.* Many studies result in inadvertent tripping of converter equipment, and the ability to disable protection functions temporarily provides study engineers with valuable system diagnostic information.
- J. *Include documentation and a sample implementation test case.* Test case models should be configured according to the site-specific real equipment configuration up to the Point of Interconnection. This would include (for example): aggregated generator model, aggregated generator transformer, equivalent collector branch, main step up transformers, gen tie line, and any other static or dynamic reactive resources. Test case should use a single machine infinite bus representation of the system, configured with an appropriate representative SCR, such as 2.5. Access to technical support engineers is desirable.
- K. *Have an identification mechanism for configuration.* The model documentation should provide a clear way to identify the specific settings and equipment configuration which will be used in any

---

<sup>3</sup> Care should be taken to ensure that any user-settable options are not changed in a way that is not implementable in the real hardware, and that any selectable options are actually available at the specific site being considered. Discussion is recommended with the manufacturer prior to any changes being made in model configuration.

- study, such that during commissioning the settings used in the studies can be checked. This may be control revision codes, settings files, or a combination of these and other identification measures.
- L. *Accept external reference variables.* This includes real and reactive power ordered values for Q control modes, or voltage reference values for voltage control modes. Model should accept these reference variables for initialization, and be capable of changing these reference variables mid-simulation, ie. dynamic signal references.
  - M. *Be capable of initializing itself.* Once provided with initial condition variables, the model must initialize and ramp to the ordered output without external input from simulation engineers. Any slower control functions which are included (such as switched shunt controllers or power plant controllers) should also accept initial condition variables if required.
  - N. *Have the ability to scale plant capacity.* The active power capacity of the model should be scalable in some way, either internally or through an external scaling transformer<sup>4</sup>. This is distinct from a dispatchable power order, and is used for modeling different capacities of plant or breaking a lumped equivalent plant into smaller composite models.
  - O. *Have the ability to dispatch its output to values less than nameplate.* This is distinct from scaling a plant from one unit to more than one, and is used for testing plant behaviour at various operating points.
  - P. *Initialize quickly.* Model must reach its ordered initial conditions as quickly as possible (for example <5 seconds) to user supplied terminal conditions.

#### *Study Efficiency Features*

In addition, the following elements are required to improve study efficiency, model compatibility, and enable other studies which include the model to be run as efficiently as possible. If these features are not supported, additional discussion is required<sup>5</sup>:

- Q. Model should be compatible with Intel Fortran compiler version 12 and higher.
- R. Model should be compatible with PSCAD version 4.5.3 and higher.
- S. Model supports multiple instances of its own definition in the same simulation case.
- T. Model supports the PSCAD “timed snapshot” feature accessible through project settings.
- U. Model supports the PSCAD “multiple run” feature.
- V. Model does not use or rely upon global variables in the PSCAD environment.
- W. Model should not utilize multiple layers in the PSCAD environment, including ‘disabled’ layers.

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<sup>4</sup> A free publicly available scaling transformer suitable for this purpose is available in the E-Tran library.

<sup>5</sup> Electrenix has parallelization tools available (E-Tran Plus for PSCAD) which can circumvent compatibility concerns in some cases.

---

## Attachment #1: PSCAD Model Test Checklist

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## Purpose

This document is a test checklist meant to accompany “PSCAD Model Requirements Rev. 9” provided above and “Attachment #2: PSCAD Model Requirements Supplier Checklist”. The procedures provided in this document are intended to provide an indication of the core model accuracy, performance, and usability features specified in the model requirements. These procedures cannot ultimately prove that the model is compliant with all requirements, as black box models usually hide the details of the equipment controls and protection. It is recommended that the equipment manufacturer supply additional confirmation that the model meets each individual requirement. The requirements in this document do not necessarily represent interconnection criteria for specific individual systems, and may be supplemented or adjusted based on interconnection region.

The tests outlined here are considered “basic”, and may be supplemented by more rigorous testing, including various fault types, depths, and durations, as well as more extensive protection testing and benchmarking against phasor models. This document is not intended to be a guide for thorough benchmarking between PSCAD, PSS/E, and actual equipment, and is subject to revision as the state of the art in EMT modeling evolves.

| <i>Model test Summary</i>        |  |
|----------------------------------|--|
| Model Test date:                 |  |
| Project Name:                    |  |
| Manufacturer:                    |  |
| Equipment type: (eg. PV or Wind) |  |
| Equipment version:               |  |
| Documentation file:              |  |
| Model Files supplied:            |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |



### Verification Procedure and Checklist

|  |   | Pass/Fail | Comments |
|--|---|-----------|----------|
| <i>Vendor and site specific model verification</i> |   |           |          |
| 1a   | The Vendor's name and the specific version of the model should be clearly observable in the .psc model file.  |           |          |
| 1b   | Documentation and supporting model filenames should not conflict with model version shown in the .psc model file.   |           |          |
| 1c   | Model is supplied with a test circuit which is configured for the site specific application. <sup>6</sup>   |           |          |
| <i>"Real Code" model verification</i>              |   |           |          |
| 2a   | Controls are black-boxed, and no PSCAD master library control blocks are visible within control circuits. <sup>7</sup> If the model is not based on "real code", a separate validation report is required showing model comparison against hardware tests. <sup>8</sup> |           |          |
| <i>Model usability verification</i>                |   |           |          |
| 3a   | Model uses a timestep greater than 10 $\mu$ s <sup>9</sup>  |           |          |
| 3b   | Model allows a variation in simulation timestep   |           |          |
| 3c   | Model compiles using Intel FORTRAN version 12   |           |          |
| 3d   | Model initializes in 5 seconds or less with a POI level SCR of 2.5. Real power, reactive power, and RMS voltage should reach steady state by this time.   |           |          |
| 3e   | Model allows multiple instances of itself to be run together in the same case <sup>10</sup>   |           |          |
| <i>Model electrical configuration verification</i> |   |           |          |
| 4a   | Plant level electrical single line diagram (SLD) is included.   |           |          |

<sup>6</sup> The test circuit should model all relevant electrical components of the plant and contain a system equivalent. Parameters will be assumed to be site-specific, unless there are obvious indications otherwise, such as an incorrect grid base frequency.

<sup>7</sup> Black-boxing of controls to a high level does not guarantee that real-code is embedded into the model, however the visibility of PSCAD master-library control blocks in the inner control loops (PLL, inner current controllers, etc.) suggest that the model is generic in nature. Model documentation may contain information on use of real-code in the model.

<sup>8</sup> All aspects of the controller operation are required to be validated by utilizing a "hardware in loop" platform or other hardware test systems. Model should not be validated against other software models. Validations should include control responses to various types of faults, changes in power and voltage references, changes in system frequency, testing frequency response in sub and super-synchronous ranges, and testing of protection operation. Tests should also be performed under a variety of system strengths, including very weak systems. Other tests may also be required. The validation report is required along with any model updates that result from the more rigorous validation tests.

<sup>9</sup> Models with timesteps less than 10  $\mu$ s may be acceptable in situations where a small timestep does not significantly increase the runtime of the total simulation

<sup>10</sup> Depending on specific application and whether E-Tran Plus for PSCAD is allowed to be used to overcome the limitation, this requirement may be waived.

|  |   |  |  |
|--|---|--|--|
| 4b   | Generator step-up transformer(s) included, with impedance between 5 and 10% on generator base, and matches SLD. <sup>11</sup>   |  |  |
| 4c   | Lumped collector equivalent(s) included, with total charging equal to between 0.5 and 5% of plant rating, and matches SLD. <sup>11</sup>  |  |  |
| 4d   | Substation transformer(s) included, rated appropriately for plant size, and impedance between 6 and 12% on transformer base, and matches SLD. <sup>11</sup>   |  |  |
| 4e   | Model can be scaled to represent any number inverters/turbines, either using a scaling transformer or internal scaling.   |  |  |
| 4f   | All external devices included in the plant (such as STATCOMs) include appropriate models.   |  |  |
| <i>Plant controller verification</i>               |   |  |  |
| 5a   | Model includes power plant controller (PPC)   |  |  |
| 5b   | PPC accepts an external active power setpoint.  |  |  |
| 5c   | PPC accepts a voltage setpoint.   |  |  |
| 5d   | PPC has a mechanism to implement a settable voltage droop.  |  |  |
| 5e   | Overall plant responds to frequency changes by increasing or decreasing its active power as appropriate. This may be accomplished either at an inverter level or via the PPC. <sup>12</sup>                               |  |  |
| 5f   | Model initializes to the setpoints specified in the PPC. If droops or deadbands are utilized, the initial values may differ from the setpoints. <sup>13</sup>   |  |  |
| 5g   | If external voltage control devices (STATCOM/DVAR, SVC, MSCs) are included in the plant, ensure that the voltage control of these devices is coordinated with the PPC, with no potential for VAR looping or oscillations. |  |  |
| <i>Basic performance verification<sup>14</sup></i> |   |  |  |
| 6a   | Instantaneous voltage and current waveforms have minimal distortion, and no oscillations are observed.  |  |  |

<sup>11</sup> Impedance range is for sanity checking only. Impedances outside this range may be allowed.

<sup>12</sup> Non-compliance with this item may not require model revision as frequency response may not be required in PSCAD models by some utilities. In this case, a description of the under/over frequency response capabilities of the actual equipment should be provided by the manufacturer.

<sup>13</sup> If voltage control with droop is implemented, it is preferred that the PPC model requests an initial Q value to match the voltage setpoint. If no initial Q is requested, the voltage setpoint can be biased by the initial Q before it is sent to the PPC. If a non-zero deadband is included in the voltage controller, the deadband can also be considered in the voltage setpoint sent to the PPC.

<sup>14</sup> Performance testing is recommended with a POI level SCR of 2.5 as this is a representative system condition seen during weak system studies. Testing may be performed at higher SCRs if the stable operating SCR of a model is known to be above 2.5.

|  |  |  |  |
|--|--|--|--|
| 6b   | Model is able to ride-through and recover from a temporary (no line outage or drop in SCR), 6-cycle, zero-impedance, three-phase fault at the high side of the station transformer, with a POI level SCR of 2.5.                         |  |  |
| 6c   | Model responds to a step change in PPC voltage setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. (Various systems may have specific speed requirements, which should be met)  |  |  |
| 6d   | Model responds to a step change in PPC active power setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. <sup>15</sup>   |  |  |
| <i>Basic protection verification</i> <sup>16</sup> |  |  |  |
| 7a   | Protection settings are implemented. These could be available as inputs in the model, or hard-coded in the black-boxed controls. <sup>17</sup>   |  |  |
| 7b   | Option to disable protection models is present. <sup>18</sup>  |  |  |
| 7c   | Model trips or blocks when terminal voltage rises above 1.3 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7d   | Model trips or blocks when terminal voltage falls below 0.2 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7e   | Model clearly displays trip / diagnostic signals indicating the status of all pertinent protection elements  |  |  |
| <i>Documentation</i>                               |  |  |  |
| 8a   | Model documentation states compliance with "PSCAD Model Requirements Rev. 9 Rev. 9" <sup>20</sup> , or is supplied with a completed PSCAD Model Requirements Supplier Checklist.   |  |  |
| 8b   | Model documentation includes instructions for setup and running of the model, including the recommended range of simulation timesteps. Documentation should give a clear description of trip / operation code signals produced by model. |  |  |

<sup>15</sup> Different response time criteria may apply depending on specific interconnection region.

<sup>16</sup> There are many protection functions which should be modelled, per footnote 1, and these basic tests will not be proof that these are modelled.

<sup>17</sup> If settings are not visible in model or documentation, verification that protection settings are implemented in the PSCAD model should be received from the manufacturer.

<sup>18</sup> Non-compliance may not require model revision as many studies do not require testing with protection settings disabled.

<sup>19</sup> Non-compliance with this item should result in verification of protection settings implementation from the manufacturer, as some models may have capabilities beyond what is listed here.

<sup>20</sup> Non-compliance may be waived in systems which do not require compliance with the model requirements document.

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## Attachment #2: PSCAD Model Requirements Supplier Checklist

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**Purpose**

This document is a model requirements checklist which should be completed by the supplier of the model and submitted alongside each PSCAD model. This document accompanies the “PSCAD Model Requirements Rev. 9” document above (PMR), which should be used for further reference to describe the requirements associated with each point. Generic testing of the model may be done using “Attachment #1: PSCAD Model Test Checklist”, which may be used as a reference.

Model supplier must review every item in the checklist and indicate compliance for each item. If the supplied model does not meet any of the requirements an explanation of the deficiency should be provided in the comments column.

| <i>Model Submission Summary (to be completed by model supplier)</i> |  |
|---|--|
| Submission date:  |  |
| Project Name:   |  |
| Primary contact information for model related questions:            |  |
| Secondary contact information for model related questions:          |  |
| Manufacturer:   |  |
| Equipment type: (eg. PV or Wind)                                    |  |
| Equipment version:  |  |
| Documentation file(s):  |  |
| Model Files supplied:   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |



**Recommended PSCAD Model Requirements Rev. 9  
May 8, 2020**

| Model Requirements Checklist |   |      |  | Model Complies? (Yes/No) | Comments |
|------------------------------|---|------|--|--------------------------|----------|
| 1                            | <i>Model Accuracy Features</i>  |      |  |                          |          |
| 1.1                          | Power electronic controls are modelled by interfacing with actual firmware code from the inverter (“real code” model), or includes detailed validation report.                            | A, B |  |                          |          |
| 1.2                          | Operating modes which require system specific adjustment are accessible.  | B    |  |                          |          |
| 1.3                          | Plant level controller is included. <sup>21</sup>   | B    |  |                          |          |
| 1.4                          | Model is capable of controlling frequency <sup>22</sup>   | B    |  |                          |          |
| 1.5                          | Includes pertinent electrical and mechanical features, such as gearboxes, pitch controllers, or other features which impact the plant performance in the simulation period. <sup>23</sup> | C    |  |                          |          |
| 1.6                          | All protections which could impact ride-through performance are modelled in detail.   | D    |  |                          |          |
| 1.7                          | Model is configured for the specific site being evaluated, as far as they are known.  | E    |  |                          |          |
| 2                            | <i>Model and Project Documentation</i>  |      |  |                          |          |
| 2.1                          | Model includes documentation.   | J    |  |                          |          |
| 2.2                          | Documentation includes instruction for setup and running the model.   | J    |  |                          |          |

<sup>21</sup> If the plant is part of a multi-plant control scheme, a description of the overall scheme should be provided, and corresponding PPC models should be configured to control multiple plants accordingly.

<sup>22</sup> Frequency control model requirements may vary by region. Example response time may be less than 10 seconds.

<sup>23</sup> Simulation period may vary depending on the model use, but 10 seconds of simulation following an event such as a fault is a typical period.

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|      |  |   |  |  |
|------|--|---|--|--|
| 2.3  | Model is supplied with a sample test case including site specific plant representation.  | J |  |  |
| 2.4  | Plant single line diagram is provided, and aligns with model   | J |  |  |
| 2.5  | Model documentation provides a clear way to identify site-specific settings and equipment configuration.   | K |  |  |
| 3    | <i>Model Usability Features</i>  |   |  |  |
| 3.01 | Control or hardware options are accessible to the user as applicable.  | F |  |  |
| 3.02 | Diagnostic flags are visible to the user.  | F |  |  |
| 3.03 | Model uses a timestep greater than 10 $\mu$ s.   | G |  |  |
| 3.04 | Model allows a range of simulation timesteps (ie. not restricted to a single timestep).  | H |  |  |
| 3.05 | Protection model may be disabled for troubleshooting   | I |  |  |
| 3.06 | Model accepts external reference variables for active and reactive power and voltage setpoint, and these may be changed dynamically during the simulation. | L |  |  |
| 3.07 | Model is capable of initializing itself.   | M |  |  |
| 3.08 | Active power capacity is scalable.   | N |  |  |
| 3.09 | Active power is dispatchable.  | O |  |  |
| 3.10 | Model reaches setpoint P, Q, and V in 5 seconds or less  | P |  |  |
| 3.11 | Model compatible with Intel FORTRAN version 12 and higher.   | Q |  |  |
| 3.12 | Model compiles using PSCAD version 4.5.3 or higher.  | R |  |  |
| 3.13 | Model supports multiple instances of its own definition in a single PSCAD case.  | S |  |  |
| 3.14 | Model supports PSCAD "snapshot" feature.   | T |  |  |

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|      |  |   |  |  |
|------|--|---|--|--|
| 3.15 | Model supports the PSCAD “multiple run” feature. | U |  |  |
| 3.16 | Model does not use PSCAD global variables.       | V |  |  |
| 3.17 | Model does not use PSCAD layer functionality     | W |  |  |



Appendix B Attachment 4

**COMMUNITY OUTREACH PLAN  
GENERAL INSTRUCTIONS TO PROPOSERS**

Gaining community support is an important part of a Project’s viability and success. An effective Community Outreach Plan will call for early meaningful communications with stakeholders and will reflect a deep understanding and respect for the community’s desire for information. The public meeting and comment solicitation process described in Section 5.3 of the RFP is intended to support that premise and the Commission’s desire to increase bid transparency within the RFP process. When developers neglect to demonstrate transparency and a willingness to engage in early and frequent communication with Hawaii’s communities, costly and timely challenges to their projects have resulted. In some instances, projects have failed. Incorporating transparency during the competitive bidding phase may seem unconventional, but it has become an essential community expectation. Developers must share information and work with communities to address concerns through careful listening, thoughtful responsiveness, and a commitment to respect the environmental and cultural values of Hawai’i.

Section 5.3 of the RFP requires all Proposers to provide to the Company an updated comprehensive Community Outreach Plan to work with and inform neighboring communities and stakeholders, and to provide communities and stakeholders timely information during all phases of the Project. The Company requires all Proposers provide the below table of information onto their website described in Section 5.3 to provide communities Project information that is of interest to them in a standard format. As an option, Proposers may provide their updated Community Outreach Plan and website information to the Company for review and feedback. If provided at least 30 days prior to the dates required, the Company will endeavor to review such information and provide feedback on the information before it is made available to the public. The below information is already required by the RFP instructions and should be included in all Proposals (albeit in various sections).

**PROJECT SUMMARY AND COMMUNITY OUTREACH PLAN**

|   |   |  |
|---|---|--|
| * | Proposer Name (Company name)  |  |
| * | Parent Company/Owner/Sponsor/etc.   |  |
| * | Project Name  |  |
| * | Net AC Capacity of the Facility (MW)<br>(must match Proposal information)                     |  |
| * | Proposed Facility Location in/near<br>what City/Area  |  |
| * | TMK(s) of Facility Location<br>(must match Proposal information)                              |  |
| * | Point of Interconnection’s Circuit or<br>Substation Name<br>(must match Proposal information) |  |
| * | Project Description<br>(in 200 words or less)   | <i>(A description that includes information about the project that will enable the community to understand the impact that the Project might have on the community.)</i> |
| * | Project site map  | <i>(provide a map similar to what was provided in Section 2.5.2)</i>   |

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|  |   |  |
|--|---|--|
| *  | Site layout plan  | <i>(provide a layout similar to what was provided in Section 2.5.3)</i>  |
| *  | Interconnection route   | <i>(provide a map of the route similar to what was provided in Section 2.5.4)</i>  |
| <b>Environmental Compliance, Impacts and Permitting Plan</b> |   |  |
| *  | Overall land use and environmental permits and approvals strategy   | <i>(provide information in level of detail as provided in Section 2.6.1)</i>   |
| *  | Gantt format schedule which identifies the sequencing of permit applications and approval activities and critical path. Schedule must be in MM/DD/YY format)  | <i>(provide information in level of detail as provided in Section 2.6.1)</i>   |
| *  | City Zoning and Land Use Classification   | <i>(provide information in level of detail as provided in Section 2.6.2)</i>   |
| *  | Discretionary and non-discretionary Land use, environmental and construction permits and approvals  | <i>(provide information in level of detail as provided in Section 2.6.3)</i>   |
| *  | Listing of Permits and approvals  | <i>(provide information in level of detail as provided in Section 2.6.3)</i>   |
| *  | Preliminary environmental assessment of the site (including any pre-existing environmental conditions)  | <i>(provide information in level of detail as provided in Section 2.6.4)</i>   |
| <b>Cultural Resource Impacts</b>                             |   |  |
| *  | Proposer's updated Community Outreach Plan must include a plan that (1) identifies any cultural, historic or natural resources that will be impacted by the project (2) describes the potential impacts on these resources and 3) identifies measures to mitigate such impacts. | <i>(provide information in level of detail as provided in Section 2.7)</i>   |
| <b>Community Outreach</b> (provide link to Section 2.8)      |   |  |
| *  | Detailed Community Outreach Plan  | <i>(provide key information from Community Outreach Plan as specified in Section 2.8.1 or provide a link to updated comprehensive Community Outreach Plan)</i> |
| *  | Local community support or opposition   | <i>(provide latest comprehensive information)</i>  |
| *  | Community outreach efforts  | <i>(provide latest comprehensive information)</i>  |
| *  | Community benefits  | <i>(provide latest comprehensive information)</i>  |

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**\*All information in this table must be included on each Proposer's project website and in all community presentations.**

Appendix B Attachment 5

**DETAILED INSTRUCTIONS FOR COMMUNITY OUTREACH PLAN**

- The Community Outreach Plan should be as current and explanatory as possible.
  - The Community Outreach Plan information must be included in the information Proposer selected to the Final Award Group make available on their website when the website is posted publicly.
- Proposer selected to the Final Award Group must develop a public Project website, which shall include all the information on the Community Outreach Plan table for their Project.
- Proposer must develop Project presentations that include all the information on the Community Outreach Plan table (sample template provided).
- Due to the uncertainty of the duration of the COVID-19 pandemic, all Proposers are required to plan for both in-person and virtual community meetings. As we near the dates that community meetings are scheduled, in the interest of public health and safety, the conditions at the time will determine if in-person meetings or virtual meetings will be required.
  - Virtual community meetings can either be community televised, or online, but must incorporate technology that allows for live engagement and interaction between the Proposer and community participants.
- Proposer must communicate important information about the Project with stakeholders in advance of community meetings.
- Proposer must perform media outreach (earned media) and advertising (paid media) to raise community awareness of any public meeting. Media advisories (sample attached) must be issued to the following media and organizations a minimum of 30 days prior to a public meeting. Media advisories do not need to be reviewed and approved by Hawaiian Electric, but must be shared with Hawaiian Electric for awareness.
  - For Oahu Projects
    - Star Advertiser
    - Civil Beat
    - Hawaii News Now
    - KHON2 News
    - KITV4 News
    - Neighborhood Boards
  - For Maui Projects
    - Maui News
    - Maui Now
    - Civil Beat
    - Hawaii News Now
    - KHON2 News
    - KITV4 News
  - For Hawaii Island Projects
    - Hawaii Tribune Herald
    - West Hawaii Today
    - Civil Beat
    - Hawaii News Now
    - KHON2 News
    - KITV4 News
- Advertisements must be placed in area community publications.
  - Guidance from the Company can be provided upon request
  - Information in the ads must be consistent with the media advisory
- Public comments in support and in opposition to the proposed Project must be compiled and filed verbatim with the Public Utilities Commission.
- Proposer must work with and inform neighboring communities and stakeholders to provide community members timely information during ALL phases of the project, which must include,

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but not be limited to the Power Purchase Agreement negotiation period, the permitting process periods, and throughout construction.

- Should any COVID-19 related events interfere with the Proposer's ability to perform the listed actions, Proposer should inform the Company immediately of such effects for Company's consideration and guidance, and possible proposal of alternate actions.

**CONTACT:**      **NAME, 808.XXX.XXXX**      **FOR IMMEDIATE RELEASE**  
**Email address**      **Date**

### Media Advisory: Title

Project description to be drafted by developer. Description must include the location of proposed project and supporting background information.

**Date:**            TBD

**Time:**            TBD

**Location:**        TBD

**Purpose:**        To share information about a **TYPE (e. g. CBRE solar, etc.)** renewable energy project proposed to be developed in **COMMUNITY** near **AREA REFERENCE** and to solicit public comments to be filed with the Public Utilities Commission.

**Contact:**        For more information, call **808.XXX.XXXX** or visit **(website/social media)**

###

Appendix B Attachment 6

# Project Name

## Proposer Name

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Appendix B Attachment 6

# Project Benefits

- Details

Appendix B Attachment 6

# Community Benefits

- Details



# Proposed Facility Location in/near what City/Area

- Map
- Dimensions of proposed project
- Include all project components

Appendix B Attachment 6

# Project Description

- Details

Appendix B Attachment 6

# Site Layout Plan

- Project Layout
- Project Visual Simulations
  - Multiple public vantage points

Appendix B Attachment 6

# Interconnection Route

- Map

# Required Government Permits and Approvals

- Preliminary Schedule
- Opportunities for public comment

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# Environmental Impacts

- Preliminary environmental assessment of the site (including any pre-existing environmental conditions)

## Cultural Impacts

- Identify any cultural, historic or natural resources that will be impacted by the project
- Describe the potential impacts on these resources
- Identify measures to mitigate such impacts.

Appendix B Attachment 6

# Where to Find More Information

- Project website
- Proposer email and contact information



Appendix B Attachment 6

# How to Provide Comments

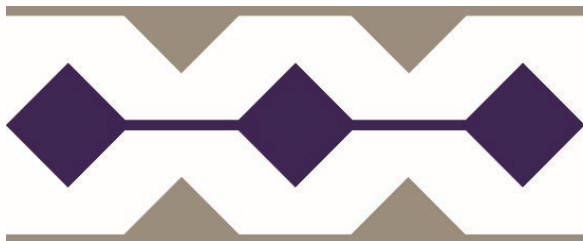
**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix C – Code of Conduct Procedures Manual*



**Maui  
Electric**

## I. INTRODUCTION

The Framework for Competitive Bidding ("Framework") adopted on December 8, 2006, by the Public Utilities Commission of the State of Hawaii (the "Commission") pursuant to Decision and Order No. 23121 (Docket No. 03-0372, Instituting a Proceeding to Investigate Competitive Bidding for New Generating Capacity in Hawaii) requires that the utility develop and follow a Code of Conduct whenever a utility or its affiliate seeks to advance an energy generation resource proposal in response to a request for proposals ("RFP") issued by the Company. Section III.A.4 of the Framework required the utility to submit to the Commission for review and approval (subject to modification if necessary) a code of conduct prior to the commencement of any competitive bid process under the Framework. The proposed *Code of Conduct Pertaining to the Implementation of a Competitive Bidding Process for Community-Based Renewable Energy* (the "Code of Conduct") requires the Companies to also propose this *Code of Conduct Procedures Manual* (the "Procedures Manual") to implement the requirements of the Framework and the Code of Conduct.

This Procedures Manual has been developed to outline the procedures to be followed and the policies that have been developed surrounding the implementation of the Companies' competitive bidding process for system resources. This Code of Conduct Procedures Manual has been developed for the Companies' Community-Based Renewable Energy RFPs and in accordance with the requirements of Section IV.H.9.a(iii) of the Framework and outlines requirements (1), (3) and (4) of such section, namely: (1) the protocols for communicating with Proposers, the Company Self-Build team, and others; (3) the documentation forms, including logs for any communications with proposers; and (4) other information consistent with the requirements of the solicitation process. Requirement (2) of the section, the evaluation process in detail and the methodologies for undertaking the evaluation process for the RFP are described in detail in the Community-Based Renewable Energy RFP. The bid evaluation process and methodology will consider both price/system impacts and non-price criteria in accordance with Section IV.E of the Framework and Tariff Rule 19.

The procedures and policies set forth herein have been designed to ensure that the procurement process is undertaken in a fair and equitable manner and that each Proposer is afforded an equal opportunity to participate and compete within the RFP requirements.

This Procedures Manual is intended to be followed by Company personnel in connection with implementing the Companies' solicitation process and to manage communications between Company personnel and consultants participating in the RFP processes covered by the Framework. Necessary additions, deletions, and/or changes depending on the circumstances surrounding the RFP and directions from the IO may be required.

## **II. DEFINITIONS**

- Affiliate – Any person or entity that possesses an “affiliated interest” in a utility as defined by section 269-19.5, Hawaii Revised Statutes (“HRS”), including a utility’s parent holding company but excluding a utility’s subsidiary or parent which is also a regulated utility.
- Affiliate Team – Employees and consultants of an Affiliate of the Company who prepare a proposal to be submitted to the Company in response to a Company RFP.
- ATRs – The Affiliate Transaction Requirements, issued by the Commission, applicable to the Companies and Affiliates, attached as Exhibit B to Order No. 36112 issued on January 24, 2019 in Docket No. 2018-0065.
- Code of Conduct – The *Code of Conduct Pertaining to the Implementation of a Competitive Bidding Process for Community-Based Renewable Energy* developed by Hawaiian Electric Company, Inc., Maui Electric Company, Limited and Hawaii Electric Light Company, Inc. (each, a “Company” and collectively, the “Companies”) to ensure the fairness and integrity of the competitive bidding process, in particular where the host utility or its affiliate seeks to advance its own system resource proposal in response to an RFP. The Code of Conduct follows the requirements described in Section IV.H.9.c of the Framework.

- Code of Conduct Acknowledgement – The Competitive Bidding Code of Conduct Acknowledgement of Receipt form acknowledging review of, and agreeing to abide by, the Code of Conduct and this Procedures Manual.
- Communications Log – A written record to note activities and/or information shared between the Company RFP Team or Company Self-Build Team with Shared Resources or Unassigned Company Resources, accessed via the RFP Communication Tool Kit SharePoint Site.
- Companies' Executive in Charge – The Companies' executive responsible for ensuring compliance with this Code of Conduct and serving as the point of contact for the Independent Observer for reporting any violations by the Companies' of the Code of Conduct. The Companies' Corporate Compliance Officer shall remain responsible for the Companies' independent corporate code of conduct and may support compliance matters and questions arising with employees, agents and other representatives of the Companies, e.g., conflicts of interest, with respect to this Code of Conduct.
- Company RFP Team – The Company personnel and outside consultants responsible for the development of the Company's RFPs conducted under the Framework and the evaluation of bids submitted in response to these RFPs. Subject to the transfer rules specified herein, the Company RFP Team will have fixed team members who will not have any involvement with the Company Self-Build Team for the subject RFP.
- Company Self-Build Team – The Company personnel and outside consultants responsible for the development of the Company's self-build responses to the RFP. Subject to the transfer rules specified herein, the Company Self-Build Team will have fixed team members who will not have any involvement with the Company RFP Team for the subject RFP.
- Confidential Information – Any non-public information developed and provided by the Company (i.e., proprietary system information, etc.) or Proposers during the RFP process (such non-public information may include, for example, the identity of competing Proposers, and their technical, trade or financial information). This term includes any material non-public information regarding the RFP process developed for and used during the competitive bidding solicitation process, such as the evaluation process or criteria. Confidential Information does not include

public information, such as information in the Company's public filings with the Commission.

- Director of Renewable Acquisition – The supervisor of the Division that will oversee the Company's competitive bidding process.
- Eligible Proposer – A Proposer who has met the minimum requirements and threshold requirements in the RFP necessary to remain eligible to compete in the process.
- Energy Contract Manager – The staff position(s) within the Company's Renewable Acquisition Division responsible for managing the Company RFP Team(s). The Energy Contract Manager shall be a member of the Company RFP Team he/she manages.
- Framework – The Framework for Competitive Bidding contained in Decision & Order No. 23121 issued by Commission on December 8, 2006, to establish rules for competitive bidding in response to a request for proposals when a utility seeks to acquire new generation resources.
- Independent Observer ("IO") – The neutral person or entity appointed by either the Commission or utility to monitor the utility's competitive bidding process, and to advise the utility and Commission on matters arising out of the competitive bidding process, as described in Part III.C of the Framework.
- Manager of Energy Procurement - The supervisor of the department within the Company's Renewable Acquisition Division responsible for directing the resources responsible for the implementation of the competitive bidding process pursuant to the Framework. The Manager of Energy Procurement will report to the Director of Renewable Acquisition on the status of the competitive bidding process and shall be a member of the Company RFP Team.
- Non-Price Evaluation Team – Employees and consultants of the Company who evaluate the Proposal non-price related criteria as set forth in these RFPs. Non-Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.
- Non-Wires Alternative - An electricity grid project that uses non-traditional transmission and distribution (T&D) solutions, such as distributed generation (DG), energy storage, energy efficiency (EE), demand response (DR) and grid software and controls, to defer or avoid the need for conventional transmission and/or

distribution infrastructure investments.

- Price Evaluation Team – Employees and consultants of the Company who evaluate the Proposal price related criteria set forth in these RFPs. Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.
- Proposer – Entity who submits or plans to submit a proposal in response to a Company-issued RFP. An Affiliate of the Company or a Company Self-Build Team participating in the RFP and submitting a proposal shall be considered a Proposer.
- RFP – A written request for proposals issued by one of the Companies to publicly solicit bids to supply future system resources to the Company pursuant to the competitive bidding process established in the Framework.
- Roster – A consolidated list of members that comprise the Company RFP Team, Company Self-Build Team, Shared Resources and Unassigned Company Resources located in the RFP Communication Tool Kit SharePoint Site. Company employee names and titles and consultants in their designated role will be identified.
- Shared Resource – Company employees and consultants who, because of the scarcity of their expertise within the Company, are designated and authorized to provide information or input to both the Company RFP Team and the Company Self-Build Team (but not any Affiliate Team) and is not a resource dedicated to either team. For example, Shared Resources may include an environmental attorney and members of the Company’s Risk Management Department.
- Unassigned Company Resource – Company employees unassigned to an essential team that may be called upon by the Company RFP Team and/or the Company Self-Build Team (but not any Affiliate Team) to assist in meeting unforeseen tasks for the RFP or the self-build proposal. For example, the Company RFP Team may be unable to evaluate an unforeseen technical specification included in a bid. In that event, the Company RFP team would need to request assistance from a Company employee or a consultant that is not already assigned to an essential team and possesses the specific expertise. Such personnel are intended to assist the requesting team only in an ad hoc manner, limited in scope and purpose to the particular task required.

### **III. STATEMENT OF OBJECTIVES**

On April 9, 2020, the Commission issued Order 37070, commencing Phase 2 of the Community-Based Renewable Energy Program ("Phase 2"). Phase 2 requires the Companies to implement competitive bidding to procure CBRE projects on all islands served by the Companies. These procurements will be concurrent and overlapping. Subsequent phases of CBRE may require further procurements through competitive bidding. Accordingly, under the Framework and the Code of Conduct, for each of the competitive procurements under the program, the Companies will undertake a detailed multi-stage review and evaluation process whereby eligible proposals will be selected based upon their ability to most cost-effectively and reliably satisfy the CBRE program requirements.

Given that multiple RFPs for CBRE, including and in addition to other RFPs currently being administered by the Companies, will be active at the same time, and because the Companies must work expeditiously, in order to consistently ensure the competitive benefits of the procurement process while continuing to provide equitable and fair consideration for all proposals, the Companies will endeavor to create, designate and maintain the Roster at all times for quicker and more decisive implementation across all active RFPs. Subject to the transfer rules specified herein, the Roster will be maintained for the durations of the RFPs. The Companies also intend that the evaluation process will be well-documented so that the results of the evaluation can be fully reviewed by an IO to confirm that all proposals were treated in a fair and consistent manner.

The Code of Conduct and this Procedures Manual address (1) communication requirements and procedures associated with the relationship between utility employees (Company RFP Team, Company Self-Build Team, Shared Resources and Unassigned Company Resources); (2) communication requirements and procedures associated with the relationship between the Company RFP Team, the Company Self-Build Team and Proposers; and (3) communication requirements associated with the relationship between Company management and the Company RFP Team.

The Code of Conduct and this Procedures Manual also include procedures for the sharing of resources, where appropriate, by the Company RFP Team and the Company



Self-Build Team for the purposes of completing their efforts to effectively evaluate an RFP or to submit a bid in response to an RFP. The small size of the Companies and limitation of resources will require specialized services, information exchange and sharing of resources in certain limited circumstances. Company personnel and consultants identified as "Shared Resources" shall be designated by the Companies for this specific purpose.

#### **IV. ORGANIZATION AND COMMUNICATION RESPONSIBILITIES**

This section outlines the RFP organizational structure for the development of the RFP and the Company self-build options and the organization's responsibilities to ensure that communications between Company personnel and consultants working on their respective RFPs or self-build projects are conducted in a fair, consistent, and equitable basis so that the Company Self-Build Team does not enjoy any unfair advantage over other Proposers responding to an RFP.

##### **A. Organization**

The Companies shall identify and maintain two separate teams to facilitate the independence and objectivity of the Company resources working on an RFP and ensure an arms-length relationship with the resources working on the Company's self-build project to avoid any real or perceived inequity in an RFP process. The two essential teams shall be the "Company RFP Team" and the "Company Self-Build Team."

Other limited Company resources, such as select staff from various functional areas of the Company that are in short supply and thus cannot be dedicated solely to either team, may be designated as "Shared Resources" to perform services for the Company RFP Team and Company Self-Build Team. Shared Resource employees are allowed to carry on with both their RFP (for either the Company RFP Team and/or the Company Self-Build Team) and regular functions throughout the resource planning process (including the development of any Company Parallel or Contingency Plan as defined in the Framework), which may require communications with or services performed for the Company Self-Build Team. Shared Resource employees, however, will not participate in the evaluation and selection process of proposals submitted in response to

an RFP. Rules for communications between Shared Resources and the essential teams are specified below.

Company employees unassigned to an RFP may be called upon by the Company RFP Team, Company Self-Build Team, or both for help to meet unforeseen tasks. After completing the Code of Conduct training, these "Unassigned Company Resources" are eligible to assist on an ad hoc basis with the requirement that all communications as an Unassigned Company Resource must be memorialized and logged in the same manner as communications with Shared Resources on the Communication Log. If an Unassigned Company Resource is called upon repeatedly for a substantial amount of assistance by a particular team, the employee should be assigned to such team or evaluated for designation as a shared resource.

**B. Essential Teams**

1. Company RFP Team. The Company RFP Team, tasked with preparing the RFP and evaluating the responses and bids in response to the RFP, will consist primarily of Director/Manager-level and other experienced employees together with possible outside consultants, with backgrounds in a number of disciplines necessary to conduct a thorough evaluation of each proposal. The Company RFP Team will be comprised of a Price Evaluation Team and a Non-Price Evaluation Team and will be prepared to evaluate proposals on the basis of their price and non-price aspects pertaining to their level of expertise. Members of the Company RFP Team will include professionals with experience in the following areas of expertise: engineering, siting/land use, environmental, transmission planning, fuel procurement, legal, financial planning, system operations, integrated resource planning, generation planning, production cost analysis, and others as needed.

The Price Evaluation Team and the Non-Price Evaluation Team will conduct their sections of the bid evaluation process separately and will not share the results of their evaluation with members of the other sub-team. Each team will submit their evaluation results to an oversight team, which will be responsible for compiling the results of the evaluations and selecting the short-list.

The Energy Contract Manager will be responsible for directing the evaluation efforts of the Company RFP Team when the proposals are received. The Energy Contract Manager will be responsible for maintaining the documentation underlying the evaluation of each proposal as well as all communications with Proposers.

2. The Company Self-Build Team. The Company Self-Build Team, tasked with preparing any Company proposal to be submitted by the Company in response to a Company RFP, will consist primarily of Company employees, along with possible outside consultants with backgrounds in a number of disciplines necessary to complete a competitive proposal in response to a Company RFP. The members of the team will include professionals with experience in the following areas of expertise: engineering, siting/land use, environmental, transmission planning, fuel procurement, legal, financial planning, system operations, integrated resource planning, generation planning, production cost analysis, and others as needed.

3. Affiliate Team. Any Affiliate Team will be comprised solely of employees and consultants of the Affiliate and no Company employee or consultant shall serve as a member of an Affiliate Team; provided, however, that a consultant may perform services for an Affiliate and the Company so long as appropriate "walls" are established satisfactory to the Company that ensures that employees of the consultant working for the Affiliate Team do not also perform work for the Company nor communicate with employees of the consultant performing work for the Company, and vice versa. The Company will inform consultants providing services for the Company RFP Team of these separation requirements, and will seek confirmation in writing from any consultant performing services for an Affiliate and the Company that such separation requirements will be met. Affiliate Teams will be considered and treated as separate independent third-party Proposers for all purposes within any RFP and shall have no access to, interaction or communications with Shared Resources or Unassigned Company Resources for the purpose of completing a proposal in response to any RFP. Affiliate Teams shall also be subject at all times to the terms, conditions and restrictions specified in the Company's ATRs.

4. Transfers between Teams. As members of both the Company RFP

Team and the Company Self-Build Team are intended to be fixed, transfers between teams should not be permitted. However, there will be instances where a member of a particular team (whether Company RFP or Company Self-Build) transfers to a position in which he/she may be requested, as part of his/her new job responsibilities, to participate as a member of the other team. Such employee shall not be permitted to transfer from one team to the other during the pendency of any particular RFP (or stage or phase of a particular RFP). After completion of the RFP (or stage or phase of a particular RFP) under which the employee recently participated, the employee may transfer to the other team under the following conditions: (a) the employee is prohibited from disclosing any Confidential Information known to such employee as a result of being a member of his/her former team with members of the new team he/she is joining; and (b) for a period of one (1) year, such employee shall not participate or be involved in the evaluation of any subsequent stage(s) or phase(s) of a prior RFP which such employee participated in with his/her former team.

Transfers of employees between the Company and any Affiliate and their subsequent work on RFPs shall be subject to the terms, conditions and restrictions specified in the ATRs.

## **C. Communications Protocols**

### **1. Overview and General Requirements.**

The Company has developed policies and procedures governing communication between the Company RFP Team, the Company Self-Build Team, Shared Resources, the Proposers, the IO, and with the Commission regarding RFP design and bid evaluation. Bid information and evaluation data and information shall not be communicated between members of the Company RFP Team, outside parties and other employees within the Companies except to those with a business need to know.

To ensure that the competitive bidding process is fair and unbiased, that all Proposers have access to the same information so that no Proposer has an unfair advantage, and that any Company self-build and/or Affiliate proposals do not have any unfair competitive advantage over third-party bids, the Companies shall follow the Code

of Conduct whenever the utility or its Affiliate is seeking to advance a resource proposal as provided in Section IV.H.9.b of the Framework.

Each employee or consultant on the Company RFP Team, Company Self-Build Team and Shared Resources shall read, acknowledge and sign the Code of Conduct Acknowledgement. Unassigned Company Resources who are called upon by the Company RFP Team or Company Self-Build Team for help to meet unforeseen tasks shall also read, acknowledge and sign the Code of Conduct Acknowledgement.

The Company issuing the RFP will establish a shared drive on its corporate computer network designed to maintain the bid evaluation documentation and other information associated with the bidding process. Only Company RFP Team members will have access to all the files on the shared drive.

In cases where staffing and resources are limited or constrained, the Company may identify Shared Resources or those employees eligible to provide information or serve as a resource to both the Company RFP Team and the Company Self-Build Team. Specific rules to log communications with the Company RFP Team or the Company Self-Build Team are described below.

Shared Resources will not have access to the Company's shared drive established for the RFP process which will include the documentation of the bid evaluation results.

Team members should clearly mark all e-mails, documents, or other communications that contain Confidential Information and make clear which team should not receive it with the following header or a substantially similar message: "This communication contains self-build information that must be kept confidential. DO NOT copy, forward, or discuss the contents with Company RFP Team members" OR "This communication contains Company RFP Team information that must be kept confidential. DO NOT copy, forward, or discuss the contents with Company Self-Build Team members."

## **2. Communications Between the Company RFP Team and**

**Proposers, including the Company Self-Build Team and any Affiliate Team.**

During the RFP process, the Energy Contract Manager shall serve as the primary contact person for all RFP communications with Proposers. This is important from the standpoint of maintaining consistency and confidentiality of information between Proposers and the Company. For documentation and oversight purposes, all communications from Proposers must be submitted to an established website link provided by the Company (the "Company RFP website"). The IO will monitor all communications through the Company RFP website. To ensure fair and equal access to information, any Company Self-Build Team and/or Affiliate Team shall be considered a Proposer for communication purposes and any request for information from the Company Self-Build Team or Affiliate Team to the Company RFP Team shall be through the Company RFP website.

Subject to confidentiality obligations, it is the objective of the Code of Conduct that all Proposers, including the Company Self-Build Team and any Affiliate Team, receive access to information released by the Company RFP Team, whether in response to a question from a Proposer or not, at the same time.

The communications process for addressing questions and requests for information from Proposers, and for the Company RFP Team to provide information to Proposers, is provided below:

- a. Other than during Company sponsored conferences, Proposers must submit all questions to the Company RFP website or the designated RFP email address (if the Company RFP website has not been opened yet for the RFP).
- b. Questions will be reviewed and responses will be coordinated with the appropriate functional area within the Company for a response. Every reasonable effort will be made to provide responses in a timely manner.

- c. All responses, including the classification of such response, i.e., whether non-confidential or confidential as described below, will be provided to the IO for monitoring purposes via email or the PowerAdvocate messaging system. The IO may choose to comment on any response at its discretion.
  
- d. Depending on the questions received, responses may involve Confidential Information of the Company and/or Proposers. Release of any Company Confidential Information must be approved in advance by the Company executive authorized to release the Confidential Information. Any release of Company Confidential Information shall be accompanied by appropriate confidentiality and non-disclosure agreements, protective orders or other means required to maintain the confidentiality of the Company Confidential Information while still permitting its disclosure under circumstances deemed appropriate by the responsible Company executive. Other non-Company Confidential Information will not be shared without the prior written consent of the owner of such Confidential Information and the execution of appropriate confidentiality and non-disclosure agreements by all recipients of such Confidential Information. Responses will be categorized as follows:
  - i. Non-Confidential Responses: Questions and responses will either be posted directly on the Company RFP website (process-related questions or simple, non-substantive information) or a description of the information that can be made available will be posted and Proposers will be instructed to submit a request to the Company via the Company RFP website to receive a copy.
  
  - ii. Confidential Responses: Questions and a description or notice of a Confidential Information response will be posted on

the Company RFP website and Proposers will be instructed to submit a request to the Company via the Company RFP website to receive instructions on how to access the Confidential Information. The Confidential Information will only be provided to the requestor after receipt of an executed confidentiality and non-disclosure agreement. Only those who have qualified to submit a bid (i.e., Eligible Proposers) and have executed a confidentiality and non-disclosure agreement will be considered for receipt of Confidential Information.

iii. Process for Distribution of Confidential Information: Confidential Information provided in response to questions from proposers may be made available only to parties as indicated above via the following:

A. Confidential Information that is approved for exchanging on a secured access site: (1) Confidential Information may be made available on a secured website with an individual password provided to each approved Proposer; and (2) Confidential Information in documents may be transmitted to approved recipients through the Company's secure email system.

B. Confidential Information that can be made available for inspection only, but cannot be copied: There may be some types of Confidential Information that the Company may consider making available for inspection only with no copies allowed. This type of Confidential Information will be made available on Company premises for inspection only. Proposers will be advised via the Company RFP website to make arrangements with Company staff to view the Confidential Information.



C. Confidential Information that may not be released:

In the event that Proposers submit questions that require responses that the Company feels are not appropriate to provide for reasons which may include, but not be limited to, safety, security, protection of trade secrets or intellectual property rights, Proposers will be advised as such via the Company RFP website.

- e. Prior to and during the RFP, and outside of the Company RFP website protocol, developers may direct questions to the Company prior to submitting a Proposal to discuss specific questions regarding their specific Proposal. Questions shall be directed to the Company Contact for Proposals listed in the particular applicable RFP. Questions and responses that do not contain Confidential Information and which are deemed relevant to all Proposers will be published without identifying information via the Company RFP website.
- f. Once bids are received, the Company may submit information requests to Proposers to clarify their proposals or request additional information. All contacts with Proposers will be through the Company RFP website. All contacts and information exchanged will be under the oversight of the IO.
- g. A single exception to the communication process outlined above shall be instituted for the purpose of facilitating the verification of proposed project models and documentation required to perform the IRS. For this limited scope, the Company's Manager of Interconnection Services will serve as the primary contact person for all such interconnection communications with the Proposers on the Priority List, provided that all necessary confidentiality and

non-disclosure agreements are in place. The Manager of Interconnection Services and personnel in the Interconnection Services Department shall be members of the Company RFP Team. Interconnection communications will be limited to a Proposer's bid and no more information other than as necessary to facilitate such communications will be permitted. Discussion of locations of proposed projects shall be limited to that necessary only to determine the interconnection requirements of such project. The IO shall have the right to monitor all such communications in his/her discretion.

**3. Communications Between the Companies and the Commission.**

The Company's Regulatory Affairs staff will be responsible for initiating communication with the Commission regarding the RFP or the Companies' evaluation process. Regular updates may be provided to the Commission regarding the RFP process if requested.

**4. Communications Between the Company RFP Team and the IO.**

Communications between the Company RFP Team and the IO will be required for many aspects of the evaluation process. The IO is also required to maintain confidentiality of any Confidential Information. The IO will coordinate all activities through the Energy Contract Manager. The IO will be invited to participate in any meetings or discussions between the Company RFP Team and the Proposers and other communications as noted above. Sufficient notice will be provided whenever possible and teleconference and/or web conference alternatives may be utilized.

**5. Communications Between the Company RFP Team and the Company Self-Build Team or any Affiliate Team.**

Any communication between the Company RFP Team and the Company Self-Build Team or any Affiliate Team with respect to the RFP shall be handled no differently than with Proposers and other outside parties. Accordingly, the Company Self-Build Team or any Affiliate Team will be required to submit any questions or information requests to the Company RFP Team via the Company RFP website and all responses will be provided in the same manner as to other Proposers. Accordingly, as stated in Section 2 above, responses will be provided to the IO for monitoring purposes via email or the PowerAdvocate messaging system. Members of the Company RFP Team are prohibited from providing any input into the development of the self-build option by the Company or an Affiliate. Company RFP Team members are prohibited from sharing any Confidential Information (i.e., detailed evaluation criteria, other proposals, etc.) with any Company Self-Build or Affiliate Teams except in accordance with the procedures in the Code of Conduct, this Manual or the RFP.

Company RFP Team members and Company Self-Build Team members may continue to work with each other on projects not related to the RFP. Further, members of each respective team do not have to be physically separated from each other, but members of each team must make reasonable efforts to keep all Confidential Information (including electronic data) secure and inaccessible to the other team.

Company RFP Team members and Affiliate Team members may continue to work with each other on matters not related to the RFP as permitted under the ATRs.

## **6. Communications among the Company RFP Team, the Company Self-Build Team and Shared Resources.**

Shared Resources may provide services to the Company RFP Team and the Company Self-Build Team (but not any Affiliate Team). Shared Resources shall be limited as much as possible to instances where Company resources cannot provide a dedicated member to the Company RFP Team and the Company Self-Build Team at the same time and still provide the necessary functions of its area to the Company as a whole. Shared

Resources are expressly prohibited from providing any information developed on behalf of the Company RFP Team to the Company Self-Build Team or any information developed on behalf of the Company Self-Build Team with the Company RFP Team, except through the formal communication process outlined above, i.e., through the Company RFP website.

Additionally, a written record of the time, date and substance of all conversations, data and written material directly or indirectly exchanged with the Company RFP Team or the Company Self-Build Team that pertain to the RFP shall be maintained on the Communications Log. The RFP Communication Tool Kit SharePoint Site will be set up and managed by the Energy Contract Manager to provide an easy to use and understand mechanism to log and memorialize these conversations.

Shared Resources will not have direct access to the Company's shared drive developed for the RFP process which will include documentation of the bid evaluation results.

**7. Communications between the Company RFP Team, the Company Self-Build Team and any Unassigned Company Resource or consultant that is not a Shared Resource.**

There may be times where a Company RFP or Company Self-Build team (but not an Affiliate Team) member may need ancillary or other ministerial or administrative assistance that requires communication and/or assistance from Company personnel who are neither on any team nor considered a Shared Resource. Under those circumstances, such personnel may assist the requesting team member on an ad hoc basis upon the following conditions:

- a. The essential team member making the request must inform the Company personnel that sharing of the requested information or assistance with the other team, be it the Company RFP or Company Self-Build Team, is expressly prohibited under the Code of Conduct.

b. The assisting Company personnel shall complete the Code of Conduct training and sign the Code of Conduct Acknowledgement.

c. The assisting Company personnel shall be directed to the Roster provided by such requesting team member to determine and/or confirm the restrictions on communication with the other team members. The essential team member making the request will ensure the Roster is updated by the Energy Contract Manager to include the assisting Company personnel.

d. A written record of the time, date and substance of all conversations, data and written material directly or indirectly exchanged with the Company RFP Team or the Company Self-Build Team that pertain to the RFP shall be maintained on the Communication Log. The RFP Communication Tool Kit SharePoint Site will be set up and managed by the Energy Contract Manager to provide an easy to use and understand mechanism to log and memorialize these conversations.

e. If assistance from an Unassigned Company Resource becomes more than occasional or more substantive than ancillary, ministerial or administrative services, the Unassigned Company Resource should be considered for inclusion on the team that he/she has been assisting on such basis. Additionally, the Unassigned Company Resource may also be considered for inclusion as a Shared Resource. Members of the Company RFP Team and/or Company Self-Build Team shall consult with the Company executive for resolution.

**8. Communications between the Company RFP Team, the Company Self-Build Team and Company Management.**

The Company RFP Team and the Company Self-Build Team will necessarily require management approval of the RFP and the Company Self-Build Team proposal. Because of the size of the Company, it may be possible that a single employee (at whatever level) (the "Approver") may have approval responsibility for matters affecting the RFP and the Company Self-Build Team proposal. Approvers in this situation must use their best judgment in making decisions reviewing and approving matters for the respective teams. The Code of Conduct must be adhered to in these situations and the Approver must not communicate matters learned from the Company RFP Team with the Company Self-Build Team.

If an Approver feels that he/she cannot manage this potential conflict, the Approver is recommended to consult with his/her immediate supervisor to determine whether such higher authority could be appointed with the task of reviewing and approving matters for a designated team, either the Company RFP Team or the Company Self-Build Team. In matters where a team of employees (including one or more Approvers) is responsible for reviewing and approving matters for the respective teams, approving employees (from whatever level, including executives) with information from reporting personnel beneath them from both the Company RFP Team and the Company Self-Build Team may consider recusing himself/herself from the decision making if such employee cannot objectively make a decision on the matter.

Finally, an Approver may be a member of the Company RFP Team and have a subordinate reporting to him/her that is a member of the Company Self-Build Team (or vice versa). In such situations, because the Code of Conduct prohibits communication between the teams, the Approver must recuse himself/herself from the decision making and request his/her manager to review and approve the matter in his/her place.

In all instances, it is possible that any particular situation above may be addressed and/or resolved by the terms and conditions of the Company's internal code of conduct implemented for all employees and consultants of the Company. As appropriate, an Approver or any other team member, Energy Contract Manager or Company executive in Charge may involve the Company's Corporate Compliance Officer for input and possible

resolution under the Company's internal corporate code of conduct.

**V. WHEN THE CODE OF CONDUCT BECOMES EFFECTIVE**

A. Prior to development of the requirements for any particular RFP, the Code of Conduct for that RFP will be activated. However, if the Company Self-Build Team determines at any time that it will not pursue a self-build option for a particular RFP, the Code of Conduct may be de-activated.

B. Upon the activation of the Code of Conduct, members of the Company RFP Team and the Company Self-Build Team must then conduct activities on the RFP or self-build process in compliance with the Code of Conduct. Once identified and having commenced work, no information may be shared outside the respective team members with respect to the RFP or a self-build option except through the formal communication processes outlined above.

C. Immediately upon assignment to a Company team (RFP or Self-Build), designation as a Shared Resource, or request to assist as an Unassigned Company Resource, each such employee or consultant must review this Manual, and sign the Code of Conduct Acknowledgement.

D. Within the RFP process, after a member has been assigned to a particular Company team (RFP or Self-Build), he or she will not be able to transfer to the other Company team during the pendency of any particular RFP (or stage or phase of a particular RFP). It is the responsibility of each team to fill vacant team positions with employees that have not been previously assigned as a team member for a team until the PPA negotiations have been concluded and the final contracts are executed.

E. Each employee and consultant working on the RFP shall review the Code of Conduct and sign the Code of Conduct Acknowledgement attesting to his/her compliance with the Code of Conduct until the employee is no longer working in the position he/she was in while working on the RFP.

F. The Energy Contract Manager will be responsible for maintaining the Roster and the signed Code of Conduct Acknowledgements. The Company Executive in Charge shall be responsible for ensuring compliance with the Code of Conduct and shall have the written authority and obligation to enforce the Code of Conduct.

## **VI. IMMEDIATE ACTIONS UPON ACTIVATION OF THE CODE OF CONDUCT**

The following items are required to be completed as soon as possible after activation of the Code of Conduct, but no later than the designated events specified for each item below.

A. Prior to development of the requirements for any particular RFP, a Roster listing employee (with their title) and consultants in their designated role; Company RFP Team, Company Self-Build Team, Shared Resource or Unassigned Company Resource. When the IO is appointed, this Roster shall be provided to him/her. The Roster shall be placed in the RFP Communication Tool Kit SharePoint Site so that any Company personnel can access the database to determine the identity of the respective teams and Shared Resources.

B. Upon the finalization of the Roster for the RFP, the Energy Contract Manager shall verify that all employees (whether full-time, part-time, temporary, or contract) and consultants involved in the competitive bidding process, such as members of the Company RFP Team, the Company Self-Build Team, Shared Resources or Unassigned Company Resources, have acknowledged receipt of the Code of Conduct and his or her responsibility to comply with the Code of Conduct by submitting the Code of Conduct Acknowledgement (with electronic acknowledgment being acceptable). If an employee or consultant is later added to a team, the Energy Contract Manager shall also verify that such employee or consultant has submitted the Code of Conduct Acknowledgment.

C. Prior to any solicitation for comments or questions to the RFP, establishment of the Company email address to accept requests for information from Proposers, including the Company Self-Build Team or any Affiliate Team.



D. Prior to the drafting of any documents for any particular RFP, establishment of the Company-secured site that houses the accessible database (such as SharePoint).

## **VII. WHEN THE CODE OF CONDUCT TERMINATES**

- A. The Code of Conduct for a specific RFP will terminate after the following two conditions are met when:
- a. the final contract(s) for RFPs conducted under the Framework with the successful proposer(s) is/are executed, or when written notice of termination of the RFPs to be conducted under the Framework is provided by the Manager of Energy Procurement or his/her designee to the IO and the Commission, and
  - b. a certification of Code of Conduct compliance by all employees participating in the specific RFP process is submitted by affidavit by the Company Executive in Charge.

## **VIII. DOCUMENTATION FORMS**

The following documentation forms may be utilized by those Company personnel involved in the RFP. These forms may be amended from time to time as necessary. Additional forms may also be developed as determined necessary.

- Code of Conduct Acknowledgement
- Communications Log
- Roster

## **IX. APPLICABILITY OF THE ATRs**

Except as specifically made applicable under Section V.C.1.i of the ATRs with respect to wholesale power procurement from Affiliates, the ATRs shall not apply to RFP matters covered by the Framework, the Code of Conduct and this Procedures Manual as it relates to the Companies' interactions between the Company RFP Teams and Affiliate Teams. Reference to the ATRs in the Code of Conduct and/or this Manual are specifically

for matters outside the Companies' administration of the RFP; provided, however, that such applicability may be revised as necessary and as may be directed by the Commission for any RFP.<sup>1</sup>

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<sup>1</sup> See Decision and Order No. 35962, filed on December 19, 2018, in Docket 2018-0065, at 56-57.

**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix D – PowerAdvocate User Information*



**Maui  
Electric**



## Sourcing Intelligence Quick Start for Suppliers

### Logging In

1. Launch a web browser and go to [www.poweradvocate.com](http://www.poweradvocate.com)
2. Click the orange **Login** button.
3. Enter your account **User Name** and **Password** (both are case-sensitive) and click **Login**.
4. Click the **Events** tab if it is not already displayed.

### Dashboard

Your Dashboard lists the events you have been invited to. A line divides currently accessible events from others.

Click to view the event's Status tab

Click to view Events

Buyer filter

Navigation bar

Buying entity

Number of unread/total messages  
Click to view the event's Messaging tab

Click numbers to view event tabs

Datashheet available

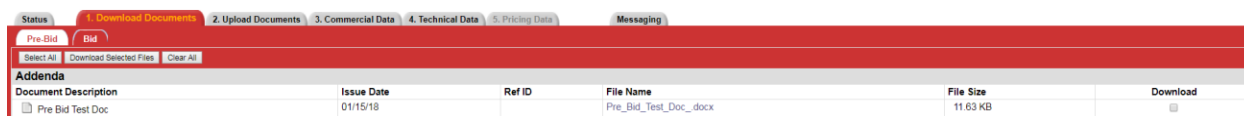
No datashheet available

- Click an event name to view its Status tab, which displays a summary of your activity and key event dates. To view specific details of an event, click the buttons 1-5 to view the corresponding tab.
- To return to the Dashboard, click **Dashboard** in the navigation bar at the top of the window.
- An event will not appear on your Dashboard until you have been added as a participant.



## Downloading Bid Packages

All of the Buyer’s bid package documents (if any) are centrally stored on the PowerAdvocate Platform. To view bid documents, click “1” on your Dashboard or on the **1. Download Documents** tab from within the event.



- You can access the **Bid** sub-tab after the event opens. You can access Buyer documents before the event is opened from the **Pre-Bid** sub-tab, if the Buyer utilizes this feature.
- To view or download a document, click the file name.
- To download multiple documents:
  1. Select the checkbox in the Download column for each document you wish to download or click **Select All**.
  2. Click **Download Selected Files**.

## Uploading Documents

To upload your documents, click “2” on your Dashboard, or on the **2. Upload Documents** tab from within the event.



- Do not upload any files to the Pre-Bid tab.
- To upload a document to the Bid tab:
  1. Specify a **Document Type** (Reference ID can be left blank).
  2. Click **Choose File**, navigate to and select the document, and then click Open; multiple files can also be compressed into one .zip file for upload.
  3. Click **Submit Document**.



## Datasheets

Datasheets will not be used in this RFP event. All Proposal information will be uploaded for submission through the 2. Upload Documents tab above. Buttons/tabs are grayed out (e.g., 4) if the event is not using a particular type of datasheet.

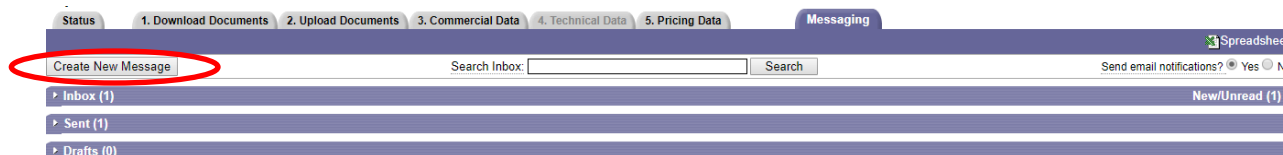


## Communicating with the Bid Event Coordinator /Company Contact

Suppliers should use the PowerAdvocate Messaging tool to contact the Bid Event Coordinator (BEC) while the bid event is open.

### PowerAdvocate Messaging

To send a message to the BEC, go to the **Messaging** tab and click **Create New Message**. To read or reply to a message from the BEC, click the message subject.



- You can send messages to the BEC and Buyer Team
- The Independent Observer can view all messages in the bid event.
- You can receive external e-mail notification of new PowerAdvocate messages by selecting “Yes” to “Send email notifications?” in the Messaging tab.

## Getting More Information

- Click **Help** on the navigation bar to display online help.



- Supplier documentation can be downloaded from the online help system.
- Call PowerAdvocate Support at 857-453-5800 (Mon-Fri, 8 a.m. to 8 p.m. Eastern Time) or e-mail [support@poweradvocate.com](mailto:support@poweradvocate.com).

**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix E – Mutual Confidentiality and  
Non-Disclosure Agreement*



**Maui  
Electric**

**APPENDIX E**  
**MUTUAL CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT**  
Independent Power Producers – (“IPPs”)

This Mutual Confidentiality and Non-Disclosure Agreement (this “Agreement”) is effective as of \_\_\_\_\_, 20\_\_\_\_ (the “Effective Date”) between INSERT NAME OF IPP, a [State of incorporation/organization] [type of entity] (“IPP”) and Hawaiian Electric Company, Inc., Maui Electric Company, Limited, and Hawaii Electric Light Company, Inc., each a Hawaii corporation (collectively, the “Companies”). In consideration of the mutual promises contained in this Agreement, including the provision of Confidential Information (as defined below) by either party to the other hereunder, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Background

The Companies have or intend to issue a Request for Proposals (“RFP”) for Community-Based renewable energy projects. The IPP has or intends to submit one or more proposals for a nominal [ ] MW [TYPE OF FACILITY] facility located at [LOCATION] on the island of [ISLAND], State of Hawai‘i (“Proposal”).

In connection with the IPP’s proposed project, the Companies may conduct an interconnection requirements study (“IRS”) to establish the requirements for interconnection of the IPP’s proposed project to the Companies’ electric grid. The RFP process may also result in the award of a potential power purchase agreement, the terms of which must be agreed upon by the parties (“PPA Negotiations”). For purposes of this Agreement the term “Project” refers to the RFP, Proposal, potential IRS and PPA Negotiations.

In order to evaluate the Project, either party may from time to time provide to the other party certain Confidential Information. The parties are willing to provide such Confidential Information to each other upon the terms and conditions of this Agreement.

2. Confidential Information

Except as set forth in Section 3 (Exclusions from Confidential Information) below, “Confidential Information” means all non-public, confidential or proprietary information disclosed by either party (the “Provider”) to the other party (a “Recipient”) its affiliates and its and their directors, officers, employees, agents, advisors, consultants (including, without limitation, financial advisors, counsel and accountants) and controlling entities or individuals (collectively, “Representatives”) whether disclosed orally or disclosed or accessed in written, electronic or other form of media, and whether or not marked or otherwise identified as “confidential,” including, without limitation:

(a) all information concerning the Provider and its affiliates’, and their customers’, suppliers’ and other third parties’ past, present and future business affairs including, without limitation, finances, customer information, supplier information, products, services, designs,



processes, organizational structure and internal practices, forecasts, sales and other financial results, records and budgets, business, marketing, development, sales and other commercial information and strategies;

(b) information concerning the Companies' generation, transmission, and distribution systems (e.g., engineering and operating characteristics of the Companies' transmission lines and substations) ("Critical Infrastructure Confidential Information");

(c) the Provider's unpatented inventions (whether or not they are patentable), ideas, methods and discoveries, techniques, formulations, development plans, trade secrets, know-how, unpublished patent applications and other confidential intellectual property;

(d) all designs, specifications, documentation, components, source code, object code, images, icons, audiovisual components and objects, schematics, drawings, protocols, processes, and other visual depictions, in whole or in part, of any of the foregoing;

(e) any third-party confidential information included with, or incorporated in, any information provided by the Provider to the Recipient or its Representatives; and

(f) all notes, analyses, compilations, reports, forecasts, studies, samples, data, statistics, summaries, interpretations and other materials ("Notes") prepared by or for the Recipient or its Representatives that contain, are based on, or otherwise reflect or are derived from, in whole or in part, any of the foregoing.

### 3. Exclusions from Confidential Information

Except as required by applicable federal, state, or local law or regulation, the term "Confidential Information" as used in this Agreement shall not include information that:

(a) at the time of disclosure is, or thereafter becomes, generally available to and known by the public other than as a result of, directly or indirectly, any violation of this Agreement by the Recipient or any of its Representatives; provided, however, that Confidential Information shall not be disqualified as Confidential Information (i) merely because it is embraced by more general or generic information which is in the public domain or available from a third party, or (ii) if it can only be reconstructed from information taken from multiple sources, none of which individually shows the whole combination (with matching degrees of specificity);

(b) at the time of disclosure is, or thereafter becomes, available to the Recipient on a non-confidential basis from a third-party source, provided that such third party is not and was not prohibited from disclosing such Confidential Information to the Recipient by a contractual or other obligation to the Provider;

(c) was known by or in the possession of the Recipient or its Representatives, as established by documentary evidence, prior to being disclosed by or on behalf of the Provider pursuant to this Agreement;

(d) was or is independently developed by the Recipient, as established by documentary evidence, without reference to or use of, in whole or in part, any of the Provider's Confidential Information; or

(e) was or is learned of established entirely from public sources, as established by documentary evidence, without reference to or use of, in whole or in part, any of the Provider's Confidential Information.

The parties acknowledge and understand that the confidentiality obligations of this Agreement apply only to the Confidential Information shared in connection with the Project. The parties may share other information with each other under other agreements, provisions or understandings which are not related to the Project. Such information sharing shall be subject to the provisions of the agreements and confidentiality provisions associated thereto and this Agreement shall not be construed to infringe upon or apply to such agreements or provisions.

#### 4. Non-Disclosure of Confidential Information

Unless otherwise agreed to in writing by the Provider, the Recipient agrees as follows:

(a) except as required by law, not to disclose or reveal any Confidential Information to any person or entity other than its Representatives who are actively and directly participating in the evaluation of the Project or who otherwise need to know the Confidential Information for the purpose of evaluating the Project.

(b) not to use Confidential Information for any purpose other than in connection with its evaluation of the Project or the consummation of the Project.

(c) except as required by law, not to disclose to any person or entity (other than those of its Representatives who are actively and directly participating in the evaluation of the Project or who otherwise need to know for the purpose of evaluating the Project) any information about the Project, or the terms or conditions or any other facts relating thereto, including, without limitation, the fact that discussions are taking place with respect thereto or the status thereof, or the fact that Proprietary Information has been made available to the Recipient or its Representatives.

(d) to use diligent efforts to safeguard and protect the confidentiality of the Confidential Information, including, at minimum, implementing the same commercial measures that the Recipient uses to protect its own confidential information. Before disclosing the Confidential Information to any Representative, the Recipient will inform such Representative of the confidential nature of such information, their duty to treat the Confidential Information in accordance with this Agreement and shall ensure that such Representative is legally bound by the terms and conditions of this Agreement or subject to confidentiality duties or obligations to the Recipient that are no less restrictive than the terms and conditions of this Agreement.

(e) Any provision herein to the contrary notwithstanding, the Companies may disclose Confidential Information to the State of Hawai'i Public Utilities Commission ("Commission") and/or the State of Hawai'i Division of Consumer Advocacy (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 entered by the Commission.

5. Required Disclosure and Notice

If the parties or any of their Representatives become legally compelled (by deposition, interrogatory, request for documents, subpoena, civil investigative demand, court order, or similar process) to disclose any of the Confidential Information, the compelled party shall undertake reasonable efforts to provide the other party with notice within three (3) business days of such requirement or advice prior to disclosure so that the other party may (a) seek a protective order or other appropriate remedy, (b) consult with the other party with respect to the compelled party taking steps to resist or narrow the scope of such requirement or advice, and/or (c) waive compliance, in whole or in part, with the terms of this Agreement. If such protective order or other remedy is not obtained, or the other party waives compliance with the provisions hereof, the compelled party agrees to furnish only that portion of the Confidential Information which it is legally required to so furnish and, at the request of the other party, to use reasonable efforts to obtain assurance that confidential treatment will be accorded such Confidential Information, it being understood that such reasonable efforts shall be at the cost and expense of the party whose Confidential Information has been sought. In any event, neither the IPP nor any of its Representatives will oppose action by the Companies to obtain an appropriate protective order or other reliable assurance that confidential treatment will be accorded the Confidential Information.

6. Return or Destruction of Confidential Information

At any time during or after the term of this Agreement, at the Provider's written request, and in any event, upon the termination of the Agreement, the Recipient shall certify within ten (10) business days that it has destroyed all Confidential Information by using industry standard data elimination methods used to prevent unauthorized disclosure of information, and for Personally Identifiable Information (defined as personally identifiable information of individuals, and any information that may be used to track, locate or identify such individuals (or which is otherwise protected by privacy laws), including any automatically generated information (such as IP addresses and other customer identifiers) that identifies or is unique or traceable to a particular individual or computer or other electronic device capable of accessing the internet, including without limitation, name, address, telephone number, social security number, credit card account numbers, email addresses, user identification numbers or names and passwords, which is disclosed to the Recipient or its subcontractors in connection with this Agreement by the Provider, which products and services are used or intended to be used for personal, family or household purposes), such methods shall be consistent with Hawaii Revised Statutes Chapter 487-R; provided, however, that with respect to Confidential information in tangible form, the Recipient may return such Confidential Information to the Provider within ten (10) business days in lieu of destruction. The Recipient's sole obligation with respect to the disposition of any

Notes shall be to redact or otherwise expunge all such Confidential Information from such Notes and certify to the Provider that it has so redacted or expunged the Confidential Information. Notwithstanding the foregoing, with respect to any Confidential Information stored in Recipient's disaster recovery backups or other electronic archives, Recipient is not required to destroy such Confidential Information if it would impose a material cost or burden; provided, however, such Confidential Information shall be destroyed when such archives are destroyed in accordance with Recipient's records retention policies.

7. Authority

Each party represents and warrants that it has full power and authority to enter into and perform this Agreement, and 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.

8. No Representations or Warranties

Neither the Provider nor any of its Representatives make any express or implied representation or warranty as to the accuracy or completeness of any Confidential Information disclosed to the Recipient hereunder, and the Recipient agrees that it is not entitled to rely on the accuracy or completeness of any Confidential Information. Neither the Provider nor any of its Representatives shall be liable to the Recipient or any of its Representatives relating to or arising from the use of any Confidential Information or for any errors therein or omissions therefrom. Notwithstanding the foregoing, the Recipient shall be entitled to rely solely on such representations and warranties regarding Confidential Information as may be made to it in any final agreement relating to the Project, subject to the terms and conditions of such agreement.

9. No Other Obligations

Neither this Agreement nor the disclosure of the Confidential Information shall result in any obligation on the part of either party to enter into any further agreement with the other with respect to the subject matter hereof or otherwise, to purchase any products or services from the other, or to require either party to disclose any further information to the other. Nothing in this Agreement shall be deemed to constitute either party hereto as partner, agent or representative of the other party or to create any fiduciary relationship between the parties. Either party may offer products or services which are competitive with products or services now offered or which may be offered by the other. Subject to the express terms and conditions of this Agreement, neither this Agreement nor discussions and/or communications between the parties will impair the right of either party to develop, make, use, procure, and/or market any products or services, alone or with others, now or in the future, including those which may be competitive with those offered by the other. Whether or not the Project is consummated, neither party shall issue a press release or release any information to the general public concerning such transaction or the absence thereof without the express prior written consent of the other, and the parties agree that neither party will use the other's name whether by including reference to the other in any press release, list of customers advertising that its services are used by Companies or otherwise, without written authorization by the respective party's authorized representative.

10. Property Rights in Confidential Information

All Confidential Information shall remain the sole and exclusive property of the Provider and nothing in this Agreement, or any course of conduct between the parties shall be deemed to grant to the Recipient any license or rights in or to the Confidential Information of the Provider, or any part thereof. Unless otherwise expressly agreed in a separate license agreement, the disclosure of Confidential Information to the Recipient will not be deemed to constitute a grant, by implication or otherwise, of a right or license to the Confidential Information or to any patents or patent applications of the Provider.

11. Publicly Traded

The IPP acknowledges that the Companies' holding company is a publicly traded company, and that Confidential Information of the Companies may constitute material, non-public information with respect to the Companies. The IPP understands, and will advise its Representatives to whom Confidential Information of the Companies is disclosed, of the restrictions imposed by the United States securities laws on (a) the purchase or sale of securities by any person in possession of material, non-public information with respect to such securities, and (b) the communication of material, non-public information with respect to securities to a person who may purchase or sell such securities in reliance upon such information.

12. Remedies

(a) Each party acknowledges and agrees that any breach or threatened breach of this Agreement may give rise to an irreparable injury to the Provider or its Representatives, for which compensation in damages is likely to be an inadequate remedy. Accordingly, in the event of any breach or threatened breach of this Agreement by the Recipient or its Representatives, the Provider shall be entitled to seek equitable relief, including in the form of injunctions and orders for specific performance, in addition to all other remedies available at law or in equity.

(b) In the event that the Recipient learns of dissemination, disclosure, or use of the Confidential Information which is not permitted by this Agreement, the Recipient shall notify the Provider immediately in writing and shall use reasonable efforts to assist the Provider in minimizing damages from such disclosure. Such remedy shall be in addition to and not in lieu of any other rights or remedies available to the Provider at law or in equity.

13. Cumulative Remedies

No rights or remedy herein conferred upon or reserved to either party hereunder is 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, whether now or hereafter existing.

14. Notice

(a) By delivering written notice, either party may notify the other that it no longer wishes to receive or provide Confidential Information. Any further information received or provided by the party who received such notice following receipt of such notice, shall not be subject to the protection of this Agreement.

(b) All notices, consents and waivers under this Agreement shall be in writing and will be deemed to have been duly given when (i) delivered by hand, (ii) sent by electronic mail (“E-mail”) (provided receipt thereof is confirmed via E-mail or in writing by recipient), (iii) sent by certified mail, return receipt requested, or (iv) when received by the addressee, if sent by a nationally recognized overnight delivery service (receipt requested), in each case to the appropriate addresses and E-mail Addresses set forth below (or to such other addresses and E-mail addresses as a party may designate by notice to the other party):

**(1) Companies:**

**By Mail:**

Hawaiian Electric Company, Inc.  
P.O. Box 2750  
Honolulu, Hawaii 96840  
Attn: Manager of Procurement, Renewable Acquisition Division

**Delivered By Hand or Overnight Delivery:**

Hawaiian Electric Company, Inc.  
Central Pacific Plaza  
220 South King St, 21<sup>st</sup> Floor  
Honolulu, HI 96813  
Attn: Manager of Procurement, Renewable Acquisition Division

**By E-mail:**

Hawaiian Electric Company, Inc.  
Attn: Manager of Procurement, Renewable Acquisition Division  
Email: [renewableacquisition@hawaiianelectric.com](mailto:renewableacquisition@hawaiianelectric.com)

With a copy to:

**By Mail:**

Hawaiian Electric Company, Inc.  
Legal Department  
P.O. Box 2750  
Honolulu, Hawaii 96840

Delivered By Hand or Overnight Delivery:

Hawaiian Electric Company, Inc.  
American Savings Bank Tower  
1001 Bishop Street, Suite 1100  
Honolulu, Hawaii 96813  
Attn: Legal Department

By E-mail:

Hawaiian Electric Company, Inc.  
Legal Department  
Email: [legalnotices@hawaiianelectric.com](mailto:legalnotices@hawaiianelectric.com)

**(2) [IPP]**

By Mail:

[INSERT ADDRESS/CONTACT]

Delivered By Hand or Overnight Delivery:

[INSERT ADDRESS/CONTACT]

By E-mail:

[INSERT ADDRESS/CONTACT]

With a copy to:

By Mail:

[INSERT ADDRESS/CONTACT]

Delivered By Hand or Overnight Delivery:

[INSERT ADDRESS/CONTACT]

By E-mail:

[INSERT ADDRESS/CONTACT]

15. No Waiver

Except as otherwise provided in this Agreement, no delay or forbearance of a party in the exercise of any remedy or right will constitute a waiver thereof, and the exercise or partial exercise of a remedy or right shall not preclude further exercise of the same or any other remedy or right.

16. Governing Law

This Agreement is made under, governed by, construed and enforced in accordance with, the laws of the State of Hawaii. Any action brought with respect to the matters contained in this Agreement 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.

17. 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, then the prevailing party in such proceeding shall be awarded its reasonable attorneys' fees and costs.

18. Assignment Prohibited

This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors, legal representatives, and permitted assigns. Neither party shall have the right to assign any of its rights, duties or obligations under this Agreement, by operation or law or otherwise, without the prior written consent of the other party. Any purported assignment in violation of this section shall be null and void.

19. 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 of this Agreement. 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.

20. Entire Agreement

This Agreement constitutes the entire agreement between the parties relating to the subject matter hereof, superseding all prior and contemporaneous agreements, understandings or undertakings, oral or written with respect to the subject matter. Any amendment or modification of this Agreement or any part hereof shall not be valid unless in writing and signed by the Parties. Any waiver hereunder shall not be valid unless in writing and signed via by the party against whom waiver is asserted.

21. Term and Survival

This Agreement shall remain in full force and effect for a period of two (2) years from the Effective Date. All confidentiality obligations within this Agreement shall survive following expiration or termination of this Agreement.

22. Severability



If any term or provision of this Agreement, or the application thereof to any person, entity or circumstances is to any extent invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to persons, entities or circumstances other than those as to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law, and the parties will take all commercially reasonable steps, including modification of the Agreement, to preserve the economic “benefit of the bargain” to both parties notwithstanding any such aforesaid invalidity or unenforceability.

23. 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 any party by reason of the extent to which any party or its professional advisors participated in the preparation of this Agreement.

24. Counterparts and Electronic Signatures

This Agreement 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 notwithstanding that all of the parties are not signatories to the same counterparts. For all purposes, duplicate unexecuted and unacknowledged pages of the counterparts may be discarded and the remaining pages assembled as one document. The parties agree that this Agreement and any subsequent writings, including amendments, may be executed and delivered by exchange of executed copies via E-mail or other acceptable electronic means, and in electronic formats such as Adobe PDF or other formats mutually agreeable the parties which preserve the final terms of this Agreement or such writing. A party’s signature transmitted by E-mail or other acceptable electronic means shall be considered an “original” signature which is binding and effective for all purposes of this Agreement.

*[Signature Page Follows]*

IN WITNESS WHEREOF, each party has caused this Agreement to be executed on its behalf by a duly authorized representative, all as of the Effective Date.

HAWAIIAN ELECTRIC COMPANY, INC.

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

MAUI ELECTRIC COMPANY, LIMITED

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

HAWAII ELECTRIC LIGHT COMPANY, INC,

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

“Companies”

[Insert Name of IPP]

\_\_\_\_\_

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

“IPP”

**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**  
**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix F – Description of Available Sites*



**Maui  
Electric**

**MAUI ELECTRIC  
COMMUNITY-BASED RENEWABLE ENERGY RFP  
DESCRIPTION OF AVAILABLE SITES**

**Land Request for Information**

On June 15, 2020, the Hawaiian Electric Companies issued a Land Request for Information (“Land RFI”) seeking information on available land and rooftop space for potentially siting future utility scale renewable energy projects on the islands of O‘ahu, Maui, Moloka‘i, and Hawai‘i. This effort is a completely new solicitation from the previous Land RFI that was issued on December 12, 2016 in advance of the Company’s Stage 1 and Stage 2 RFPs. The information that has been gathered through this RFI is available upon request by following the instructions at <http://hawaiielectric.com/landrfi>.

This information is being provided for proposers’ consideration only. Project proposals submitted in response to this RFP are not required to be sited at a location identified through the Land RFI. Maui Electric also makes no representations as to the suitability of the listed sites for renewable energy production with regard to resource quality, interconnection constraints, zoning and permitting issues, community support, or other issues. Proposers should perform their own evaluation of these factors in determining whether a site is suitable for renewable energy project development. After further evaluation, proposers that are interested in any of the identified sites are invited to engage in further discussions directly with landowners to negotiate any required rights to use the property.

**Additional Information**

Additionally, the following links to a few publicly available resources relating to renewable energy project siting and development from the Hawaii State Energy Office are being provided for use at proposers’ sole discretion:

**Project Permitting Assistance and Resources**

<http://energy.hawaii.gov/developer-investor/project-permitting-assistance-and-resources>

Provides numerous resources to support more informed and appropriate project siting and permitting, including the Permit Guide, Renewable Energy Permitting Consultants, DOH, ePermitting Portal, Renewable EnerGIS, Permitting Wizard, and the Renewable Energy Projects Directory.

### **Hawaii Clean Energy Programmatic Environmental Impact Statement**

<http://energy.hawaii.gov/testbeds-initiatives/hawaii-clean-energy-peis/peis-overview>

The Hawaii Clean Energy Programmatic Environmental Impact Statement (PEIS) analyzes, at a programmatic level, the potential environmental impacts of clean energy activities and technologies in the following clean energy categories: (1) Energy Efficiency, (2) Distributed Renewables, (3) Utility-Scale Renewables, (4) Alternative Transportation Fuels and Modes, and (5) Electrical Transmission and Distribution.

### **Hawaii Statewide GIS Program**

<http://planning.hawaii.gov/gis/>

Provides Hawaii GIS data and other resources to support site identification and analysis.

### **Aloha Aina: A Framework for Biocultural Resource Management in Hawai'i's Anthropogenic Ecosystems**

[https://nmshawaiihumpbackwhale.blob.core.windows.net/hawaiihumpbackwhale-prod/media/archive/council/pdfs/aloha\\_aina.pdf](https://nmshawaiihumpbackwhale.blob.core.windows.net/hawaiihumpbackwhale-prod/media/archive/council/pdfs/aloha_aina.pdf)

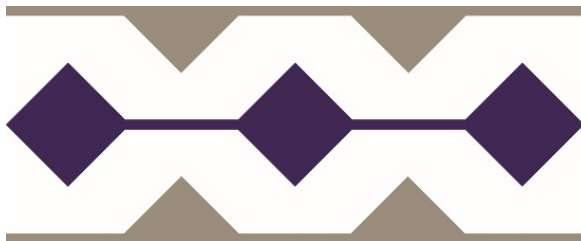
A framework developed by the Hawaiian Islands Humpback Whale National Marine Sanctuary Advisory Council to integrate Native Hawaiian and Western scientific management approaches toward ecosystem management. While intended for the Sanctuary, this document provides useful insight into successful collaboration in Hawaii.

**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**  
**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix G – Self Build Option and  
Self Build Option Team Certification Form*



**Maui  
Electric**

## Appendix G - Self Build Option

### Overview

To the extent that there are Self Build Option (“SBO”) Proposals to the RFP, the Company will endeavor to evaluate these SBO Proposals on a fair basis compared to third party Proposals. As described in Section 1.9.1 of the RFP, “[t]he Competitive Bidding Framework allows the Company the option to offer a Proposal(s) in response to this RFP (“Self-Build Option” or “SBO”). Accordingly, the Company must follow certain requirements and procedures designed to safeguard against and address concerns associated with: (1) preferential treatment of the SBO or members, agents or consultants of the Company formulating the SBO (the “Self-Build Team”); and (2) preferential access to proprietary information of the Self-Build Team.” Any Proposal from the Self-Build Team will be required to comply with the provisions in the Framework for Competitive Bidding (“Framework”) as well as this RFP.

In addition to its Proposal, the Self-Build Team will be required to submit Attachment 1 to this Appendix G, Self-Build Option Team Certification Form, acknowledging it has followed the rules and requirements of the RFP to the best of its ability and has not engaged in any collusive actions or received any preferential treatment or information providing an impermissible competitive advantage to the Self-Build Team over other proposers responding to this RFP, as well as adherence to PPA or Standard Form Contract terms and milestones required of all proposers and the SBO’s proposed cost protection measures.

Pursuant to the Framework and as set forth in the RFP Schedule, the Company will require that the Proposal for the SBO(s) be submitted electronically through the Electronic Procurement Platform a minimum of one (1) Day before other Proposals are due.

Except where specifically noted, a SBO Proposal must adhere to the same price and non-price Proposal requirements as required of all Proposers.

As described in Section 3.8.4 of the RFP, if selected, a Self-Build Proposer will not be required to enter into a PPA or Standard Form Contract with the Company. However, the SBO will be held to the same performance metrics and milestones set forth in the RDG PPA or Standard Form Contract to the same extent as all Proposers, as attested to in the SBO’s Appendix G Attachment 1 Self Build Option Certification submittal. If liquidated damages are assessed, they will be paid from shareholder funds and returned to customers through the Purchased Power Adjustment Clause (“PPAC”),

In lieu of price components, the SBO will need to provide their total project capital costs, any associated annual O&M costs, as well as annual revenue requirements by year. (See Appendix B Section 2.0.) The SBO shall submit revenue requirement worksheets with their Proposal that support their annual revenue requirements estimates. A starter revenue requirements template file can be requested by the Self-Build Team via email to the RFP Email Address or through the PowerAdvocate Messaging function once the RFP event opens. The revenue requirements

worksheets submitted will be customized to reflect the details of the Project's Proposal. All assumptions used will be reflected in an assumptions input tab.

### **SBO Total Project Capital Cost**

The following is a high-level breakdown followed by a narrative explanation of the total capital cost estimate for a potential SBO Proposal. The total project capital cost (and annual O&M costs) will be used to calculate the Revenue Requirement, which will then be used to calculate a LB for Proposal comparison purposes. The categories of costs include:

- Facility
  - EPC Contract
  - Allowance for Change Orders
  - Equipment
  - Owner's Cost
- Outside Services
- Interconnection
- Overheads
- AFUDC

These costs will be identified in Section 2.3.2.2 of the SBO Proposal. (See Appendix B Section 2.3.2.2.)

- Facility (including any generation and storage components) - This line item, to the extent applicable, should include costs such as:

#### Engineering, Procurement, and Construction ("EPC") Contract

The total cost estimate of the facility is the projected EPC contract cost including the design of the facility up to the high-voltage terminals of the step-up transformers, procurement of all the equipment, and services necessary to build the facility and construction and commissioning of the facility.

#### Allowance for Change Orders

This allocation accounts for items such as additional requirements resulting from unforeseen conditions, unexpected permitting requirements, force majeure events, unanticipated interferences, different interpretations of design requirements, material unavailability, and longer than normal delivery times.

#### Equipment

This cost includes the generator and the facility equipment that support the operation of the generator and the distribution of electrical power around the station, as applicable. Engineering and testing services required to ensure that the equipment is properly functioning at the site, training and documentation necessary to operate and maintain the equipment, and performance guarantees may also be included here.



#### Owner's Cost

Owner's costs for the facility are all the costs necessary for the design, permitting, procurement, construction, and commissioning of the facility and for the preparation of the Proposal that are not included in the major contracts (i.e. EPC). The Companies' Labor includes Project Management, Station Operator training and commissioning, Environmental, Safety, Legal, Corporate Communications, Community and Government Relations, Engineering, and Regulatory Affairs. Company Labor for the preparation of the Proposal is also included here. For purposes of recovery, only the incremental costs of Labor will be subject to separate recovery.

- Outside Services - This line item, to the extent applicable, should include costs such as:
  - Construction Management to oversee the EPC contractor
  - Legal for the preparation of the Environmental Impact Statement and PUC process
  - Engineering for development and evaluation of the project technical specifications, Interconnection Requirements Study (IRS), and emissions testing
  - Environmental to conduct the Environmental Impact Statement (EIS) and Air Permit consulting
  - General Services such as surveys, land appraisals, Environmental Condition Reports, public relations, office trailer rental, archeological services, landscaping, miscellaneous permits, builder's risk insurance, switchgear testing, hazard analysis, painting, monitoring services, and moving costs.
  - Material costs including spare parts, furnishings, IT equipment, appliances, generator system initial fills (fuels, oils, water), and telecommunications equipment for the station.
  - Travel costs required to inspect other similar facilities, observe final acceptance testing of critical equipment, and station operators' factory training
- Interconnection – This line item covers all interconnection costs that a similarly situated IPP would be responsible for as described in RFP Section 2.3.5, and to the extent applicable, should include costs such as:

#### Distribution Line

The cost estimate includes the design, procurement, and construction of any new distribution infrastructure needed to interconnect with the designated substation.

#### Switchyard

Work at the switchyard will include design, procurement, and construction of the switchyard and the interfaces between the high voltage terminals of the generator step-up transformers and the circuit to which it will be connected. Site preparation

of the switchyard and the design, procurement, and installation of the step-up transformers located in the switchyard, are typically included in the EPC contract.

#### Substation

Work at the designated substation that will include the design, procurement, and construction of the interfaces between the new distribution line and the substation buswork to which it will be connected.

#### Telecom

Accounts for direct labor, materials, and outside services to install telecommunication requirements for the project.

#### Project Management

Cost estimate of the project management design, procurement, contracting, and scheduling efforts for the interconnection only. Project management costs for the facility are included in the Owner's Cost estimate above.

- Overhead Costs

Overhead costs for the proposed facility will be estimated by the Company's budgeting software (UI Planner) and represent an allocation for those Company costs that are not attributable to any particular project or operation, but are essential nonetheless. Overheads are comprised of non-productive wages (such as holiday, sick, and vacation pay), employee benefits, payroll taxes, corporate administrative costs, and clearing costs.

- Allowance for Funds Used During Construction ("AFUDC")

The AFUDC will be calculated using the Company's budgeting software (UI Planner) and represents the cost of capital funding for the Project. The Company strives to minimize the cost of the AFUDC by ensuring that Project elements that are used or useful are placed in service as soon as possible, as well as minimizing the amount of time that AFUDC can accumulate, by minimizing the amount of time between expenditures on Project elements and their placement in service.

The SBO Proposal will include a Revenue Requirement for each year, which is calculated from the total project capital cost to determine the revenues needed to recover the cost of the project. The value of the Revenue Requirement Calculation for the Total SBO Project Capital Cost will be included in the Levelized Benefit calculation described below.

### **Annual O&M**

The cost for ongoing O&M (fixed and variable) will be a component of the Revenue Requirement. All O&M should be included in this category, unless captured elsewhere in the Revenue Requirement Calculation, including but not limited to annual O&M expense to maintain facility; property taxes (if applicable), and insurance. As described in RFP Appendix G, a SBO Proposal

will be required to cap its O&M costs at the amount included in the Proposal. Only actual costs will be recovered if such actual costs are lower than the maximum amounts in the Proposal.

### **Annual Revenue Requirement**

The SBO Proposal will include a Revenue Requirement for each year, which is calculated from the total project capital cost to determine the revenues needed to recover the cost of the project. The value of the Revenue Requirement Calculation for the Total SBO Project Capital Cost will be included in the Levelized Benefit calculation.

The following is a narrative description of the proposed revenue requirement calculation and significant assumptions that the SBO Proposal should account for. The objective of a revenue requirement analysis is to illustrate the annual revenue requirements (ARR) for a utility SBO Proposal.

Revenue Requirement is defined as a calculated value which represents the estimated revenues needed from ratepayers which would allow the Company to recover its capital investment and expenses, honor its debt obligations, pay its revenue and income tax liabilities, and pay its preferred shareholders while providing a fair return to its common shareholders for their investment. Specific factors or assumptions related to that particular project will be included in the analysis.

The purpose of a revenue requirement calculation is to determine the annual and total revenue requirements of a capital investment and annual O&M expense needed from customers. The ratemaking formula for revenue requirements is shown below.

$$RR = O + T + D + r(RB)$$

Where:      RR = Revenue Requirements  
              O = Operating and Maintenance Expense  
              T = Tax Expense (Income and Revenue)  
              D = Depreciation Expense  
              r = Rate of Return on Rate Base  
              RB = Rate Base

The Company, in conjunction with the Independent Observer, may also conduct a risk assessment of the SBO Proposal to ensure an appropriate level of customer cost protection measures are included in such proposal.

**APPENDIX G ATTACHMENT 1 - SELF BUILD OPTION TEAM CERTIFICATION**

**Name of SBO Team Contact:** \_\_\_\_\_

**Unique Name of Facility:** \_\_\_\_\_

This Certification of the Self Build Option (SBO) Team's SBO Proposal for Hawaiian Electric Company, Inc.'s ("Company, Maui Electric Company, Ltd, and Hawai'i Electric Light Company, Inc.'s (the "Hawaiian Electric Companies") Request for Proposals for Community-Based Renewable Energy Projects (RFP) is made as of the date stated below.

**A. COMPLIANCE WITH THE RFP AND CODE OF CONDUCT**

The SBO Team certifies and acknowledges that it will/has:

1. Adhered to the terms of the RFP applicable to the SBO Team, including but not limited to: Section 1.7.1 (proposal submittal requirements) , Section 1.7.3 (certification of non-collusion), Section 1.9 (Procedures for the Self-Build or Affiliate Proposals), and Section 3.4.4 (authorized signatory);
2. Adhered to the technical requirements of the RFP, excluding however those requirements inapplicable to the SBO Team such as execution of the Model RDG PPA or Standard Form Contract, pricing formula requirements for independent power producer proposals, submission of a Proposal Fee, dispute resolution, credit requirements, selection of a priority list, and submission of a best and final offer;
3. Complied with the Company's Code of Conduct Procedures Manual, attached as Appendix C to this RFP, with particular attention to the Communications Protocols described in Section C therein with respect to communication with the Company RFP Team.

**B. INDEPENDENT INVESTIGATION**

The SBO Team further certifies and acknowledges that it will/has:

1. Submitted the SBO Proposal based on its own investigations, examinations, and determinations, including assessments of any risks that could have an effect on its obligations under the SBO Proposal.
2. Carefully examined the Company's RFP documents and its appendices and has a clear and comprehensive knowledge of what is required of a Proposer under the RFP, and correspondingly, what is required of the SBO Team.

3. Examined and understands the technical requirements, schedule, and evaluation process as it is laid out in the RFP.

**C. COST PROPOSAL ACKNOWLEDGEMENTS**

The Self Build Team acknowledges and agrees that:

1. Recovery for Project capital costs and O&M costs will be capped at the amount included in the SBO Team's SBO Proposal.
2. Only actual capital costs and O&M costs will be recovered even if such actual costs are lower than the SBO Team's proposed maximum amounts.
3. Costs of developing the proposal must be included in the SBO for evaluation purposes only. Only the incremental costs of developing the SBO Team's proposal will be charged to the project and passed through to customers. Incremental costs for the SBO Proposal not serving as the Parallel Plan and which are not selected to the Final Award Group will not be recoverable from the Companies' customers.

**D. ADHERENCE TO PPA REQUIREMENTS AND MILESTONES**

The Self Build Team acknowledges and agrees that:

1. The SBO Proposal will be consistent with the scope of work and responsibilities of the "Seller" under the terms of the applicable Model PPA or Standard Form Contract excluding inapplicable terms related to commercial and legal interactions between the Seller and the Company.
2. The SBO Facility will be designed and constructed to:
  - a. Achieve the Performance Standards identified in Section 3 - Performance Standards, in Attachment B of the applicable Model PPA or Standard Form Contract as modified by the IRS (subject to reasonable adjustment agreeable to the Company consistent with the Company's negotiation of such performance standards that would be completed with an independent power producer under similar circumstances);
  - b. Meet the performance metrics as specified in Article 2 of the applicable Model RDG PPA or Standard Form Contract.
    - b.1. For facilities with a photovoltaic generation component, (i) PV System Equivalent Availability Factor, and (ii) Measured Performance Ratio;
    - b.2. For facilities with paired energy storage, (i) Storage Annual Equipment Availability Factor, (ii) Storage Annual Equivalent Forced Outage Factor, and (iii) Storage Capacity Ratio;
  - c. Pass the Acceptance Test specified in Attachment N – Acceptance Test General Criteria of the applicable Model RDG PPA or Standard Form Contract.

- d. Pass the Control System Performance Test specified in Attachment O – Control System Acceptance Test Criteria of the applicable Model RDG PPA or Standard Form Contract;
- e. If applicable, pass the On-line Performance Test specified in Attachment W – BESS Capacity Test of the applicable Model RDG PPA or the Standard Form Contract;
- f. If applicable, achieve a Demonstrated Capacity equal to or greater than that indicated in the SBO Proposal as measured pursuant to Attachment W – BESS Capacity Test of the applicable Model RDG PPA or Standard Form Contract;
- g. Meet the project milestones identified in the SBO Proposal no later than the dates specified therein, which shall be consistent with the guaranteed project milestones required in Attachment K – Guaranteed Project Milestones of the applicable Model RDG PPA or Standard Form Contract (subject to reasonable adjustment agreeable to the Company consistent with the Company’s negotiation of such milestones that would be completed with an independent power producer under similar circumstances). Notice of completion of milestones and any delay will be provided to PUC and Consumer Advocate.
- h. Achieve the reporting milestones identified in the SBO Proposal no later than the dates specified therein, which shall be consistent with the reporting milestones required in Attachment L – Reporting Milestones of the applicable Model RDG PPA or Standard Form Contract (subject to reasonable adjustment agreeable to the Company consistent with the Company’s negotiation of such milestones that would be completed with an independent power producer under similar circumstances). Notice of completion of milestones and any delay will be provided to PUC and Consumer Advocate.
- i. Will be subject to the applicable liquidated damages for the applicable Model RDG PPA or Standard Form Contract provisions above. These liquidated damages would be paid from shareholder funds and would be passed through to customers through the Companies’ Power Purchase Adjustment Clause. Notice of any liquidated damages assessed and amounts of such liquidated damages will be provided to PUC and Consumer Advocate.
- j. Will reconfirm requirements in GO7 application and any resulting approval order for such application.
- k. Will provide annual report to PUC and Consumer Advocate on performance metrics.

**E. DECLARATION AND SIGNATURE**

- 1. The individual(s) that has (have) signed this Self Build Option Team Certification is (are) duly authorized by the SBO Team to execute such on behalf of the SBO Team; and
- 2. All statements, specifications, data, confirmations, and other information set out in this Self Build Option Team Certification are complete and accurate in all material respects.

IN WITNESS WHEREOF, the SBO TEAM hereby makes the certifications, acknowledgements, and agreements stated herein as of the date stated under the signature of its authorized representative:

Dated at \_\_\_\_\_, \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

\_\_\_\_\_  
Signature of SBO Team Representative

\_\_\_\_\_  
Name of SBO Team Representative (please print)

\_\_\_\_\_  
Title of SBO Team Representative (please print)

**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**  
**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix H – Interconnection Facilities and  
Cost Information*



**Maui  
Electric**



Maui Electric Company  
APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

Tariff Rule No. 19, approved by the PUC, establishes provisions for Interconnection and Transmission Upgrades (see [Appendix I](#)). The tariff provisions are intended to simplify the rules regarding who pays for, installs, owns, and operates interconnection facilities in the context of competitive bidding. Tariff Rule No. 19 will be utilized as the basis for addressing interconnection and transmission upgrades for any projects developed through this RFP. Bidders will comply with the terms and conditions as specified therein.

To assist Bidders in assessing the impacts of location on potential projects, the per unit cost figures provided in the tables below are to be used to provide an approximate estimated cost for interconnecting, including communications and distribution line cost to the existing Moloka'i Electric System. The per-unit cost figures below should not be used to create a detailed project estimate. A detailed project estimate typically requires a certain level of engineering to assess project site conditions and to factor in other parameters specific to the project.

The Bidder should identify the components assumed for their project and the quantity assumed for each. Each table below provides notes on the assumptions for each of the unit cost estimates. If a Bidder's project requirements are different than what is assumed in the notes, the Bidder should identify each difference and provide an estimated additional cost or savings resulting from those different requirements.

**2.1 Distribution Line Interconnection Costs**

| Component | Description   | Cost per Mile                                    |
|-----------|---|--|
| 1         | New 12kV Overhead line (accessible 250' spans)                              | \$800,000  |
| 2         | New 12kV Underground line   | \$3,500,000                                      |
| 3         | 12 kV underbuild on existing line (accessible spans, for station service)   | [\$To be updated prior to issuance of final RFP] |
| 4         | 12 kV underbuild on existing line (inaccessible spans, for station service) | [\$To be updated prior to issuance of final RFP] |
| 5         | Padmount service 500 kVA transformer (for station service)                  | [\$To be updated prior to issuance of final RFP] |

Maui Electric Company  
 APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

|   |   |  |
|---|---|--|
| 6 | PME9 and PME3 switches for 1-ph and 3-ph transformers | \$[To be updated prior to issuance of final RFP] |
|---|---|--|

**Notes:**

1. Please refer to Attachment 1 (for Projects greater 250 kW and less than 1 MW) or Attachment 2 (for Projects 1 MW or greater) of this Appendix H for a single line diagram depicting the required interconnection to the Company's system. Conceptual Design is not intended to cover all interconnection requirements. Final interconnection design will be subject to the results of a technical review.
2. New 12kV Overhead line (accessible) consists of 45' height wood poles (39' above / 6' below grade).
3. Component 2 - based on 1000 KCM AL 15kV (600A) cable includes duct bank and MH installation.
4. Note: Exclusions to these rough costs are as follows but not limited to:
  - a. Development of the PUC application/proceedings timeline
  - b. State or County right-of-way permitting and SMA
  - c. Environmental studies cost
  - d. Survey proposed line extension route
  - e. Easement/Land Issues if discovered in the course of final design
  - f. Archaeological survey and monitoring cost/duration (if needed)
  - g. Clearing/grading along power line corridor and access road
  - h. Final design adjustments required to negotiate terrain, physical landmarks, existing utilities and access
  - i. Construction of permanent roadways/truck access
  - j. Helicopter services
  - k. Traffic Control
  - l. Removals (MECO & HTCOCOM as applicable)
  - m. Salvage and depreciation credits
  - n. Street lights
  - o. Delays due to weather and material acquisitions
5. All estimates are provided in 2020 dollars.

Maui Electric Company  
 APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

**2.2 Typical CBRE SLD Interconnection Costs (Projects > 250 kW and less than 1 MW)**

Please refer to Attachment 1 of this Appendix H (for Projects greater 250 kW and less than 1 MW). Conceptual Design is not intended to cover all interconnection requirements. Final interconnection design will be subject to the results of the Detailed Evaluation, Technical Review, or an IRS.

| Component | Description   | Cost   |
|-----------|---|--|
| 1         | All other components in Attachment 1 except for the line extension from the project to the utility distribution circuit (See 2.1) | [\$To be updated prior to issuance of final RFP] |

**Notes:**

1. Costs includes components on the Company side of the demarcation shown in Attachment 1.
2. Costs for line extension from the project to tap the distribution circuit should be estimated using 2.1, above.
3. Company shall own a high-speed power quality device (i.e., Tesla Model No. 4000) near the point of interconnection, which shall be in continuous service and on a rolling window basis monitoring sub-cycle voltages, currents and harmonics, as well as disturbance events and capable of remote interrogation following an event. Company requires 24-hour access to this equipment. Customer to provide the following hard-wired inputs to Company's power quality device:
  - a. Status of Customer's main AC breaker CB-A (MECO# XXXX);
  - b. Line amps (3 phase); and
  - c. Line-to-line voltage (3 phase)
4. Secure and reliable communication is required for the following:
  - a. SCADA to/from Customer's facility;
  - b. Revenue metering for power export and consumption readings;
  - c. Power quality and fault recording and retrieval; and
  - d. Phone circuits as required.
5. Customer to design revenue metering facilities in accordance with the requirements in Chapter 4 of the HECO Electric Service Installation Manual.
6. PTs and CTs for high speed digital fault recorder should be the same quality as the PTs and CTs for the protective relaying.

Maui Electric Company  
APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

**2.3 Typical CBRE SLD Interconnection Costs (Projects 1 MW or greater)**

Please refer to Attachment 2 of this Appendix H (for Projects 1 MW or greater). Conceptual Design is not intended to cover all interconnection requirements. Final interconnection design will be subject to the results of the Detailed Evaluation, Technical Review, or an IRS.

| Component | Description   | Cost   |
|-----------|---|--|
| 1         | All other components in Attachment 2 except for the line extension from the project to the utility distribution circuit (See 2.1) | \${To be updated prior to issuance of final RFP] |

**Notes:**

1. Costs includes components on the Company side of the demarcation shown in Attachment 2.
2. Costs for line extension from the project to tap the distribution circuit should be estimated using 2.1, above.
3. Company shall own a high-speed power quality device (i.e., Tesla Model No. 4000) near the point of interconnection, which shall be in continuous service and on a rolling window basis monitoring sub-cycle voltages, currents and harmonics, as well as disturbance events and capable of remote interrogation following an event. Company requires 24-hour access to this equipment. Customer to provide the following hard-wired inputs to Company’s power quality device:
  - a. Status of Customer’s main AC breaker CB-A (MECO# XXXX);
  - b. Line amps (3 phase); and
  - c. line-to-line voltage (3 phase)
4. Secure and reliable communication is required for the following:
  - a. SCADA to/ from Customer’s facility;
  - b. Revenue metering for power export and consumption readings;
  - c. Power quality and fault recording and retrieval; and
  - d. Phone circuits as required.
5. Customer to provide a reliable DC Source for 12-hour backup period; specific voltage to be determined by Company at a later date.
6. Upon receipt of direct transfer trip signal from (MECO substation name) Substation opening of breaker (MECO breaker number), trip and block close Customer’s 12 kV breaker CB-A (MECO# XXXX) via Company-owned SCADA resettable lockout relay.
7. Upon DTT communication channel failure longer than 6 seconds:
  - a. Company to provide signal to Customer to initiate Customer performed ramp down and tripping of Customer’s 12 kV breaker CB-A (MECO# XXXX).

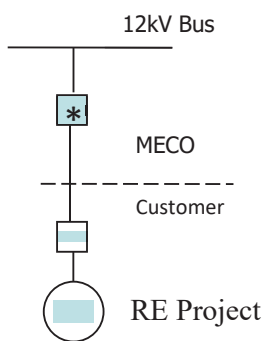
Maui Electric Company  
 APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

- b. Company to initiate trip and block close of Customer’s 12 kV breaker CB-A (MECO# XXXX) via Company-owned SCADA resettable lockout relay after (Project size MW/2 MW per minute ramp down) minutes.
- 8. Customer to design revenue metering facilities in accordance with the requirements in Chapter 4 of the HECO Electric Service Installation Manual.

PTs and CTs for high speed digital fault recorder should be the same quality as the PTs and CTs for the protective relaying.

**2.4 Pala‘au Interconnection Costs**

**2.2.1 Substation 12kV Interconnection Costs FIRM and VARIABLE Projects**



| Component | Description                      | Cost      |
|-----------|----------------------------------|-----------|
| 1         | *1 – 12kV circuit breaker (MECO) | \$600,000 |

**Notes:**

1. Conceptual Design is not intended to cover all interconnection requirements. Final interconnection design will be subject to the results of a technical review.
2. Substation land has been graded per Maui Electric’s civil and structural requirements. No costs for excavation and fill are included in the estimates.
3. Permits are not included in indicated costs.
4. Costs are in 2020 dollars.
5. Estimate does not contain any of the following costs:
  - a. Telecommunication infrastructure
  - b. Relay Coordination Study
  - c. Land Cost
  - d. Environmental Assessment/Environmental Impact Statement

Maui Electric Company

APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

- e. Project Management
  - f. Any required upgrades to existing substations to integrate the new generating facility into the system.
6. Substation relay protection requirements have not been identified, so costs are based upon typical line protection relaying requirements.
  7. Local SCADA equipment are included in cost estimates.
  8. The estimate does not contain any line extension cost.
  9. Projects shall be designed to limit the maximum loss-of-generation contingency to 2.7 MW for Moloka'i. Additionally, in meeting this requirement, the Facility must be segmented in equally sized capacities (MW).

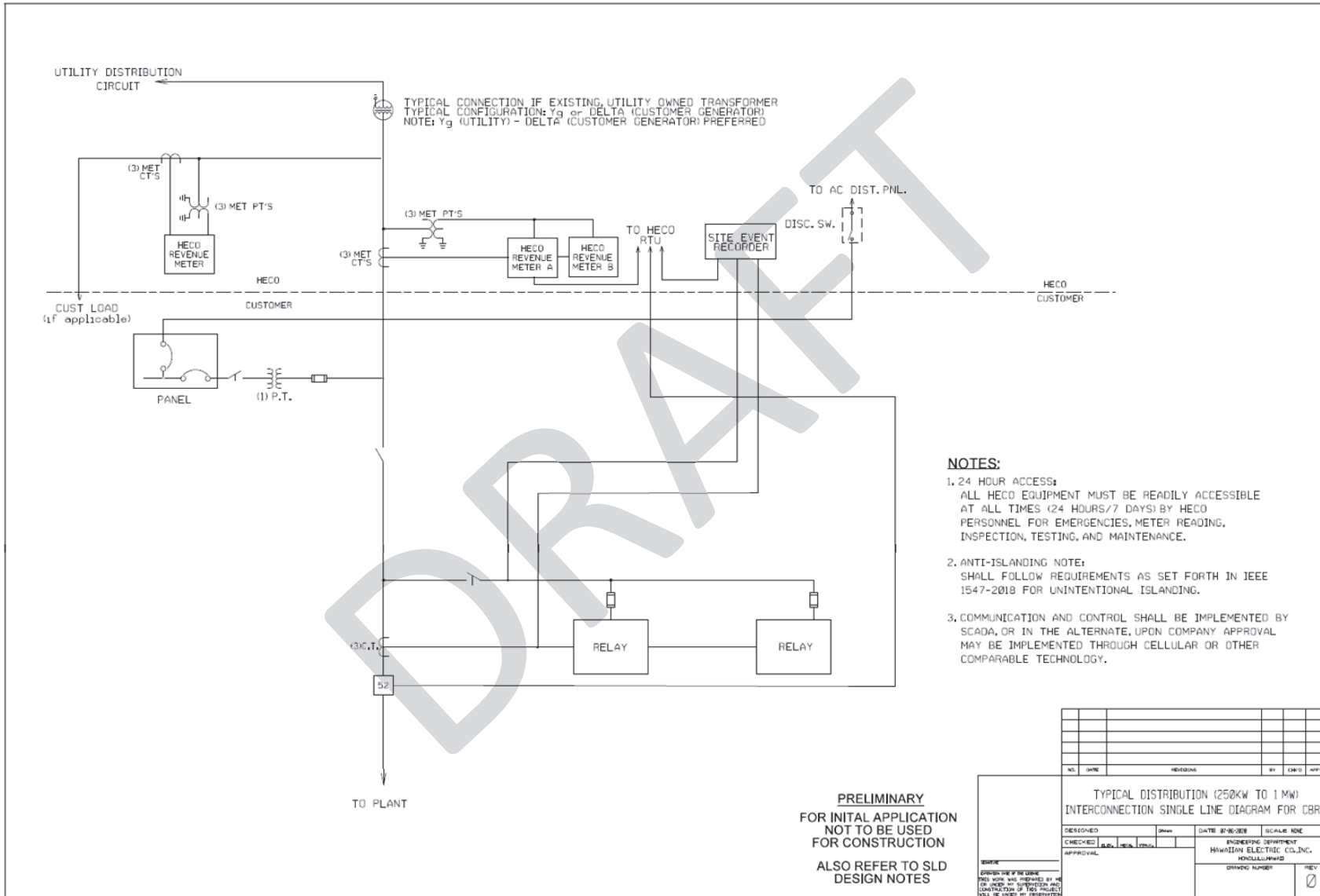
## **2.5 Telecommunications**

1. Point-to-point microwave: \$1,162,000 with the following assumptions:
  - a. There is line-of-sight between the communications endpoints.
  - b. FCC licensed Microwave Frequencies are available.
  - c. There are existing structures/buildings and available space on either end to house the radio equipment.
  - d. Telecommunications grounding standards are up-to-date at both sites.
  - e. 48V DC power with 12-hour battery backup is available.
  - f. This estimate does not include any special site-specific permit/approval that may be required.
  - g. Space is available to locate antenna towers/structures at both ends. Meets category 5 hurricane wind loading.
  - h. Interconnection to Maui Electric's existing communications is not included.
2. Fiber with overbuild and new construction: \$269,000 per mile with the following assumptions:
  - a. The poles are in good condition and do not need replacing.
  - b. The poles are not overloaded.
  - c. The poles and the attachments are in accordance with NESC 2002 and no work is required to upgrade the poles to current standards.

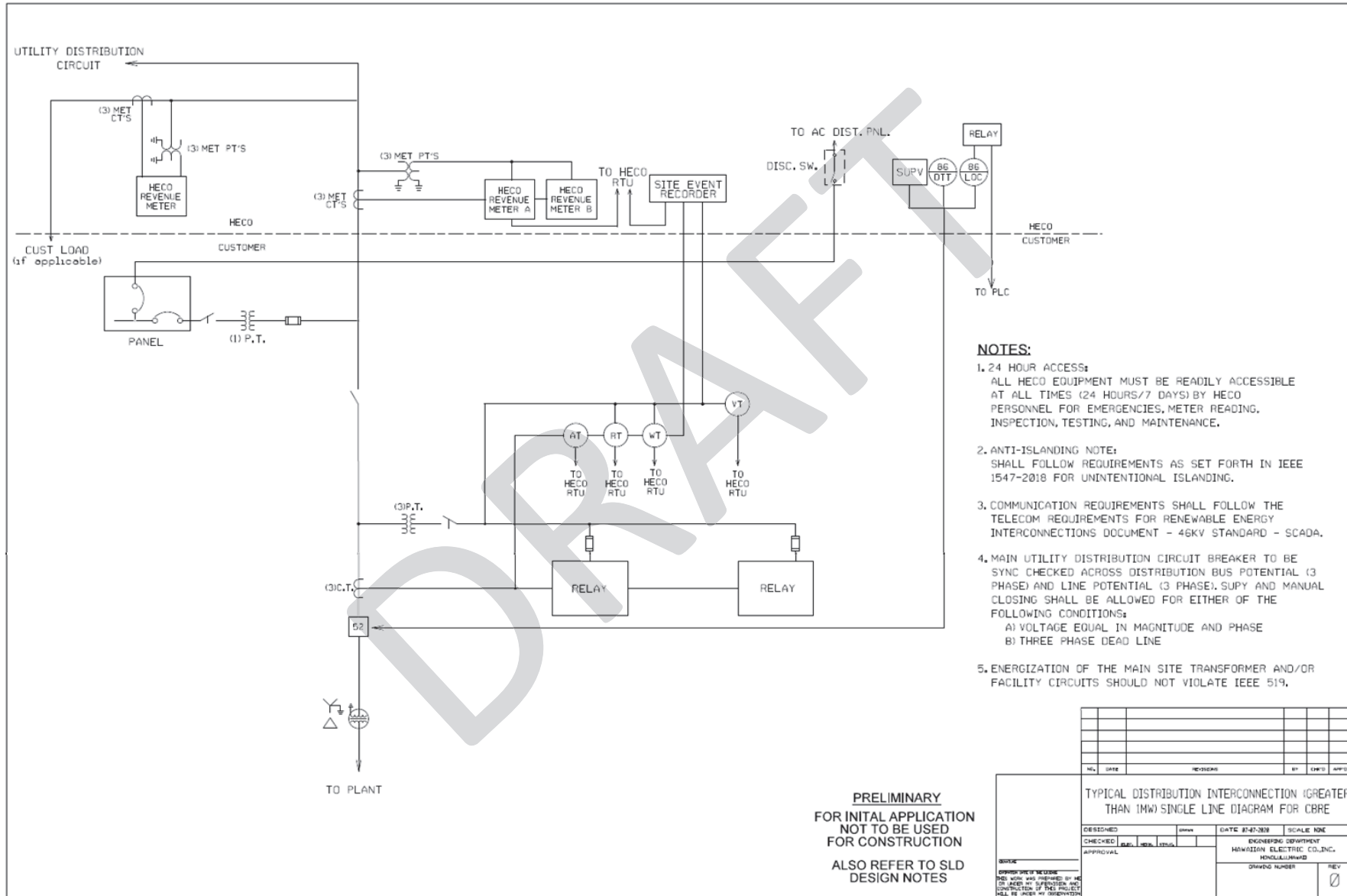
## **2.6 Security System Interconnection Costs**

[NOTE: Specific security requirements for the Moloka'i System are under review and will be included in the final RFP.]

Appendix H Attachment 1



Appendix H Attachment 2



**NOTES:**

1. 24 HOUR ACCESS:  
ALL HECO EQUIPMENT MUST BE READILY ACCESSIBLE AT ALL TIMES (24 HOURS/7 DAYS) BY HECO PERSONNEL FOR EMERGENCIES, METER READING, INSPECTION, TESTING, AND MAINTENANCE.
2. ANTI-ISLANDING NOTE:  
SHALL FOLLOW REQUIREMENTS AS SET FORTH IN IEEE 1547-2018 FOR UNINTENTIONAL ISLANDING.
3. COMMUNICATION REQUIREMENTS SHALL FOLLOW THE TELECOM REQUIREMENTS FOR RENEWABLE ENERGY INTERCONNECTIONS DOCUMENT - 46KV STANDARD - SCADA.
4. MAIN UTILITY DISTRIBUTION CIRCUIT BREAKER TO BE SYNC CHECKED ACROSS DISTRIBUTION BUS POTENTIAL (3 PHASE) AND LINE POTENTIAL (3 PHASE). SUPV AND MANUAL CLOSING SHALL BE ALLOWED FOR EITHER OF THE FOLLOWING CONDITIONS:  
A) VOLTAGE EQUAL IN MAGNITUDE AND PHASE  
B) THREE PHASE DEAD LINE
5. ENERGIZATION OF THE MAIN SITE TRANSFORMER AND/OR FACILITY CIRCUITS SHOULD NOT VIOLATE IEEE 519.

**PRELIMINARY**  
FOR INITIAL APPLICATION  
NOT TO BE USED  
FOR CONSTRUCTION  
  
ALSO REFER TO SLD  
DESIGN NOTES

|  |               |            |   |       |
|--|---------------|------------|---|-------|
|  |               |            |   |       |
| NO.  | DATE          | REVISION   | BY  | APP'D |
|  |               |            |   |       |
|  |               |            |   |       |
| TYPICAL DISTRIBUTION INTERCONNECTION (GREATER THAN 1MW) SINGLE LINE DIAGRAM FOR CBRE                                       |               |            |   |       |
| DESIGNED   | DATE 04/20/20 | SCALE 1/8" | ENGINEERING DEPARTMENT<br>HAWAIIAN ELECTRIC CO., INC.<br>HONOLULU, HI 96813 |       |
| CHECKED  |               |            | DRAWING NUMBER  | REV 0 |
| APPROVAL   |               |            |   |       |
| BEFORE PROCEEDING WITH CONSTRUCTION THE USER SHALL VERIFY THE ACCURACY OF THIS PROJECT AND SHALL BE LIABLE FOR ANY ERRORS. |               |            |   |       |



**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**COMMUNITY BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix I – Rule 19 Tariff*



**Maui  
Electric**

RULE NO. 19

Interconnection and Transmission Upgrades

A. GENERAL

1. Definitions

- a. "Betterment" means and includes any upgrading to a facility made solely for the benefit of and at the election of the Company, not attributable to the interconnection requirements. The Betterment includes any provisions for future expansion which cannot be charged to replacement. It also includes any related system work beyond that required for interconnection. If an existing facility is replaced with one of greater functional capacity or capability, the difference between the upgraded facility and a replacement facility of equivalent functional capacity is considered Betterment. It does not mean the substitution of a replacement facility for an existing facility, that is, an underground facility for an overhead facility, unless otherwise provided for in the RFP.

Example 1: A substation with a three breaker scheme is required to connect the Generating Facility to the grid. If the Company installs a substation with a six breaker ring bus scheme, the difference between installing a substation with a three breaker scheme and one with a six breaker scheme would be the Betterment.

Example 2: A transmission line needs to be upgraded to accommodate a new Generating Facility. The existing line is designed to withstand a 56 mph wind speed. The project includes upgrading the facilities to withstand a 100 mph wind speed. The increase in the design to the 100 mph wind speed criteria would be the Betterment.

Example 3: A transmission line needs to be upgraded to accommodate a new Generating Facility. In response to the Company's application to upgrade the line, the Commission orders that the line be placed underground. The cost difference between the overhead upgrade and the installation of the underground facilities would not be considered Betterment.

- b. "Company's Dispatch" means the Company's sole and absolute right to control, from moment to moment, through Supervisory Control, or otherwise, and in accordance with good engineering and operating practices in the electric utility industry, the rate of delivery of energy offered by the bidder to the Company.
- c. "Company's System" means the electric system owned and operated by the Company (to include any non-utility owned facilities) consisting of power plants, transmission and distribution lines, and related equipment for the production and delivery of electric power to the public.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- d. "Distribution System" means all electrical wires, equipment, and other facilities at the distribution voltage levels (such as 25kV, 12kV, or 4kV) owned or provided by the Company, through which the Company provides electrical service to its customers.
- e. "Framework" means the Framework for Competitive Bidding dated December 8, 2006, adopted by the Commission in Docket No. 03-0372, Decision and Order No. 23121, which provides the mechanism for acquiring a future energy generation resource or a block of generation resources by the Company.
- f. "Generating Facility" means a bidder or utility-owned electrical energy generation resource that is interconnected to the Company electrical grid.
- g. "Grid Connection Point" means the point at which Interconnection Facilities connect to the Company's System, normally the Company's transmission grid. Facilities from the Generating Facility to the Grid Connection Point shall be considered Interconnection Facilities (see examples given in Attachment A). The Grid Connection Point will be identified in the IRS.
- h. "Interconnection Agreement" means a contract with the bidder that specifies the terms and conditions under which Interconnection Facilities (and, in some cases, certain System Upgrades) will be designed, installed, paid for, owned, operated and/or maintained. In some instances, such terms and conditions may be included in the PPA with a bidder, instead of in a separate Interconnection Agreement.
- i. "Interconnection Facilities" means the equipment and devices required to permit a Generating Facility to operate in parallel with and deliver electric energy to Company's System and provide reliable and safe operation of, and power quality on, the Company's System (in accordance with applicable provisions of the Commission's General Order No. 7, Company tariffs, operational practices and planning criteria), such as, but not limited to, transmission and distribution lines, transformers, switches, and circuit breakers.

Example 1: A wind farm facility constructed on a neighbor island (e.g. Molokai) that exports to the Company the energy it produces would be required to install undersea transmission lines to interconnect the Generating Facility to the Company's System. The undersea transmission lines and related facilities would be considered Interconnection Facilities.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

Example 2: A proposed Generating Facility is remotely located in a region of the island where there are no existing Transmission System facilities. In this case, if the size of the Generating Facility requires that it be tied to the existing Transmission System, the new Transmission System facilities (i.e. all electrical wires, equipment, and other facilities at the transmission voltage level) constructed from the Generating Facility to the Company's existing Transmission System facilities would be considered Interconnection Facilities.

- j. "Interconnection Requirements Study (IRS)" means a study, performed in accordance with the terms of the IRS Letter Agreement and with the applicable terms of the RFP and any resulting PPA, to identify the Interconnection Facilities, System Upgrades and other system requirements and all associated costs to integrate the proposed Generating Facility with the Company's System, and includes a detailed steady-state and a dynamic analysis. The IRS is conducted by the Company or its consultant and the bidder is responsible for the cost of conducting the IRS.
- k. "Interconnection Requirements Study Letter Agreement (IRS Letter Agreement)" means the letter agreement and any written, signed amendments thereto, between the Company and the bidder that describes the scope, schedule, and payment arrangements for the IRS.
- l. "IRP" means an electric utility's Integrated Resource Plan that has been submitted to the Commission for review and approval in the utility's IRP proceeding, in accordance with the Commission's IRP Framework.
- m. "IRP Framework" means the Commission's Framework for Integrated Resource Planning, dated May 22, 1992, as amended by In re Public Util. Comm'n, Docket No. 05-0075, Decision and Order No. 22490, filed on May 26, 2006.
- n. "Point of Interconnection" means the point of delivery of Energy and/or Capacity supplied by the bidder to the Company, where the facilities owned by the bidder interconnect with the facilities owned or to be owned by the Company. The bidder shall own and maintain the facilities from the Generating Facility to the Point of Interconnection. The Company shall own and maintain the facilities from the Point of Interconnection to the Company's System (see examples given in Attachment A). The Point of Interconnection will be identified in the IRS.
- o. "PPA" means a power purchase agreement or contract by the Company to purchase firm capacity, energy, or both.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- p. "Renewable Energy Facility" means a Generating Facility that generates electricity using renewable energy as the source.
- q. "RFP" means a written request for proposal issued by the Company to solicit bids from interested third-parties, and where applicable from the Company or its affiliate, to supply a future generation resource or a block of generation resources to the Company pursuant to a competitive bidding process.
- r. "Subtransmission System" means all electrical wires, equipment, and other facilities at the subtransmission voltage levels (such as 46kV, 35kV, or 23kV) owned or provided by the Company, through which the utility provides electrical service to its customers.
- s. "Supervisory Control" means remote monitoring and/or control of a Generating Facility's power output and interrupting device status by means of a communication channel that is acceptable to the Company. For Generating Facilities intending to export power with an aggregate export capacity greater than 250kW, computerized supervisory control may be required to ensure the safety of working personnel and prompt response to system abnormalities in case of islanding of the Generating Facility. The Company shall determine the need for supervisory control based upon the results of the initial technical screening and/or IRS. Supervisory control shall include at a minimum monitoring of: (a) gross generation by the Generating Facility; (b) feedback of Watts, Vars, WattHours, current and voltage; (c) Vars furnished by the utility; and (d) status of the interrupting device. In addition, the supervisory control will allow the Company to trip the interrupting device during emergency conditions. Monitoring will be performed by system dispatchers or operators at the Company's control center.
- t. "System Benefit" means a material increase in power flow capability or in the reliability of the Company's electrical system from a system-wide perspective.
- u. "System Upgrades" means improvements made to the Company's System, other than the Interconnection Facilities, required to provide reliable and safe operation of, and power quality on, the Company's System (in accordance with applicable provisions of the Commission's General Order No. 7, Company tariffs, operational practices and planning criteria) when the Generation Facility is interconnected with the Company's System (see Attachment A). Such improvements may include, but are not limited to, new transmission or distribution lines, reconstruction or reconductoring of existing lines, circuit breakers, switches, transformers, buses, protective devices, communications, and substation equipment and facilities.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

v. "Transmission System" means all electrical wires, equipment, and other facilities at the transmission voltage levels (such as 138kV or 69kV) owned or provided by the utility, through which the utility provides electrical service to its customers.

2. Application of Tariff

This Tariff shall apply to an RFP issued pursuant to the Framework and Interconnection Requirement Studies arising from the RFP process. In the event that there is a conflict between any provision of this Tariff and that of an RFP issued pursuant to the Framework and reviewed by the Commission in accordance with Sections III.B.2 and IV.B.6.e. of the Framework, the provisions of the RFP shall prevail. The terms and conditions established in a PPA arising from the RFP and approved by the Commission shall ultimately control over the requirements and terms of both this Tariff and the RFP.

3. Independent Observer

As established in the Framework, the duties and responsibilities of an Independent Observer (IO) include, among other duties and responsibilities, reviewing and monitoring the Company's communications, methods, and implementation of this Tariff, the RFP and related IRS processes.

B. INTERCONNECTION STUDY PROCESS FOR COMPETITIVE BIDDING

1. RFP Package Data -- available to all prospective bidders.

RFP packages issued by the Company shall contain general and regional system information to provide prospective bidders with high level guidance relating to the Company's existing transmission infrastructure. For example, RFP packages may include information in the form of an island map with areas of the Transmission System identified that are at or near their loading limits to provide high level guidance to bidders on areas of the island with transmission constraints. These constraints may include "load pockets", which are load-driven transmission constraints as well as areas of generation-driven transmission constraints. Because transmission impacts are to a large extent specific to the characteristics of supply-side proposals, definitive transmission information cannot be provided in these maps. Detailed geographic maps of the transmission system may not be part of this information due to security concerns. Rather, a map of the island with areas of the map shaded to identify areas (rather than circuits) of transmission constraints, may be provided.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

In addition, the RFP shall include applicable transmission planning criteria that will be used in the determination of interconnection requirements and potential Transmission System impacts. The information in the bid package will provide bidders with information (a) that should help in the selection of the proposed project's characteristics, including project site, project size, and project mode of operation, and (b) to estimate the interconnection requirements associated with their Generating Facilities and the opportunity to reflect the costs of the interconnection requirements in their bids.

2. Information Requests During Bidding Process - available to all prospective bidders.

During the bidding process, if a prospective bidder requires clarification or additional technical or operational information pertaining to the Company's System, a written request with specific questions may be submitted to the Company in accordance with the requirements set forth in the RFP. The written request, specific questions, and written Company response will be provided to all bidders.

3. RFP Requirements and Threshold Criteria Screening - evaluation performed on all bids received

Each bid received will be reviewed to ensure that it satisfies all of the RFP and threshold criteria requirements. The Company will determine whether each bid conforms to the specified RFP requirements and meets the minimum threshold criteria. Applicable performance standards may be part of the threshold criteria. These performance standards may vary depending upon factors such as the size of the generating resource(s) being acquired in the RFP, the Company's ability to dispatch the Generating Facility, the operational status (e.g., as-available vs. firm) of the Generating Facility, and the fuel type of the Generating Facility (e.g., run-of-the-river hydro may have different performance standards from wind power).

4. High Level Evaluation -- performed on all bids that pass threshold screening in RFP process
  - a. All bids which pass the threshold screening in the RFP process will undergo a high level evaluation consistent with the requirements identified in the RFP, which will focus primarily on basic steady-state analyses (e.g., identifying thermal line impacts, voltage impacts, and any obvious "fatal flaws").

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- b. For each bid, a high level estimate of the costs of Interconnection Facilities and required System Upgrades will be developed based solely on the high level evaluation identified in Section B.4.a. of this Tariff and on unitized cost estimates (e.g., \$/mile for 138kV line, \$/transformer).
  - c. Results of the high level evaluation and high level estimate of the costs of Interconnection Facilities and required System Upgrades will be factored into the determination of which bids make the short list based on the requirements specified in the RFP.
  - d. Basic curtailment analysis of the proposed Generating Facility and related impacts to operations of existing Generating Facilities may also be factored into the determination of which bids make the short list based on the requirements specified in the RFP.
5. Full Interconnection Requirements Study - performed only on short list bids.
- a. An IRS shall be performed only for bid(s) that have met the RFP requirements, passed the threshold criteria, and made the short list, or as otherwise specified in the RFP.
  - b. An IRS would be performed either serially starting with the bid evaluated as the most competitive at the point of the evaluation process, then proceeding to the next most competitive bid on the short list or in parallel on all or some of the short list bidders simultaneously. The determination of whether or not IRS work is to be performed serially, in parallel, or a combination of the two will be based upon factors such as resource availability, number of short list bids, RFP schedule, and relative competitiveness of one bid to others, and the availability of all information and data from bidders necessary to perform the IRS work
  - c. The Company may if practicable "bundle" IRS work for multiple short list bids into a single IRS if the bids are, among other factors, technically, operationally and geographically (e.g., size, location, technology, timing, operating characteristics, etc.) identical or sufficiently similar to each other.
  - d. The results of the IRS, including identified Interconnection Facilities, System Upgrades, Point of Interconnection, and Grid Connection Point, will be provided to the bidder.
  - e. Bidders shall be responsible for incorporating the costs of their Interconnection Facilities into their bids. The RFP may provide bidders with an opportunity to revise their pricing proposals under certain circumstances. Any pricing change, if permitted under the terms of the RFP, will prompt a re-evaluation of short list bidders in the selection of the winning bid as provided for in the RFP.

MAUI ELECTRIC COMPANY, LIMITED



RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- f. The Company may perform the analyses included in the IRS, or the IRS or parts of the IRS may be contracted to an outside consultant specializing in such analyses for complex situations or in situations where the Company does not have available resources to conduct the analyses in a time frame agreeable to the Company.
  - g. The scope and cost of the IRS will depend on the complexity of the Company's System and Generating Facility that must be modeled, and the degree to which the Generating Facility will affect the Company's System.
  - h. The bidder will be responsible for the cost of the IRS (or such lesser amount as the Company may specify to facilitate the processing of interconnection requests for similarly situated facilities) to be performed in order to evaluate the impacts of the Generating Facility's interconnection to the Company's System.
- C. INTERCONNECTION COST AND SYSTEM UPGRADE COST ALLOCATION FOR COMPETITIVE BIDDING
- 1. The bidder shall be responsible for the cost of Interconnection Facilities and shall be responsible for the installation and maintenance of Interconnection Facilities from the Generating Facility to the Point of Interconnection, unless otherwise specified in the RFP.
  - 2. Interconnection Facilities from the Generating Facility to the Point of Interconnection shall be built by the bidder, unless the Company agrees otherwise.
  - 3. Interconnection Facilities from the Point of Interconnection to the Grid Connection Point shall be built by the Company and paid for by the bidder, unless the Company agrees or determines otherwise. The Company may elect to include Betterments to Interconnection Facilities from the Point of Interconnection to the Grid Connection Point, and such Betterments shall be paid for by the Company. The cost of Betterments to such Interconnection Facilities will not be considered in the bid evaluations. The bidder shall acquire the necessary land and easements for Interconnection Facilities from the Point of Interconnection to the Grid Connection Point, unless the Company agrees otherwise. Interconnection Facilities from the Point of Interconnection to the Grid Connection Point, if built by the bidder, shall be transferred to the Company upon completion, along with the necessary land rights and easements.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

4. The Company shall install and maintain the identified System Upgrades arising from the interconnection of the Generating Facility and shall be responsible for the cost of such System Upgrades.
  - a. The Company's cost for System Upgrades will be considered as a factor in the bid evaluations.
  - b. The degree to which the System Upgrades provide System Benefits and/or Betterments will be considered in the bid evaluations.
5. Standards and Interconnection Agreements
  - a. Interconnection Facilities and System Upgrades owned or to be owned by the Company shall be constructed in accordance with the Company's applicable standards and in accordance with the PPA or the Interconnection Agreement, if there is a separate Interconnection Agreement.
  - b. Generating Facilities and Interconnection Facilities owned by the bidder shall be constructed in accordance with applicable State and County code requirements and in accordance with the PPA or the Interconnection Agreement, if there is a separate Interconnection Agreement.
  - c. The bidder's Generating Facility may be interconnected and operated in parallel with the Company's System in accordance with the terms and conditions of the PPA between the Company and the bidder, and/or the terms and conditions of an Interconnection Agreement between the Company and the bidder, if there is a separate Interconnection Agreement.
  - d. The bidder will be required to furnish, install, operate, and maintain suitable and sufficient equipment, to maintain adequate records, and to follow such operating procedures, as may be specified by the Company to protect the Company's System from damage resulting from the parallel operation of the Seller's Facility, including the equipment, records and operating procedures more fully described in the PPA and/or Interconnection Agreement, if there is a separate Interconnection Agreement.
  - e. Interconnection Facilities shall be designed, installed operated and maintained in accordance with good interconnection practice. The objectives of good interconnection practice include, but are not limited to,
    1. Safety - To protect the safety of utility personnel, utility customers, and the public.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

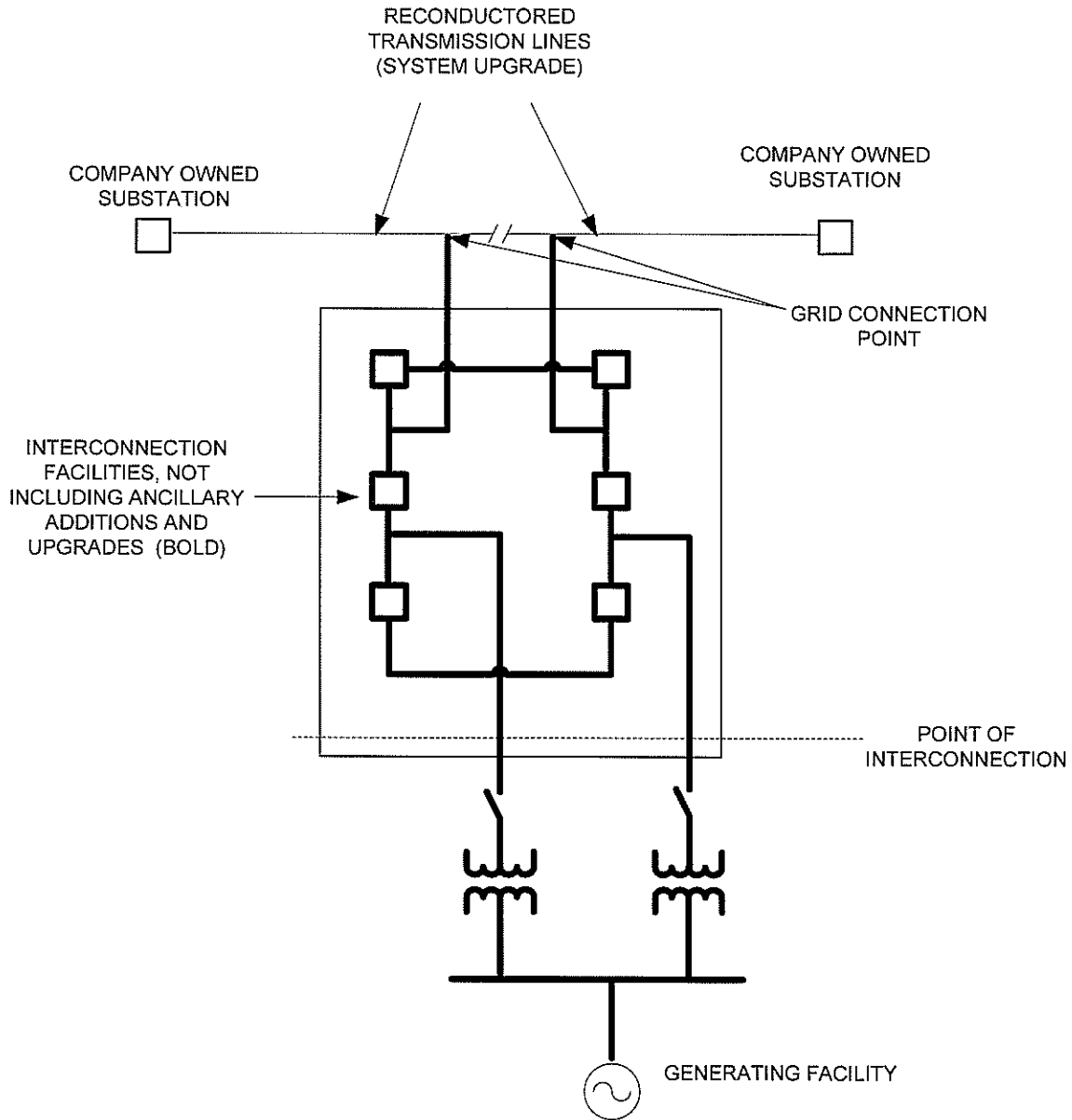
2. Reliability - To maintain the reliability of the utility system for all utility customers.
  3. Power Quality - To provide for acceptable power quality and voltage regulation on the utility system and for all utility customers.
  4. Restoration - To facilitate restoration of power on the utility system.
  5. Protect Utility and Customer Equipment - To protect utility and customer equipment during steady state and faulted system operating conditions.
  6. Protect Generating Facilities - To protect generating facilities from operation of utility protective and voltage regulation equipment.
  7. Utility System Overcurrent Devices - To maintain proper operation of the utility system's overcurrent protection equipment.
  8. Utility System Operating Efficiency - To ensure operation at appropriate power factors and minimize system losses.
- f. The bidder shall obtain, at its expense, any and all authorizations, approvals, permits, and licenses required for the construction and operation of its Generating Facility and the interconnection of its Generating Facility with the Company's System, including but not limited to environmental permits, building permits, rights of way, or easements.
  - g. Where any Company-owned Interconnection Facilities are to be located on the site of the bidder's Generating Facility, the bidder shall provide, at no expense to the Company, a location and access acceptable to the Company for all such facilities.
6. Renewable Energy Facilities
- a. In its IRP process, the Company may propose System Upgrades, to be paid for, owned and maintained by the utility, to encourage the development of Renewable Energy Facilities.
  - b. In its IRP process, the Company may propose to pay for Interconnection Facilities between the Point of Interconnection and the Grid Connection Point, in order to encourage the development of Renewable Energy Facilities.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

Attachment A



MAUI ELECTRIC COMPANY, LIMITED

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix J – Rule 29 Tariff*

**[NOTE: Please refer to Exhibit 2 of the July 9, 2020 filing for the proposed Rule 29 Tariff.]**



**Maui  
Electric**

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix K – Model PV Large RDG PPA*

**[NOTE: Please refer to Exhibit 10 of the July 9, 2020 filing for the proposed Model Large RDG PPA (PV + Storage) for the island of Maui.]**



**Maui  
Electric**

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**COMMUNITY-BASED RENEWABLE ENERGY PROJECTS**

**ISLAND OF MOLOKA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix L – Model PV Mid-Tier RDG PPA (250  
kW to 2.5 MW)*

**[NOTE: Please refer to Exhibit 11 of the July 9, 2020 filing for the proposed  
Model Mid-Tier RDG PPA (PV + Storage) for the island of Maui.]**

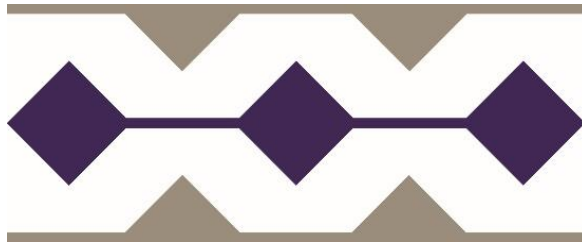


**Maui  
Electric**

## EXHIBIT 7

Draft RFP for Variable Renewable Dispatchable  
Generation Paired with Energy Storage and CBRE  
for the Island of Lanai





**Maui  
Electric**

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

This Request for Proposals (“RFP”) is a DRAFT only. Maui Electric Company, Ltd. (“Maui Electric”) will employ a competitive bidding process to select renewable energy projects including Community Based Renewable Energy consistent with the State of Hawai‘i Public Utilities Commission’s (“PUC”) Competitive Bidding Framework. Under the Competitive Bidding Framework. Maui Electric will file the initial draft RFP with the (PUC). Then, Maui Electric will seek input from prospective Proposers and other stakeholders through a Technical Conference as described in the draft RFP and will modify the draft RFP to the extent feasible to address input received in order to foster a robust competitive process. The proposed final RFP will be submitted to the PUC for approval and is subject to further revision based upon direction received from the PUC. After approval by the PUC, Maui Electric will issue the final RFP.

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## **Chapter 1: Introduction and General Information**

Maui Electric Company, Ltd. (“Maui Electric” or the “Company”) seeks proposals for the supply of qualified variable renewable dispatchable generation paired with energy storage for the Maui Electric System on the island of Lāna‘i in accordance with this Request for Proposals (“RFP”). The total amount of variable renewable dispatchable generation being solicited in this RFP is 17.5 MW of photovoltaic (“PV”) paired with 17.5 MW/70MWh of energy storage with the capability to provide a minimum of 35,800 megawatt hours (“MWh”) annually. Of the total amount of capacity being solicited a minimum of 3 MW must be dedicated to Community-Based Renewable Energy (“CBRE”). The total targeted amount assumes Lāna‘i Sustainability Research (“LSR”) and Mānele Bay Combined Heat and Power (“CHP”) facilities are no longer available as further described in this RFP.

The Company or its Affiliates may submit a Proposal in response to this RFP subject to the requirements of this RFP.

The Company seeks a PV project that is paired with an energy storage system in this RFP. The Company intends to contract for a single project through this RFP using its Model Renewable Dispatchable Generation Power Purchase Agreement (“RDG PPA”), which treats variable renewable generation facilities as fully dispatchable. The Company has created a PV + BESS (“battery energy storage system”) version of its RDG PPA attached as Appendix L to this RFP.<sup>1</sup>

The successful Proposer will provide variable renewable dispatchable generation paired with energy storage to the Company pursuant to the terms of the RDG PPA, which will be subject to review and approval by the State of Hawai‘i Public Utilities Commission (“PUC”).

The Company will evaluate Proposals using the evaluation and selection process described in Chapter 4. The Company will evaluate and select a Proposal based on both price and non-price factors that impact the Company, its customers, and communities affected by the proposed Project.

All requirements necessary to submit a Proposal(s) are stated in this RFP. A description of the technical requirements for Proposers is included in the body of this RFP, Appendix B, and in the RDG PPA attached as Appendix L.

All capitalized terms used in this RFP shall have the meaning set forth in the glossary of defined terms attached as Appendix A. Capitalized terms that are not included in Appendix A shall have the meaning ascribed in this RFP.

### **1.1 Authority and Purpose of the Request for Proposals**

1.1.1 This RFP is issued in response to Order No. 36776 issued on November 15, 2019 in Docket No. 2019-0178 and Order No. 37070 issued on April 20, 2020 and Order No. 37139 issued on May 14, 2020 in Docket No. 2015-0389 as part of a procurement process established by the PUC. On June 8, 2020, the Company filed a letter in Docket No. 2019-0178 explaining its intention to combine its Request for Proposals for Variable

<sup>1</sup> The RDG PPA for PV + BESS is available on the Company’s RFP website and through the Electronic Procurement Platform for the RFP.

Renewable Dispatchable Generation Paired with Energy Storage, Island of Lāna‘i with the Community Based Renewable Energy Request for Proposals for the Island of Lāna‘i specified in Order No. 37070.

- 1.1.2 This RFP is subject to Decision and Order (“D&O”) No. 23121 in Docket No. 03-0372 (To Investigate Competitive Bidding for New Generating Capacity in Hawai‘i), which sets forth the PUC’s Framework for Competitive Bidding (“Framework” or “Competitive Bidding Framework”).

## **1.2 Scope of the RFP**

- 1.2.1 The targeted amount of variable renewable dispatchable generation assumes both the LSR and CHP facilities will be removed from service. The Company consulted with the Independent Observer during the selection of the targeted amount of variable renewable dispatchable generation.
- 1.2.2 The Company will only accept Proposals that utilize PV technology combined with storage and include a CBRE portion as specified in Chapter 1. The CBRE portion must meet the CBRE Program and eligibility requirements identified in Part II of Rule 29 Community-Based Renewable Energy Program Phase 2 attached as Appendix J. Proposed projects must be located on the Site specified in Section 3.11. No other generation technologies or project locations may be proposed.
- 1.2.3 At least 40% of the 3 MW CBRE portion of the Project’s capacity must be reserved for residential subscribers with unsubscribed compensation subject to the requirements in Article 2 of the RDG PPA
- 1.2.4 Preference will be given to Projects whose subscriber portion reserves an amount of Project capacity greater than 40% for residential customers and/or additional amount of Project capacity dedicated to Low- and Moderate-Income (“LMI”) customers, which means a member of a household with a household income equal to or less than the income limit established by the U.S. Department of Housing and Urban Development (“HUD”) for a LMI Household. To qualify, a household’s income must be equal to or less than the income limit established by HUD for the customer’s household size in the appropriate county. Refer to the HUD website<sup>3</sup> to obtain the income limits.
- 1.2.5 Each Proposal submitted in response to this RFP must represent a Project that is capable of meeting the requirements of this RFP without having to rely on the completion or implementation of any other Project, or without having to rely on a proposed change in law, rule, or regulation.
- 1.2.6 Projects must interconnect to the Company’s System at the Miki Basin switchyard located on the Island of Lāna‘i (See Section 3.11 and Appendix F).
- 1.2.7 To prevent adverse impacts to a single point of failure of 2.5 MW, the Company has offered a conceptual interconnection design (See Appendix H, Section 2.2) that meets

<sup>3</sup> <https://www.huduser.gov/>.

this requirement. The Company may consider alternative interconnection designs for interconnection that similarly meet the single point of failure requirement. In meeting this requirement, the Facility must be segmented in equally-sized capacities (MW) of no greater than 2.5 MW net export. Each segment, as shown in the conceptual design (does not necessarily need to pair PV and storage components), must be able to be independently dispatched via the Company's energy management system. Revisions will need to be made to the RDG PPA to account for multiple points of interconnection. The Company will provide such revisions upon completion of the Interconnection Requirements Study for the Final Award Group.

- 1.2.8 The contract for the project selected through this RFP shall use the RDG PPA, as described in Section 3.8. Under the RDG PPA, the Company will maintain exclusive rights to fully direct dispatch of the Facility, subject to availability of the resource and Section 1.2.9 below. The term of the PPA will be 20 years.
- 1.2.9 Proposals must be submitted with an energy storage component. The energy storage component can be charged during periods when full potential export of the generation Facility is not being dispatched by the Company and can be used to provide energy to the Company during other times that are beneficial to the system. The energy storage component must be able to store and discharge 17.5 MW for four (4) continuous hours throughout the term of the PPA.
- 1.2.10 The energy storage component must also support a switchable mode of operation to allow it to also be used for Fast Frequency Response.
- 1.2.11 After the 5-year federal Investment Tax Credit ("ITC") recapture period has lapsed, the energy storage component must be capable of being 100% charged from the grid at the direction of the Company. Energy storage components that are incapable of claiming the ITC must be capable of being 100% charged from the grid from the GCOD.
- 1.2.12 The amount of energy discharged from the energy storage component in a year will be limited to the 70 MWh energy storage contract capacity multiplied by the number of Days in that year.
- 1.2.13 Proposals must specify a Guaranteed Commercial Operations Date ("GCOD") no later than December 31, 2024. Preference will be given to Proposals that specify an earlier GCOD during the non-price evaluation.
- 1.2.14 A Proposer's GCOD set forth in its Proposal will be the GCOD in any resulting PPA if such Proposal is selected to the Final Award Group. Proposers will not be able to request a change in the GCOD set forth in their Proposals.
- 1.2.15 The selected Proposer will be responsible for all Project costs throughout the term of the PPA, including but not limited to Project development, completion of an Interconnection Requirements Study ("IRS"), the cost of conducting a greenhouse gas analysis, land leasing, permitting, financing, construction of the Facility and all Interconnection Facilities, and the operations and maintenance ("O&M") of the Facility.



- 1.2.16 The selected Proposer will be solely responsible for the decommissioning of the Project and the restoration of the Site upon the expiration of the PPA, as described in Attachment G, Section 7 of the RDG PPA.
- 1.2.17 The selected Proposer shall pursue all available applicable federal and state tax credits. Proposal pricing must be set to incorporate the benefit of such available federal tax credits. However, to mitigate the risk on Proposers due solely to potential changes to the state's tax credit law before a selected project reaches commercial operations, Proposal pricing shall be set without including any state tax credits. If a Proposal is selected, the PPA for the project will require the Proposer to pursue the maximum available state tax credit and remit tax credit proceeds to the Company for customers' benefit as described in Attachment J of the RDG PPA. The PPA will also provide that the Proposer will be responsible for payment of liquidated damages for failure to pursue the state tax credit.

### **1.3 Competitive Bidding Framework**

Consistent with the Framework, this RFP outlines the Company's requirements in relation to the resources being solicited and the procedures for conducting the RFP process. It also includes information and instructions to prospective Proposers participating in and responding to this RFP.

### **1.4 Role of the Independent Observer**

- 1.4.1 Part III.C.1 of the Framework sets forth the circumstances under which an Independent Observer is required in a competitive bidding process. The Independent Observer will advise and monitor all phases of the RFP process and will coordinate with PUC staff throughout the RFP process to ensure that the RFP is undertaken in a fair and unbiased manner. In particular, the Company will review and discuss with the Independent Observer decisions regarding the evaluation, disqualification, non-selection, and selection of Proposals.
- 1.4.2 The role of the Independent Observer, as described in the Framework, will include but is not limited to:
- Monitor all steps in the competitive bidding process
  - Monitor communications (and communications protocols) with Proposers
  - Monitor adherence to the Company's Code of Conduct
  - Submit comments and recommendations, if any, to the PUC concerning the RFP
  - Review the Company's Proposal evaluation methodology, models, criteria, and assumptions
  - Review the Company's evaluation of Proposals
  - Advise the Company on its decision-making
  - Participate in dispute resolution as set forth in Section 1.10
  - Monitor contract negotiations with Proposers
  - Report to the PUC on monitoring results during each stage of the competitive bidding process
  - Provide an overall assessment of whether the goals of the RFP were achieved

- Monitor the ongoing discussions between Maui Electric and Pūlama Lāna‘i

1.4.3 The Independent Observers for this RFP are:

**Arroyo Seco Consulting**

136 S. Arroyo Blvd.  
Pasadena, CA 91105  
Attention: Lewis K. Hashimoto

**Navigant Consulting, Inc.**

685 Third Avenue, 14<sup>th</sup> Floor  
New York, NY 10017  
Attention: Dia Dean Koujak

**1.5 Communications Between the Company and Proposers – Code of Conduct Procedures Manual**

- 1.5.1 Communications and other procedures under this RFP are governed by the “Code of Conduct Procedures Manual,” (also referred to as the “Procedures Manual”) developed by the Company as required by the Framework, and attached as Appendix C.
- 1.5.2 All pre-Proposal communication with prospective Proposers will be conducted via the Company’s RFP website, Electronic Procurement Platform, and/or electronic mail (“Email”) through the address specified in Section 1.6 (the “RFP Email Address”). Phone communication or face-to-face meetings will not be supported. Frequently asked questions submitted by prospective Proposers and the answers to those questions may be posted on the Company’s RFP website, or sent through Email or the Electronic Procurement Platform to registered individuals. The Company reserves the right to respond only to comments and questions it deems are appropriate and relevant to the RFP. Proposers shall submit questions no later than fifteen Days before the Proposal Due Date (see RFP Schedule in Section 3.1, Items 6 and 7). The Company will endeavor to respond to all questions no later than five Days before the Proposal Due Date.
- 1.5.3 After Proposals have been submitted, the Company may contact individual Proposers for purposes of clarifying their Proposal(s).
- 1.5.4 Any confidential information deemed by the Company, in its sole discretion, to be appropriate to share, will only be transmitted to the requesting party after receipt of a fully executed Mutual Confidentiality and Non-Disclosure Agreement (“NDA”). See Appendix E.
- 1.5.5 Except as expressly permitted and in the manner prescribed in the Procedures Manual, any unsolicited contact by a Proposer or prospective Proposer with personnel of the Company pertaining to this RFP is prohibited.

## 1.6 Company Contact for Proposals

The primary contact for this RFP is:

Dean Ono  
Energy Contract Manager  
Maui Electric Company, Limited  
210 West Kamehameha Avenue  
Kahului, Hawai'i 96732

RFP Email Address: [lanacompetitivebidding@mauielectric.com](mailto:lanacompetitivebidding@mauielectric.com)

## 1.7 Proposal Submission Requirements

- 1.7.1 All Proposals must be prepared and submitted in accordance with the procedures and format specified in the RFP. Proposers are required to respond to all questions and provide all information requested in the RFP, as applicable, and only via the communication methods specified in the RFP.
- 1.7.2 Detailed requirements regarding the form, submission, organization and information for the Proposal are set forth in Chapter 3 and Appendix B.
- 1.7.3 Proposals must not rely on any information that is not contained within the Proposal itself in demonstrating compliance for any requirement in this RFP.
- 1.7.4 In submitting a Proposal in response to this RFP, each Proposer certifies that the Proposal has been submitted in good faith and without fraud or collusion with any other unaffiliated person or entity. The Proposer shall acknowledge this in the Response Package submitted with its Proposal. Furthermore, in executing the NDA provided as Appendix E, the Proposer agrees on behalf of its Representatives (as defined in the NDA) that the Company's negotiating positions will not be shared with other Proposers or their respective Representatives.

In addition, in submitting a Proposal, a Proposer will be required to provide Company with its legal counsel's written certification in the form attached as Appendix B Attachment 1 certifying in relevant part that irrespective of any Proposer's direction, waiver, or request to the contrary, that the attorney will not share a Proposer's confidential information associated with such Proposer with others, including, but not limited to, such information such as a Proposer's or Company's negotiating positions. If legal counsel represents multiple unaffiliated Proposers whose Proposals are selected for the Final Award Group, such counsel will also be required to submit a similar certification at the conclusion of power purchase agreement negotiations that he or she has not shared a Proposer's confidential information or the Company's confidential information associated with such Proposer with others, including but not limited to, such information as a Proposer's or Company's negotiating positions.

- 1.7.5 All proposals must be submitted via the Electronic Procurement Platform by 2:00 pm Hawai'i Standard Time ("HST") on the Proposal Due Date shown in the RFP Schedule in Section 3.1. No hard copies of these Proposals will be accepted by the Company.<sup>4</sup>

It is the Proposer's sole responsibility to ensure that complete and accurate information has been submitted on time and consistent with the instructions of this RFP. With this assurance, Company shall be entitled to rely upon the completeness and accuracy of every Proposal. Any errors identified by the Proposer or Company after the Proposal Due Date has passed may jeopardize further consideration and success of the Proposal. If an error or errors are later identified, Company, in consultation with the Independent Observer, may permit the error(s) to be corrected without further revision to the Proposal, or may require Proposer to adhere to terms of the Proposal as submitted without correction. Additionally, and in Company's sole discretion, if such error(s) would materially affect the Final Award Group, Company reserves the right, in consultation with the Independent Observer, to remove or disqualify a Proposal upon discovery of the material error(s). The Proposer of such Proposal shall bear the full responsibility for such error(s) and shall have no recourse against Company's decision to address Proposal error(s), including removal or disqualification. The Energy Contract Manager, in consultation with the Independent Observer, will confirm that the Self-Build Proposal is submitted by, milestone (6) Self-Build Proposal Due Date in Section 3.1, Table 1. The Electronic Procurement Platform automatically closes to further submissions after milestone (7) IPP and Affiliate Proposal Due Date in Table 1.

## **1.8 Proposal Fee**

- 1.8.1 IPP and Affiliate proposers are required to tender a non-refundable Proposal Fee of \$5,000 for each Proposal submitted.
- 1.8.2 The Proposal Fee must be in the form of a cashier's check or equivalent from a U.S.-chartered bank made payable to "Maui Electric Company, Ltd." and must be delivered and received by the Company by 2:00 pm HST on the Proposal Due Date shown in the RFP Schedule in Section 3.1. The cashier's check should include a reference to the Proposal(s) for which the Proposal Fee is being provided. Proposers are strongly encouraged to utilize a delivery service method that provides proof of delivery to validate delivery date and time.

If the Proposal Fee is delivered by U.S. Postal Service (with registered, certified, receipt verification), the Proposer shall address it to:

Dean Ono  
Energy Contract Manager  
Maui Electric Company, Limited  
Mail Code KBY-IC  
PO Box 398  
Kahului, Hawai'i 96733

<sup>4</sup> A Proposal for the SBO has additional submission requirements to the PUC specified in Section 1.9 below.

If the Proposal Fee is delivered in person, or via an alternative registered, certified delivery service, the Proposer shall use the address specified in Section 1.6.

## **1.9 Procedures for the Self-Build or Affiliate Proposals**

- 1.9.1 Order No. 37070 states that the CBRE RFPs will be open to all bidders, including the Companies. The Competitive Bidding Framework allows the Company and its Affiliates the opportunity to submit Proposals<sup>5</sup> to RFPs issued by the Company. Requirements for Company Self-Build (“Self-Build Option” or “SBO”) and Affiliate Proposals are specified in the Code of Conduct (“CBRE Code of Conduct”) required under the Framework and implemented by certain rules and procedures found in the Procedures Manual submitted to the PUC in Docket No. 2015-0389 on July 9, 2020. Accordingly, the Company must follow certain requirements and procedures designed to safeguard against and address concerns associated with: (1) preferential treatment of the SBO or members, agents, or consultants of the Company formulating the SBO (the “Self-Build Team”); and (2) preferential access to proprietary information to the Self-Build Team. The Code of Conduct will apply to all CBRE Phase 2 RFPs, regardless of whether the Company submits a Self-Build Proposal. A copy of the Procedures Manual is attached as Appendix C.

The Competitive Bidding Framework also allows Affiliates of the Company to submit Proposals<sup>6</sup> to RFPs issued by the Company. All Self-Build and Affiliate Proposals are subject to the Company’s Code of Conduct and the Procedures Manual. Affiliate Proposals are also subject to any applicable Affiliate Transaction Requirements issued by the PUC in Decision and Order No. 35962 on December 19, 2018, and subsequently modified by Order No. 36112, issued on January 24, 2019, in Docket No. 2018-0065. Affiliate Proposals will be treated identically to an IPP Proposal and must be submitted electronically through the Electronic Procurement Platform by Milestone (7), IPP and Affiliate Proposal Due Date in RFP Table 1.

The Independent Observer will monitor adherence to the Company’s Code of Conduct and the Procedures Manual.

- 1.9.2 Detailed requirements for an SBO Proposal can be found in Appendix G. These requirements are intended to provide a level playing field between the SBO Proposal and third-party Proposals. Except where specifically noted, the SBO Proposal must adhere to the same price and non-price Proposal requirements as required of all Proposers, as well as certain PPA requirements, such as milestones and liquidated damages, as described in Appendix G. The non-negotiability of the Performance Standards shall apply to any SBO Proposal to the same extent it would for any other Proposal. Notwithstanding the fact that it will not be required to enter into an RDG PPA with the Company, a Self-Build Proposer will be required to note its exceptions, if any, to the RDG PPA in the same manner required of other Proposers, and will be held to such modified parameters if selected. In addition to its Proposal, the Self-Build Team will be required to submit

<sup>5</sup> A Proposal will also be treated as an Affiliate Proposal if the Affiliate is a partner for the Proposal.

<sup>6</sup> A Proposal will also be treated as an Affiliate Proposal if the Affiliate is a partner for the Proposal.

Appendix G Attachment 1, Self-Build Option Team Certification Form, acknowledging it has followed the rules and requirements of the RFP to the best of its ability and has not engaged in any collusive actions or received any preferential treatment or information providing an impermissible competitive advantage to the Self-Build Team over other proposers responding to this RFP, as well as adherence to PPA terms and milestones required of all proposers and the SBO's proposed cost protection measures.

The cost recovery methods between a regulated utility SBO Proposal and IPP Proposals are fundamentally different due to the business environments they operate in. As a result, the Company has instituted a process to compare the two types of proposals for the evaluation of the price related criteria on a 'like' basis through comparative analysis.

At the core of a SBO Proposal are its total project capital cost and any associated annual operations and maintenance ("O&M") costs. During the RFP's initial pricing evaluation step, these capital costs<sup>7</sup> and O&M costs will be used in a revenue requirement calculation to determine the estimated revenues needed from ratepayers which would allow the Company to recover the total cost of the project. The SBO revenue requirements are then used in a levelized price calculation to determine a Levelized Benefit ("LB") (\$/MWh), which will then be used for comparison to IPP Proposals.

The Company, in conjunction with the Independent Observer, may also conduct a risk assessment of the SBO Proposal to ensure an appropriate level of customer cost protection measures are included in such Proposal.

The SBO will be permitted to submit a shared savings mechanism with its Proposal to share in any cost savings between the amount of cost bid in the SBO Proposal and the actual cost to construct the Project. If the SBO Proposal is selected to the Final Award Group, the proposed shared savings mechanism will need to be approved by the PUC. Submission of a shared savings mechanism is not required and will not be considered in the evaluation of the SBO Proposal.

## **1.10 Dispute Resolution Process**

- 1.10.1 If disputes arise under the RFP, the provisions of Section 1.10 and the dispute resolution process established in the Framework will control. See Part V of the Framework.
- 1.10.2 Proposers who challenge or contest any aspect of the RFP process must first attempt to resolve their concerns with the Company and the Independent Observer ("Initial Meeting"). The Independent Observer will seek to work cooperatively with the parties to resolve any disputes or pending issues and may offer to mediate the Initial Meeting to resolve disputes prior to such issues being presented to the PUC.

<sup>7</sup> SBO Proposals will be required to provide a table identifying project costs by year. These capital costs should be all inclusive, including but not limited to costs associated with equipment, Engineering, Procurement, and Construction (EPC), interconnection, overhead, and Allowance for Funds Used During Construction (AFUDC).

- 1.10.3 Any and all disputes arising out of or relating to the RFP which remain unresolved for a period of twenty (20) Days after the Initial Meeting takes place may, upon the agreement of the Proposer and the Company, be submitted to confidential mediation in Honolulu, Hawai‘i, pursuant to and in accordance with the Mediation Rules, Procedures, and Protocols of Dispute Prevention Resolution, Inc. (“DPR”) (or its successor) or, in its absence, the American Arbitration Association then in effect (“Mediation”). The Mediation will be administered by DPR. If the parties agree to submit the dispute to Mediation, the Proposer and the Company shall each pay fifty percent (50%) of the cost of the Mediation (i.e., the fees and expenses charged by the mediator and DPR) and shall otherwise each bear their own Mediation costs and attorneys’ fees.
- 1.10.4 If settlement of the dispute is not reached within sixty (60) Days after commencement of the Mediation, or if after the Initial Meeting, the parties do not agree to submit any unresolved disputes to Mediation, then as provided in the Framework, the Proposer may submit the dispute to the PUC in accordance with the Framework.
- 1.10.5 In accordance with the Framework, the PUC will serve as the arbiter of last resort for any disputes relating to this RFP involving Proposers. The PUC will use an informal expedited dispute resolution process to resolve the dispute within thirty (30) Days, as described in Parts III.B.8 and V of the Framework.<sup>8</sup> There will be no right to hearing or appeal from this informal expedited dispute resolution process.
- 1.10.6 If any Proposer initiates a dispute resolution process for any dispute or claim arising under or relating to this RFP, other than that permitted by the Framework and this Section 1.10 (e.g., a court proceeding), then such Proposer shall be responsible for any and all attorneys’ fees and costs that may be incurred by the Company or the PUC in order to resolve such claim.

## **1.11 No Protest or Appeal**

Subject to Section 1.10, no Proposer or other person will have the right to protest or appeal any award or disqualification of a Project made by the Company.

By submitting a Proposal in response to the RFP, the Proposer expressly agrees to the terms and conditions set forth in this RFP.

## **1.12 Modification or Cancellation of the Solicitation Process**

- 1.12.1 Unless otherwise expressly prohibited, the Company may, at any time up to the final execution of an RDG PPA, as may be applicable, in consultation with the Independent Observer, postpone, withdraw, and/or cancel any requirement, term, or condition of this

<sup>8</sup> The informal expedited dispute resolution process does not apply to PUC review of contracts that result from the RFP. See Decision and Order No. 23121 at 34-35. Further, the informal expedited dispute resolution process does not apply to the Framework’s process relating to issuance of a draft and final RFP, and/or to the PUC approval of the RFP because: (1) the Framework (and the RFP) set forth specific processes whereby interested parties may provide input through the submission of comments; and (2) the Framework’s dispute resolution process applies to “Bidders” and there are no “Bidders” at this stage in the RFP process.

RFP, including deferral of the award or negotiation of any contract, and/or cancellation of the award all together, all of which will be without any liability to the Company.

- 1.12.2 The Company may modify this RFP subject to requirements of the Framework, whereby the modified RFP will be reviewed by the Independent Observer and submitted to the PUC thirty (30) Days prior to its issuance, unless the PUC directs otherwise. See Framework Part IV.B.10. The Company will follow the same procedure with regard to any potential postponement, withdrawal, or cancellation of the RFP or any portion thereof.

### **1.13 Community Outreach**

The Company held a community meeting on Lāna‘i to explain the RFP process and the Company’s intent to procure a PV with storage project on the island of Lāna‘i. At the community meeting, the Company solicited feedback from the community of Lāna‘i regarding the RFP process and planned procurement. The Company has provided the comments received at the meeting in Appendix K. Proposers are encouraged to review such comments and take such comments into account when developing Proposals in response to this RFP.

## **Chapter 2: Resource Needs and Requirements**

### **2.1 Performance Standards**

Proposals must meet the attributes set forth in this RFP, Rule 29, and the requirements of the RDG PPA. This RFP, Rule 29, and the RDG PPA set forth the minimum requirements that all Proposals must satisfy to be eligible for consideration in this RFP. Additional Performance Standards may be required based on the results of the IRS.

Facilities must be able to operate in grid-forming mode when directed by the Company as defined in the RDG PPA. Black start capability<sup>9</sup> is required.

The functionality and characteristics of the storage must be maintained throughout the term of the PPA. To be clear, Proposers may not propose any degradation for either capacity or efficiency in their Proposals.

### **2.2 Distribution System Information**

The Company has performed a preliminary evaluation of the Distribution System which indicates that a PV project of the requested size is able to be supported at the Miki Basin switchyard. A detailed IRS will be required to assess whether additional system mitigation measures will be required to integrate any specific project selected through this RFP. Per Section 3.11 and Appendix F, projects must interconnect to the Miki Basin switchyard. The estimated configuration of the interconnection is provided in

<sup>9</sup> The ability to provide power to the Company's grid without relying on any services or energy from the Company's grid to recover from a total or partial shutdown. When the Company's grid blacks out, the Project may experience step changes in load and other transient and dynamic conditions as it picks up load without support from other resources on the system during start-up (if the Project remains connected) or while connecting.



Appendix H. Any questions regarding the interconnection may be directed to the RFP Email Address in Section 1.6.

## **2.3 Interconnection to the Company System**

- 2.3.1 The Proposer must provide all information pertaining to the design, development, and construction of the Interconnection Facilities as specified in Appendix B. Interconnection Facilities include both: (1) Seller-Owned Interconnection Facilities; and (2) Company-Owned Interconnection Facilities.
- 2.3.2 All Proposals must include a description and conceptual or schematic diagrams of the Proposer's plan to transmit power from the Facility to the Company System. The proposed Interconnection Facilities must be compatible with the Company System. In the design, Projects must adequately consider Company requirements to address impacts on the performance and reliability of the Company System.
- 2.3.2.1 In addition to the Performance Standards and findings of the IRS, the design of the Interconnection Facilities, including power rating, Point(s) of Interconnection with the Company System, and scheme of interconnection, must meet Company standards. The Company will provide its construction standards and procedures to the Proposer (Engineer, Procure, Construct Specifications for Hawaiian Electric Power Lines and Substations) if requested via the communication methods identified in Section 1.5 and upon the execution of an NDA as specified in Section 3.12.1. These specifications are intended to illustrate the scope of work typically required to administer and perform the design and construction of a Maui Electric substation and power line.
- 2.3.3 Tariff Rule No. 19, a copy of which is attached as Appendix I, establishes provisions for Interconnection and Transmission Upgrades. While the Lānaʻi System does not have a traditional Transmission System, the tariff provisions are intended to simplify the rules regarding who pays for, installs, owns, and operates interconnection facilities in the context of competitive bidding. Proposers will be required to build the Company-Owned Interconnection Facilities, including any potential line extensions, except for any work in the Company's existing energized facilities and the final tap. Construction of Company-Owned Interconnection Facilities by the Proposer must comply with industry standards, laws, rules, and licensing requirements, as well as the Company's specific construction standards and procedures that the Company will provide upon request. (See Section 2.3.2.1) Attachment A of Appendix I is provided to illustrate certain defined terms in Appendix I and does not represent the Company's design requirements. The design of all Interconnection Facilities will be subject to the requirements outlined in Section 2.3.2.1.
- 2.3.4 The Proposer shall be responsible for all costs required to interconnect a Project to the Company System, including but not limited to any work in the Company's existing energized facilities, the final tap, and all Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities.
- 2.3.5 Proposers are required to include in their pricing proposal all costs for interconnection and distribution equipment expected to be required between their Facility and their

proposed Point of Interconnection. Appendix H includes some information related to Company-Owned Interconnection Facilities and costs that may be helpful to Proposers.

The selected Proposer shall be responsible for the actual final costs of all Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities, whether or not such costs exceed the costs set forth in a Proposer’s Proposal. No adjustments will be allowed to the proposed price in a Proposal if actual costs for Interconnection Facilities exceed the amounts proposed.

- 2.3.6 Proposers are required to include in their pricing proposal all costs for distribution-level service interconnection for station power.
- 2.3.7 All Projects will be screened for general readiness to comply with the requirements for interconnection. The selected Proposal will be subject to further study in the form of an IRS. The IRS process is further described in Section 5.1. The results of the completed IRS, as well as any mitigation measures identified, will be incorporated into the terms and conditions of a final executed PPA.

**Chapter 3: Instructions to Proposers**

**3.1 Schedule for the Proposal Process**

Table 1 sets forth the proposed schedule for the proposal process (the “RFP Schedule”). The RFP Schedule is subject to PUC approval. The Company reserves the right to revise the RFP Schedule as necessary. Changes to the RFP Schedule prior to the RFP Proposal Due Date will be posted to the RFP website. Changes to the RFP Schedule after the Proposal Due Date will be communicated via email or via the Electronic Procurement Platform to the Proposers.

**Table 1  
RFP Schedule**

| Milestone                                     | Schedule Dates                   |
|---|----------------------------------|
| (1) Draft RFP filed                           | July 9, 2020                     |
| (2) Technical Status Conference               | July 29, 2020                    |
| (3) Parties and Participants file Comments by | August 12, 2020                  |
| (4) Proposed Final RFP filed                  | September 8, 2020                |
| (5) Final RFP is Issued                       | October 20, 2020 <sup>12</sup>   |
| (6) Self-Build Proposal Due Date              | December 21, 2020 at 2:00 pm HST |
| (7) IPP and Affiliate Proposal Due Date       | December 22, 2020 at 2:00 pm HST |
| (8) Selection of Final Award Group            | March 5, 2021                    |
| (9) Contract Negotiations Start               | March 12, 2021                   |

<sup>12</sup> Per Section IV.B.6.e.ii of the Competitive Bidding Framework “[t]he utility shall have the right to issue the RFP if the Commission does not direct the utility to do otherwise within thirty (30) days after the Commission receives the proposed RFP and the Independent Observer’s comments and recommendations.” October 20, 2020 assumes the Company issues a Final RFP to comply with Commission guidance received after 30 days. The Final RFP may be issued sooner, but the Company will not issue the Final RFP without Commission guidance.

### **3.2 Company RFP Website/Electronic Procurement Platform**

- 3.2.1 The Company has established a website for general information to share with potential Proposers. The RFP website is located at the following link:

<https://www.hawaiianelectric.com/competitivebidding/lanai-rfp>

The Company will provide general notices, updates, schedules and other information on the RFP website throughout the process. Proposers should check the website frequently to stay abreast of any new developments. This website will also contain the link to the Electronic Procurement Platform employed by the Company for the receipt of Proposals.

“Sourcing Intelligence” developed by Power Advocate is the Electronic Procurement Platform that the Company has licensed and will utilize for this RFP. Proposers who do not already have an existing account with PowerAdvocate and who intend to submit a Proposal for this RFP will need to register as a “Supplier” with PowerAdvocate.

- 3.2.2 There are no license fees, costs, or usage fees to Proposers for the use of the Electronic Procurement Platform.

See Appendix D for user information on and screenshots of PowerAdvocate’s Sourcing Intelligence procurement platform.

### **3.3 Status Conferences**

The PUC held a status conference on September 5, 2019 to allow the Companies to propose plans for the draft Lāna‘i and Moloka‘i RFPs and to respond to questions from the PUC, the Consumer Advocate and stakeholders. The Companies’ presentation was made available on the RFP website. The PUC also solicited comments from stakeholders on the Companies’ Draft Lāna‘i and Moloka‘i RFPs on September 6, 2019 before releasing its Order No. 36776 approving the draft RFPs with modifications on November 15, 2019.

The PUC has also scheduled a Technical Status Conference on July 29, 2020 to discuss this draft RFP. Parties and Participants will then have an opportunity to submit comments on the draft RFP. The Company will then revise the RFP after considering comments received and file a final RFP for PUC review and approval.

Additionally, the Company will hold a prerecorded webinar for CBRE in accordance with the Competitive Bidding Framework for prospective Proposers to learn about the provisions and requirements of this RFP. Prospective Proposers may also submit written questions regarding the RFP to the RFP Email Address set forth in Section 1.6. The Company will endeavor to address all questions that will be helpful to prospective Proposers via a Q&A section on the RFP website.

Prospective Proposers should review the RFP Website's Q&A section prior to submission of their Proposal. Duplicate questions will not be answered.

### **3.4 Preparation of Proposals**

- 3.4.1 Each Proposer shall be solely responsible for reviewing the RFP (including all attachments and links) and for thoroughly investigating and informing itself with respect to all matters pertinent to this RFP, the Proposer's Proposal, and the Proposer's anticipated performance under the RDG PPA. It is the Proposer's responsibility to ensure it understands all requirements of the RFP, to seek clarification if the RFP's requirements or Company's request is not clear, and to ask for any confirmation of receipt of submission of information. Under Section 1.7.4, the Proposer is solely responsible for all errors in its Proposal(s). The Company will not accept any assertion by a Proposer that it was incumbent on the Company to catch any error.
- 3.4.2 Proposers shall rely only on official information provided by the Company in this RFP when preparing their Proposal. The Company will rely only on the information included in the Proposals and additional information solicited by the Company to Proposers in the format requested, to evaluate the Proposals received. Evaluation will be based on the stated information in this RFP and on information submitted by Proposers in response to this RFP. Proposals must clearly state all capabilities, functionality and characteristics of the Project; must clearly detail plans to be performed; must explain applicability of information; and must provide all referenced material if it is to be considered during the Proposal evaluation. Referencing previous RFP submissions or projects for support will not be considered. Proposers should not assume that any previous RFP decisions or preferences also apply to this RFP.
- 3.4.3 Each Proposer shall be solely responsible for, and shall bear all of its costs incurred in the preparation of its Proposal and/or its participation in this RFP, including, but not limited to, all costs incurred with respect to the following: (1) review of the RFP documents; (2) status conference participation; (3) Site visits; (4) third-party consultant consultation; and (5) investigation and research relating to its Proposal and this RFP. The Company will not reimburse any Proposer for any such costs, including the selected Proposer.
- 3.4.4 Each Proposal must contain the full name and business address of the Proposer and must be signed by an authorized officer or agent<sup>16</sup> of the Proposer.

### **3.5 Organization of the Proposal**

- 3.5.1 The Proposal must be organized as specified in Appendix B. It is the Proposer's responsibility to ensure the information requested in this RFP is submitted and contained within the defined Proposal sections as specified in Appendix B.

<sup>16</sup> Proposer's officer or agent must be authorized to sign the Proposal. Such authorization must be in writing and may be granted via Proposer's organizational documents (i.e., Articles of Incorporation, Articles of Organization, By-laws, etc.), resolution, or similar documentation.

### **3.6 Proposal Limitations**

Proposers expressly acknowledge that Proposals are submitted subject to the following limitations:

The RFP does not commit or require the Company to award a contract, pay any costs incurred by a Proposer in the preparation of a Proposal, or procure or contract for products or services of any kind whatsoever. The Company reserves the right, in consultation with the Independent Observer, to accept or reject, in whole or in part, any or all Proposals submitted in response to this RFP, to negotiate with any or all Proposers eligible to be selected for award, or to withdraw or modify this RFP in whole or in part at any time.

- The Company reserves the right, in consultation with the Independent Observer, to request additional information from any or all Proposers relating to their Proposals or to request that Proposers clarify the contents of their Proposals. Proposers who are not responsive to such information requests may be eliminated from further consideration upon consultation with the Independent Observer.
- The Company reserves the right, in consultation with the Independent Observer, to solicit additional Proposals from Proposers after reviewing the initial Proposals. Other than as provided in this RFP, no Proposer will be allowed to alter its Proposal or add new information to a Proposal after the Proposal Due Date.
- All material submitted in response to this RFP will become the sole property of the Company, subject to the terms of the NDA.

### **3.7 Proposal Compliance and Bases for Disqualification**

Proposers may be deemed non-responsive and/or Proposals may not be considered for reasons including, but not limited to, the following:

- Any unsolicited contact by a Proposer or prospective Proposer with personnel of the Company pertaining to this RFP as described in Section 1.5.5.
- Any illegal or undue attempts by or on behalf of the Proposer or others to influence the Proposal Review process.
- The Proposal does not meet one or more of the Eligibility Requirements specified in Section 4.2.
- The Proposal does not meet one or more of the Threshold Requirements specified in Section 4.3.
- The Proposal is deemed to be unacceptable through a fatal flaws analysis as described in Section 4.4.2.

- The Proposer does not respond to a Company request for additional information to clarify the contents of its Proposal within the timelines specified by the Company.
- The Proposal contains misrepresentations or errors.

### **3.8 Power Purchase Agreement**

- 3.8.1 The Power Purchase Agreement for proposals selected under this RFP will be in the form of the RDG PPA, attached as Appendix L.
- 3.8.2 If selected, any Affiliate Proposer will be required to enter into the RDG PPA with the Company.
- 3.8.3 If selected, a Self-Build Proposer will not be required to enter into a PPA with the Company. However, the Self-Build Proposer will be held to the proposed modifications to the RDG PPA, if any, it submits as part of the SBO in accordance with Section 3.8.5. Moreover, the SBO will be held to the same performance metrics and milestones set forth in the RDG PPA to the same extent as all Proposers, as attested to in the SBO's Appendix G, Attachment 1, Self-Build Option Certification submittal. If liquidated damages are assessed, they will be paid from shareholder funds and returned to customers through the Purchased Power Adjustment Clause ("PPAC") or other appropriate rate adjustment mechanisms.

To retain the benefits of operational flexibility of a Company-owned facility, the SBO Proposal will be permitted to adjust operational requirements and performance metrics with the approval of the PUC. The process for adjustment would be similar to a negotiated amendment to a PPA with PUC approval.

- 3.8.4 In general, under the RDG PPA, payment to the Seller consists of a Lump Sum Payment component to cover the costs of the Project. In return, the Seller shall guarantee minimum performance and availability metrics to ensure that the Facility is maintained and available for energy storage and dispatch, as well as provide an indication of the available energy in near real-time for the Company's dispatch. Company shall not be obligated to accept, nor shall it be required to pay for, test energy generated by the Facility during acceptance testing or other test conditions.
- 3.8.5 The Performance Standards identified Section 2.1 in the RDG PPA establish the minimum requirements a Proposal must satisfy to be eligible for consideration in this RFP. A proposed Facility's ability to meet these Performance Standards is both a Threshold Requirement and a Non-Price Related Criteria under Sections 4.3 and 4.4.2, respectively. As such, these Performance Standards included in the RDG PPA are non-negotiable. Proposers may propose modifications to other sections of the RDG PPA but are encouraged to accept such terms as written in order to expedite the overall RFP process and potential contract negotiations. As a component of their Proposals, Proposers who elect to propose modifications shall provide a Microsoft Word red-line version of the relevant document identifying specific proposed modifications to the

model language that the Proposer is agreeable to, as well as a detailed explanation and supporting rationale for each modification.

- 3.8.5.1 General comments, drafting notes and footnotes such as “parties to discuss”, and reservation of rights to propose modifications at a later time are unacceptable and will be considered non-responsive. Proposed modifications to the RDG PPA will be evaluated as a non-price evaluation criterion as further described in Section 4.4.2. In order to facilitate this process, the Company will make available an electronic version of the model agreement on the RFP website and through the Electronic Procurement Platform for the RFP. Any proposed modifications to the RDG PPA will be subject to negotiation between the Company and the Final Award Group. As stated above, since general comments, drafting notes, and footnotes without accompanying specific proposed language modifications are unacceptable and non-responsive, the Company will not negotiate provisions simply marked by such general comments, drafting notes, and footnotes.
- 3.8.5.2 The Company has an interest in maintaining consistency for certain provisions of the RDG PPAs, such as the calculation of availability and payment terms. Therefore, for such provisions, the Company will endeavor to negotiate similar and consistent language across PPAs for the Final Award Group.
- 3.8.6 Proposals that do not include specific proposed modifications to the attached RDG PPA will be deemed to have accepted the RDG PPA in its entirety.

### **3.9 Pricing Requirements**

- 3.9.1 Proposers are responsible for understanding the terms of the RDG PPA. Pricing cannot be specified as contingent upon other factors (e.g., changes to federal tax policy or receiving all Investment Tax Credits assumed).
- 3.9.2 Escalation in pricing over the term of the RDG PPA is prohibited.
- 3.9.3 Pricing information must only be identified within specified sections of the Proposal instructed by this RFP’s Appendix B Proposer’s Response Package (i.e., Proposal pricing information must be contained within defined Proposal sections of the Proposal submission). Pricing information contained anywhere else in a Proposal will not be considered during the evaluation process.
- 3.9.4 The Proposer’s Response Package must include the following prices for each Proposal:
- For IPP or Affiliate proposals:
- **Lump Sum Payment (\$/year):** Payment amount for full dispatchability of the Facility. Payment will be made in monthly increments.

For the Self-Build Proposal:

- **Total Project Capital Costs (\$/year):** Total capital costs for the project (identified by year).
- **Annual O&M Costs (\$/year):** Initial year operations and maintenance costs, annual escalation rate.
- **Annual Revenue Requirement (\$/year):** Annual revenue requirements (ARR) calculated for each year.

Additional description and detail on the Total Project Capital Costs, Annual O&M Costs, and Annual Revenue Requirement for the SBO Proposal is located in Appendix G.

3.9.5 As identified in the Schedule of Defined Terms in the PPA under “BESS Allocated Portion of the Lump Sum Payment”, the allocated portion of the Lump Sum Payment specified for energy storage for the Facility is 50% and shall be a non-negotiable percentage in the PPA.

### **3.10 Project Description**

3.10.1 Proposals are required to provide a NEP RFP Projection for the Project. The NEP RFP Projection associated with the proposed Project represents the estimated annual net energy (in MWh) that could be produced by the Facility and delivered to the Point of Interconnection over a ten-year period with a probability of exceedance of 95%. For Paired Projects, the energy generated by the Facility in excess of the Facility’s Allowed Capacity and stored in the energy storage component of the Facility should be included in the NEP RFP Projection. Any energy generated outside of the proposed Facility that is used to charge the energy storage component should not be factored into the NEP RFP Projection. Any losses that may be incurred from energy being stored and then discharged from the energy storage component should not be factored into the NEP RFP Projection. The NEP RFP Projection will be used in the RFP evaluation process and therefore Proposers will be held to their provided value.<sup>17</sup>

3.10.2 Each Proposer must also agree to provide Project financial information, including proposed Project finance structure information specified in Appendix B. Such information will be used to evaluate Threshold Requirements and non-price criteria (e.g., Financial Viability of Proposer, Financial Strength and Financing Plan, State of Project Development and Schedule) set forth in Sections 4.3 and 4.4.2. Upon selection, the Final Award Group may be requested to provide further detailed cost information if requested

<sup>17</sup> If a PPA is executed between the Company and the selected Proposer, the NEP RFP Projection will be further evaluated at several steps throughout the process as set forth in the RDG PPA, and adjustments to the Lump Sum Payment will be made accordingly. Additionally, because the Company will rely on an accurate representation of the NEP RFP Projection in the RFP evaluation, a one-time liquidated damage as described in the RDG PPA will be assessed if the First NEP benchmark is less than the Proposer’s NEP RFP Projection. After the Facility has achieved commercial operations, the performance of the Facility will be assessed on a continuing basis against key metrics identified in the RDG PPA. See Article 2 and Attachment U of the RDG PPA.



by the PUC or the Consumer Advocate as part of the PPA approval process. If requested, such information would be provided to the PUC, Consumer Advocate, and Company pursuant to a protective order in the docket.

- 3.10.3 The Proposer agrees that no material changes or additions to the Facility from what is submitted in its Proposal will be made without the Proposer first having obtained prior written consent from the Company. Evaluation of all Proposals in this RFP is based on the information submitted in each Proposal at the Proposal Due Date. If any Proposer requests that any Proposal information be changed after that date, the Company, in consultation with the Independent Observer, and in consideration of whether the evaluation is affected, will determine whether the change is permitted.

### **3.11 Project Site**

All proposals must be sited on a pre-determined Project Site owned by Pūlama Lāna‘i, referred to as the Pūlama Site.<sup>18</sup> The available area is approximately seventy-three (73) acres and is located adjacent to Miki Road and Miki Basin Plant, less than one (1) mile from the airport.

The selected Proposer will be required to execute a lease for the Pūlama Site coterminous with the term of the PPA with the landowner. A draft copy of the proposed form of lease and lease term sheet are included as Attachment 2 and Attachment 3, respectively, to Appendix F. The terms of the lease will be negotiable with the landowner. Additional information regarding the site, including a link to an Environmental Assessment and associated studies can also be found in Appendix F.

Pūlama Lāna‘i may consider offering potential Proposers the opportunity to visit the Pūlama Site. Due to COVID 19 travel restrictions, further details regarding a visit, if possible, will be posted to the Company’s RFP website prior to the issuance of the Final RFP.

### **3.12 Confidentiality**

- 3.12.1 Each prospective Proposer must submit an executed NDA in the form attached as Appendix E by the Proposal Due Date specified in the RFP Schedule in Section 3.1. If a Proposer had previously executed an NDA for the Request for Proposal for Variable Renewable Dispatchable Generation Paired with Energy Storage, Island of Lāna‘i, dated November 29, 2019, that executed NDA will be accepted. The form of the NDA is not negotiable. Information designated as confidential by the Company will be provided on a limited basis, and only those prospective Proposers who have submitted an executed NDA will be considered. Proposers must clearly identify all confidential information in their Proposals. However, Proposers should designate as confidential only those portions of their Proposals that genuinely warrant confidential treatment. The Company

<sup>18</sup> The location and acreage of the Pūlama Site in this RFP is different from the Pūlama Site identified in the RFP for Variable Renewable Dispatchable Generation Paired with Energy Storage, Island of Lāna‘i, dated November 27, 2019 and revised March 10, 2020.

discourages the practice of marking every page of a Proposal as confidential. The Company will make reasonable efforts to protect any such information that is clearly marked as confidential. Consistent with the terms of the NDA, the Company reserves the right to share any information, even if marked confidential, with its agents, contractors, or the Independent Observer for the purpose of evaluating the Proposal and facilitating potential contract negotiations.

- 3.12.2 Proposers, in submitting any Proposal to Company in response to this RFP, certify that such Proposer has not shared its Proposal, or any part thereof, with any other Proposer of a Proposal responsive to this RFP.
- 3.12.3 The Company will request that the PUC issue a Protective Order to protect confidential information provided by Proposers to the Company and to be filed in a proceeding before the PUC. A copy of the Protective Order, once issued by the PUC, will be provided to Proposers. Proposers should be aware that the Company may be required to share certain confidential information contained in Proposals with the PUC, the State of Hawai'i Department of Commerce and Consumer Affairs, Division of Consumer Advocacy , and the parties to any docket instituted by the PUC, provided that recipients of confidential information have first agreed in writing to abide by the terms of the Protective Order. Notwithstanding the foregoing, no Proposer will be provided with Proposals from any other Proposer, nor will Proposers be provided with any other information contained in such Proposals or provided by or with respect to any other Proposer.

### **3.13 Credit Requirements Under the PPA**

- 3.13.1 The Proposer with whom the Company enters into a PPA must post Development Period Security and Operating Period Security in the form of an irrevocable standby letter of credit from a bank chartered in the United States as required and set forth in Article 14 of the RDG PPA.
- 3.13.2 The Development Period Security and Operating Period Security identified in the RDG PPA are minimum requirements. Proposers shall not propose an amount lower than that set forth in the RDG PPA.
- 3.13.3 Each Proposer shall be required to provide a satisfactory irrevocable standby letter of credit in favor of the Company from a bank chartered in the United States to guarantee Proposer's payment of interconnection costs for all Company-Owned Interconnection Facilities in excess of the Total Estimated Interconnection Costs and/or all relocation costs in excess of Total Estimated Relocation Costs that are payable to Company as required and set forth in Attachment G to the RDG PPA.
- 3.13.4 Proposers may be required to provide an irrevocable standby letter of credit in favor of the Company from a bank chartered in the United States in lieu of the required Source Code Escrow in an amount and as required and set forth in Attachment B to the RDG PPA.

## **Chapter 4: Evaluation Process and Evaluation Criteria**

### **4.1 Proposal Evaluation and Selection Process**

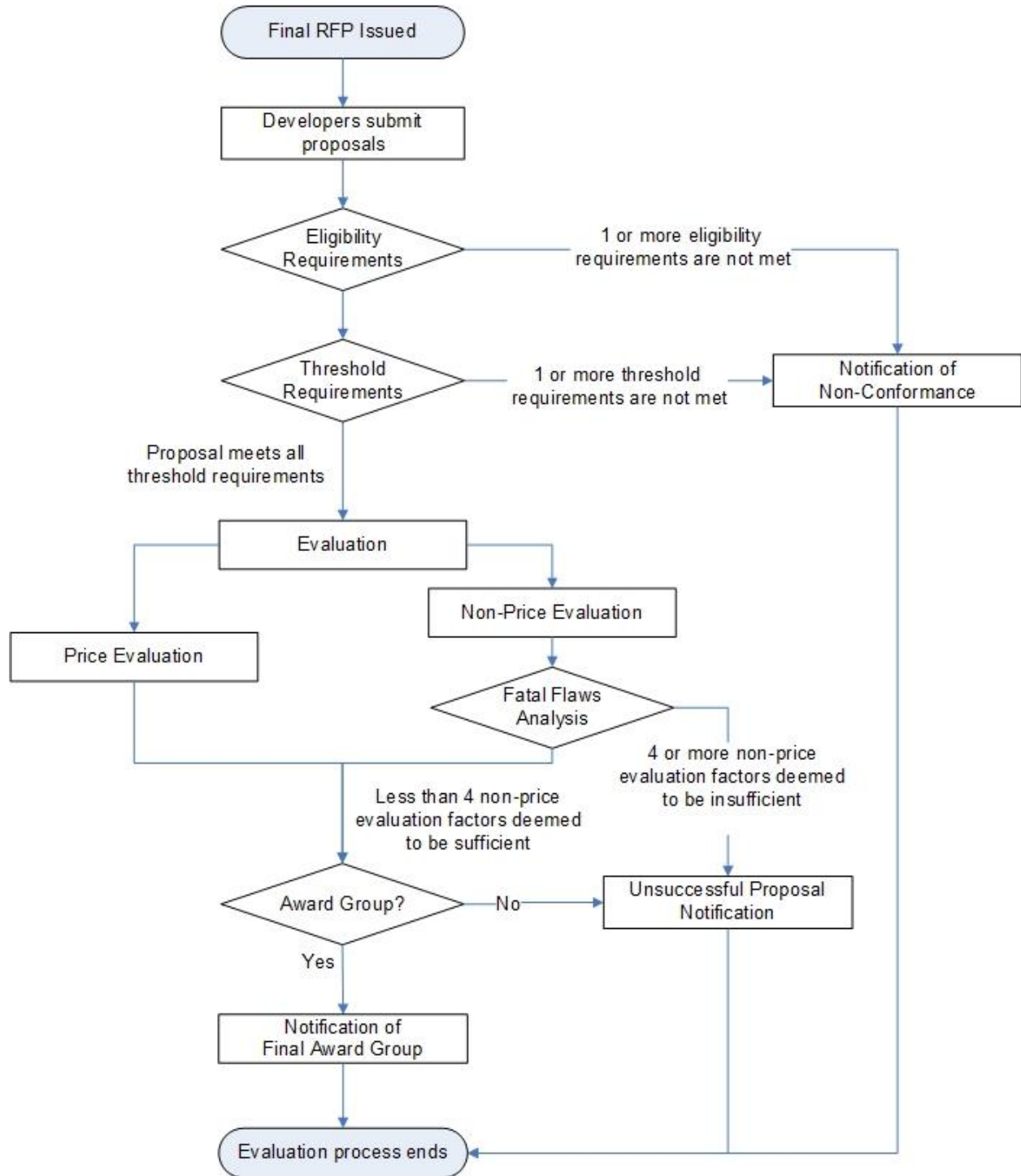
The Company will employ a multi-step evaluation process. Once the Proposals are received, the Proposals will be subject to a consistent and defined review, evaluation, and selection process. This Chapter provides a description of each step of the process, along with the requirements of Proposers at each step. Figure 1 sets forth the flowchart for the proposal evaluation and selection process.

Upon receipt of the Proposals, the Company will review each Proposal submission to determine if it meets the Eligibility Requirements and the Threshold Requirements. The Company, in coordination with the Independent Observer will determine if a Proposer is allowed to cure any aspect of its Proposal or whether the Proposal will be eliminated based on failure to meet either Eligibility or Threshold Requirements.<sup>19</sup> If a Proposer is provided the opportunity to cure any aspect of its Proposal, the Proposer shall be given three (3) business days to cure from the date of notification to cure<sup>20</sup>. Proposals that have successfully met the Eligibility and Threshold Requirements will then enter a price and non-price evaluation process, ultimately ending in a Proposal being selected to the Final Award Group.

<sup>19</sup> As a general rule, if a Proposer does not include a requested document, inadvertently excludes minor information or provides inconsistencies in its information, it may be given a chance to cure such deficiency. If a Proposer fails to provide material required information in its Proposal and providing the Proposer an opportunity to cure is deemed by the Company, in consultation with the Independent Observer, as an unfair advantage to such Proposer, the Proposal could be classified as non-conforming and eliminated for failure to meet Eligibility Requirements.

<sup>20</sup> The initial request will be offered 3 business days to cure. Succeeding inquiries on the deficiencies will be offered cure periods deemed sufficient by the Company and Independent Observer.

**Figure 1 – Evaluation Workflow**



## 4.2 Eligibility Requirements Assessment

Upon receipt of the Proposals, each Proposal will be reviewed to ensure that it meets the following Eligibility Requirements.

- A Proposer is not eligible to participate in this RFP if the Proposer, its parent company, or an affiliate of the Proposer has:
  - defaulted on a current contract with the Company, or
  - had a contract terminated by the Company, or
  - any pending litigation with the Company.
- The Proposal, including required uploaded files, must be received on time via the Electronic Procurement Platform.
- The Proposal Fee must be received on time on or before the Proposal Due Date.<sup>21</sup>
- The Proposal must not contain material omissions.
- The Proposal must be signed and certified by an officer or other authorized agent of the Proposer.
- The Proposers must fully execute the NDA agreements and any other documents required pursuant to this RFP.
- The Proposer must provide a Certificate of Vendor Compliance from the Hawai'i Compliance Express dated issued within 60 days of the date of Proposal submission (a certificate of good standing from the State of Hawai'i Department of Commerce and Consumer Affairs and also federal and Hawai'i state tax clearance certificates for the Proposer may be substituted for the Certificate of Vendor Compliance).
- The Proposal must not be contingent upon changes to existing county, state, or federal laws or regulations.
- The Proposal must be sited on the Pūlama Site.
- The Proposal must be for a PV project and must include an energy storage component.
- The largest unit size shall be limited to 2.5MW net export and follow the conceptual design for interconnection at Miki Basin switchyard at Section 2.2 of Appendix H or other alternative design acceptable to the Company.
- A minimum of 3 MW of the Project capacity must be dedicated to CBRE.
- A minimum of 40% of the CBRE portion of the Project must be dedicated to residential subscribers as described in Section 1.2.3.
- The energy storage component must be able to be charged from the grid at the direction of the Company as described in Section 1.2.11.
- Proposals must specify a GCOD no later than December 31, 2024.
- Proposers shall agree to post Development Period Security and Operating Period Security as described in Section 3.13.

## 4.3 Threshold Requirement Assessment

Proposals that meet all the Eligibility Requirements will then be evaluated to determine compliance with the Threshold Requirements, which have been designed to screen out Proposals

<sup>21</sup> Proposal Fees will not be required for the SBO Proposal.

that are insufficiently developed, lack demonstrated technology, or will impose unacceptable execution risk for the Company.

Proposers must provide explanations and supporting information demonstrating how and why they believe the Project they are proposing meets each of the Threshold Requirements. Proposals that fail to provide this information or meet a Threshold Requirement will be eliminated from further consideration upon concurrence with the Independent Observer.

The Threshold Requirements for this RFP are the following:

- **Performance Standards:** The proposed Facility must be able to meet the performance attributes identified in this RFP and the Performance Standards identified in Section 2.1 of this RFP. Proposals should include sufficient documentation to support the stated claim that the Facility will be able to meet the Performance Standards (including the Project's ability to provide Fast Frequency Response). The Proposal should include information required to make such a determination in an organized manner to ensure this evaluation can be completed within the evaluation review period.
- **Proven Technology:** This criterion is intended as a check to ensure that the technologies proposed are viable and can reasonably be relied upon to meet the objectives of this RFP. The Company will only consider Proposals utilizing technologies that have successfully reached commercial operations in commercial applications (i.e., a PPA) at the scale being proposed. Proposals should include any supporting information for the Company to assess the commercial and financial maturity of the technologies being proposed.
- **Experience of the Proposer:** The Proposer, its affiliated companies, partners, and/or contractors and consultants on the Proposer's Project team must have experience in financing, designing, constructing, interconnecting, owning, operating, and maintaining at least one (1) electricity generation project, including all components of the project (i.e., storage or other attributes), similar in size, scope, technology, and structure to the Project being proposed by Proposer. The Company will consider a Proposer to have reasonably met this Threshold Requirement if the Proposer can provide sufficient information in its Proposal's RFP Appendix B Section 2.13 tables demonstrating that at least one member of the Proposer's team (identified in the Proposal) has specific experience in each of the following categories: financing, designing, constructing, interconnecting, owning, operating, and maintaining projects similar to the Project being proposed.
- **Financial Compliance:** The proposed Project must not cause the Company to be subject to consolidation as set forth, in Financial Accounting Standards Board ("FASB") Accounting Standards Codification Topic 810, Consolidation ("ASC 810") as issued and amended from time to time by FASB. Proposers are required to state to the best of their knowledge, with supporting information to allow the Company to verify such conclusion, that the Proposal will not result in the Seller

under the PPA being a Variable Interest Entity (“VIE”) and result in the Company being the primary beneficiary of the Seller that would trigger consolidation of the Seller’s finances on to the Company’s financial statements under FASB ASC 810. The Company will perform a preliminary consolidation assessment based on the Proposals received. The Company reserves the right to allow a Proposal to proceed through the evaluation process through selection of the Priority List and work with the Proposer on this issue prior to or during PPA negotiations.

- **Community Outreach:** Gaining community support is an important part of a Project’s viability and success. A comprehensive community outreach and communications plan (“Community Outreach Plan”) is an essential roadmap that guides a developer as they work with various communities and stakeholders to gain their support for a Project. Proposers must include a Community Outreach Plan that describes the Proposer’s commitment to work with the neighboring community and stakeholders and to provide them timely Project information during all phases of the Project. The Community Outreach Plan shall include, but not be limited to, the following information: Project description, community scoping (including stakeholders and community concerns), Project benefits, government approvals, development process (including Project schedule), and a comprehensive communications plan.

#### 4.4 Evaluation – Price and Non-Price Analysis

Proposals that meet both the Eligibility and Threshold Requirements are Eligible Proposals which will then be subject to a price and non-price assessment. Two teams have been established to undertake the Proposal evaluation process: a Price Evaluation Team and Non-Price Evaluation Team. The results of the price and non-price analysis will be a relative ranking and scoring of all Eligible Proposals. Price-related criteria will account for fifty-one percent (51%) of the total score and non-price-related criteria will account for forty-nine percent (49%) of the total score. The non-price criteria and methodology for applying the criteria are explained in Section 4.4.2.

The Company will employ a closed-bidding process for this solicitation in accordance with Part IV.H.3 of the Framework where the price and non-price evaluation models to be used will not be provided to Proposers. However, the Company will provide the Independent Observer with all necessary information to allow the Independent Observer to understand the evaluation models and to enable the Independent Observer to observe the entire analysis to ensure a fair process.

##### 4.4.1 Evaluation of the Price Related Criteria

For the evaluation price analysis, an avoided cost screening approach will be used to rank proposals. Using the forecast and planning assumptions developed for the Company’s Integrated Grid Planning process and evaluation methodology proposed in the Solution Evaluation & Optimization Working Group, a resource portfolio will be developed using a capacity expansion model to identify proxy resources that serve the grid needs and inform their marginal avoided costs. For each Proposal, the avoided cost of each grid need would be multiplied by the expected ability of the Proposal to provide that service

and summed across the services to determine the potential benefit of the Proposal. The benefit would then be normalized by the Net Energy Potential (“NEP”) provided in the Proposal to calculate a Levelized Benefit (“LB”) (\$/MWh).

The Eligible Proposal with the highest LB will receive 510 points. All other Eligible Proposals will receive points based on a proportionate reduction using the percentage by which the Eligible Proposal’s LB is lower than the highest LB. For example, if a Proposal’s LB is ten percent (10%) lower than the highest LB, the Proposal will be awarded 459 points (that is, 510 points less 10%). The result of this assessment will be a ranking and scoring of each Proposal.

#### 4.4.2 Evaluation of the Non-Price Related Criteria

For the non-price analysis, each Proposal will be evaluated on each of the ten (10) non-price criteria categories set forth below to assess their merit in the general areas of Project development feasibility and operational viability.

- Community Outreach and Cultural Resource Impacts
- State of Project Development and Schedule
- Performance Standards
- Commitment to Residential Subscriber Participation
- CBRE Program
- Environmental Compliance and Permitting Plan
- Experience and Qualifications
- Financial Strength and Financing Plan
- RDG PPA Contract Exceptions
- Guaranteed Commercial Operations Date

Each of the first five criteria – Community Outreach and Cultural Resource Impacts, State of Project Development and Schedule, Performance Standards, Commitment to Residential Subscriber Participation, and CBRE Program – will be weighted twice as heavily as the others to reflect the impact these categories have to achieve a successful and timely procurement. The non-price criteria are generally scored on a scale of 1 (poor) to 5 (highly preferable). A score of 3 means that a Proposal meets the minimum standard for that criteria.

The total non-price score will be the sum of the scores for each of the individual non-price criteria. The Company will then award non-price evaluation points in accordance with the relative ranking of scores. The Proposal with the highest total non-price score will receive 490 points, and all other Proposals will receive points equal to the Proposal’s score divided by the top score, multiplied by 490.

During the non-price criteria evaluation, a fatal flaws analysis will also be conducted such that any Proposal that is deemed not to meet the minimum standards level for four (4) or more non-price criteria will be disqualified given that the Proposal has failed to meet a majority of non-price factors that are indicative as to the general feasibility and



operational viability of a proposed Project. The Commitment to Residential Subscriber Participation non-price criteria will be excluded from the fatal flaw analysis.

The Company's evaluation of the non-price criteria will be based on the materials provided by a Proposer in its Proposal. Acceptance of any Proposal into the Final Award Group shall not be assumed or construed to be an endorsement or approval that the materials provided by Proposer are complete, accurate or in compliance with applicable law. The Company assumes no obligation to correct, confirm or further research any of the materials submitted by Proposers. Proposers retain sole responsibility to ensure their Proposals are accurate and in compliance with all laws.

The non-price criteria are:

- **Community Outreach and Cultural Resource Impacts** – Gaining community support is an important part of a Project's viability and success. An effective Community Outreach Plan will call for early meaningful communications with stakeholders and will reflect a deep understanding and respect for the community's desire for information to enable them to make informed decisions about future projects in their communities. Therefore, Proposals will be evaluated on the quality of the Community Outreach Plan to inform the Project's impacted communities. Proposers need to also be mindful of the Project's potential impacts to historical and cultural resources.

Proposals should include a Community Outreach Plan that describes the Proposer's commitment to work with the neighboring community and stakeholders and to provide timely Project information during project development, construction and operation. The Community Outreach Plan shall include, but not be limited to the following:

- 1) Project description. A thorough description including a map of the location of the Project. This information will help the community understand the impact that the Project may have on the community.
- 2) Community scoping. Identify stakeholders (individuals, community leaders, organizations), community issues and concerns, and community sentiment.
- 3) Project benefits. An explanation of the need for the Project. This will help the community to understand how the Project might benefit their community.
- 4) Government approvals. Required government permits and approvals, public hearings and other opportunities for public comment. This information will help the community to understand the level of public scrutiny and participation that might occur for the Project and the opportunities to provide public comments.
- 5) Development process. A Project schedule that identifies key milestones will facilitate the community's understanding of the development process.
- 6) Communications Plan. A communications plan including a detailed community outreach schedule that will keep the affected communities and stakeholders informed about the Project's outreach efforts during early Project development period through construction and operations.

Preference will be given to Proposers who have already identified established contacts to work with the local community, have used community input to incorporate changes to the final design of the Project and mitigate community concerns, have proposed a community benefits package (including details of the community recipients and benefits package), or have community consultants as part of the Project team doing business in Hawai'i that have successfully worked with communities in Hawai'i on the development of two or more energy projects or projects with similar community issues. These criteria are aligned with the Companies' community engagement expectation whereby all developers will be required to engage in community outreach prior to signing a PPA with the Companies. This process is also outlined in RFP Section 5.3. Further information and details regarding expectations for the Community Outreach Plan are included as Attachment 4, Attachment 5, and Attachment 6 to Appendix B.

Proposers need to also be mindful of the Projects' potential impacts to historical and cultural resources. Proposers shall identify: the historical resources and cultural resources, practices, and beliefs located within the potentially affected area; the impact of the Project on those resources; and the feasible actions, if any, to be taken to reasonably protect the historical resources and cultural resources, practices, and beliefs identified. Also, Proposers should have already contracted with a consultant with expertise in such field to begin a cultural impact assessment for the Project. Preference will be given to Proposals that are further along in the assessment process and are able to provide a mitigation/action plan or are able to provide a date for when a mitigation/action plan will be available that addresses any identified cultural resource issues.

- **State of Project Development and Schedule** – Projects that are further along in development generally have lower project execution risk and a greater probability of being able to be successfully placed into service prior to the GCOD (specifically identified in each Proposal). At a minimum, Projects should demonstrate how they plan to capture any ITC safe harbor and reach their GCOD specified, including identification of risks and schedule assumptions. (Schedules must identify the IRS completion date and PUC approval dates assumed.) Proposals should also demonstrate, via a detailed critical path schedule, that there is a high likelihood that the Project will be able to reach commercial operations as specified. Proposals shall include a Gantt chart that clearly illustrates the overall schedule and demonstrates achievement of any ITC safe harbor, if applicable, and commercial operations by their specified GCOD. The Gantt chart shall include task durations and dependencies, identify tasks that will be fast tracked, and identifies slack time and contingencies.

This criterion will also look at the high-level Project costs set forth in the Proposal including: costs for equipment, construction, engineering, Seller-Owned Interconnection Facilities, Company-Owned Interconnection Facilities, land, annual O&M, the reasonableness of such costs and the assumptions used for such

costs. Project costs that do not appear reasonable for a project of the size proposed may result in a lower ranking for this criterion if the Company reasonably determines that the cost information is unrealistic based on prior experience in the market which may result in a risk that the Project can be built on time and for the price proposed by the Proposer. The Company reserves the right to discuss any cost and financial information with a Proposer to ensure the information provided is accurate and correct.

- **Performance Standards** – The proposed Facility must be able to meet the performance attributes identified in this RFP and the Performance Standards identified in the RDG PPA. The Company will review the Proposal information received, including design documents and operating procedures materials provided in the Proposal, and evaluate whether the Project as designed is able to meet the Performance Standards identified in the RDG PPA and in this RFP. At a minimum, in addition to meeting the Performance Standards, the Proposals should include sufficient documentation, provided in an organized manner, to support the stated claim that the Facility will be able to meet the Performance Standards. The Proposal should include information required to make such a determination in an organized manner to ensure this evaluation can be completed on a timely basis. Preference will be given to Proposals that provide detailed technical and design information showing how each standard can be met by the proposed Facility.
- **Commitment to Residential Subscriber Participation** – Proposals will be evaluated on the planned commitments of the Project's Subscriber Organization to encourage participation of residential Subscribers. At a minimum, Subscriber Organizations will be required to set aside 40% of the CBRE portion of the Project's Capacity for residential Subscribers. Proposers that commit to reserving a portion larger than 40% of the CBRE portion of their Project Capacity for residential Subscribers will be given more favorable scoring. In addition, Proposals will also be evaluated on the planned commitments of the Project's CBRE Subscriber Organization to encourage participation of LMI subscribers. Proposers that commit to reserving a separate portion of the CBRE portion of the Project's Capacity for LMI Subscribers will be given more favorable scoring.
- **CBRE Program** – Proposals will be evaluated on several facets of the CBRE program being proposed.
  - **Program Offering:** Proposals will be evaluated to give preference to program offerings that are most likely to succeed with and provide the most benefits to residential and LMI customers, as applicable. Financing options, upfront fees, payment over time, public funding options, and other creative approaches will be preferred along with programs that offer higher expected customer level savings, favorable payback periods and mechanisms, and other customer benefits.

- **Marketing and Outreach Plans:** Proposals will be evaluated on the proposed strategies and methods to educate, inform, and stimulate the market in order to achieve their target levels of participation.
- **Program Experience:** Consideration will be given to Proposers that have demonstrated success in the past with projects in other community-based renewable energy programs.
- **Environmental Compliance and Permitting Plan** – This criterion relates to the potential (short- and long-term) environmental impacts associated with each project, the quality of the plan offered by the Proposer to mitigate and manage any environmental impacts (including any pre-existing environmental conditions), and the plan of Proposers to remain in environmental compliance over the term of the contract. These impacts are reflected on a technology-specific basis. Completing any necessary environmental review and obtaining the required permitting in a timely manner is also important and Proposals will be evaluated on their plan to identify, apply for, and secure the required permits for the Project, any permitting activity that has been completed to date, including having initial discussions with U.S. Fish and Wildlife and the State of Hawai‘i Department of Land and Natural Resources’ Division of Forestry and Wildlife, to the extent applicable, prior to submitting a Proposal, and the degree of certainty offered by the Proposer in securing the necessary permits.

At a minimum, proposed Projects should be expected to have minimal environmental impact for most areas and Proposals should provide a comprehensive plan to mitigate the identified potential or actual significant environmental impacts to remain in environmental compliance. The proposed mitigation plans should be included in the Project timeline. Preference will be given to Proposals that provide a more detailed plan as well as those that have proactively taken steps to mitigate potential environmental impacts.

Also, this criterion requires that, at a minimum, Proposers should have identified, and disclosed in their Proposal(s), all major permits, approvals, appurtenances and entitlements (including applicable access, rights of way and/or easements) (collectively, the “permits”) required and have a preliminary plan for securing such permits. Preference will be given to Proposals that are able to provide a greater degree of certainty that its plan to secure the required permits is realistic and achievable or have already received all or a majority of the required permits. The Proposer should disclose all identified (a) discretionary permits required, i.e., those requiring public or contested case hearings and/or review and discretionary approval by an appropriate government agency and (b) ministerial permits required, i.e., those requiring the submission of documents or other ministerial conditions without discretionary approval conditions. In all cases, the Proposer must provide a credible and viable plan to secure all necessary and appropriate permits necessary for the project. For example, if the project is located within an agricultural district, the Proposer shall provide evidence of Proposer’s verification with the appropriate government agency that the project

complies with HRS Section 205-2 and Section 205-4.5, relating to solar energy facilities placed on agricultural land, provided, however that where a special use permit (under Section 205-6), exemption (under Section 205-6), or amendment to land use district boundary lines (under Section 205-4) is required to secure such compliance, Proposer shall identify the need for such permit, exemption or amendment and provide a list of required prerequisites and/or conditions and a realistic timeline necessary to obtain such permit, exemption or amendment satisfactory for Proposer to still meet its designated GCOD.

- **Experience and Qualifications** – Proposals will be evaluated based on the experience of the Proposer in financing, designing, constructing, interconnecting, owning, operating, and maintaining projects (including all components of the project) of similar size, scope and technology. At a minimum, Proposals must show via the table format specified in RFP Appendix B Section 2.13 that at least one (1) member must have specific experience in each of the following categories: financing, designing, constructing, interconnecting, owning, operating, and maintaining at least one electricity generation project including all components of the project similar to the Project being proposed. Preference will be given to Proposers with experience in successfully developing multiple projects that are similar to the one being proposed and/or that have prior experience successfully developing and interconnecting a utility scale project to the Company's System.
- **Financial Strength and Financing Plan** – This criterion addresses the comprehensiveness and reasonableness of the financial plan for the Project as well as assesses the financial strength and capability of the Proposer to develop the Project. A complete financial plan addresses the following issues: Project ownership, capital cost and capital structure, sources of debt and equity, and evidence that credit-worthy entities are interested in financing the Project. The financial strength of Proposers or their credit support providers will be considered, including their credit ratings. The financing participants are expected to be reasonably strong financially. Developers and their sources of capital that have investment grade credit ratings from a reputable credit rating agency (S&P, Moody's, Fitch) will also be given preference, with those that have higher credit ratings ranked higher.
- **RDG PPA Contract Proposed Modifications** – Proposers are encouraged to accept the contract terms identified in the model PPA in its entirety in order to expedite the overall RFP process and potential contract negotiations. Proposers who accept the model PPA without edits will receive a higher score and will be the only proposals that can achieve the highest scoring for this non-price evaluation. Technology-specific or operating characteristic-required modifications, with adequate explanation as to the necessity of such modifications, will not jeopardize a project's ability to achieve the highest score. Proposers who elect to propose modifications to the model agreements shall provide a Microsoft Word red-line version of the applicable document identifying specific proposed modifications to the model agreement language, as well as a

detailed explanation and supporting rationale for each modification. General comments without proposed alternate language, drafting notes without explanation or alternate language, footnotes such as “parties to discuss,” or a reservation of rights to make additional modifications to the model agreements at a later time are unacceptable will be considered unresponsive, and will result in a lower score. See also Section 3.8. The Company and Independent Observer will evaluate the impact that the proposed modifications will have on the overall risk assessment associated with the evaluation of each Proposal.

- **Guaranteed Commercial Operations Date** – The Company is procuring resources and incorporating projects onto its System as part of its long-term plan to meet RPS goals. Proposers will be held to the Guaranteed Commercial Operations Date identified in their Proposal. The GCOD will be a Guaranteed Milestone and will be inserted without amendment into the RDG PPA. Proposers that are able to design for and commit to an earlier GCOD will be given more favorable scoring. Proposers must have met the GCOD requirements of RFP Section 1.2.13 prior to being evaluated in this non-price criterion.

#### **4.5 Selection of the Final Award Group**

At the conclusion of both the price and non-price analysis, a total score will be calculated for each Eligible Proposal using the 51% price-related criteria/ 49% non-price-related criteria weighting outlined above. The price and non-price analysis, and the summation of both price and non-price scores described above, will result in a ranking of Proposals.

Based on the results of this Evaluation and review with the Independent Observer, the Company will select a Proposal to the Final Award Group from which to begin contract negotiations. All Proposers will be notified at this stage of the evaluation process whether their Proposal is included in the Final Award Group.

Selection to the Final Award Group and/or entering into contract negotiations does not guarantee execution of a PPA.

Further, if at any time during the evaluation process it is discovered that a Proposer’s Proposal contains incorrect or misrepresented information that have a material effect on any of the evaluation processes, including selection of the Final Award Group, the Company reserves the right, at any time prior to submission of the PPA application with the PUC, in consultation with the Independent Observer, to disqualify the Proposer from the RFP. If discovery of the incorrect or misrepresented information is made after the Company has filed its PUC application for approval of the PPA with the Proposer, the Company will disclose the incorrect or misrepresented information to the PUC for evaluation and decision as to whether such Proposer should be disqualified and the Company’s application dismissed.

Following any removal of a Proposal from the Final Award Group, either by disqualification noted immediately above, or via any other removal or withdrawal of a Proposal, including failure to reach agreement on the PPA, the Company, taking into

consideration the timing of such removal and the current status of the Company's needs under the RFP, in consultation with and concurrence from the Independent Observer, will determine if another Proposal should be added to the Final Award Group.

## **Chapter 5: Post Evaluation Process**

### **5.1 Interconnection Requirements Study Process**

A complete package of Project Interconnection Data Request worksheets and project single line diagram(s) shall be submitted with each Proposal. The models for equipment and controls, list(s) to clearly identify the components and respective files (for inverters and power plant controller), and complete documentation with instructions, shall be submitted within 30 after selection of the Final Award Group. See Section 2.11.1 of Appendix B. PSSE Generic models, PSSE User models, and ASPEN models shall be configured to represent all of the functional equipment with settings in place to comply with the Company's PPA performance requirements. These must be checked for functionality by the Proposer or its vendors and consultants prior to submission to the Company. Similar and fully accurate PSCAD models shall be submitted in a condition that complies with the PSCAD modeling guidelines provided by the Company. PSSE generic models shall be provided promptly after the PSSE user models have been approved by the Company.

After proposals and models are submitted, the Company will inspect the data packages for general completeness. For any incomplete submissions, a list of missing or non-functional items will be provided. Proposers will be given 15 Days to resolve data and modeling deficiencies. The Company, in consultation with the Independent Observer, may remove Proposals from being selected to the Final Award Group or may terminate PPA negotiations or executed PPAs, if their submission requirements are deemed incomplete for the lack of requested models. Proposals that are complete will be considered for further evaluation. A formal, technical model checkout will be deferred until a later date when IRS Agreements and deposits are in place, so that the expert subject matter work can be provided by the Company's IRS consultant(s).

Upon notification of selection to the Final Award Group, the Company will provide a draft IRS Agreement for the selected project, with a statement of required deposit for individual and prorated work as part of an IRS Scope for a System Impact Study that will involve (a) technical model checkout for the project and (b) any considerations that are specific to the particular project and location. Interconnection cost and schedule, including cost of any required system upgrades, will be determined in a subsequent Facility Study.

The technical model checkouts will be conducted first. Upon identification of any functional problems or deficiencies, corrective action shall be taken immediately and on an interactive basis so that the problems or deficiencies can be resolved within 15 Days, including re-submission of data and updated models, or the Project shall be deemed withdrawn. At the discretion of the Company and provided that there is a demonstration of good faith action to minimize delay that would affect the schedule for IRS analyses, a

second round of model checkout and problem solving may proceed. Thereafter any notice that a Project is deemed withdrawn for lack of completeness shall be final. Subject to consultation with the Independent Observer, failure to provide all requested material within the time(s) specified, or changes to the data provided after the due date(s), shall result in elimination from the Final Award Group.

Proposers shall be responsible for the cost of the IRS, under separate agreements for the System Impact Study and the Facility Study. The overall IRS will provide information including, but not limited to, an estimated cost and schedule for the required Interconnection Facilities for a particular Project and any required mitigation measures. Proposers will be responsible for the actual final costs of all Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities. Upon reviewing the results of the IRS, Proposers will have the opportunity to declare the PPA null and void in the event that the estimated interconnection costs and schedule for the Project are higher than what was estimated in the Project Proposal. See Section 12.4 of the RDG PPA.

## **5.2 Contract Negotiation Process**

Within five (5) business Days of being notified by the Company of its intent to enter into contract negotiations, the Proposer selected to the Final Award Group will be required to indicate, in writing to the Company's primary contact for this RFP, whether it intends to proceed with its Proposal. The awarded Proposer will be required to keep its Proposal valid through the award period. Contract negotiations will take place in parallel with the IRS process. The Company intends to execute and file the PPA with the PUC for approval and later amend the PPA to include the results of the IRS.

## **5.3 Final Award Group Commitments**

### **5.3.1 Community Outreach and Engagement / Cultural Resource Impacts**

The public meeting and comment solicitation process described in this Section and Section 29.21 of the PPA (Community Outreach Plan) do not represent the only community outreach and engagement activities that can or should be performed by a Proposer.

The Company will publicly announce the Final Award Group no more than 5 business days after the notification is given to Proposers who are selected to the Final Award Group. Selected Proposers shall not disclose their selection to the public before the Company publicly announces the Final Award Group selection.

On the next business day after the Company notifies a Proposer they were selected, each Proposer shall provide the Company with links to their Project website, which the Company will post on the Company's website. Each Proposer will launch a Project website that will go-live on the day the Company publicly announces the Final Award Group selection. Information on what should be included on the Project website is identified in Appendix B, Attachment 4.



Within five (5) business days of notification of selection to the Final Award Group, Proposers must have provided the Company with an updated comprehensive Community Outreach Plan to work with and inform neighboring communities and stakeholders and to provide them timely information during all phases of the Project. The Community Outreach Plan shall include but not be limited to the following information: Project description, Project stakeholders, community concerns and Proposer's efforts to address such concerns, Project benefits, government approvals, Project schedule, and a comprehensive communications plan. The Proposer's Community Outreach Plan shall be a public document available to the public on the Proposer's website and upon request. Details on the Community Outreach Plan can be found in Appendix B, Attachments 4, 5, and 6.

Prior to the execution date of the PPA, Proposers shall also host a public meeting in the community where the proposed Project is to be located for community and neighborhood groups in and around the vicinity of the Project Site that provided the neighboring community, stakeholders and the general public with: (i) a reasonable opportunity to learn about the proposed Project; (ii) an opportunity to engage in a dialogue about concerns, mitigation measures, and potential community benefits of the proposed Project; and (iii) information concerning the process and/or intent for the public's input and engagement, including advising attendees that they will have thirty (30) calendar days from the date of said public meeting to submit written comments to Company and/or Proposer for inclusion in the Company's submission to the PUC of its application for a satisfactory PUC Approval Order. The Proposer shall collect all public comments, and then provide the Company copies of all comments received in their original, unedited form, along with copies of all comments with personal information redacted and ready for filing. If a PPA is executed by the Proposer and the Company, the Company may submit any and all public comments (presented in its original, unedited form) as part of its PUC application for this Project. Proposers shall notify the public at least three weeks in advance of the meeting. The Company shall be informed of the meeting. The Company will provide Proposers with detailed instructions regarding the community meeting requirement after the selection of the Final Award Group. (For example, notice will be published in county or regional newspapers/media, as well as media with statewide distribution. The Proposer will be directed to notify certain individuals and organizations. The Proposer will be provided templates to use for the public meeting notices, agenda, and presentation.) Proposers must also comply with any other requirement set forth in the PPA relating to Community Outreach.

Following the submission of the PUC application for the Project, and prior to the date when the Parties' statements of position are to be filed in the docketed PUC proceeding for the Project, the Proposer shall provide another opportunity for the public to comment on the proposed Project. The Proposer's statement of position filed in the docket associated with the Project will contain an attachment including those comments.

The Proposer shall be responsible for community outreach and engagement for the Project, and that the public meeting and comment solicitation process described in this section do not represent the only community outreach and engagement activities that can or should be performed.

Within 5 Days of the start of PPA negotiations, the Proposer shall contract with a consultant to begin a cultural impact assessment for the Project. The consultant shall identify (1) valued cultural, historical, or natural resources in the area in question, including the extent to which traditional and customary native Hawaiian rights are exercised in the area; (2) the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action; and (3) the feasible action, if any, to be taken to reasonably protect native Hawaiian rights if they are found to exist.

### 5.3.2 Ocular Impact Study

Due to the proximity to the Lāna‘i Airport, the Proposer shall complete an ocular impact study for review by the State of Hawai‘i Department of Transportation and any other federal or state agency that may request such study.

## 5.4 Greenhouse Gas Emissions Analysis

The Proposer whose Proposal is selected for the Final Award Group shall cooperate with and promptly provide to the Company and/or Company’s consultant(s) upon request, all information necessary, in the Company’s sole and exclusive discretion, for such consultant to prepare a greenhouse gas (“GHG”) emissions analysis and report in support of a PUC application for approval of the PPA for the project (the “GHG Review”). Proposers shall be responsible for the full cost of the GHG Review associated with their project under a separate agreement between the Proposer and the Company. The GHG Review is anticipated to address whether the GHG emissions that would result from approval of the PPA and subsequent to addition of the Project to the Company’s system are greater than the GHG emissions that would result from the operations of the Company’s System without the addition of the Project, whether the cost for renewable, dispatchable generation, and/or energy storage services as applicable under the PPA is reasonable in light of the potential for GHG emissions, and whether the terms of the PPA are prudent and in the public interest in light of its potential hidden and long-term consequences.

## 5.5 PUC Approval of PPA

Any signed PPA resulting from this RFP is subject to PUC approval as described in the RDG PPA, including [Article 12](#) and [Section 29.20](#) thereof.

## 5.6 Facility In-Service

In order to facilitate the timely commissioning of the project selected through this RFP, the Company requires the following be included with the 60% design drawings: relay settings and protection coordination study, including fuse selection and ac/dc schematic trip scheme.

For the Company to test the Facility, coordination between the Company and Project is required. Drawings must be approved by the Company prior to testing. The entire Facility must be ready for testing to commence. Piecemeal testing will not be allowed.

Communication infrastructure and equipment must be tested by the Proposer and ready for operation prior to Company testing.

If approved drawings are not available, or if the Facility is otherwise not test ready as scheduled, the Project will be moved to the end of the Company's testing queue. If tests are not completed within the allotted scheduled testing time, the Project will be moved to the end of the Company's testing queue. The Proposer will be allowed to cure if successful testing is completed within the allotted scheduled time. No adjustments will be made to PPA milestones if tests are not completed within the original allotted time. Liquidated damages for missed milestones will be assessed pursuant to the PPA.

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix A – Definitions*



**Maui  
Electric**

“Affiliate” means any person or entity that possesses an “affiliated interest” in a utility as defined by section 269-19.5, Hawaii Revised Statutes (“HRS”), including a utility’s parent holding company but excluding a utility’s subsidiary or parent which is also a regulated utility.

“Allowed Capacity” has the meaning set forth in the RDG PPA.

“Code of Conduct” means the code of conduct approved by the PUC in Docket No. 03-0372 (Decision and Order No. 23614, August 28, 2007) with respect to a Self-Build Option. An updated code of conduct was submitted to the PUC in Docket No. 2017-0352 on October 23, 2017.

“Code of Conduct Procedures Manual” or “Procedures Manual” means the manual approved by the PUC, which was put in place to address and to safeguard against preferential treatment or preferential access to information in a Maui Electric RFP process. The Procedures Manual is attached as Appendix C to this RFP.

“Commercial Operations” has the meaning set forth in the RDG PPA.

“Community Outreach Plan” is a community outreach and communication plan described in Section 4.3 and 4.4.2 of this RFP.

“Company” means Maui Electric Company, Ltd., a Hawai‘i corporation.

“Company-Owned Interconnection Facilities” has the meaning set forth in the RDG PPA.

“Competitive Bidding Framework” or “Framework” means the Framework for Competitive Bidding contained in Decision and Order No. 23121 issued by the Public Utilities Commission on December 8, 2006, and any subsequent orders providing for modifications from those set forth in Order No. 23121 issued December 8, 2006.

“Consumer Advocate” means the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs of the State of Hawai‘i.

“Day” means a calendar day, unless the term “business day” is used, which means calendar day excluding weekends and federal and State of Hawai‘i holidays.

“Development Period Security” has the meaning set forth in Section 14.2 of the RDG PPA.

“Dispatchable” means the ability to turn on or turn off a generating resource at the request of the utility’s system operators, or the ability to increase or decrease the output of a generating resource from moment to moment in response to signals from a utility’s Automatic Generation Control System, Energy Management System or similar control system, or at the request of the utility’s system operators.

“Electronic Procurement Platform” means the third-party web-based sourcing platform that will be used for the intake of Proposals and associated electronic information, storage and handling of Proposer information, and communication.

“Eligibility Requirements” has the meaning set forth in Section 4.2 of this RFP.

“Eligible Proposals” means Proposals that meet both the Eligibility and Threshold Requirements.

“Energy Contract Manager” is the primary Company contact for this RFP.

“Evaluation Team” means agents of the Company who evaluate Proposals.

“Facility” has the meaning set forth in the RDG PPA.

“Facility Study” means a study to develop the interconnection facilities cost and schedule estimate including the cost associated with the design and construction of the Company-owned interconnection facilities.

“Final Award Group” means the Proposer selected by the Company which the Company will begin contract negotiations with, based on the results of the Company’s evaluation.

“Greenhouse Gas” or “GHG” are gases that contribute to the greenhouse gas effect and trap heat in the atmosphere.

“Guaranteed Commercial Operations Date” or “GCOD” means the date on which a Facility first achieves Commercial Operations.

“Hawaiian Electric Companies” or “Companies” means Hawaiian Electric Company, Inc. and its subsidiaries, Hawaii Electric Light Company, Inc. and Maui Electric Company, Limited.

“HRS” means the Hawai‘i Revised Statutes as of the date of this Request for Proposals.

“Imputed Debt” means adjustments to the debt amounts reported on financial statements prepared under generally accepted accounting principles (“GAAP”). Certain obligations do not meet the GAAP criteria of “debt” but have debt-like characteristics; therefore, credit rating agencies “impute debt and interest” in evaluating the financial ratios of a company.

“Independent Observer” has the meaning set forth in Section 1.4 of this RFP.

“Independent Power Producer” or “IPP” means an entity that owns or operates an electricity generating facility that is not included in the Company’s rate base.

“Interconnection Facilities” means the equipment and devices required to permit a Facility to operate in parallel with, and deliver electric energy to, the Company System (in accordance with applicable provisions of the Commission’s General Order No. 7, Company tariffs, operational practices, interconnection requirements studies, and planning criteria), such as, but not limited to, transmission and distribution lines, transformers, switches, and circuit breakers. Interconnection Facilities includes Company-Owned Interconnection Facilities and Seller-Owned Interconnection Facilities.

“Interconnection Requirements Study” or “IRS” means a study, performed in accordance with the terms of the IRS Letter Agreement, to assess, among other things, (1) the system requirements and equipment requirements to interconnect the Facility with the Company System, (2) the Performance Standards of the Facility, and (3) an estimate of interconnection costs and project schedule for interconnection of the Facility.

“kV” means kilovolt.

“Levelized Benefit” or “LB” means a calculation (\$/MWh) used for comparison of Proposals based on information provided in the Proposal submission in this RFP.

“Low- and Moderate-Income” or “LMI” customer or subscriber means a member of a household with a household income equal to or less than the income limit established by the U.S. Department of Housing and Urban Development (“HUD”) for a LMI Household.

“Lump Sum Payment” has the meaning set forth in the RDG PPA. It may also be referred to as a monthly Lump Sum Payment to reflect the portion of the payment made each month.

“Maui Electric” means Maui Electric Company, Ltd., a Hawai‘i corporation.

“Maui Electric System” or “System” means the electric system owned and operated by Maui Electric on the island of Lāna‘i (including any non-utility owned facilities) consisting of power plants, transmission and distribution lines, and related equipment for the production and delivery of electric power to the public.

“Mediation” means the confidential mediation conducted in Honolulu, Hawai‘i, pursuant to and in accordance with the Mediation Rules, Procedures, and Protocols of Dispute Prevention Resolution, Inc. (or its successor) or, in its absence, the American Arbitration Association then in effect.

“MW” means megawatt.

“MWh” means megawatt hour.

“NDA” means the Mutual Confidentiality and Non-Disclosure Agreement attached to this RFP as Appendix E.

“NEP” means Net Energy Potential.

“Non-Price Evaluation Team” means Employees and consultants of the Company who evaluate the Proposal non-price related criteria as set forth in Section 4.4 of this RFP. Non-Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.

“O&M” means operation and maintenance.

“Operating Period Security” has the meaning set forth in Section 14.4 of the RDG PPA.

“Performance Standards” means the various performance standards for the operation of the Facility to the Company as set forth in Section 2.10 of Appendix B, as such standards may be revised from time to time pursuant to Article 23 of the RDG PPA, and as described in Chapter 2 of this RFP.

“Point of Interconnection” has the meaning set forth in the RDG PPA.

“Power Purchase Agreement” or “PPA” means an agreement between an electric utility company and the developer of a renewable energy generation facility to sell the power generated by the facility to the electric utility company.

“Price Evaluation Team” means Employees and consultants of the Company who evaluate the Proposal price related criteria as set forth in Section 4.4 of this RFP. Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.

“Project” means a Facility proposed to Maui Electric by a Proposer pursuant to this RFP.

“Proposal” means a proposal submitted to Maui Electric by a Proposer pursuant to this RFP.

“Proposal Due Date” means the date stated in RFP Schedule - Row 6 for the Self-Build and/or Affiliate Proposal and Row 7 for the IPP Proposal of this RFP.

“Proposal Fee” means the non-refundable fee of \$5,000 for each proposal submitted as set forth in Section 1.8 of this RFP.

“Proposer” means a person or entity that submits a Proposal to Maui Electric pursuant to this RFP.

“Proposer’s Response Package” means the form in which the Proposal should be submitted, which is attached as Appendix B to this RFP.

“PUC” means the State of Hawai‘i Public Utilities Commission.

“RDG PPA” means the Model PV + BESS Renewable Dispatchable Generation Power Purchase Agreement attached as Appendix L to this RFP.

“Renewable Portfolio Standards” or “RPS” means the Hawai‘i law that mandates that the Company and its subsidiaries generate or purchase certain amounts of their net electricity sales over time from qualified renewable resources. The RPS requirements in Hawai‘i are currently codified in HRS §§ 269-91 through 269-95.

“Request for Proposals” or “RFP” means a request for Proposals issued pursuant to a competitive bidding process authorized, reviewed, and approved by the PUC.

“RFP Schedule” means the schedule set forth in Table 1, Section 3.1 of this RFP.

“Self-Build Option” or “SBO” means a Proposal submitted by the Company that is responsive to the resource need identified in the RFP, as required by Section VI of the Framework.

“Self-Build Team” means agents of the Company who develop Self-Build Option proposals.

“Seller” means the entity that the Company is contracting with, as set forth in the RDG PPA.

“Seller-Owned Interconnection Facilities” has the meaning set forth in the RDG PPA.



“Site” means the parcel of real property on which the Facility, or any portion thereof, will be constructed and located, together with any Land Rights reasonably necessary for the construction, ownership, operation, and maintenance of the Facility.

“System Impact Study” means a study analyzing the steady-state and dynamic impacts on system power flow, voltage, frequency and transient stability. The analyses includes compatibility of design, construction and operation of the Project with Company engineering standards and operating practices.

“Threshold Requirements” has the meaning set forth in Section 4.3 of this RFP.

Any capitalized term not defined in this RFP has the meaning set forth in the RDG PPA.

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

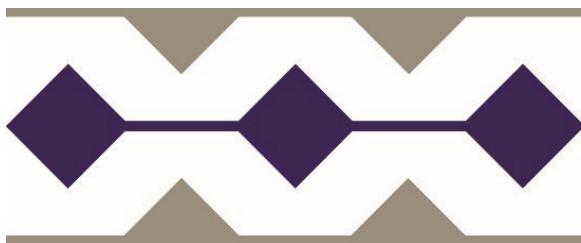
**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix B – Proposer’s Response Package /  
Project Interconnection Data Request*



**Maui  
Electric**

## 1.0 GENERAL INSTRUCTIONS TO PROPOSERS

The Company has elected to use the services of PowerAdvocate®, a third-party electronic platform provider. Sourcing Intelligence®, developed by PowerAdvocate®, is the Electronic Procurement Platform that the Company has licensed and will utilize for the RFP process. All Proposals and all relevant information must be submitted via the Electronic Procurement Platform, in the manner described in this RFP.

Proposers must adhere to the response structure and file naming conventions identified in this Appendix for the Proposer's response package. Information submitted in the wrong location/section or submitted through communication means not specifically identified by the Company will not be considered by the Company.

Proposers must provide a response for every item. If input/submission items in the RFP are not applicable to a specific Proposer or Proposal, Proposers must clearly mark such items as "N/A" (Not Applicable) and provide a brief explanation.

Proposers must clearly identify all confidential information in their Proposals, as described in more detail in Section 3.12 of the RFP.

All information (including attachments) must be provided in English. All financial information must be provided in U.S. Dollars and using U.S. credit ratings.

It is the Proposer's sole responsibility to notify the Company of any conflicting requirements, ambiguities, omission of information, or the need for clarification prior to submitting a Proposal.

The RFP will be conducted as a "Sealed Bid" event within Sourcing Intelligence, meaning the Company will not be able to see or access any of the Proposer's submitted information until after the event closes.

## 1.1 ELECTRONIC PROCUREMENT PLATFORM

To access the RFP event, the Proposer must register as a "Supplier"<sup>1</sup> on Sourcing Intelligence (Electronic Procurement Platform). One Proposal may be submitted with each Supplier registration.

If a Proposer is already registered on Sourcing Intelligence, the Proposer may use their current login information to submit their Proposal. Proposers are asked to refer to their chosen unique company name throughout when referring to it in text responses.

Proposers can register for an account on Sourcing Intelligence by clicking on the "Registration" button (located in the top right corner of the webpage) on the PowerAdvocate website at the following address:

[www.poweradvocate.com](http://www.poweradvocate.com)

The Proposer's use of the Electronic Procurement Platform is governed by PowerAdvocate's Terms of Use. By registering as a "Supplier" on the Electronic Procurement Platform, the Proposer acknowledges that the Proposer has read these Terms of Use and accepts and agrees that, each time the Proposer uses the Electronic Procurement

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<sup>1</sup> The language in Appendix B sometimes refers to "Energy Contract Managers" as "Bid Event Coordinator" and to "Proposers" as "Suppliers" (Bid Event Coordinator and Supplier are terms used by PowerAdvocate).

Platform, the Proposer will be bound by the Terms of Use then accessible through the link(s) on the PowerAdvocate login page.

Once a Proposer has successfully registered as a “Supplier” with PowerAdvocate, the Proposer shall request access to the subject RFP event from the Company Contact via Email through the RFP Email address set forth in Section 1.6 of the RFP. The Email request must list the Company Name field and username under which the Proposer has registered with PowerAdvocate. After being added to the event, the Proposer will see the bid event on their dashboard upon logging into Sourcing Intelligence. Once the RFP event opens, the Proposer may begin submitting their Proposal.

After registering and prior to the opening of the RFP, Proposers are encouraged to familiarize themselves with the Electronic Procurement Platform, including tabs, the dashboard, the messaging feature, the Sourcing Intelligence Quick Start for Suppliers, etc. Proposers should note that they will not be able to access any bid documents until the event officially opens.

Proposers may contact PowerAdvocate Support for help with registration or modification of registration if desired. Support is available from 8 AM to 8 PM Eastern Time (2 AM to 2 PM Hawai‘i Standard Time when daylight savings is in effect) Monday to Friday, except for Holidays posted on the PowerAdvocate website, both by phone (857-453-5800) and by Email ([support@poweradvocate.com](mailto:support@poweradvocate.com)).

Contact information for PowerAdvocate Support can also be found on the bottom border of the PowerAdvocate website: [www.poweradvocate.com](http://www.poweradvocate.com)

Once the RFP event is opened, registered Proposers will have online access to general notices, RFP-related documents, and other communications via the Electronic Procurement Platform. Proposers should also monitor the RFP Website throughout the RFP event.

## 1.2 PROPOSAL SUBMISSION PROCEDURES

An Email notification will be sent to all registered Proposers via the messaging feature in the Electronic Procurement Platform when the event has been opened to receive Proposals.

After logging onto the Electronic Procurement Platform, the RFP will be visible on the Proposer’s dashboard with several tabs, including the following:

- “**1. Download Documents:**” Documents stored under this tab are provided for the Proposer’s use and information. All documents can be downloaded and/or printed, as required.
- “**2. Upload Documents:**” Proposal submission documents requested in Appendix B must be uploaded using this tab.
- “**3. Commercial Data:**” This tab is NOT USED for this event.
- “**4. Technical Data:**” This tab is NOT USED for this event.
- “**5. Pricing Data:**” This tab is NOT USED for this event.

Step-by-step instructions for submitting a complete Proposal are provided below:

1. Proposers must upload their Proposal files, including all required forms and files, to submit a complete Proposal. All files must be uploaded before the Proposal Due Date.

2. Submit (upload) one consolidated PDF representing your Proposal via the “2. Upload Documents” tab. That Proposal PDF must abide by the format specified in this Appendix B. A MSWord.docx template that outlines the format of this document is available under the “1. Download Documents” tab for the Proposer’s use. **Response information must be provided in the order, format, and manner specified in this Appendix B and must clearly identify and reference the Appendix B section number that the information relates to.**
  - a. Proposers shall use a filename denoting: CompanyName.pdf.  
(example: AceEnergy.pdf)
  
3. Proposal information that cannot be easily consolidated into the PDF file described in Step 2 (such as large-scale drawing files) or files that must remain in native file format (such as computer models and spreadsheets) shall be **uploaded separately but must be referenced from within the main Proposal PDF file** (e.g., “See AceEnergy\_2.5\_SiteMap.kmz”). Such additional files must follow the naming convention below:
  - a. File names must include, in order, Company Name, Appendix B section number, and a file descriptor, as shown in the example file name below:  
AceEnergy\_2.5\_SiteMap.kmz  
Proposers may use abbreviations if they are clear and easy to follow.
  
4. Upload files using the "**2. Upload Documents**" tab on the Electronic Procurement Platform.
  - a. For all documents identify the "Document Type" as “Technical Information.” (Do not identify any documents as “Commercial and Administrative” or “Pricing.”)
  - b. "Reference ID" may be left blank.
  - c. Select "Choose File..." Navigate to and choose the corresponding file from your computer. Select "Open" and then "Submit Document."

There is no limit to the number or size of files that can be uploaded. Multiple files may be grouped into a .zip archive for upload. (Any zipped files must still adhere to the naming directions in #3 above.) When successfully uploaded, documents will appear under the "Bid Submissions" section on the bottom of the tab's page, organized within the “Technical Information” Document Type. Repeat steps a, b, and c, as required for each file upload.

If a file with the same name is uploaded twice, the Platform will automatically append a unique numerical extension to the Document Name. To delete a file that has been previously uploaded, click on the “X” button in the “Actions” column for the file to be deleted. Do not upload any files prior to the issuance of the Final RFP.

5. The Company will not be responsible for technical problems that interfere with the upload or download of Proposal information. Support is available to answer technical questions about PowerAdvocate’s Sourcing Intelligence from 8 AM to 8 PM Eastern Time (2 AM to 2 PM Hawai‘i Standard Time when daylight savings is in effect) Monday to Friday, except for Holidays posted on the PowerAdvocate website, both by phone (857-453-5800) and by Email (support@poweradvocate.com).

6. Proposers are strongly encouraged to start early and avoid waiting until the last minute to submit the required information. Proposers are allowed to add, modify, and/or delete documents that have been previously submitted any time prior to the event close deadline.
7. Any questions or concerns regarding the RFP may be submitted to the Company Contact via the RFP Email address provided in Section 1.6 of the RFP or via the PowerAdvocate Messaging tab. Per RFP Section 1.4.2, the Independent Observer will monitor messages within the bid event. Proposers are responsible for following instructions and uploading documents in their appropriate locations. Documents uploaded in the wrong tab will not be considered by the Company.

### 1.3 PROPOSAL COMPLETION AND CONFIRMATION PROCEDURES

To confirm the submission of all proposal files, in the “Status” tab on the Electronic Procurement Platform, confirm that the “Total Uploaded Files” is the number of expected files to be included in the submission by checking it against your list of submitted files.

Example “Status” tab view:

| Your Bid Intention: Bidding  |        |                       |
|------------------------------|--------|-----------------------|
| Total Uploaded Files:        | 18     | Last Upload: 02/08/18 |
| Saved Commercial Datasheets: | 0 of 0 |                       |
| Saved Technical Datasheets:  | 0 of 0 |                       |
| Saved Pricing Datasheets:    | 0 of 0 |                       |

## 2.0 PROPOSAL SUMMARY TABLE

Proposal Summary to be filled out for ALL Proposals:

|    |  |  |
|----|--|--|
| 1  | <b>Proposer Name (Company Name)</b>  |  |
| 2  | <b>Parent Company/Owner/Sponsor/Business Affiliation/etc.</b>  |  |
| 3  | <b>Project Name</b>  |  |
| 4  | <b>Net AC Capacity of the Facility (MW)</b>  |  |
| 5  | <b>Proposal Guaranteed Commercial Operations Date (MM/DD/YYYY)</b>   |  |
| 6  | <b>The Proposer hereby certifies that the Project meets all performance attributes identified in this Section 2.1 of the RFP? (Yes/No)</b>   |  |
| 7  | <b>The Proposer hereby certifies that no single point of failure from the Facility shall result in a decrease in net electrical output greater than 2.5 MW. Additionally, in meeting this requirement, the Proposer certifies that the Facility is segmented in equally sized capacities. (Yes/No)</b>   |  |
| 8  | <b>The Proposer hereby certifies that the Proposal (including its pricing elements) is not contingent upon changes to existing County, State, or Federal laws or regulations. (Yes/No)</b>   |  |
| 9  | <b>The Proposer hereby agrees to provide Development Period Security and Operating Period Security as set forth in the applicable RDG PPA. (Yes/No)</b>  |  |
| 10 | <b>The Proposer hereby certifies under penalties of perjury that this Proposal has been made in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business partnership, corporation, union, committee, club, or organization, entity, or group of individuals. (Yes/No)</b> |  |

IPP or Affiliate Proposals: Complete the summary table items in part A below.

### A. To be filled out for IPP or Affiliate Proposals:

|    |  |  |
|----|--|--|
| 11 | <b>Net Energy Potential (NEP) Projection for the Facility (MWh)</b>  |  |
| 12 | <b>Lump Sum Payment (\$/Year)</b>  |  |
| 13 | <b>Project Energy Storage Technology</b>   |  |
| 14 | <b>Energy Storage Capacity for the Facility (MWh)</b>  |  |
| 15 | <b>Is the Project capable of being 100% charged from the grid after the ITC recapture period? (Yes/No)</b> |  |

**B. To be filled out for the Self-Build Option Proposal:**

|    |  |  |   |
|----|--|--|---|
| 11 | <b>Net Energy Potential (NEP) Projection for the Facility (MWh)</b>  |  |   |
| 12 | <b>Project Energy Storage Technology</b>   |  |   |
| 13 | <b>Energy Storage Capacity for the Facility (MWh)</b>  |  |   |
| 14 | <b>Is the Project capable of being 100% charged from the grid after the ITC recapture period? (Yes/No)</b> |  |   |
| 15 | <b>Year (YYYY)</b>   | <b>Project Capital Cost (\$)</b>       | Extend the table for questions 15, 16, and 17 for as many years as needed up to the 20-year PPA term. |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
| 16 | <b>Year (YYYY)</b>   | <b>O&amp;M Cost (\$)</b>               |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
| 17 | <b>Year (YYYY)</b>   | <b>Annual Revenue Requirement (\$)</b> |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |
|    |  |  |   |



## 2.1 REQUIRED FORMS ACCOMPANYING PROPOSAL PDF

The following forms must accompany each proposal, must be attached to the Proposal PDF, and uploaded via the “2. Upload Documents” tab:

- Document signed by a representative for the Proposer **authorizing the submission** of the Proposal
- Fully executed **Mutual Confidentiality and Non-Disclosure Agreement** ([Appendix E](#) to the RFP, may be downloaded from the “1. Download Documents” tab in the Electronic Procurement Platform)
- **Certificate of Vendor Compliance** for the Proposer
  - **Certificate of Good Standing** for the Proposer and **Federal and State tax clearance certificates** for the Proposer may be provided in lieu of the Certificate of Vendor Compliance
- **Certification of Counsel for Proposer**, if applicable. (See [Appendix B Attachment 1.](#))
- Completed applicable **Interconnection Requirement Study Data Request form** for the proposed technology and **project single line diagram(s). Models for equipment and controls, list(s)** identifying components and respective files (for inverters and power plant controller), and **complete documentation with instructions** as specified in the Data Request form shall be submitted within the respective timeframes specified in [Section 5.1](#) of the RFP.<sup>2</sup> (See [Section 2.11.1](#) below)
- [For Self-Build Only] **Self-Build Option Team Certification Form**. See [Appendix G Attachment 1.](#)
- [For Self-Build Only] **Revenue Requirements Worksheets** that support the annual revenue requirements estimates shall be submitted. A starter revenue requirements template file can be requested by the Self-Build Team via email to the RFP Email Address or through the PowerAdvocate Messaging function once the RFP event opens. The revenue requirements worksheets submitted will be modified to reflect the details of the Project’s Proposal. All assumptions used will be reflected in an assumptions input tab.

## 2.2 PROPOSAL SUMMARY/CONTACT INFORMATION

2.2.1 Provide a **primary point of contact** for the Proposal being submitted:

- Name
- Title
- Mailing Address
- Phone Number
- Email Address

2.2.2 **Executive Summary of Proposal.** The executive summary must include an approach and description of the important elements of the Proposal.

2.2.3 **Pricing information.** Pricing information must be filled out in the [Section 2.0](#) Proposal Summary Table above. Provide any pricing information only in those table sections – do not embed pricing information in any other portion of the Proposal PDF.

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<sup>2</sup> If the Models, lists, respective files and complete documentation are not submitted with the Proposal upload, they shall be submitted via PowerAdvocate’s Messaging as attachments within the respective timeframes specified in [Section 5.1](#) of the RFP.

2.2.4 Provide a **high-level overview of the proposed Facility**, including at a minimum the following information:

- Facility Generation Size ( $MW_{AC}$  and  $MW_{DC}$ )
- Net Maximum Output Capacity of the Facility at the Point of Interconnection ( $MW_{AC}$ )
- Identified Available Hosting Capacity of the Distribution-level Circuit Facility Interconnecting to ( $MW_{AC}$ )
- Technology Type
- Number of Generators
- Rated Output of each Generator
- Generator Facility Design Characteristics

For Storage Component:

- Technology Type (i.e. lithium ion battery)
- Discharge Duration (hours)
- Storage Capacity (i.e. amount of energy released to fully discharge and amount of energy required to fully charge, in MW and MWh)
- Operational Limitations, such as, but not limited to: number of charge/discharge cycles per day-month-year (see the energy discharge requirement in [Section 1.2.9](#) of the RFP).
- Minimum and Maximum Operational Ranges, such as minimum and maximum required state of charge
- Round Trip Efficiency at rated power measured at the Point of Interconnection (i.e., discharge energy divided by charge energy, expressed as a percentage)
- Round Trip Efficiency using full duty cycle for a fixed duration measured at the Point of Interconnection (%)

## 2.3 FINANCIAL

Provide the following financial information identified below.

2.3.1 Identification of Equity Participants

2.3.1.1 Who are the **equity participants** in the Project (or the equity partners' other partners)?

2.3.1.2 Provide an **organizational structure** for the Proposer including any general and limited partners and providers of capital that identifies:

- Associated responsibilities from a financial and legal perspective
- Percentage interest of each party

2.3.2 Project Financing

2.3.2.1 **How will the Project be financed** (including construction and term financing)? Address at a minimum:

- The Project's projected financial structure
- Expected source of debt and equity financing

2.3.2.2 [For IPP and Affiliate Proposals] Identify all **estimated development and capital costs** for, at a minimum:

- Equipment
  - Identify the manufacturer and model number for all major equipment
- Construction
- Engineering
- Seller-Owned Interconnection Facilities
- Company-Owned Interconnection Facilities
- Land
- Annual O&M
- Specify the percentage of the total cost associated with the storage component of the Facility

[For Self-Build Only] Identify all **estimated development and capital costs** for, at a minimum:

- Facility (including any generation and storage components)
- Outside Services
- Interconnection
- Overhead Costs
- Allowance for Funds Used During Construction
- Annual O&M
- Specify the percentage of the total cost associated with the storage component of the Facility

2.3.2.3 Discuss and/or provide **supporting information on any project financing guarantees**.

2.3.2.4 Describe any **written commitments obtained from the equity participants**.

2.3.2.5 Describe any **conditions precedent to project financing**, and the Proposer's plan to address them, other than execution of the Power Purchase Agreement or any other applicable project agreements and State of Hawaii Public Utilities Commission approval of the Power Purchase Agreement and other agreements.

2.3.2.6 Provide any **additional evidence to demonstrate that the Project is financeable**.

2.3.3 Project Financing Experience of the Proposer

Describe **the project financing experience of the Proposer** in securing financing for projects of a similar size (i.e., no less than two-thirds the size) and technology as the one being proposed including the following information for any referenced projects:

- Project Name
- Project Technology
- Project Size
- Location
- Date of Construction and Permanent Financing
- Commercial Operations Date
- Proposer's Role in Financing of the Project

- Off-taker
- Term of the Interconnection Agreement
- Financing Structure
- Major Pricing Terms
- Name(s) of Finance Team Member(s); Time (i.e., years, months) worked on the project and Role/Responsibilities

#### 2.3.4 Evidence of the Proposer's Financial Strength

2.3.4.1 Provide **copies of the Proposer's audited financial statements** (balance sheet, income statement, and statement of cash flows):

- Legal Entity
  - Three (3) most recent fiscal years
  - Quarterly report for the most recent quarter ended
- Parent Company
  - Three (3) most recent fiscal years
  - Quarterly report for the most recent quarter ended

2.3.4.2 Provide the **current credit ratings** for the Proposer (or Parent Company, if not available for Proposer), affiliates, partners, and credit support provider:

- Standard & Poor's
- Moody's
- Fitch

2.3.4.3 Describe any **current credit issues** regarding the Proposer or affiliate entities raised by rating agencies, banks, or accounting firms.

2.3.4.4 Provide any **additional evidence that the Proposer has the financial resources and financial strength** to complete and operate the Project as proposed.

2.3.5 Provide evidence that the Proposer can provide the required securities

2.3.5.1 Describe the Proposer's **ability (and/or the ability of its credit support provider) and proposed plans to provide the required securities** including:

- Irrevocable standby letter of credit
- Sources of security
- Description of its credit support provider

2.3.6 Disclosure of Litigation and Disputes

Disclose any **litigation, disputes, and the status of any lawsuits or dispute resolution** related to projects owned or managed by the Proposer or any of its affiliates

## 2.4 CONTRACT EXCEPTIONS AND FINANCIAL COMPLIANCE

2.4.1 If Proposers elect to propose modifications to the Model PPA, **provide a Microsoft Word red-line version of the Model PPA** identifying specific proposed modifications to the model language that the

Proposer is agreeable to and a detailed explanation and supporting rationale for each modification. General comments, drafting notes, and footnotes such as “parties to discuss” are unacceptable and will be considered non-responsive.

Proposers that do not upload redlines of the applicable PPA with their Proposal submission will be deemed to have accepted the Model PPA in its entirety.

2.4.2 State to the best of the Proposer’s knowledge: Will the Project result in **consolidation** of the Developer entity’s finances onto the Company’s financial statements under FASB 810. **Provide supporting information** to allow the Company to verify such conclusion.

## 2.5 PŪLAMA SITE INFORMATION

2.5.1 Provide a **site layout plan** which illustrates:

- Proposed location of all equipment
- Proposed location of all facilities on the Pūlama Site, including any proposed line extensions
- Site boundaries (if the proposed Project does not cover the entire Pūlama Site)

2.5.2 Describe the **Interconnection route** and include:

- Site sketches of how the facility will be interconnected to the Company’s System (above-ground and/or underground)
- Description of the rationale for the interconnection route

## 2.6 ENVIRONMENTAL REVIEW, PERMITTING PLAN, ENVIRONMENTAL COMPLIANCE/IMPACTS

2.6.1 Describe your **overall land use and environmental permits and approvals strategy** and approach to obtaining successful, positive results from the agencies and authorities having jurisdiction, including:

- Explanation of the conceptual plans for siting
- Studies/assessments
- Permits and approvals
- Gantt format schedule which identifies the sequencing of permit application and approval activities and critical path. (Schedule must be in MM/DD/YY format.)

2.6.2 Discuss the **City Zoning and State Land Use Classification**:

- Identify present and required zoning and the ability to site the proposed Project within those zoning allowances.
- Identify present and required land use classifications and the ability to site the proposed Project within those classifications.
- Provide evidence of proper zoning and land use classifications for selected site and interconnection route.
- If changes in the above are required for the proposed Project, provide a plan and timeline to secure the necessary approvals.

2.6.3 Identify all required discretionary and non-discretionary **land use, environmental and construction permits, and approvals** required for development, financing, construction, and operation of the proposed Project, including but not limited to zoning changes, Environmental Assessments, and/or Environmental Impacts Statements.

Provide a **listing of such permits and approvals** indicating:

- Permit Name
- Federal, State, or Local agencies and authorities having jurisdiction over the issuance
- Status of approval and anticipated timeline for seeking and receiving the required permit and/or license
- Explanation of your basis for the assumed timeline
- Explain any situation where a permit or license for one aspect of the Project may influence the timing or permit of another aspect (e.g., a case where one permit is contingent upon completion of another permit or license), if applicable.
- Explain your plans to secure all permits and approvals required for the Project.

2.6.4 Provide a **preliminary environmental assessment of the site** (including any pre-existing environmental conditions) and potential short- and long-term **impacts** associated with, or resulting from, the proposed Project – including direct, indirect, and cumulative impacts associated with development, construction, operation, and maintenance of the proposed Project in every area identified below. Discuss if alternatives have been or will be considered. The assessment shall also include Proposer’s short- and long-term plans to mitigate such impacts and explanation of the mitigation strategies for, but not limited to, each of the major environmental areas as presented below:

- Natural Environment
  - Air quality
  - Biology (Natural habitats and ecosystems, flora/fauna/vegetation, and animals, especially if threatened or endangered)
  - Climate
  - Soils
  - Topography and geology
- Land Regulation
  - Land Uses, including any land use restrictions and/or pre-existing environmental conditions/contamination
  - Flood and tsunami hazards
  - Noise
  - Roadways and Road and Air Traffic
  - Utilities
- Socio-Economic Characteristics
- Aesthetic/Visual Resources and Impact
- Solid Waste
- Hazardous Materials
- Water Quality
- Public Safety Services (Police, Fire, Emergency Medical Services)
- Recreation
- Potential Cumulative and Secondary Impacts

2.6.5 Provide a **decommissioning plan**, including:

- Developing and implementing program for recycling to the fullest extent possible, or otherwise properly disposing of installed infrastructure, if any, and

- Demonstrating how restoration of the Site to its original ecological condition is guaranteed in the event of default by the Proposer in the applicable Site Control documentation.

## 2.7 CULTURAL RESOURCE IMPACTS

2.7.1 Provide a **plan to address the below requirements** as they pertain to the Project Site and interconnection route including the status of any consultant/s with expertise in this field that have been identified and/or contracted with, and documentation of any assessments or work that has been planned or performed to date. Identify any cultural, historical or natural resources in the area in question. For any impacts identified to the categories listed below, provide a mitigation strategy and the expected impact on the Project schedule. Detail the potential impacts of the Proposal on cultural resources in the short- and long-term and the Proposer's plan to mitigate such impacts. Proposers must provide as much information as possible to allow the Company to understand the considerations.

- Archaeological Resources
- Cultural Practices and Resources

## 2.8 COMMUNITY OUTREACH

2.8.1 Provide a **detailed Community Outreach Plan** to work with and inform neighboring communities and stakeholders and to provide them timely information during all phases of the Project. The plan shall address, but not be limited to, the following items:

- Project description
- Community scoping
- Project benefits
- Government approvals
- Development process
- Identification of communities and other stakeholders that may be affected by the proposed Project:
  - How will they be affected?
  - What mitigation strategies will the Proposer implement?
- Comprehensive communication strategy with affected communities and the general public regarding the proposed Project:
  - Describe frequency of communication
  - Provide source of information
  - Identify communication outlets
  - Describe opportunities, if any, for affected communities and general public to provide the developer with feedback and comments on the proposed Project

2.8.2 Provide any **documentation of local community support or opposition** including any letters from local organizations, newspaper articles, or communications from local officials.

2.8.3 Provide a **description of community outreach efforts** already taken or currently underway, including the names of organizations and stakeholders contacted about the proposed Project.

2.8.4 Describe any anticipated or negotiated investment in the community and other **community benefits** that the Proposer proposes to provide in connection with the Project, along with an estimated value

of the community benefits in dollars (including the cost to Proposers providing the benefits and supporting details on how those costs and benefits were derived).

## 2.9 OPERATIONS AND MAINTENANCE (O&M)

2.9.1 To demonstrate the long-term operational viability of the proposed Project, describe the **planned operations and maintenance**, including:

- Operations and maintenance funding levels, annually, throughout the term of the contract.
- Description of the operational requirements by frequency (daily, weekly, monthly, yearly, as-necessary, run hour interval) and maintenance requirements by frequency (daily, weekly, monthly, yearly, as-necessary, run hour interval).
- A discussion of the staffing levels proposed for the Project and location of such staff. If such staff is offsite, describe response time and ability to control the Project remotely.
- Technology specific maintenance experience records.
- Identification of any O&M providers.
- The expected role of the Proposer (Owner) or outside contractor.
- Scheduling of major maintenance activity.
- Plan for testing equipment.
- Estimated life of Generation and/or Storage Facilities and associated Interconnection Facilities.
- Safety plan, including historical safety records with environmental history records, violations, and compliance plans.
- Security plan.
- Site maintenance plan.
- Substation equipment maintenance plan.

2.9.2 State whether the Proposer would **consider 24-hour staffing**. Explain how this would be done.

2.9.3 Describe the **Proposer's contingency plan**, including the Proposer's mitigation plans to address failures. Such information should be described in the Proposal to demonstrate the Project's reliability with regard to potential operational issues.

2.9.4 Describe if the Proposer will **coordinate their maintenance schedule** for the Project with the Company's annual planned generation maintenance. See Article 5 of the model RDG PPA.

2.9.5 Describe the **status of any O&M agreements or contracts** that the Proposer is required to secure. Include a discussion of the Proposer's plan for securing a long-term O&M contract.

2.9.6 Provide **examples of the Proposer's experience** with O&M services for other similar projects.

## 2.10 PERFORMANCE STANDARDS

2.10.1 Design and operating information. Provide a **description of the project design**. Description shall include:

- Configuration description
- Overview of the Facility Control Systems – central control and inverter- or resource-level control



- Diagrams approved by a Professional Electrical Engineer registered in the State of Hawai'i, indicated by the presence of the Engineer's Professional seal on all drawings and documents. Including but not limited to:
  - A single-line diagram, relay list, trip scheme and settings of the generating facility, which identifies the Point of Interconnection, circuit breakers, relays, switches, synchronizing equipment, monitoring equipment, and control and protective devices and schemes.
  - A three-line diagram which shows the Point of Interconnection, potential transformer (PT) and current transformer (CT) ratios, and details of the generating facility configuration, including relays, meters, and test switches.

2.10.1.1 Provide the projected **hourly annual energy potential production profile of the Facility<sup>3</sup> (24 hours x 365 days, 8760 generation profile)** for the provided RFP NEP Projection.

2.10.1.2 Provide the **sample rate of critical telemetry** (i.e., frequency and voltage) based on inputs to the facility control systems.

2.10.1.3 Provide a description of the Facility's **capability to be grid-forming and have black-start capability**.

2.10.2 Capability of **Meeting Performance Standards**. The proposed Facility must meet the performance attributes identified in Section 2.1 of the RFP. Provide **confirmation that the proposed Facility will meet the requirements identified** or provide clarification or comments about the Facility's ability to meet the performance standards. Proposals should include sufficient documentation to support the stated claim that the Facility will be able to meet the Performance Standards. The Proposal should include information required to make such a determination in an organized manner to ensure this evaluation can be completed within the evaluation review period.

2.10.3 Reactive Power Control: Provide the facility's **ability to meet the Reactive Power Control capabilities**, including Voltage Regulation at the point of interconnection, required in the Performance Standards, including contribution from the inverters of generation and/or storage and means of coordinating the response. Provide the inverter capability curve(s). Confirm ability to provide reactive power at zero active power.

2.10.4 **Ramp Rate** for Generation Facilities: Confirm the ability to meet the ramp rate requirement specified in the Model PPA.

2.10.5 **Undervoltage ride-through**: Provide the facility's terminal voltage level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

2.10.6 **Overvoltage ride-through**: Provide the facility's terminal voltage level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to

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<sup>3</sup> The projected hourly annual energy production profile is the projected output from the generating facility without curtailment and before any energy is directed to an energy storage component.

meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

2.10.7 **Transient stability ride-through:** Provide the facility's ability to stay online (# of cycles) during Company System in the following 2 conditions: (1) three-phase fault located anywhere on the Company System and lasting up to\_\_ cycles; and (2) a single line to ground fault located anywhere on the Company System and lasting up to\_\_ cycles. Provide the Facility's ability to withstand subsequent events.

2.10.8 **Underfrequency ride-through:** Provide the facility's terminal frequency level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

2.10.9 **Overfrequency ride-through:** Provide the facility's terminal frequency level(s) and elapsed time at which the facility will disconnect from the utility system during the disturbance, if any. Confirm the ability to meet ride-through requirements and include supporting documentation regarding inverter design, control parameters, etc.

2.10.10 **Frequency Response:** Provide the facility's frequency response characteristics as required by the Model PPA, including time of response, tunable parameters, alternate frequency response modes, and means of implementing such features.

2.10.11 **Auxiliary Power Information:** Proposer must provide the maximum auxiliary power requirements for:

- Start-up
- Normal Operations (from generator)
- Normal Operating Shutdown
- Forced Emergency Shutdown
- Maintenance Outage

2.10.12 **Coordination of Operations:** Provide a description of the control facilities required to coordinate generator operation with and between the Company's System Operator and the Company's System.

- Include a description of the equipment and technology used to facilitate dispatch to the Company and communicate with the Company.
- Include a description of the control and protection requirements of the generator and the Company's System.

2.10.13 **Cycling Capability:** Describe the Facility's ability to cycle on/off and provide limitations.

2.10.14 **Active Power Control Interface:** Describe the means of implementing active power control and the Power Possible, including the contribution to the dispatch signal from paired storage, if any. Provide the Proposer's **experience** dealing with active power control, dispatch, frequency response, and ride-through.

2.10.15 Provide the details of the **major equipment** (i.e., batteries, inverters, battery management system), including, but not limited to, name of manufacturer, models, key metrics, characteristics of the equipment, and performance specifications.

2.10.16 **Energy Storage performance standards:** Provide additional performance standard descriptions as follows:

- Number of cycles per day, or equivalent MWh storage output for a full year
- Ramp Rate: Provide the Facility's ramp rate, which should be no more than 2 MW/minute for all conditions other than those under control of the Company System Operator and/or those due to desired frequency response.
- System Response Time – Idle to Design Maximum (minutes)
- Discharge Start-up time (minutes from notification)
- Charge Start-up time (minutes from notification)
- Start and run-time limitations, if any
- Ancillary Services provided, if any (i.e., Spinning Reserves, Non-Spinning Reserves, Regulation Up, Regulation Down, Black Start capability, other)

2.10.17 Provide the description and details of the **grid-charging capabilities of the Facility**. Include a description on the ability to control the charging source.

## 2.11 INTERCONNECTION REQUIREMENT STUDY

2.11.1 Provide the completed **Interconnection Requirement Study Data Request form** for the proposed technology with the Proposal submission. (The form can be found in the "1. Download Documents" tab as Appx B Att 2 Project Interconnection Data Request Form (PV Generation) MS Excel file.) Also provide all **project single line diagram(s)** with the Proposal submission. **Models for equipment and controls, list(s)** identifying components and **respective files** (for inverters and power plant controller), and **complete documentation with instructions** shall be submitted within the timeframes specified in Section 5.1 of the RFP.<sup>2</sup> Proposers may also download the PSCAD model requirements memo labelled as Appx B Att 3 from the "1. Download Documents" tab.

## 2.12 PROVEN TECHNOLOGY

2.12.1 Provide all supporting information for the Company to assess the **commercial and financial maturity of the technology** being proposed. Provide any supporting documentation that shows examples of projects that:

- Use the technology at the scale being proposed
- Have successfully reached commercial operations (for example, by submitting a PPA)
- Demonstrate experience in providing Active Power dispatch

## 2.13 EXPERIENCE AND QUALIFICATIONS

Proposers, its affiliated companies, partners, and/or contractors and consultants are required to demonstrate project experience and management capability to successfully develop and operate the proposed Project.

2.13.1 Provide an **organizational chart** for the Project that lists the project participants and identifies the management structure and responsibilities.

- For each of the project participants (including the Proposer, partners, and proposed contractors), fill out the table below and provide statements that list the specific experience of the firm in: financing, designing, constructing, interconnecting, owning, operating, and maintaining renewable energy generating or storage facilities, or other projects of similar size and technology, and
- Provide any evidence that the project participants have worked jointly on other projects.

| Participant Name: | EXPERIENCE: |           |              |                 |        |           |             |
|-------------------|-------------|-----------|--------------|-----------------|--------|-----------|-------------|
|                   | Financing   | Designing | Constructing | Interconnecting | Owning | Operating | Maintaining |
| 1.                |             |           |              |                 |        |           |             |
| 2.                |             |           |              |                 |        |           |             |
| 3.                |             |           |              |                 |        |           |             |
| ...               |             |           |              |                 |        |           |             |

2.13.2 Identify those **member(s) of the team** the Proposer is submitting to meet the experience Threshold Requirement and demonstrate the member(s) firm commitment to provide services to the Proposer.

2.13.3 Identify those **members of the team with experience and qualifications**, including affiliates, and their principal personnel who will be involved in the project contracting to sell and deliver energy. If the Proposer consists of multiple parties, such as joint ventures or partnerships, provide this information for each party, clearly indicating the proposed role of each party, including an ownership chart indicating direct and indirect ownership, and percentage interests in the partnership or joint venture.

2.13.4 Provide a **management chart** which lists the key personnel dedicated to this Project and provide **biographies / resumes** of the key personnel, including position, years of relevant experience, and similar project experience. Provide specifics as they relate to financing of renewable energy projects. Identify architects and engineers or provision to provide same that are licensed to practice in the State of Hawai'i.

2.13.5 Provide a **listing in the table format below, of all renewable energy generation or energy storage projects** the Proposer has successfully developed or that are currently under construction. Describe the Proposer's role and responsibilities associated with these projects (lead developer, owner, investor, etc.). Provide the following information as part of the response:

| Project Name | Location (City, State) | Technology (wind, PV, hydro, plus storage, etc.) | Size (MW/ MWh) | Commercial Operation Date | Offtaker (if applicable) | Role & Responsibilities |
|--------------|------------------------|--|----------------|---------------------------|--------------------------|-------------------------|
| 1.           |                        |  |                |                           |                          |                         |
| 2.           |                        |  |                |                           |                          |                         |
| 3.           |                        |  |                |                           |                          |                         |
| ...          |                        |  |                |                           |                          |                         |

## 2.14 PROJECT SCHEDULE

2.14.1 Provide a **project schedule in GANTT chart format** with complete **critical path activities** identified for the Proposal from the Notice of Selection of the Proposal to the start of Commercial Operations.

- The **schedule** must include:
  - Interconnection Requirement Study (IRS) assumptions
  - Anticipated contract negotiation period assumptions
  - Regulatory assumptions
  - Anticipated submittal and approval dates for permitting (including but not limited to environmental and archaeological compliance)
  - Cultural Resource implications and mitigation activities
  - Community outreach and engagement activities
  - Energy resource assessment
  - Financing
  - Engineering
  - Procurement
  - Facility construction including construction management events
  - Applicable reporting milestone events specified in the Model PPA
  - Testing
  - Interconnection (including engineering, procurement, and construction)
  - Commercial Operations Date
  - All other important elements outside of the direct construction of the Project
- For each project element, list the start and end date (must be in MM/DD/YY format), and include predecessors to clearly illustrate schedule dependencies and durations.
- Proposers must also list and describe critical path activities and milestone events, particularly as they relate to the integration and coordination of the project components and the Company's Electric System. Proposers must ensure that the schedule provided in this section is consistent with the milestone events contained in the PPA and/or other agreements.

2.14.2 Describe the **construction execution strategy** including:

- Identification of contracting/subcontracting plans
- Modular construction
- Safety plans<sup>4</sup>
- Quality control and assurance plan
- Labor availability
- Likely manufacturing sites and procurement plans
- Similar projects where these construction methods have been used by the Proposer.

2.14.3 Provide a description of any **project activities that have been performed to date**.

2.14.4 Explain how you plan to reach **safe harbor milestones** (if applicable) and **guaranteed commercial operations**, including durations and dependencies which support this achievement.

---

<sup>4</sup> A document that describes the various safety procedures and practices that will be implemented on the Project and how applicable safety regulations, standards, and work practices will be enforced on the Project.

### 3.0 PROPOSED CBRE PROGRAM

Provide a detailed description of the CBRE program that will be offered to eligible subscribers, including at a minimum, but not limited to, a discussion of the following:

- Financing Options
  - Subscriber fees and payments
    - Upfront payments
    - Ongoing payments
  - Public funding options
  - Extent to which subscribers will be financially responsible for any facility underperformance
- Percentage of the project's capacity that will be available to subscribers vs. unsubscribed capacity
  - Commitments to residential subscribers
  - Commitments to low to moderate income ("LMI") subscribers
- Marketing or outreach plans to advertise the proposed project/program to LMI (if applicable) and non-LMI eligible customers
- Strategies for LMI (if applicable) and non-LMI customer retention and maintaining LMI (if applicable) and non-LMI customer participation levels
- Estimated benefits to LMI (if applicable) and non-LMI customer participants
  - Expected savings
  - Payback periods
  - Payback mechanisms
  - Other benefits
- Prior experience, specifically relating to community-based renewable energy projects
- Plans for CBRE program administration

Appendix B Attachment 1

**Certification of Counsel for Proposer  
Hawaiian Electric Company, Inc., Maui Electric Company, Ltd, and Hawai'i Electric Light  
Company, Inc.**

Pursuant to Section 1.7.4 of Hawaiian Electric Company, Inc., Hawai'i Electric Light Company, Inc. and Maui Electric Company, Limited's (each a "Company" and collectively, the "Companies") Request For Proposals for Variable Renewable Dispatchable Generation Paired with Energy Storage and Community-Based Renewable Energy, Island of Lāna'i ("RFP"), the Companies may require legal counsel who represent multiple unaffiliated proposers to sign a certification that they have not shared confidential information obtained through the representation of one proposer with any other unaffiliated proposer.

Accordingly, by signing below, I hereby acknowledge, agree and certify that:

(1) in connection with the RFP, I represent the following company that has submitted a proposal(s) for the RFP: \_\_\_\_\_ ("Proposer");

(2) irrespective of any proposer's direction, waiver or request to the contrary, I will not share a proposer's confidential information or the Company's confidential information associated with such proposer, including, but not limited to, a proposer's or Company's negotiating positions, with third parties unaffiliated with Proposer (by contract or organizational structure), including other proposers responding to the RFP;

(3) the Companies may rely on this certification for purposes of the RFP; and

(4) at the conclusion of power purchase agreement negotiations, if any, the Company may require me to sign a certificate certifying that I have not shared a proposer's confidential information or the Company's confidential information associated with such proposer, including, but not limited to, a proposer's or Company's negotiating positions, with third parties unaffiliated with Proposer (by contract or organizational structure), including other proposers responding to the RFP.

\_\_\_\_\_  
Name (print)

\_\_\_\_\_  
Law Firm (if applicable)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Section 1.7.4 of the RFP provides in relevant part that:

In submitting a Proposal in response to this RFP, each Proposer certifies that the Proposal has been submitted in good faith and without fraud or collusion with any other unaffiliated person or entity. The Proposer shall acknowledge this in the Response Package submitted with its Proposal. Furthermore, in executing the NDA provided as Appendix E, the Proposer agrees on behalf of its Representatives (as defined in the NDA) that the Company's negotiating positions will not be shared with other Proposers or their respective Representatives.

In addition, in submitting a Proposal, a Proposer will be required to provide Company with its legal counsel's written certification in the form attached as Appendix B Attachment 1 certifying in relevant part that irrespective of any proposer's direction, waiver, or request to the contrary, that the attorney will not share a proposer's confidential information associated with such Proposer with others, including, but not limited to, such information such as a Proposer's or Company's negotiating positions. If legal counsel represents multiple unaffiliated proposers whose

Appendix B Attachment 1

Proposals are selected for the Final Award Group, such counsel will also be required to submit a similar certification at the conclusion of power purchase agreement negotiations that he or she has not shared a proposer's confidential information or the Company's confidential information associated with such Proposer with others, including but not limited to, such information as a Proposer's or Company's negotiating positions.



Appendix B Attachment 2

**Project Interconnection Data Request  
 FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|   | Response |
|---|----------|
| 1) Please provide a plan map of the Non-Utility Generation (NUG) facility. Please indicate the interconnection point to the HECO system.  |          |
| 2) Please provide the following generation and load information for the NUG facility:   |          |
| a. Gross and net output of the facility   |          |
| b. Expected KW and KVAR loads including, but not limited to, generators' auxiliary load curve, process load(s) profile(s), etc.   |          |
| c. Expected minimum and maximum MW and MVAR "import from" AND "export to" HECO.   |          |
| 3) Please provide Single-Line Diagram(s), Three-Line Diagram(s), and Protective Relay List & Trip Schedule for the generation and interconnection facilities:   |          |
| a. The Single-line diagram(s) and Three-line diagram (s) should include:  |          |
| i. For main and generator step up transformer(s), please show:  |          |
| • Transformer voltage and MVA ratings.  |          |
| • Transformer impedance(s).   |          |
| • Transformer winding connections and grounding. If neutrals are grounded through impedance, please show the impedance value.   |          |
| ii. The protective relaying and metering for the generators, transformers, buses, and all other main substation equipment.  |          |
| iii. For the potential transformers, please indicate the type, quantity, ratio, and accuracy rating.  |          |
| iv. For the current transformers, please indicate the type, quantity, ratio, and accuracy rating, and thermal rating factor.  |          |
| v. Auxiliary power devices (e.g. capacitors, reactors, storage systems, etc.) and their rating(s); additional inquiries may be made to obtain technical data for these devices.   |          |
| vi. For the interconnection / tie lines (overhead or underground) and the plant's generation system, please provide the following, as applicable:   |          |
| • Installation details such as cross-section(s), plan and profiles, etc.  |          |
| • Conductor data such as size, insulation, length etc.  |          |
| • Continuous and emergency current ratings.   |          |
| • Voltage rating (nominal and maximum KV).  |          |
| • BIL rating.   |          |
| • Positive, negative, and zero-sequence impedances (resistance, reactance, and susceptance)   |          |
| • Capacitance or charging current.  |          |
| • Short-circuit current capability.   |          |
| vii. Include station power for facility and all applicable details.   |          |
| viii. All applicable notes pertaining to the design and operation of the facility.  |          |
| b. The Protective relay list & trip schedule should list the protected equipment; the relay description, type, style number, quantity, ANSI Device No., and range; and the breaker(s)/switching device(s) tripped, for both the generator protection and the interconnection facilities protection. |          |
| c. Please provide both a paper and an electronic version (e.g. dgn, dxf, or pdf) of the single-line diagram(s) and the protective relay list & trip schedule.   |          |
| d. Single-line diagrams should be provided for both the generation plant and the interconnection substation.  |          |

Appendix B Attachment 2

**Interconnection Requirement Study - Data Request  
FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|   | Response |
|---|----------|
| 4) <b>For the PV Inverter Based Generating Facility, please provide the following data:</b>   |          |
| a. Inverter manufacturer, Type, Size, Impedances. Attach copy of inverter data sheet.   |          |
| b. Power Factor Range Capability  |          |
| c. Inverter Reactive Power Capability Curve   |          |
| d. Auxillary loads (P, Q, Power Factor)   |          |
| e. Ramp rates (up, down) Typical and Measured Proxy Data  |          |
| f. Inverter's Internal Isolation Transformer Grounding Method, if used (i.e. effectively grounded, resonant grounded, low inductance grounded, high-resistance grounded, low-resistance grounded, ungrounded). If the transformer is not solidly grounded, provide the impedance value for the grounding neutral and the impedance for the isolation transformer. |          |
| g. Diagram for Inverter's internal isolation transformer  |          |
| h. Switching and service restoration practice   |          |
| i. Protection data (voltage ride-through and trip settings, frequency ride-through and trip settings etc.). Include setpoint and clearing time ranges for voltage and frequency settings.   |          |
| j. Details of filters etc. at Point of Interconnection  |          |
| k. Description of harmonic spectrum of inverter injection (order, magnitude)  |          |
| l. Description of PV inverter with respect to varying levels of solar irradiance  |          |
| 5) <b>Energy Storage System, if applicable</b>  |          |
| a. Operation characteristics  |          |
| b. Voltage level  |          |
| c. Capacity (how long and how much can the battery support)   |          |
| d. Deployment strategy/schedule   |          |
| e. Energy storage system data sheet   |          |
| 6) <b>For the PV plant's collector system, please provide the following, as applicable:</b>   |          |
| a. Conductor data such as size, insulation, etc.  |          |
| b. Continuous and emergency current ratings.  |          |
| c. Voltage rating (nominal and maximum kV).   |          |
| d. BIL rating.  |          |
| e. Positive, negative, and zero-sequence impedances (resistance, reactance, and susceptance).   |          |
| f. Capacitance or charging current.   |          |
| g. Short-circuit current capability.  |          |

Appendix B Attachment 2

**Interconnection Requirement Study - Data Request  
FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|    |  | Response |
|----|--|----------|
| 7) | <b>Please provide the following software models that accurately represent the Facility:</b>  |          |
|    | a. Validated PSS/E load flow model up to the point of interconnection. The PSS/E model shall include the main transformer, collection system, generator step-up transformers, inverter systems, and any other components including capacitor banks, energy storage systems, DVAR, etc. An equivalent representation of the collection system, generator step-up transformers, and inverter systems is acceptable. Documentation on the model shall be provided.  |          |
|    | b. Validated PSS/E dynamic model for the inverter; and other components including energy storage system, DVAR, etc. if applicable. The inverter model shall include the generator/converter, electrical controls, plant-level controller, and protection relays. Generic and Detailed models shall be provided. Documentation on the model(s) shall be provided, including the PSS/E dyre file with model parameters.  |          |
|    | i. Generic models shall parameterize models available within the PSS/E standard model library.   |          |
|    | ii. Detailed models shall be supplied by the vendor/manufacturer as user-written models. The uncompiled source code for the user-written model shall be provided to ensure compatibility with future versions of PSS/E. In lieu of the uncompiled source code, a compiled object file and applicable library files shall be provided in PSS/E versions 33 AND 34 format. Updates of the object file compatible with future PSS/E versions must be provided as requested for the life of the project as written in the power purchase agreement. Documentation shall include the characteristics of the model, including block diagrams, values, names for all model parameters, and a list of all state variables. |          |
|    | c. Validated PSCAD model of the inverter; and other components including energy storage system, DVAR, auxiliary plant controllers, etc. if applicable. Documentation on the model(s) shall be provided. Refer to PSCAD Technical Memo for model requirements.  |          |
|    | d. Overlaid plots validating the performance of the three dynamic models for a three-phase fault. Plots shall include voltage, real and reactive power, real and reactive current.   |          |
|    | e. Voltage plot validating the performance of inverter to meet the Companies' Transient Overvoltage (TrOV-2) policy. Plot shall show the inverter trip and resulting voltage and current waveforms. Refer to Appendix E of Companies' Grid Supportive Utility-Interactive Inverter Qualification Requirements.   |          |
|    | f. Validated Aspen Oneliner short circuit model that accurately represents the facility (including energy storage system if applicable), and is valid for all faults conditions anywhere on the Utility system. Documentation on the model(s) shall be provided. (OTHERWISE SEE ADDITIONAL TABS FOR REQUIRED INFORMATION TO MODEL INVERTER AS A GENERATOR OR A VOLTAGE CONTROLLED CURRENT SOURCE)  |          |
| 8) | <b>For the main transformer and generator step-up transformers, please provide:</b>  |          |
|    | a. Transformer voltage and MVA ratings, and available taps. Attach copy of transformer test report or data sheet   |          |
|    | b. The tap settings used.  |          |
|    | c. The LTC Control Scheme.   |          |
|    | d. Transformer winding connections and grounding used. If the transformer is not solidly grounded, provide the impedance value for the grounding method.   |          |
|    | e. Positive, negative, and zero sequence impedance values.   |          |
| 9) | <b>For the circuit breakers and fault-clearing switching devices, including the generator breakers, please provide:</b>  |          |
|    | a. The voltage, continuous current and interrupting capability ratings.  |          |
|    | b. The trip speed (time to open).  |          |

Appendix B Attachment 2

**Interconnection Requirement Study - Data Request  
 FOR PV GENERATION**

Updated 5/21/2019

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

(Nonexclusive Preliminary List)

\*\*\*ALL ITEMS ARE REQUIRED AND ALL RESPONSES MUST BE FILLED UNLESS NOT APPLICABLE.\*\*\*

|     |  | Response |
|-----|--|----------|
| 10) | <b>For the power fuses, please provide:</b>  |          |
|     | a. The manufacturer, type, size, and interrupting capability.  |          |
|     | b. The minimum melt and total clearing curves.   |          |
| 11) | <b>For the protective relaying, please provide:</b>  |          |
|     | a. Data for the CTs used with the relaying including the manufacturer, type of CT, accuracy class, and thermal rating factor.  |          |
|     | b. Data for the PTs used with the relaying including the manufacturer, type of PT, voltage ratings, and quantity.  |          |
| 12) | <b>Please provide protective relay settings for existing and proposed generators, including but not limited to, reverse power, negative sequence, over and underfrequency, over and under voltage, volts per hertz, etc.</b> |          |

Appendix B Attachment 2

Instructions:

Please fill in the data in the green blanks below

(Note: This does not include the internal isolation transformer, if used)

[1] Maximum rated output power =  kVA

[2] Impedances in **Per Unit** based on kVA from [1]

|                     | R                    | X                    |
|---------------------|----------------------|----------------------|
| Subtransient =      | <input type="text"/> | <input type="text"/> |
| Transient =         | <input type="text"/> | <input type="text"/> |
| Synchronous =       | <input type="text"/> | <input type="text"/> |
| Negative Sequence = | <input type="text"/> | <input type="text"/> |
| Zero Sequence =     | <input type="text"/> | <input type="text"/> |

[3] Neutral impedance (if any) in actual **Ohms**:

| R                    | X                    |
|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> |

NOTE: These parameters should reflect the inverter response for all types of faults at any point on the electrical system to which the inverter is connected. This includes faults at the inverter output terminals, and also on the 138 kV transmission system. If the stated parameters do not cover this range, please state the adjustments needed to these parameters to accurately represent the inverter response across this range.

These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:

**Generating Unit Info**

ID=  Unit rating=  MVA

Impedances (pu based on unit MVA)

|              |                                     |    |                                     |                                     |
|--------------|-------------------------------------|----|-------------------------------------|-------------------------------------|
| Subtransient | <input type="text" value="0.1"/>    | +j | <input type="text" value="0.1"/>    | <input type="button" value="Fill"/> |
| Transient    | <input type="text" value="0.1"/>    | +j | <input type="text" value="0.1"/>    |                                     |
| Synchronous  | <input type="text" value="0.1"/>    | +j | <input type="text" value="0.1"/>    |                                     |
| - sequence   | <input type="text" value="0.15"/>   | +j | <input type="text" value="0.15"/>   |                                     |
| o sequence   | <input type="text" value="9999.0"/> | +j | <input type="text" value="9999.0"/> |                                     |

Neutral Impedance (in actual Ohms)

|                                  |    |                                  |
|----------------------------------|----|----------------------------------|
| <input type="text" value="0.0"/> | +j | <input type="text" value="0.0"/> |
|----------------------------------|----|----------------------------------|

Scheduled generation. Enter MVAR for PQ buses only

|                                      |  |
|--------------------------------------|--|
| MW= <input type="text" value="0.0"/> | MVAR= <input type="text" value="0.0"/> |
|--------------------------------------|--|

P and Q limits (MW and MVAR)

|  |  |
|--|--|
| Pmax= <input type="text" value="9999.0"/>  | Qmax= <input type="text" value="9999.0"/>  |
| Pmin= <input type="text" value="-9999.0"/> | Qmin= <input type="text" value="-9999.0"/> |

Appendix B Attachment 2

Instructions:

Please fill in the data in the green blanks below

- [1] Internal open circuit voltage  
Magnitude =  Per Unit  
Angle =  Degrees
- [2] AC Output Current Limit =  Amps

NOTE: These parameters should reflect the inverter response for all types of faults at any point on the electrical system to which the inverter is connected. This includes faults at the inverter output terminals, and also on the 138 kV transmission system. If the stated parameters do not cover this range, please state the adjustments needed to these parameters to accurately represent the inverter response across this range.

These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:

**Generator Data**

Generators at 200 INVERTER 0.2kV

| Unit     | Status  |
|----------|---------|
| Unit '1' | On-Line |

Internal V-Source  
p.u.= 1  
Ref. angle= 0

Current Limits (A)  
A: 900 B: 0

Power Flow Regulation  
 Regulates voltage  Fixed P+iQ output

Memo:

Tags: [None](#)

Done Help

Last changed Apr 18, 2010

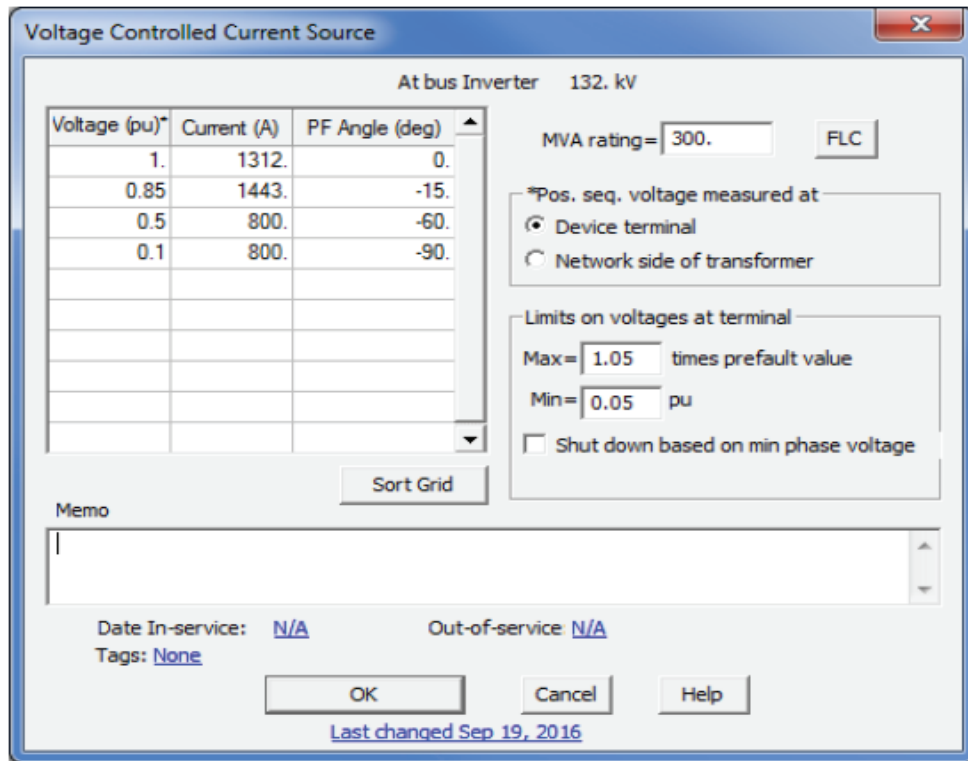
Appendix B Attachment 2

Instructions:

Please fill in the data in the green blanks below

- [1] Inverter MVA Rating:  MVA
- [2] Voltage-Current Characteristics:
- | Voltage PU           | Current (A)          | PF Angle (deg)       |
|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
| <input type="text"/> | <input type="text"/> | <input type="text"/> |
- [3] Location of Voltage Measurement:
- Device Terminal OR  
 Network side of Transformer
- [4] Maximum Voltage:  Times prefault value
- [5] Minimum Voltage  Per Unit

These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:



Appendix B Attachment 2

Instructions:

Please fill in the data in the green blanks below

(Note: This is not required if an internal isolation transformer is not used)

[1] Transformer rated power =  kVA

[2] Winding Configuration  
 Inverter Side =  Delta/Wye  
 Customer Side =  Delta/Wye

[2] Impedances in **Per Unit** based on kVA  
 Positive Sequence =  R X  
 Zero Sequence =

[3] Neutral impedance (if any) in actual **Ohms**:  
 R X

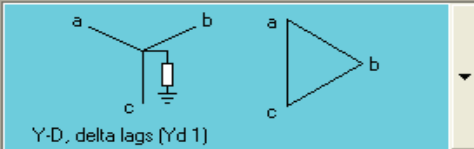
These parameters will be used to model the inverter in the Aspen Oneliner program as shown in the sample dialog box below:

**2-Winding Transformer Data**

100 480 V TERM 0.48kV - 200 INVERTER 0.2kV

Name= INV ISOL TX Ckt ID= 1 MVA1= 0.25 MVA2= 0.25 MVA3= 0.25

MVA base for per-unit quantities= 0.25 Change

  
 Y-D, delta lags (Yd 1)

R= 0.01 X= 0.03  
 B= 0.  
 Ro= 0.01 Xo= 0.03  
 Bo= 0.

480 V TERM 0.48 kV INVERTER 0.2 kV

Tap kV= 0.48 Tap kV= 0.2

G1\*= 0. G2\*= 0.  
 B1\*= 0. B2\*= 0.  
 G10\*= 0. G20\*= 0.  
 B10\*= 0. B20\*= 0.

Neutral grounding Z (ohms)  
 Zg1= 14. +j 0.

\*Based on system MVA Metered at: 480 V TERM 0.48 kV

Memo:

Tags: None

LTC... Swap sides OK Cancel Help

Last changed Apr 18, 2010



Appendix B Attachment 3

# HECO FACILITY TECHNICAL MODEL REQUIREMENTS AND REVIEW PROCESS

---

March 17, 2020

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# 1 INTRODUCTION

---

This document summarizes requirements of generation facility technical model submittals for request for proposals for variable renewable dispatchable generation and energy storage and describes the review process for model submittals.

## 2 FACILITY TECHNICAL MODEL REQUIREMENTS

---

To fully investigate impacts of the proposed generation facility on Hawaiian Electric's system and correctly identify any mitigation measures, the proposed generation facility technical model, along with related technical documents, will need to be submitted as part of the project interconnection review and prior to the Interconnection Requirements Study (IRS). The generation facility technical model includes:

1. PSCAD model
2. Generic PSS/E power flow model
3. User defined PSS/E dynamic model
4. Generic PSS/E dynamic model, and
5. ASPEN model

Along with the technical models, following documents should also be submitted for review:

6. User manual for all technical models
7. Generation facility one-line diagram
8. Generation unit manufacturer datasheet
9. Generation unit reactive power capability curve
10. Overlaid generation facility technical model output data for three-phase fault and single-phase fault. (Sample plots are shown in Appendix A)

### 2.1 General requirements for all technical models

All technical models need to represent the whole generation facility, not only a generation unit such as one inverter. At minimum, the following equipment shall be included in the generation facility model:

1. Generation unit, such as inverter with DC side model, rotation machine with model of exciter and governor.
2. Step up transformer
3. Collection system
4. Main interconnection transformer, or GSU, with its tap changer if applicable
5. Grounding transformer
6. Conductor
7. Var compensation device, such as cap bank or STATCOM, if applicable
8. Power plant controller (not for ASPEN model)
9. Documentation
10. Gen-tie line (as applicable)

An equivalent representation of the collection system, generator step-up transformers, and inverter systems is acceptable.

## 2.2 Requirements for generation facility PSCAD model

In addition to the general requirements mentioned above, the generation facility PSCAD model shall satisfy requirements as described in the document "PSCAD Model Requirements Rev. 9" provided by Hawaiian Electric.

## 2.3 Requirements for generation facility generic PSS/E power flow model

The generation facility PSS/E power flow model shall be provided for both PSS/E version 33 and version 34. Besides the general requirements mentioned above, the following modeling data shall be provided in the model:

1. Conductor
  - a. Impedance, both positive sequence and zero sequence
  - b. Rating: Rating A – normal rating, and Rating B – emergency rating
2. Transformer
  - a. Nominal voltages of windings
  - b. Impedance data: specified R and X
  - c. Tap ratios
  - d. Min and Max tap position limits
  - e. Number of tap positions
  - f. Regulated bus
  - g. Ratings: Rate A – normal rating; Rate B – emergency rating
  - h. Winding configuration
3. Reactive power compensation, if applicable
  - a. Fixed Shunts: G-Shunt (MW), B-Shunt (MVar)
  - b. Switched Shunts: Voltage limits (Vhi and Vlow), mode of operation (fixed, discrete, continuous), regulated bus, Binit (MVar), steps and step size (MVar)
4. Generation unit
  - a. Pmax
  - b. Pmin
  - c. Qmax
  - d. Qmin
  - e. Name plate MVA
  - f. Transformer data: R Tran, X Tran, and Gentap.
  - g. Voltage control point

## 2.4 Requirements for generation facility user defined PSS/E dynamic model

The submitted user defined PSS/E dynamic model should meet the following requirements:

1. The generation facility PSS/E dynamic model shall be provided for both PSS/E version 33 and version 34.
2. The project shall be modeled at full output per the project's Interconnection Request.
3. User defined dynamic models must accurately model all the relevant control modes and characteristics of the equipment, such as:

Appendix B Attachment 3

- a. All available voltage/reactive power control modes
  - b. Frequency/governor response control modes
  - c. Voltage and frequency ride-through characteristics
  - d. Power plant controller or group supervisory functionality
  - e. Appropriate aggregate modeling capability
  - f. Charging mode if applicable (e.g., for a battery energy storage device)
4. Dynamic model source code (.flx) or dynamic linked library (.dll), and PSS/E dyr file shall be provided.
  5. User defined dynamic model plant-specific settings shall comply with requirements listed in the Power Purchase Agreement, including ride-through thresholds and other specified control settings if applicable.
  6. User defined dynamic models related to individual units shall be editable in the PSS/E graphic user interface. All model parameters (CONS, ICONS, and VARS) shall be accessible and shall match the description in the model's accompanying documentation.
  7. User defined dynamic models shall have all their data reportable in the "DOCU" listing of dynamics model data, including the range of CONS, ICONS, and VARS numbers. Models that apply to multiple elements (e.g., park controllers) shall also be fully formatted and reportable in DOCU.
  8. User defined dynamic models shall be capable of correctly initializing and run through the simulation throughout the range of expected steady state starting conditions without additional manual adjustments.
  9. User defined dynamic models shall be capable of allowing all documented (in the model documentation) modes of operation without error.
  10. User defined dynamic model shall be accompanied by the following documentation:
    - a. A user's guide for each model
    - b. Appropriate procedures and considerations for using the model in dynamic simulations
    - c. Technical description of characteristics of the model
    - d. Block diagram for the model, including overall modular structure and block diagrams of any sub-modules
    - e. List of plant-specific settings, which may include:
      - i. Ride-through thresholds and parameters
      - ii. Plant-level voltage controller settings
      - iii. Power ramp rate settings
      - iv. ICON flag parameters for specific control modes
      - v. Deadbands
      - vi. Initial State of Charge (SOC)
    - f. Values, names and detailed explanation for all model parameters
    - g. List of all state variables, including expected ranges of values for each variable

## **2.5 Requirements for generation facility generic PSS/E dynamic model**

The submitted generic PSS/E dynamic model should meet the following requirements:

1. All generic PSS/E dynamic models must be standard library models in PSS/E.

Appendix B Attachment 3

2. The generation facility PSS/E dynamic model shall be provided for both PSS/E version 33 and version 34.
3. The project shall be modeled at full output per the project's Interconnection Request.
4. Generic dynamic models must accurately model all the relevant control modes and characteristics of the equipment, such as:
  - a. All available voltage/reactive power control modes
  - b. Frequency/governor response control modes
  - c. Voltage and frequency ride-through characteristics
  - d. Power plant controller or group supervisory functionality
  - e. Appropriate aggregate modeling capability
  - f. Charging mode if applicable (e.g., for a battery energy storage device)
5. PSS/E dyr file shall be provided.
6. Generic dynamic models' plant-specific settings should comply with requirements listed in the Power Purchase Agreement, including ride-through thresholds and other specified control settings if applicable.
7. Generic dynamic models shall be capable of correctly initializing and run through the simulation throughout the range of expected steady state starting conditions without additional manual adjustments.
8. Generic dynamic models shall be accompanied by the following documentation:
  - a. A user's guide for each model
  - b. Appropriate procedures and considerations for using the model in dynamic simulations
  - c. Technical description of characteristics of the model
  - d. List of plant-specific settings, which may include:
    - i. Ride-through thresholds and parameters
    - ii. Plant-level voltage controller settings
    - iii. Power ramp rate settings
    - iv. ICON flag parameters for specific control modes
    - v. Deadbands
    - vi. Initial State of Charge (SOC)

## 2.6 Requirements for generation facility ASPEN model

Besides the general requirements, validation results of single phase and three-phase fault current from the generation unit represented in the generation facility ASPEN model shall be provided.

## **3** GENERATION FACILITY TECHNICAL MODEL REVIEW PROCESS

---

To review the generation facility technical model, the following procedures are performed in the PSCAD and PSS/E environment. A review of the results will be documented and provided to the Customer for confirmation of model acceptance or further model updates.

### **3.1 Model review in PSCAD**

- 1) Review model data against “Technical memo PSCAD requirements V5.pdf” provided by Hawaiian Electric. In this step, it will be determined whether the model is complete, generation facility settings are according to the Power Purchase Agreement, and if the model can be compiled and run without any error.
- 2) Initialization test:  
In this step, the generation facility PSCAD model will be determined whether the model initialization is acceptable. Hawaiian Electric requires that:
  - a. The PSCAD model shall initialize as quickly as possible (e.g. <1-3 seconds) to user defined terminal conditions.
  - b. Project PSCAD model shall initialize properly and that the same power flow and voltage conditions shall be observed between the PSCAD and PSS/E models after initialization.
- 3) Voltage and frequency ride-through tests:  
In this step, the generation facility PSCAD model ride-through performance will be reviewed by performing voltage and frequency ride-through simulations in PSCAD. The review will focus on the generation facility model dynamic response during and after ride-through and generation facility trip time.
- 4) Fault simulation tests:  
Two types of fault tested at the Point of Interconnection bus of the generation facility will be performed in this step.
  - i) 3-phase to ground fault with 6-cycle clearing time (same as the PSS/E ring down model test described in the following section).
  - ii) 1-phase to ground fault simulation with 6-cycle clearing time.

In this test, fault current contribution from the generation facility observed in the simulation will be reviewed by comparing it against the generation facility technical document.

### **3.2 Model review in PSS/E**

- 1) Model data review:  
Review model data based on the requirements for PSS/E power flow and dynamic model provided by Hawaiian Electric. In this step, the review determines whether the model is complete, generation facility settings is according to the PPA, and model can be compiled and run without any error.
- 2) Flat start test:



Appendix B Attachment 3

PSS/E models shall initialize correctly and be capable of successful “flat start” testing using the 20 Second No-Fault simulation: This test consists of a 20 second simulation with no disturbance applied.

3) Ring down test:

PSS/E models shall initialize correctly and be capable of successful “ring down” testing using the 60 Second Disturbance Simulation: This test consists of the application of a 3-phase fault for 6 cycles at POI bus, followed by removal of the fault without any lines being tripped. The simulation is run for 60 seconds to allow the dynamics to settle.

4) Voltage and frequency ride-through tests:

In this step, the generation facility PSS/E model ride-through performance will be reviewed by performing voltage and frequency ride-through simulation in PSS/E. The review will focus on the generation facility model dynamic response during and after ride-through and generation facility trip time.

## 4 TYPICAL ISSUES IDENTIFIED FROM THE FACILITY MODEL SUBMITTALS DURING THE PAST RFP PROCESS

---

1. Missing documentation

Only generation technical facility models are submitted, but no model user manual or any other documentation. Without model documentation, it is very difficult to know the correct procedures of using the technical models and identifying issues during the review.

2. Model incompleteness

Often, the model of a single generation unit, such as an inverter, is submitted instead of model of the whole generation facility, which is insufficient. The model of the generation facility should include models for all equipment listed in the section of "General requirements for all technical models".

3. Settings in the model

Type issues in this category are:

- The PSCAD and PSS/E model ride-through settings are not consistent with the settings defined in the Power Purchase Agreement.
- Generation MW is not set as defined.
- Model is set for 50 Hz instead of 60 Hz

4. Model function issues

Some models do not function as expected during different test scenarios. For example:

- Fault current contribution from the generation facility is higher than what is described in the generation facility datasheet
- Generation level is not stable as settings during the initialization test
- Long time oscillation observed in the ringdown test
- Ride-through performance does not reach requirements defined in the Power Purchase Agreement

## REFERENCE

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- [1] New England Iso Planning procedure – Interconnection planning procedure for generation and elective transmission upgrades
- [2] ERCOT Planning Guide, 2019
- [3] PJM MOD-032 Steady State, Dynamics, and Short Circuit Modeling Data Requirements and Reporting Procedures Document

## APPENDIX A: SAMPLE OVERLAID GENERATION FACILITY TECHNICAL MODEL OUTPUT PLOT FOR THREE-PHASE FAULT

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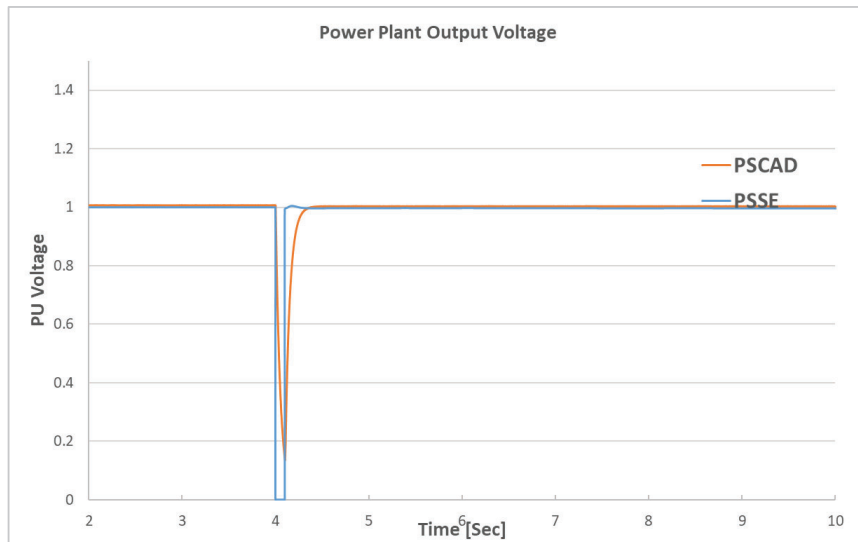


Figure 1: Overlaid plot for power plant voltage

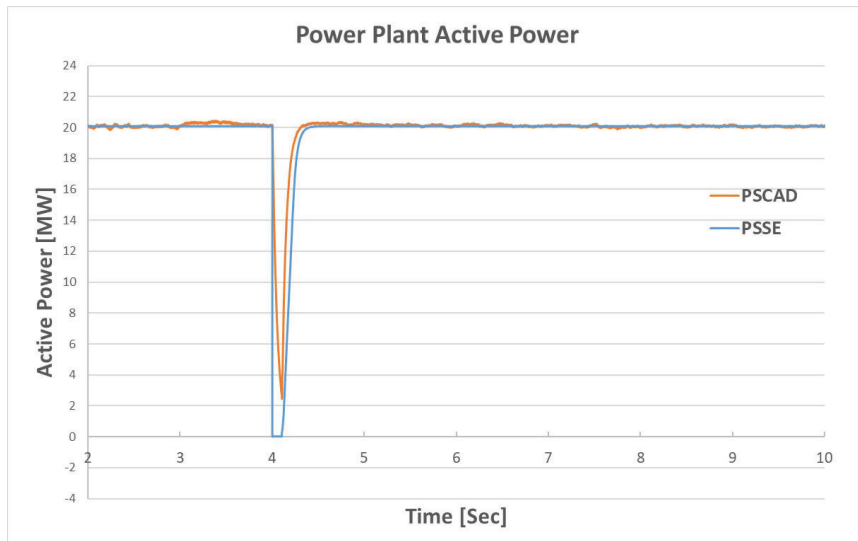


Figure 2: Overlaid plot for power plant active power generation

Appendix B Attachment 3

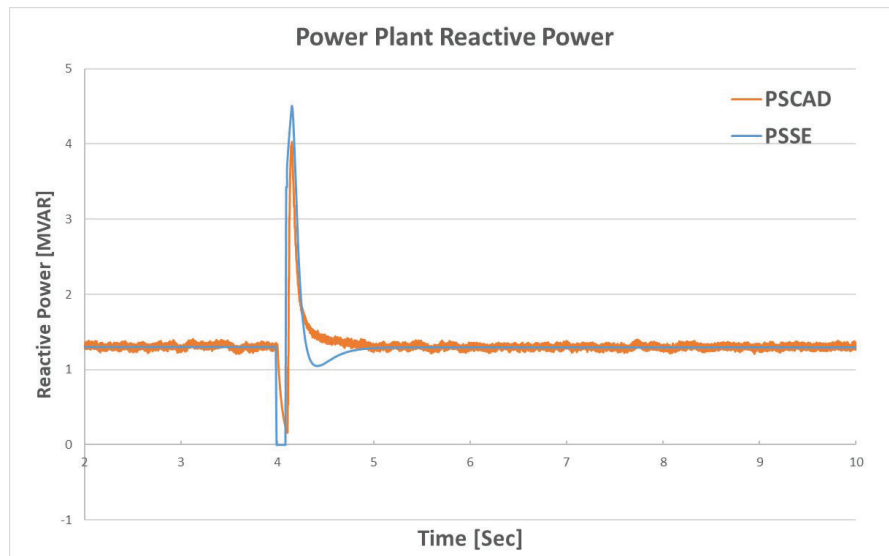


Figure 3: Overlaid plot for power plant reactive power generation

## APPENDIX B: SAMPLE TEST SYSTEM TOPOLOGY INFORMATION

On weak grids such as island systems, it is important to test the models using a representative high Thevenin equivalent impedance.

A typical topology of testing circuit which represents Hawaiian Electric system for 46 kV project is shown in Figure 4. Sample 46 kV Thevenin equivalent impedance is available upon request for model testing.

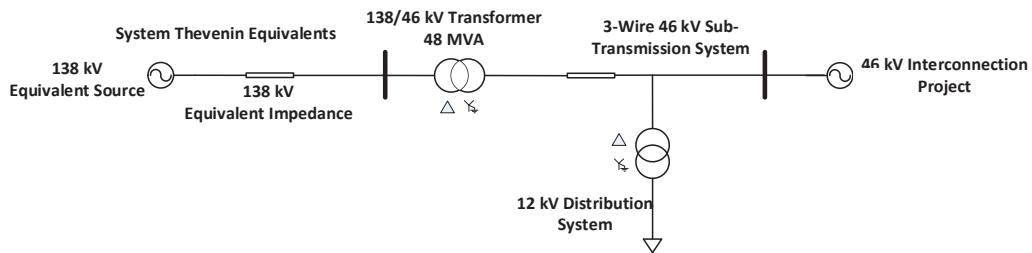


Figure 4: Testing circuit single line diagram for 46 kV project

A typical topology of testing circuit which represents Hawaiian Electric system for 138 kV project is shown in Figure 5. Sample 138 kV Thevenin equivalent impedance is available upon request for model testing.

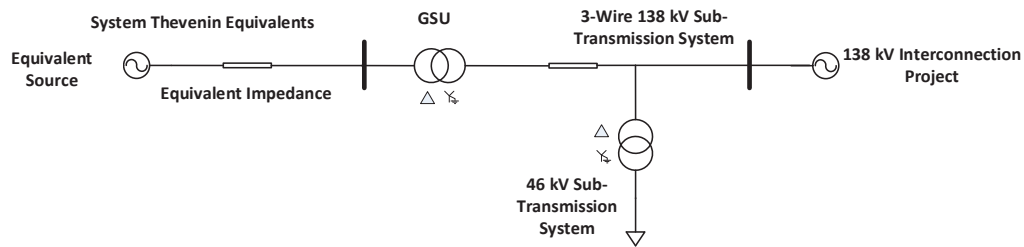


Figure 5: Testing circuit single line diagram for 138 kV project

## PSCAD Model Requirements Rev. 9

**Date:** May 8, 2020  
**Prepared By:** Andrew L. Isaacs  
Lukas Unruh  
Garth Irwin

**This document includes the following attachments:**

**Attachment #1: PSCAD Model Test Checklist**

**Attachment #2: PSCAD Model Requirements Supplier Checklist**

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### *Introduction*

Specific model requirements for a PSCAD study depend on the type of study being done. A study with a scope covering weak system interconnections, ride-through evaluation, short term<sup>1</sup> event response, and fast control interaction with nearby devices (for example) would require a model which has the following characteristics. Some specialty studies may require other features. Refer to “Attachment #1: PSCAD Model Test Checklist” and “Attachment #2: PSCAD Model Requirements Supplier Checklist”, appended to this document, for additional information on how these requirements may applied.

### *Model Accuracy Features*

For the model to be sufficiently accurate, it must:

- A. *Represent the full detailed inner control loops of the power electronics.* The model cannot use the same approximations classically used in transient stability modeling, and should fully represent all fast inner controls, as implemented in the real equipment. Models which embed the actual hardware code into a PSCAD component are currently wide-spread, and this is the recommended type of model.<sup>2</sup>
- B. *Represent all control features pertinent to the type of study being done.* Examples include external voltage controllers, plant level controllers, customized PLLs, ride-through controllers, SSCI damping controllers and others. As in point A, actual hardware code is recommended to be used for most control and protection features. Operating modes that require system specific adjustment should be user accessible. Plant level voltage control should be represented along with adjustable droop characteristics. If multiple plants are controlled by a common controller, this functionality should be included.
- C. *Represent all pertinent electrical and mechanical configurations.* This includes any filters and specialized transformers. There may be other mechanical features such as gearboxes, pitch controllers, or others which should be modelled if they impact electrical performance within the timeframe of the study. Any control or dynamic features of the actual equipment which may influence behaviour in the simulation period which are not represented or which are approximated should be clearly identified.

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<sup>1</sup> Example analysis periods could be 2 to 10 seconds from fault inception. Some studies could require longer periods.

<sup>2</sup> The model must be a full IGBT representation (preferred), or may use a voltage source representation that approximates the IGBT switching but maintains full detail in the controls. A three phase sinusoidal source representation is not acceptable. Models manually translated block-by-block from MATLAB or control block diagrams may be unacceptable because the method used to model the electrical network and interface to the controls may not be accurate, or portions of the controls such as PLL circuits or protection circuits may be approximated or omitted. Note that firmware code may be directly used to create an extremely accurate PSCAD model of the controls. The controller source code may be compiled into DLLs or binaries if the source code is unavailable due to confidentiality restrictions.

It is not recommended to assemble the model using standard blocks available in the PSCAD master library, as approximations are usually introduced, and specific implementation details for important control blocks may be lost. In addition, there is a significant risk that errors will be introduced in the process of manually assembling the model. For this type of manually assembled model, (not using a direct “real code” embedding process), extra care is required, and validation is required.



- D. *Have all pertinent protections modeled in detail for both balanced and unbalanced fault conditions.* Typically this includes various OV and UV protections (individual phase and RMS), frequency protections, DC bus voltage protections, converter overcurrent protections, and often other inverter specific protections. As in point A, actual hardware code is recommended to be used for these protection features.
- E. *Be configured to match expected site-specific equipment settings.* Any user-tunable parameters or options should be set in the model to match the equipment at the specific site being evaluated, as far as they are known. Default parameters may not be appropriate.

#### *Model Usability Features*

In order to allow study engineers to perform system analysis using the model, the PSCAD model must:

- F. *Have control or hardware options which are pertinent to the study accessible to the user.* Examples of this could include protection thresholds, real power recovery ramp rates, or SSCI damping controllers.<sup>3</sup> Diagnostic flags (eg. flags to show control mode changes or which protection has been activated) should be visible to aid in analysis.
- G. *Be accurate when running at a simulation time step of 10  $\mu$ s or higher.* Often, requiring a smaller time step means that the control implementation has not used the interpolation features of PSCAD, or is using inappropriate interfacing between the model and the larger network. Lack of interpolation support introduces inaccuracies into the model at larger simulation time-steps. In cases where the IGBT switching frequency is so high that even interpolation does not allow accurate switching representation at 10  $\mu$ s (eg. 40 kHz), an average source approximation of the inverter switching may be used to allow a larger simulation time step<sup>2</sup>.
- H. *Operate at a range of simulation time steps.* The model should not be restricted to operating at a single time step, but should be able to operate within a range (eg. 10  $\mu$ s – 20  $\mu$ s)
- I. *Have the ability to disable protection models.* Many studies result in inadvertent tripping of converter equipment, and the ability to disable protection functions temporarily provides study engineers with valuable system diagnostic information.
- J. *Include documentation and a sample implementation test case.* Test case models should be configured according to the site-specific real equipment configuration up to the Point of Interconnection. This would include (for example): aggregated generator model, aggregated generator transformer, equivalent collector branch, main step up transformers, gen tie line, and any other static or dynamic reactive resources. Test case should use a single machine infinite bus representation of the system, configured with an appropriate representative SCR, such as 2.5. Access to technical support engineers is desirable.
- K. *Have an identification mechanism for configuration.* The model documentation should provide a clear way to identify the specific settings and equipment configuration which will be used in any

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<sup>3</sup> Care should be taken to ensure that any user-settable options are not changed in a way that is not implementable in the real hardware, and that any selectable options are actually available at the specific site being considered. Discussion is recommended with the manufacturer prior to any changes being made in model configuration.

- study, such that during commissioning the settings used in the studies can be checked. This may be control revision codes, settings files, or a combination of these and other identification measures.
- L. *Accept external reference variables.* This includes real and reactive power ordered values for Q control modes, or voltage reference values for voltage control modes. Model should accept these reference variables for initialization, and be capable of changing these reference variables mid-simulation, ie. dynamic signal references.
  - M. *Be capable of initializing itself.* Once provided with initial condition variables, the model must initialize and ramp to the ordered output without external input from simulation engineers. Any slower control functions which are included (such as switched shunt controllers or power plant controllers) should also accept initial condition variables if required.
  - N. *Have the ability to scale plant capacity.* The active power capacity of the model should be scalable in some way, either internally or through an external scaling transformer<sup>4</sup>. This is distinct from a dispatchable power order, and is used for modeling different capacities of plant or breaking a lumped equivalent plant into smaller composite models.
  - O. *Have the ability to dispatch its output to values less than nameplate.* This is distinct from scaling a plant from one unit to more than one, and is used for testing plant behaviour at various operating points.
  - P. *Initialize quickly.* Model must reach its ordered initial conditions as quickly as possible (for example <5 seconds) to user supplied terminal conditions.

#### *Study Efficiency Features*

In addition, the following elements are required to improve study efficiency, model compatibility, and enable other studies which include the model to be run as efficiently as possible. If these features are not supported, additional discussion is required<sup>5</sup>:

- Q. Model should be compatible with Intel Fortran compiler version 12 and higher.
- R. Model should be compatible with PSCAD version 4.5.3 and higher.
- S. Model supports multiple instances of its own definition in the same simulation case.
- T. Model supports the PSCAD “timed snapshot” feature accessible through project settings.
- U. Model supports the PSCAD “multiple run” feature.
- V. Model does not use or rely upon global variables in the PSCAD environment.
- W. Model should not utilize multiple layers in the PSCAD environment, including ‘disabled’ layers.

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<sup>4</sup> A free publicly available scaling transformer suitable for this purpose is available in the E-Tran library.

<sup>5</sup> Electrenix has parallelization tools available (E-Tran Plus for PSCAD) which can circumvent compatibility concerns in some cases.

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## Attachment #1: PSCAD Model Test Checklist

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## Purpose

This document is a test checklist meant to accompany “PSCAD Model Requirements Rev. 9” provided above and “Attachment #2: PSCAD Model Requirements Supplier Checklist”. The procedures provided in this document are intended to provide an indication of the core model accuracy, performance, and usability features specified in the model requirements. These procedures cannot ultimately prove that the model is compliant with all requirements, as black box models usually hide the details of the equipment controls and protection. It is recommended that the equipment manufacturer supply additional confirmation that the model meets each individual requirement. The requirements in this document do not necessarily represent interconnection criteria for specific individual systems, and may be supplemented or adjusted based on interconnection region.

The tests outlined here are considered “basic”, and may be supplemented by more rigorous testing, including various fault types, depths, and durations, as well as more extensive protection testing and benchmarking against phasor models. This document is not intended to be a guide for thorough benchmarking between PSCAD, PSS/E, and actual equipment, and is subject to revision as the state of the art in EMT modeling evolves.

| <i>Model test Summary</i>        |  |
|----------------------------------|--|
| Model Test date:                 |  |
| Project Name:                    |  |
| Manufacturer:                    |  |
| Equipment type: (eg. PV or Wind) |  |
| Equipment version:               |  |
| Documentation file:              |  |
| Model Files supplied:            |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |

## Verification Procedure and Checklist

|  |   | Pass/Fail | Comments |
|--|---|-----------|----------|
| <i>Vendor and site specific model verification</i> |   |           |          |
| 1a   | The Vendor's name and the specific version of the model should be clearly observable in the .psc model file.  |           |          |
| 1b   | Documentation and supporting model filenames should not conflict with model version shown in the .psc model file.   |           |          |
| 1c   | Model is supplied with a test circuit which is configured for the site specific application. <sup>6</sup>   |           |          |
| <i>"Real Code" model verification</i>              |   |           |          |
| 2a   | Controls are black-boxed, and no PSCAD master library control blocks are visible within control circuits. <sup>7</sup> If the model is not based on "real code", a separate validation report is required showing model comparison against hardware tests. <sup>8</sup> |           |          |
| <i>Model usability verification</i>                |   |           |          |
| 3a   | Model uses a timestep greater than 10 $\mu\text{s}$ <sup>9</sup>  |           |          |
| 3b   | Model allows a variation in simulation timestep   |           |          |
| 3c   | Model compiles using Intel FORTRAN version 12   |           |          |
| 3d   | Model initializes in 5 seconds or less with a POI level SCR of 2.5. Real power, reactive power, and RMS voltage should reach steady state by this time.   |           |          |
| 3e   | Model allows multiple instances of itself to be run together in the same case <sup>10</sup>   |           |          |
| <i>Model electrical configuration verification</i> |   |           |          |
| 4a   | Plant level electrical single line diagram (SLD) is included.   |           |          |

<sup>6</sup> The test circuit should model all relevant electrical components of the plant and contain a system equivalent. Parameters will be assumed to be site-specific, unless there are obvious indications otherwise, such as an incorrect grid base frequency.

<sup>7</sup> Black-boxing of controls to a high level does not guarantee that real-code is embedded into the model, however the visibility of PSCAD master-library control blocks in the inner control loops (PLL, inner current controllers, etc.) suggest that the model is generic in nature. Model documentation may contain information on use of real-code in the model.

<sup>8</sup> All aspects of the controller operation are required to be validated by utilizing a "hardware in loop" platform or other hardware test systems. Model should not be validated against other software models. Validations should include control responses to various types of faults, changes in power and voltage references, changes in system frequency, testing frequency response in sub and super-synchronous ranges, and testing of protection operation. Tests should also be performed under a variety of system strengths, including very weak systems. Other tests may also be required. The validation report is required along with any model updates that result from the more rigorous validation tests.

<sup>9</sup> Models with timesteps less than 10  $\mu\text{s}$  may be acceptable in situations where a small timestep does not significantly increase the runtime of the total simulation

<sup>10</sup> Depending on specific application and whether E-Tran Plus for PSCAD is allowed to be used to overcome the limitation, this requirement may be waived.

|  |   |  |  |
|--|---|--|--|
| 4b   | Generator step-up transformer(s) included, with impedance between 5 and 10% on generator base, and matches SLD. <sup>11</sup>   |  |  |
| 4c   | Lumped collector equivalent(s) included, with total charging equal to between 0.5 and 5% of plant rating, and matches SLD. <sup>11</sup>  |  |  |
| 4d   | Substation transformer(s) included, rated appropriately for plant size, and impedance between 6 and 12% on transformer base, and matches SLD. <sup>11</sup>   |  |  |
| 4e   | Model can be scaled to represent any number inverters/turbines, either using a scaling transformer or internal scaling.   |  |  |
| 4f   | All external devices included in the plant (such as STATCOMs) include appropriate models.   |  |  |
| <i>Plant controller verification</i>               |   |  |  |
| 5a   | Model includes power plant controller (PPC)   |  |  |
| 5b   | PPC accepts an external active power setpoint.  |  |  |
| 5c   | PPC accepts a voltage setpoint.   |  |  |
| 5d   | PPC has a mechanism to implement a settable voltage droop.  |  |  |
| 5e   | Overall plant responds to frequency changes by increasing or decreasing its active power as appropriate. This may be accomplished either at an inverter level or via the PPC. <sup>12</sup>                               |  |  |
| 5f   | Model initializes to the setpoints specified in the PPC. If droops or deadbands are utilized, the initial values may differ from the setpoints. <sup>13</sup>   |  |  |
| 5g   | If external voltage control devices (STATCOM/DVAR, SVC, MSCs) are included in the plant, ensure that the voltage control of these devices is coordinated with the PPC, with no potential for VAR looping or oscillations. |  |  |
| <i>Basic performance verification<sup>14</sup></i> |   |  |  |
| 6a   | Instantaneous voltage and current waveforms have minimal distortion, and no oscillations are observed.  |  |  |

<sup>11</sup> Impedance range is for sanity checking only. Impedances outside this range may be allowed.

<sup>12</sup> Non-compliance with this item may not require model revision as frequency response may not be required in PSCAD models by some utilities. In this case, a description of the under/over frequency response capabilities of the actual equipment should be provided by the manufacturer.

<sup>13</sup> If voltage control with droop is implemented, it is preferred that the PPC model requests an initial Q value to match the voltage setpoint. If no initial Q is requested, the voltage setpoint can be biased by the initial Q before it is sent to the PPC. If a non-zero deadband is included in the voltage controller, the deadband can also be considered in the voltage setpoint sent to the PPC.

<sup>14</sup> Performance testing is recommended with a POI level SCR of 2.5 as this is a representative system condition seen during weak system studies. Testing may be performed at higher SCRs if the stable operating SCR of a model is known to be above 2.5.

|  |  |  |  |
|--|--|--|--|
| 6b   | Model is able to ride-through and recover from a temporary (no line outage or drop in SCR), 6-cycle, zero-impedance, three-phase fault at the high side of the station transformer, with a POI level SCR of 2.5.                         |  |  |
| 6c   | Model responds to a step change in PPC voltage setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. (Various systems may have specific speed requirements, which should be met)  |  |  |
| 6d   | Model responds to a step change in PPC active power setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. <sup>15</sup>   |  |  |
| <i>Basic protection verification</i> <sup>16</sup> |  |  |  |
| 7a   | Protection settings are implemented. These could be available as inputs in the model, or hard-coded in the black-boxed controls. <sup>17</sup>   |  |  |
| 7b   | Option to disable protection models is present. <sup>18</sup>  |  |  |
| 7c   | Model trips or blocks when terminal voltage rises above 1.3 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7d   | Model trips or blocks when terminal voltage falls below 0.2 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7e   | Model clearly displays trip / diagnostic signals indicating the status of all pertinent protection elements  |  |  |
| <i>Documentation</i>                               |  |  |  |
| 8a   | Model documentation states compliance with "PSCAD Model Requirements Rev. 9 Rev. 9" <sup>20</sup> , or is supplied with a completed PSCAD Model Requirements Supplier Checklist.   |  |  |
| 8b   | Model documentation includes instructions for setup and running of the model, including the recommended range of simulation timesteps. Documentation should give a clear description of trip / operation code signals produced by model. |  |  |

<sup>15</sup> Different response time criteria may apply depending on specific interconnection region.

<sup>16</sup> There are many protection functions which should be modelled, per footnote 1, and these basic tests will not be proof that these are modelled.

<sup>17</sup> If settings are not visible in model or documentation, verification that protection settings are implemented in the PSCAD model should be received from the manufacturer.

<sup>18</sup> Non-compliance may not require model revision as many studies do not require testing with protection settings disabled.

<sup>19</sup> Non-compliance with this item should result in verification of protection settings implementation from the manufacturer, as some models may have capabilities beyond what is listed here.

<sup>20</sup> Non-compliance may be waived in systems which do not require compliance with the model requirements document.

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## Attachment #2: PSCAD Model Requirements Supplier Checklist

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## Purpose

This document is a model requirements checklist which should be completed by the supplier of the model and submitted alongside each PSCAD model. This document accompanies the “PSCAD Model Requirements Rev. 9” document above (PMR), which should be used for further reference to describe the requirements associated with each point. Generic testing of the model may be done using “Attachment #1: PSCAD Model Test Checklist”, which may be used as a reference.

Model supplier must review every item in the checklist and indicate compliance for each item. If the supplied model does not meet any of the requirements an explanation of the deficiency should be provided in the comments column.

| <i>Model Submission Summary (to be completed by model supplier)</i> |  |
|---|--|
| Submission date:  |  |
| Project Name:   |  |
| Primary contact information for model related questions:            |  |
| Secondary contact information for model related questions:          |  |
| Manufacturer:   |  |
| Equipment type: (eg. PV or Wind)                                    |  |
| Equipment version:  |  |
| Documentation file(s):  |  |
| Model Files supplied:   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |

| Model Requirements Checklist             |   |      |  | Model Complies? (Yes/No) | Comments |
|--|---|------|--|--------------------------|----------|
| <b>1 Model Accuracy Features</b>         |   |      |  |                          |          |
| 1.1                                      | Power electronic controls are modelled by interfacing with actual firmware code from the inverter (“real code” model), or includes detailed validation report.                            | A, B |  |                          |          |
| 1.2                                      | Operating modes which require system specific adjustment are accessible.  | B    |  |                          |          |
| 1.3                                      | Plant level controller is included. <sup>21</sup>   | B    |  |                          |          |
| 1.4                                      | Model is capable of controlling frequency <sup>22</sup>   | B    |  |                          |          |
| 1.5                                      | Includes pertinent electrical and mechanical features, such as gearboxes, pitch controllers, or other features which impact the plant performance in the simulation period. <sup>23</sup> | C    |  |                          |          |
| 1.6                                      | All protections which could impact ride-through performance are modelled in detail.   | D    |  |                          |          |
| 1.7                                      | Model is configured for the specific site being evaluated, as far as they are known.  | E    |  |                          |          |
| <b>2 Model and Project Documentation</b> |   |      |  |                          |          |
| 2.1                                      | Model includes documentation.   | J    |  |                          |          |
| 2.2                                      | Documentation includes instruction for setup and running the model.   | J    |  |                          |          |

<sup>21</sup> If the plant is part of a multi-plant control scheme, a description of the overall scheme should be provided, and corresponding PPC models should be configured to control multiple plants accordingly.

<sup>22</sup> Frequency control model requirements may vary by region. Example response time may be less than 10 seconds.

<sup>23</sup> Simulation period may vary depending on the model use, but 10 seconds of simulation following an event such as a fault is a typical period.

|      |  |   |  |  |
|------|--|---|--|--|
| 2.3  | Model is supplied with a sample test case including site specific plant representation.  | J |  |  |
| 2.4  | Plant single line diagram is provided, and aligns with model   | J |  |  |
| 2.5  | Model documentation provides a clear way to identify site-specific settings and equipment configuration.   | K |  |  |
| 3    | <i>Model Usability Features</i>  |   |  |  |
| 3.01 | Control or hardware options are accessible to the user as applicable.  | F |  |  |
| 3.02 | Diagnostic flags are visible to the user.  | F |  |  |
| 3.03 | Model uses a timestep greater than 10 $\mu$ s.   | G |  |  |
| 3.04 | Model allows a range of simulation timesteps (ie. not restricted to a single timestep).  | H |  |  |
| 3.05 | Protection model may be disabled for troubleshooting   | I |  |  |
| 3.06 | Model accepts external reference variables for active and reactive power and voltage setpoint, and these may be changed dynamically during the simulation. | L |  |  |
| 3.07 | Model is capable of initializing itself.   | M |  |  |
| 3.08 | Active power capacity is scalable.   | N |  |  |
| 3.09 | Active power is dispatchable.  | O |  |  |
| 3.10 | Model reaches setpoint P, Q, and V in 5 seconds or less  | P |  |  |
| 3.11 | Model compatible with Intel FORTRAN version 12 and higher.   | Q |  |  |
| 3.12 | Model compiles using PSCAD version 4.5.3 or higher.  | R |  |  |
| 3.13 | Model supports multiple instances of its own definition in a single PSCAD case.  | S |  |  |
| 3.14 | Model supports PSCAD "snapshot" feature.   | T |  |  |

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|      |  |   |  |  |
|------|--|---|--|--|
| 3.15 | Model supports the PSCAD “multiple run” feature. | U |  |  |
| 3.16 | Model does not use PSCAD global variables.       | V |  |  |
| 3.17 | Model does not use PSCAD layer functionality     | W |  |  |



Transmission and Distribution Planning Division - Interconnection Services Department  
Simulation Tests  
CBRE RFP Interconnection Requirement Study-System Impact Study  
Date: July 7, 2020

---

## 1. Introduction

This document describes the simulation tests that Hawaiian Electric IRS study consultants will perform to check the models submitted for CBRE IRS. Results of these tests, combined with other checks on project input data and model parameters, will determine if the models are acceptable for the IRS studies. The models to be tested are PSS E user-written model, PSCAD model and ASPEN short-circuit model for each project.

It is recommended that the model submitters should also perform these tests to self-check on your models, so that your models will become acceptable for the IRS study in a timely manner.

## 2. Separate Models Required for Grid Following Mode and Grid Forming Mode

For the CBRE IRS, modeling of inverter Grid Forming capabilities may be required. For each project, separate models should be submitted: one with the project in Grid Forming (GFM) mode (if applicable), and the other with the project in Grid Following (GFL) mode. This requirement applies to all models mentioned above.

## 3. General Requirements

All submitted models should be accompanied by proper documentation.

There should be a reasonable match between the PSS E user-written model and the PSCAD model responses for the simulation tests performed for both models.

## 4. List of Simulation Tests

### 4.1 GFL Mode Simulation Tests

#### 4.1.1 Tests to be performed for PSS E models

- a. Flat run in a two-machine system (one machine is a synchronous machine, e.g., GENCLS model, and the other machine is a project's model.)
- b. Ringdown (3ph-ground fault simulation test) in a two-machine system.



***GFL-Tests to be performed for PSS E models - continued***

- c. Voltage ride-through and response in a two-machine system.
- d. Frequency ride-through and response in a two-machine system.
- e. Weak grid operation in a two-machine system  
Gradually increase/decrease MVA of the synchronous machine within a range and check if the project's model is able to work with the studied MVA range.
- f. Simulation in a relevant HECO island system model for a couple of selected faults  
The purpose here is to identify potential issues with a project's PSS E model ahead of dynamic stability analysis to limit study delays due to model issues.

Note: also refer to "Siemens PTI Model Review process\_200317.pdf".

***4.1.2 Tests to be performed for PSCAD models only (includes model adequacy and documentation checks)***

- g. Tests and checks outlined in "PSCAD Requirements Rev 9 May 2020.pdf", inclusive of ringdown, voltage and frequency ride-through tests.



## 4.2 GFM Mode Simulation Tests

### 4.2.1 Tests to be performed for both PSS E and PSCAD models

Test notes:

- Applicable for projects which include grid-forming BESS only
- Assumption is that BESS has available energy and is dispatched suitably for the tests (i.e. Not at current limit)

- a. Able to black start and operate in island mode

Test sequence: energize main power transformer from project side, then connect project to a load, then apply a bus fault at the POI, then remove the fault. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbances.

- b. Loss of the last synchronous machine

Test system will be a three-machine system including: a synchronous machine modeled by GENROU with a simple excitation system model (e.g., SCRX) and a simple governor model (e.g., TGOV1), a load with both real and reactive components, and duplicates of a project's model. Duplicates of a project's model are utilized here to check if the project is able to share real and reactive power properly with other generators. Test event: trip the synchronous generator. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbance.

- c. Weak grid operation

Test system is the two-machine system. Gradually increase/decrease MVA of the synchronous machine within a range and check if the project's model is able to work with the studied MVA range.

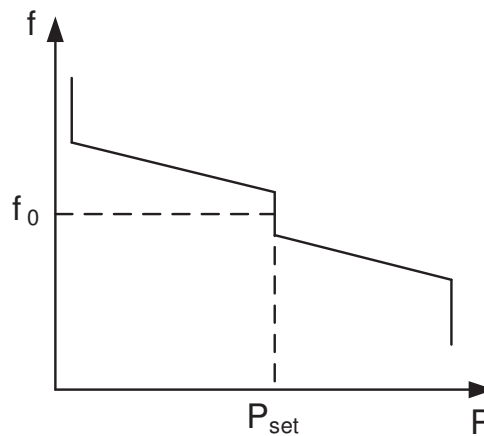
- d. Able to operate in harmony with other converter resources and synchronous machines

Test system is the three-machine system including: a synchronous machine modeled by GENROU with a simple excitation system model and a simple governor model, a load with both real and reactive components, and duplicates of a project's model. Simulation tests to be performed may include load step up/down, ringdown, voltage ride through and frequency ride-through tests. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbances.



***GFM Mode Simulation Tests – Tests to be performed for both PSS E and PSCAD models - continued***

Particularly related to frequency control characteristics, we will test for configurable frequency droop control and configurable deadband characteristics. The frequency deadband should be settable in the range from +/- 0.01 Hz to +/- 1.0 Hz and the frequency droop shall be settable in the range of 0.1% to 10% with a typical value of 4%. A sample characteristic of frequency droop control with deadband is shown in Figure 1.



**Figure 1 – Frequency Droop Control Characteristic with Deadband**

e. Switching between GFL mode and GFM mode

Test system is the two-machine system. Test sequence: energize main power transformer from project side, then connect project to a load. At this point, the project will be operating in island mode, performing frequency control. Then switch in the synchronous generator; the project will be operating in power/frequency droop control mode. Results: voltage and frequency should be stable and settle back to close to their nominal values after the disturbances.

**4.2.2 Tests to be performed for PSS E models only**

a. Reduction in frequency deviation in GFM mode

Test system will be a relevant HECO island system model. Test event is loss of a large generator. Project model will be in GFL mode and GFM mode. Result: less degree of frequency deviation is expected when project is in GFM mode than when the project is in GFL mode.





#### 4.3 ASPEN Model Check

A review of the ASPEN models will be performed. As mentioned above, two models are expected for each project: one model for GFL mode, and the other for GFM mode. Documentation associated with the models should be provided. The model review will check if the components of a project are modeled properly, such as transformers, equivalent collector system, equivalent generator, etc., and that the model data are consistent to the PSS E and PSCAD model data. A fault simulation test will also be performed in a two-machine system. Total current at the fault location and contribution from each machine will be reviewed and documented.



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**Date:** March 17, 2020

**From:** Osazuwa Oriakhi, Wenchun Zhu and Kavita Shenoi, Siemens PTI

**RE: HECO IRS Model Review Process**

Message from Interconnection Services: This document shows you an example of the model data review and tests that a study consultant performs on your model data submittal under the Interconnection Requirement Study, System Impact Study (IRS SIS Agreement). The Test Package that you are receiving is repeated for the IRS. By performing these tests as a Do-it-Yourself (DIY), model data submittals when we receive them for the IRS SIS are understood to be accurate and have usability and efficiency features to integrate the facility model data with the Company's system model data and commence the IRS SIS analyses in a prompt and efficient manner.

Siemens PTI performs the following data checks and tests as a part of our Model review process.

**A. Steady State Data Review**

Siemens PTI will review the ratings and impedances of all equipment in the ASPEN, PSS®E and PSCAD models and check for discrepancies. Table 1 below shows the comparison of power flow data for all equipment in the PSS®E and PSCAD models.

**Table 1. Steady State Data Review**

| Equipment                                    | Comments                                   |
|--|--|
| Gen-Tie line                                 | PSS®E, PSCAD and ASPEN models should match |
| Main Power Transformer Impedance             | PSS®E, PSCAD and ASPEN models should match |
| Main Power Transformer Configuration         | PSCAD and ASPEN models should match        |
| PV Collector System Data                     | PSS®E, PSCAD and ASPEN models should match |
| BESS Collector System Data                   | PSS®E, PSCAD and ASPEN models should match |
| Inverter Pad Mount Transformer Impedance     | PSS®E, PSCAD and ASPEN models should match |
| Inverter Pad Mount Transformer Configuration | PSCAD and ASPEN models should match        |
| Inverter Power Flow Data                     | PSS®E and PSCAD models should match        |
| Voltage Control Point                        | PSS®E and PSCAD models should match        |

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### B. Dynamic Model Data Review

There are three types of models which show the transient/dynamic behavior of the generation facility:

1. A PSS®E user-written dynamic model which is a detailed model of the specific inverters and controls provided by the manufacturer.
2. A PSS®E generic model which utilizes PSS®E library models to specify the dynamic behavior of the facility.
3. A PSCAD model which is a detailed transient model of the inverters and controls

Siemens PTI will compare the various dynamic model parameters across the three models and note any discrepancies in the data fields shown in Table 2.

**Table 2. Comparison of Dynamic Model Parameters**

| Parameters                                  | Comments  |
|---|---|
| Power Plant Controller (PPC)                | Review number of PPCs   |
| Control Flags                               | PSS®E and PSCAD control flags should match.   |
| Control Bus/Point of Measurement            | Control buses should match in PSS®E and PSCAD models.   |
| Frequency Control Dead Band                 | The frequency thresholds for primary and secondary control should match in the PSCAD and PSS®E models.                  |
| Initial State of Charge (SOC)               | Make sure the initial state of charge is set up correctly to prevent initialization issues.                             |
| Voltage and Frequency Ride Through Settings | The voltage and frequency ride through settings should match in the PSS®E user-written, PSS®E generic and PSCAD models. |
| P/Q priority data                           | The P/Q priority flags should match in the PSS®E user-written, PSS®E generic and PSCAD models                           |

### C. Model tests

Siemens PTI will perform the following tests to check the active power, reactive power, voltage and frequency responses of the generation facility and review if the three models (PSS®E user-written, PSS®E generic and PSCAD models) show consistent responses.

1. **Flat Run Test:** This is a no-disturbance simulation to check a model's initialization. This test is applicable to all three types of models.
2. **Ring Down Test:** In this simulation, a fault is placed at the facility's POI for a duration of 6-cycles. The fault is subsequently cleared, and the post-disturbance response of the facility is observed. This test is applicable to all three types of models.
3. **High and Low Frequency Response Test:** In these simulations, the system frequency is varied to test the facility's responses to grid's frequency excursions. In the PSS®E tests, high and low frequency excursions are simulated to mimic the frequency ride through thresholds specified in the PPA and the response of the facility is observed. Both the frequency ride-through capability of the facility and its active power response to frequency excursions are tested in the PSS®E simulations.

In the PSCAD simulations, the focus is on testing the facility's active power responses to frequency excursions, and not on testing the frequency ride-through capability. However, it should be noted that the duration of the frequency excursions in the PSCAD tests are well-

Appendix B Attachment 3

within the no-trip zones according to the PPA, and so the facility is not expected to trip during these simulations. Table 3 and Table 4 show the frequency excursions that were simulated in the PSCAD tests.

**Table 3 Frequency Excursions for PSCAD High Frequency Response Test**

| Frequency level (Hz) | Duration (secs) |
|----------------------|-----------------|
| 60.1                 | 2.0             |
| 63.0                 | 2.0             |

**Table 4 Frequency Excursions for PSCAD Low Frequency Response Test**

| Frequency level (Hz) | Duration (secs) |
|----------------------|-----------------|
| 59.9                 | 2.0             |
| 56.0                 | 2.0             |

4. **High and Low Voltage Ride-through and Response Tests:** In these simulations, the POI voltage is varied to test the facility’s ride-through capabilities and responses to POI voltage excursions. In the PSS®E simulations, two sets of tests are performed: one for testing the ride-through capabilities and the other for testing the responses to voltage excursions. These two sets of tests are similar, except that the grid equivalent representation is different. For the ride-through tests, the grid equivalent is represented by a generator with a very large MVA, which connects to the POI bus directly. For the voltage excursion response tests, the grid equivalent is represented by a 500 MVA generator which connects to the POI through a branch with a reactance of 0.1 p.u.

In the PSCAD simulations, the focus is on testing the facility’s reactive power responses to POI voltage excursions, and not on testing the voltage ride-through capability. However, it should be noted that the duration of the voltage excursions in the PSCAD tests are well-within the no-trip zones according to the PPA, and so the facility is not expected to trip during these simulations.

Table 5 shows the voltage excursions that will be simulated in the PSCAD tests.

**Table 5 POI Voltage Excursions for PSCAD Voltage Response Test**

| POI Voltage level (pu) | Duration (secs) |
|------------------------|-----------------|
| 1.20                   | 0.8             |
| 1.10                   | 2.0             |
| 0.88                   | 2.0             |
| 0.70                   | 2.0             |

Each of the above discussed tests were performed for the following three generation dispatches:

- **PV output only:** In this dispatch, the PV unit is at maximum output and the BESS unit is online at 0 MW.
- **BESS output only:** In this dispatch, the BESS unit is discharging at maximum output and the PV unit is online at 0 MW.

Appendix B Attachment 3

- **PV charging BESS:** In this dispatch, the PV unit is at its maximum output and is charging the BESS at its minimum level.

**D. Expected Model Performance**

1. Matching steady-state model parameters between the PSS®E user-written, generic models and the PSCAD model.
2. Matching control options between the three types of models.
3. Matching voltage and frequency ride-through parameters between the three types of models. The settings should meet the ride-through requirements specified in the PPA.
4. Flat run results do not show any movement for any of the three models.
5. Ring-down simulation results show stable and proper responses, and the responses from the three models should show reasonable matches.
6. Ride-through simulation results should show stable and proper responses, and the responses should show reasonable matches. The ride through performance should meet the PPA requirements.

**E. Model Review Reporting Requirements**

1. Simulation tests should be performed using the python scripts provided by Siemens PTI, and should be readily reproducible.
2. Discuss model review results.
3. Include simulation plots for the simulation tests discussed above.
4. Related to high and low frequency ride through tests, document frequency response droops shown in the simulations.

## PSCAD Model Requirements Rev. 9

**Date:** May 8, 2020  
**Prepared By:** Andrew L. Isaacs  
Lukas Unruh  
Garth Irwin

**This document includes the following attachments:**

**Attachment #1: PSCAD Model Test Checklist**

**Attachment #2: PSCAD Model Requirements Supplier Checklist**

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### *Introduction*

Specific model requirements for a PSCAD study depend on the type of study being done. A study with a scope covering weak system interconnections, ride-through evaluation, short term<sup>1</sup> event response, and fast control interaction with nearby devices (for example) would require a model which has the following characteristics. Some specialty studies may require other features. Refer to “Attachment #1: PSCAD Model Test Checklist” and “Attachment #2: PSCAD Model Requirements Supplier Checklist”, appended to this document, for additional information on how these requirements may applied.

### *Model Accuracy Features*

For the model to be sufficiently accurate, it must:

- A. *Represent the full detailed inner control loops of the power electronics.* The model cannot use the same approximations classically used in transient stability modeling, and should fully represent all fast inner controls, as implemented in the real equipment. Models which embed the actual hardware code into a PSCAD component are currently wide-spread, and this is the recommended type of model.<sup>2</sup>
- B. *Represent all control features pertinent to the type of study being done.* Examples include external voltage controllers, plant level controllers, customized PLLs, ride-through controllers, SSCI damping controllers and others. As in point A, actual hardware code is recommended to be used for most control and protection features. Operating modes that require system specific adjustment should be user accessible. Plant level voltage control should be represented along with adjustable droop characteristics. If multiple plants are controlled by a common controller, this functionality should be included.
- C. *Represent all pertinent electrical and mechanical configurations.* This includes any filters and specialized transformers. There may be other mechanical features such as gearboxes, pitch controllers, or others which should be modelled if they impact electrical performance within the timeframe of the study. Any control or dynamic features of the actual equipment which may influence behaviour in the simulation period which are not represented or which are approximated should be clearly identified.

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<sup>1</sup> Example analysis periods could be 2 to 10 seconds from fault inception. Some studies could require longer periods.

<sup>2</sup> The model must be a full IGBT representation (preferred), or may use a voltage source representation that approximates the IGBT switching but maintains full detail in the controls. A three phase sinusoidal source representation is not acceptable. Models manually translated block-by-block from MATLAB or control block diagrams may be unacceptable because the method used to model the electrical network and interface to the controls may not be accurate, or portions of the controls such as PLL circuits or protection circuits may be approximated or omitted. Note that firmware code may be directly used to create an extremely accurate PSCAD model of the controls. The controller source code may be compiled into DLLs or binaries if the source code is unavailable due to confidentiality restrictions.

It is not recommended to assemble the model using standard blocks available in the PSCAD master library, as approximations are usually introduced, and specific implementation details for important control blocks may be lost. In addition, there is a significant risk that errors will be introduced in the process of manually assembling the model. For this type of manually assembled model, (not using a direct “real code” embedding process), extra care is required, and validation is required.

- D. *Have all pertinent protections modeled in detail for both balanced and unbalanced fault conditions.* Typically this includes various OV and UV protections (individual phase and RMS), frequency protections, DC bus voltage protections, converter overcurrent protections, and often other inverter specific protections. As in point A, actual hardware code is recommended to be used for these protection features.
- E. *Be configured to match expected site-specific equipment settings.* Any user-tunable parameters or options should be set in the model to match the equipment at the specific site being evaluated, as far as they are known. Default parameters may not be appropriate.

#### *Model Usability Features*

In order to allow study engineers to perform system analysis using the model, the PSCAD model must:

- F. *Have control or hardware options which are pertinent to the study accessible to the user.* Examples of this could include protection thresholds, real power recovery ramp rates, or SSCI damping controllers.<sup>3</sup> Diagnostic flags (eg. flags to show control mode changes or which protection has been activated) should be visible to aid in analysis.
- G. *Be accurate when running at a simulation time step of 10  $\mu$ s or higher.* Often, requiring a smaller time step means that the control implementation has not used the interpolation features of PSCAD, or is using inappropriate interfacing between the model and the larger network. Lack of interpolation support introduces inaccuracies into the model at larger simulation time-steps. In cases where the IGBT switching frequency is so high that even interpolation does not allow accurate switching representation at 10  $\mu$ s (eg. 40 kHz), an average source approximation of the inverter switching may be used to allow a larger simulation time step<sup>2</sup>.
- H. *Operate at a range of simulation time steps.* The model should not be restricted to operating at a single time step, but should be able to operate within a range (eg. 10  $\mu$ s – 20  $\mu$ s)
- I. *Have the ability to disable protection models.* Many studies result in inadvertent tripping of converter equipment, and the ability to disable protection functions temporarily provides study engineers with valuable system diagnostic information.
- J. *Include documentation and a sample implementation test case.* Test case models should be configured according to the site-specific real equipment configuration up to the Point of Interconnection. This would include (for example): aggregated generator model, aggregated generator transformer, equivalent collector branch, main step up transformers, gen tie line, and any other static or dynamic reactive resources. Test case should use a single machine infinite bus representation of the system, configured with an appropriate representative SCR, such as 2.5. Access to technical support engineers is desirable.
- K. *Have an identification mechanism for configuration.* The model documentation should provide a clear way to identify the specific settings and equipment configuration which will be used in any

---

<sup>3</sup> Care should be taken to ensure that any user-settable options are not changed in a way that is not implementable in the real hardware, and that any selectable options are actually available at the specific site being considered. Discussion is recommended with the manufacturer prior to any changes being made in model configuration.



- study, such that during commissioning the settings used in the studies can be checked. This may be control revision codes, settings files, or a combination of these and other identification measures.
- L. *Accept external reference variables.* This includes real and reactive power ordered values for Q control modes, or voltage reference values for voltage control modes. Model should accept these reference variables for initialization, and be capable of changing these reference variables mid-simulation, ie. dynamic signal references.
  - M. *Be capable of initializing itself.* Once provided with initial condition variables, the model must initialize and ramp to the ordered output without external input from simulation engineers. Any slower control functions which are included (such as switched shunt controllers or power plant controllers) should also accept initial condition variables if required.
  - N. *Have the ability to scale plant capacity.* The active power capacity of the model should be scalable in some way, either internally or through an external scaling transformer<sup>4</sup>. This is distinct from a dispatchable power order, and is used for modeling different capacities of plant or breaking a lumped equivalent plant into smaller composite models.
  - O. *Have the ability to dispatch its output to values less than nameplate.* This is distinct from scaling a plant from one unit to more than one, and is used for testing plant behaviour at various operating points.
  - P. *Initialize quickly.* Model must reach its ordered initial conditions as quickly as possible (for example <5 seconds) to user supplied terminal conditions.

#### *Study Efficiency Features*

In addition, the following elements are required to improve study efficiency, model compatibility, and enable other studies which include the model to be run as efficiently as possible. If these features are not supported, additional discussion is required<sup>5</sup>:

- Q. Model should be compatible with Intel Fortran compiler version 12 and higher.
- R. Model should be compatible with PSCAD version 4.5.3 and higher.
- S. Model supports multiple instances of its own definition in the same simulation case.
- T. Model supports the PSCAD “timed snapshot” feature accessible through project settings.
- U. Model supports the PSCAD “multiple run” feature.
- V. Model does not use or rely upon global variables in the PSCAD environment.
- W. Model should not utilize multiple layers in the PSCAD environment, including ‘disabled’ layers.

---

<sup>4</sup> A free publicly available scaling transformer suitable for this purpose is available in the E-Tran library.

<sup>5</sup> Electrenix has parallelization tools available (E-Tran Plus for PSCAD) which can circumvent compatibility concerns in some cases.

---

## Attachment #1: PSCAD Model Test Checklist

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**Purpose**

This document is a test checklist meant to accompany “PSCAD Model Requirements Rev. 9” provided above and “Attachment #2: PSCAD Model Requirements Supplier Checklist”. The procedures provided in this document are intended to provide an indication of the core model accuracy, performance, and usability features specified in the model requirements. These procedures cannot ultimately prove that the model is compliant with all requirements, as black box models usually hide the details of the equipment controls and protection. It is recommended that the equipment manufacturer supply additional confirmation that the model meets each individual requirement. The requirements in this document do not necessarily represent interconnection criteria for specific individual systems, and may be supplemented or adjusted based on interconnection region.

The tests outlined here are considered “basic”, and may be supplemented by more rigorous testing, including various fault types, depths, and durations, as well as more extensive protection testing and benchmarking against phasor models. This document is not intended to be a guide for thorough benchmarking between PSCAD, PSS/E, and actual equipment, and is subject to revision as the state of the art in EMT modeling evolves.

| <i>Model test Summary</i>        |  |
|----------------------------------|--|
| Model Test date:                 |  |
| Project Name:                    |  |
| Manufacturer:                    |  |
| Equipment type: (eg. PV or Wind) |  |
| Equipment version:               |  |
| Documentation file:              |  |
| Model Files supplied:            |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |
|                                  |  |

## Verification Procedure and Checklist

|  |   | Pass/Fail | Comments |
|--|---|-----------|----------|
| <i>Vendor and site specific model verification</i> |   |           |          |
| 1a   | The Vendor's name and the specific version of the model should be clearly observable in the .psc model file.  |           |          |
| 1b   | Documentation and supporting model filenames should not conflict with model version shown in the .psc model file.   |           |          |
| 1c   | Model is supplied with a test circuit which is configured for the site specific application. <sup>6</sup>   |           |          |
| <i>"Real Code" model verification</i>              |   |           |          |
| 2a   | Controls are black-boxed, and no PSCAD master library control blocks are visible within control circuits. <sup>7</sup> If the model is not based on "real code", a separate validation report is required showing model comparison against hardware tests. <sup>8</sup> |           |          |
| <i>Model usability verification</i>                |   |           |          |
| 3a   | Model uses a timestep greater than 10 $\mu$ s <sup>9</sup>  |           |          |
| 3b   | Model allows a variation in simulation timestep   |           |          |
| 3c   | Model compiles using Intel FORTRAN version 12   |           |          |
| 3d   | Model initializes in 5 seconds or less with a POI level SCR of 2.5. Real power, reactive power, and RMS voltage should reach steady state by this time.   |           |          |
| 3e   | Model allows multiple instances of itself to be run together in the same case <sup>10</sup>   |           |          |
| <i>Model electrical configuration verification</i> |   |           |          |
| 4a   | Plant level electrical single line diagram (SLD) is included.   |           |          |

<sup>6</sup> The test circuit should model all relevant electrical components of the plant and contain a system equivalent. Parameters will be assumed to be site-specific, unless there are obvious indications otherwise, such as an incorrect grid base frequency.

<sup>7</sup> Black-boxing of controls to a high level does not guarantee that real-code is embedded into the model, however the visibility of PSCAD master-library control blocks in the inner control loops (PLL, inner current controllers, etc.) suggest that the model is generic in nature. Model documentation may contain information on use of real-code in the model.

<sup>8</sup> All aspects of the controller operation are required to be validated by utilizing a "hardware in loop" platform or other hardware test systems. Model should not be validated against other software models. Validations should include control responses to various types of faults, changes in power and voltage references, changes in system frequency, testing frequency response in sub and super-synchronous ranges, and testing of protection operation. Tests should also be performed under a variety of system strengths, including very weak systems. Other tests may also be required. The validation report is required along with any model updates that result from the more rigorous validation tests.

<sup>9</sup> Models with timesteps less than 10  $\mu$ s may be acceptable in situations where a small timestep does not significantly increase the runtime of the total simulation

<sup>10</sup> Depending on specific application and whether E-Tran Plus for PSCAD is allowed to be used to overcome the limitation, this requirement may be waived.

|  |   |  |  |
|--|---|--|--|
| 4b   | Generator step-up transformer(s) included, with impedance between 5 and 10% on generator base, and matches SLD. <sup>11</sup>   |  |  |
| 4c   | Lumped collector equivalent(s) included, with total charging equal to between 0.5 and 5% of plant rating, and matches SLD. <sup>11</sup>  |  |  |
| 4d   | Substation transformer(s) included, rated appropriately for plant size, and impedance between 6 and 12% on transformer base, and matches SLD. <sup>11</sup>   |  |  |
| 4e   | Model can be scaled to represent any number inverters/turbines, either using a scaling transformer or internal scaling.   |  |  |
| 4f   | All external devices included in the plant (such as STATCOMs) include appropriate models.   |  |  |
| <i>Plant controller verification</i>               |   |  |  |
| 5a   | Model includes power plant controller (PPC)   |  |  |
| 5b   | PPC accepts an external active power setpoint.  |  |  |
| 5c   | PPC accepts a voltage setpoint.   |  |  |
| 5d   | PPC has a mechanism to implement a settable voltage droop.  |  |  |
| 5e   | Overall plant responds to frequency changes by increasing or decreasing its active power as appropriate. This may be accomplished either at an inverter level or via the PPC. <sup>12</sup>                               |  |  |
| 5f   | Model initializes to the setpoints specified in the PPC. If droops or deadbands are utilized, the initial values may differ from the setpoints. <sup>13</sup>   |  |  |
| 5g   | If external voltage control devices (STATCOM/DVAR, SVC, MSCs) are included in the plant, ensure that the voltage control of these devices is coordinated with the PPC, with no potential for VAR looping or oscillations. |  |  |
| <i>Basic performance verification<sup>14</sup></i> |   |  |  |
| 6a   | Instantaneous voltage and current waveforms have minimal distortion, and no oscillations are observed.  |  |  |

<sup>11</sup> Impedance range is for sanity checking only. Impedances outside this range may be allowed.

<sup>12</sup> Non-compliance with this item may not require model revision as frequency response may not be required in PSCAD models by some utilities. In this case, a description of the under/over frequency response capabilities of the actual equipment should be provided by the manufacturer.

<sup>13</sup> If voltage control with droop is implemented, it is preferred that the PPC model requests an initial Q value to match the voltage setpoint. If no initial Q is requested, the voltage setpoint can be biased by the initial Q before it is sent to the PPC. If a non-zero deadband is included in the voltage controller, the deadband can also be considered in the voltage setpoint sent to the PPC.

<sup>14</sup> Performance testing is recommended with a POI level SCR of 2.5 as this is a representative system condition seen during weak system studies. Testing may be performed at higher SCRs if the stable operating SCR of a model is known to be above 2.5.

|  |  |  |  |
|--|--|--|--|
| 6b   | Model is able to ride-through and recover from a temporary (no line outage or drop in SCR), 6-cycle, zero-impedance, three-phase fault at the high side of the station transformer, with a POI level SCR of 2.5.                         |  |  |
| 6c   | Model responds to a step change in PPC voltage setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. (Various systems may have specific speed requirements, which should be met)  |  |  |
| 6d   | Model responds to a step change in PPC active power setpoint, reaching 90% of the new value between 1 and 10 seconds in a test system with POI level SCR of 2.5. <sup>15</sup>   |  |  |
| <i>Basic protection verification</i> <sup>16</sup> |  |  |  |
| 7a   | Protection settings are implemented. These could be available as inputs in the model, or hard-coded in the black-boxed controls. <sup>17</sup>   |  |  |
| 7b   | Option to disable protection models is present. <sup>18</sup>  |  |  |
| 7c   | Model trips or blocks when terminal voltage rises above 1.3 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7d   | Model trips or blocks when terminal voltage falls below 0.2 pu for 1.5 second. <sup>19</sup>   |  |  |
| 7e   | Model clearly displays trip / diagnostic signals indicating the status of all pertinent protection elements  |  |  |
| <i>Documentation</i>                               |  |  |  |
| 8a   | Model documentation states compliance with "PSCAD Model Requirements Rev. 9 Rev. 9" <sup>20</sup> , or is supplied with a completed PSCAD Model Requirements Supplier Checklist.   |  |  |
| 8b   | Model documentation includes instructions for setup and running of the model, including the recommended range of simulation timesteps. Documentation should give a clear description of trip / operation code signals produced by model. |  |  |

<sup>15</sup> Different response time criteria may apply depending on specific interconnection region.

<sup>16</sup> There are many protection functions which should be modelled, per footnote 1, and these basic tests will not be proof that these are modelled.

<sup>17</sup> If settings are not visible in model or documentation, verification that protection settings are implemented in the PSCAD model should be received from the manufacturer.

<sup>18</sup> Non-compliance may not require model revision as many studies do not require testing with protection settings disabled.

<sup>19</sup> Non-compliance with this item should result in verification of protection settings implementation from the manufacturer, as some models may have capabilities beyond what is listed here.

<sup>20</sup> Non-compliance may be waived in systems which do not require compliance with the model requirements document.

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## Attachment #2: PSCAD Model Requirements Supplier Checklist

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**Purpose**

This document is a model requirements checklist which should be completed by the supplier of the model and submitted alongside each PSCAD model. This document accompanies the “PSCAD Model Requirements Rev. 9” document above (PMR), which should be used for further reference to describe the requirements associated with each point. Generic testing of the model may be done using “Attachment #1: PSCAD Model Test Checklist”, which may be used as a reference.

Model supplier must review every item in the checklist and indicate compliance for each item. If the supplied model does not meet any of the requirements an explanation of the deficiency should be provided in the comments column.

| <i>Model Submission Summary (to be completed by model supplier)</i> |  |
|---|--|
| Submission date:  |  |
| Project Name:   |  |
| Primary contact information for model related questions:            |  |
| Secondary contact information for model related questions:          |  |
| Manufacturer:   |  |
| Equipment type: (eg. PV or Wind)                                    |  |
| Equipment version:  |  |
| Documentation file(s):  |  |
| Model Files supplied:   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |
|   |  |



| Model Requirements Checklist             |   |      |  | Model Complies? (Yes/No) | Comments |
|--|---|------|--|--------------------------|----------|
| <b>1 Model Accuracy Features</b>         |   |      |  |                          |          |
| 1.1                                      | Power electronic controls are modelled by interfacing with actual firmware code from the inverter (“real code” model), or includes detailed validation report.                            | A, B |  |                          |          |
| 1.2                                      | Operating modes which require system specific adjustment are accessible.  | B    |  |                          |          |
| 1.3                                      | Plant level controller is included. <sup>21</sup>   | B    |  |                          |          |
| 1.4                                      | Model is capable of controlling frequency <sup>22</sup>   | B    |  |                          |          |
| 1.5                                      | Includes pertinent electrical and mechanical features, such as gearboxes, pitch controllers, or other features which impact the plant performance in the simulation period. <sup>23</sup> | C    |  |                          |          |
| 1.6                                      | All protections which could impact ride-through performance are modelled in detail.   | D    |  |                          |          |
| 1.7                                      | Model is configured for the specific site being evaluated, as far as they are known.  | E    |  |                          |          |
| <b>2 Model and Project Documentation</b> |   |      |  |                          |          |
| 2.1                                      | Model includes documentation.   | J    |  |                          |          |
| 2.2                                      | Documentation includes instruction for setup and running the model.   | J    |  |                          |          |

<sup>21</sup> If the plant is part of a multi-plant control scheme, a description of the overall scheme should be provided, and corresponding PPC models should be configured to control multiple plants accordingly.

<sup>22</sup> Frequency control model requirements may vary by region. Example response time may be less than 10 seconds.

<sup>23</sup> Simulation period may vary depending on the model use, but 10 seconds of simulation following an event such as a fault is a typical period.

|      |  |   |  |  |
|------|--|---|--|--|
| 2.3  | Model is supplied with a sample test case including site specific plant representation.  | J |  |  |
| 2.4  | Plant single line diagram is provided, and aligns with model   | J |  |  |
| 2.5  | Model documentation provides a clear way to identify site-specific settings and equipment configuration.   | K |  |  |
| 3    | <i>Model Usability Features</i>  |   |  |  |
| 3.01 | Control or hardware options are accessible to the user as applicable.  | F |  |  |
| 3.02 | Diagnostic flags are visible to the user.  | F |  |  |
| 3.03 | Model uses a timestep greater than 10 $\mu$ s.   | G |  |  |
| 3.04 | Model allows a range of simulation timesteps (ie. not restricted to a single timestep).  | H |  |  |
| 3.05 | Protection model may be disabled for troubleshooting   | I |  |  |
| 3.06 | Model accepts external reference variables for active and reactive power and voltage setpoint, and these may be changed dynamically during the simulation. | L |  |  |
| 3.07 | Model is capable of initializing itself.   | M |  |  |
| 3.08 | Active power capacity is scalable.   | N |  |  |
| 3.09 | Active power is dispatchable.  | O |  |  |
| 3.10 | Model reaches setpoint P, Q, and V in 5 seconds or less  | P |  |  |
| 3.11 | Model compatible with Intel FORTRAN version 12 and higher.   | Q |  |  |
| 3.12 | Model compiles using PSCAD version 4.5.3 or higher.  | R |  |  |
| 3.13 | Model supports multiple instances of its own definition in a single PSCAD case.  | S |  |  |
| 3.14 | Model supports PSCAD "snapshot" feature.   | T |  |  |

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|      |  |   |  |  |
|------|--|---|--|--|
| 3.15 | Model supports the PSCAD “multiple run” feature. | U |  |  |
| 3.16 | Model does not use PSCAD global variables.       | V |  |  |
| 3.17 | Model does not use PSCAD layer functionality     | W |  |  |

Appendix B Attachment 4

**COMMUNITY OUTREACH PLAN  
GENERAL INSTRUCTIONS TO PROPOSERS**

Gaining community support is an important part of a Project’s viability and success. An effective Community Outreach Plan will call for early meaningful communications with stakeholders and will reflect a deep understanding and respect for the community’s desire for information. The public meeting and comment solicitation process described in Section 5.3 of the RFP is intended to support that premise and the Commission’s desire to increase bid transparency within the RFP process. When developers neglect to demonstrate transparency and a willingness to engage in early and frequent communication with Hawaii’s communities, costly and timely challenges to their projects have resulted. In some instances, projects have failed. Incorporating transparency during the competitive bidding phase may seem unconventional, but it has become an essential community expectation. Developers must share information and work with communities to address concerns through careful listening, thoughtful responsiveness, and a commitment to respect the environmental and cultural values of Hawai’i.

Section 5.3 of the RFP requires all Proposers to provide to the Company an updated comprehensive Community Outreach Plan to work with and inform neighboring communities and stakeholders, and to provide communities and stakeholders timely information during all phases of the Project. The Company requires all Proposers provide the below table of information onto their website described in Section 5.3 to provide communities Project information that is of interest to them in a standard format. As an option, Proposers may provide their updated Community Outreach Plan and website information to the Company for review and feedback. If provided at least 30 days prior to the dates required, the Company will endeavor to review such information and provide feedback on the information before it is made available to the public. The below information is already required by the RFP instructions and should be included in all Proposals (albeit in various sections).

**PROJECT SUMMARY AND COMMUNITY OUTREACH PLAN**

|   |   |  |
|---|---|--|
| * | Proposer Name (Company name)  |  |
| * | Parent Company/Owner/Sponsor/etc.   |  |
| * | Project Name  |  |
| * | Net AC Capacity of the Facility (MW)<br>(must match Proposal information)                     |  |
| * | Proposed Facility Location in/near<br>what City/Area  |  |
| * | TMK(s) of Facility Location<br>(must match Proposal information)                              |  |
| * | Point of Interconnection’s Circuit or<br>Substation Name<br>(must match Proposal information) |  |
| * | Project Description<br>(in 200 words or less)   | <i>(A description that includes information about the project that will enable the community to understand the impact that the Project might have on the community.)</i> |
| * | Project site map  | <i>(provide a map similar to what was provided in Section 2.5.2)</i>   |

Appendix B Attachment 4

|  |   |  |
|--|---|--|
| *  | Site layout plan  | <i>(provide a layout similar to what was provided in Section 2.5.3)</i>  |
| *  | Interconnection route   | <i>(provide a map of the route similar to what was provided in Section 2.5.4)</i>  |
| <b>Environmental Compliance, Impacts and Permitting Plan</b> |   |  |
| *  | Overall land use and environmental permits and approvals strategy   | <i>(provide information in level of detail as provided in Section 2.6.1)</i>   |
| *  | Gantt format schedule which identifies the sequencing of permit applications and approval activities and critical path. Schedule must be in MM/DD/YY format)  | <i>(provide information in level of detail as provided in Section 2.6.1)</i>   |
| *  | City Zoning and Land Use Classification   | <i>(provide information in level of detail as provided in Section 2.6.2)</i>   |
| *  | Discretionary and non-discretionary Land use, environmental and construction permits and approvals  | <i>(provide information in level of detail as provided in Section 2.6.3)</i>   |
| *  | Listing of Permits and approvals  | <i>(provide information in level of detail as provided in Section 2.6.3)</i>   |
| *  | Preliminary environmental assessment of the site (including any pre-existing environmental conditions)  | <i>(provide information in level of detail as provided in Section 2.6.4)</i>   |
| <b>Cultural Resource Impacts</b>                             |   |  |
| *  | Proposer's updated Community Outreach Plan must include a plan that (1) identifies any cultural, historic or natural resources that will be impacted by the project (2) describes the potential impacts on these resources and 3) identifies measures to mitigate such impacts. | <i>(provide information in level of detail as provided in Section 2.7)</i>   |
| <b>Community Outreach</b> (provide link to Section 2.8)      |   |  |
| *  | Detailed Community Outreach Plan  | <i>(provide key information from Community Outreach Plan as specified in Section 2.8.1 or provide a link to updated comprehensive Community Outreach Plan)</i> |
| *  | Local community support or opposition   | <i>(provide latest comprehensive information)</i>  |
| *  | Community outreach efforts  | <i>(provide latest comprehensive information)</i>  |
| *  | Community benefits  | <i>(provide latest comprehensive information)</i>  |

Appendix B Attachment 4

**\*All information in this table must be included on each Proposer's project website and in all community presentations.**

Appendix B Attachment 5

## DETAILED INSTRUCTIONS FOR COMMUNITY OUTREACH PLAN

- The Community Outreach Plan should be as current and explanatory as possible.
  - The Community Outreach Plan information must be included in the information Proposer selected to the Final Award Group make available on their website when the website is posted publicly.
- Proposer selected to the Final Award Group must develop a public Project website, which shall include all the information on the Community Outreach Plan table for their Project.
- Proposer must develop Project presentations that include all the information on the Community Outreach Plan table (sample template provided).
- Due to the uncertainty of the duration of the COVID-19 pandemic, all Proposers are required to plan for both in-person and virtual community meetings. As we near the dates that community meetings are scheduled, in the interest of public health and safety, the conditions at the time will determine if in-person meetings or virtual meetings will be required.
  - Virtual community meetings can either be community televised, or online, but must incorporate technology that allows for live engagement and interaction between the Proposer and community participants.
- Proposer must communicate important information about the Project with stakeholders in advance of community meetings.
- Proposer must perform media outreach (earned media) and advertising (paid media) to raise community awareness of any public meeting. Media advisories (sample attached) must be issued to the following media and organizations a minimum of 30 days prior to a public meeting. Media advisories do not need to be reviewed and approved by Hawaiian Electric, but must be shared with Hawaiian Electric for awareness.
  - For Oahu Projects
    - Star Advertiser
    - Civil Beat
    - Hawaii News Now
    - KHON2 News
    - KITV4 News
    - Neighborhood Boards
  - For Maui Projects
    - Maui News
    - Maui Now
    - Civil Beat
    - Hawaii News Now
    - KHON2 News
    - KITV4 News
  - For Hawaii Island Projects
    - Hawaii Tribune Herald
    - West Hawaii Today
    - Civil Beat
    - Hawaii News Now
    - KHON2 News
    - KITV4 News
- Advertisements must be placed in area community publications.
  - Guidance from the Company can be provided upon request
  - Information in the ads must be consistent with the media advisory
- Public comments in support and in opposition to the proposed Project must be compiled and filed verbatim with the Public Utilities Commission.
- Proposer must work with and inform neighboring communities and stakeholders to provide community members timely information during ALL phases of the project, which must include,

Appendix B Attachment 5

but not be limited to the Power Purchase Agreement negotiation period, the permitting process periods, and throughout construction.

- Should any COVID-19 related events interfere with the Proposer's ability to perform the listed actions, Proposer should inform the Company immediately of such effects for Company's consideration and guidance, and possible proposal of alternate actions.

**CONTACT:**      **NAME, 808.XXX.XXXX**      **FOR IMMEDIATE RELEASE**  
Email address      Date

### Media Advisory: Title

Project description to be drafted by developer. Description must include the location of proposed project and supporting background information.

**Date:**            TBD

**Time:**            TBD

**Location:**        TBD

**Purpose:**        To share information about a **TYPE (e. g. CBRE solar, etc.)** renewable energy project proposed to be developed in **COMMUNITY** near **AREA REFERENCE** and to solicit public comments to be filed with the Public Utilities Commission.

**Contact:**        For more information, call **808.XXX.XXXX** or visit **(website/social media)**

###



Appendix B Attachment 6

**Project Name**

**Proposer Name**

# Project Benefits

- Details

# Community Benefits

- Details

# Proposed Facility Location in/near what City/Area

- Map
- Dimensions of proposed project
- Include all project components

# Project Description

- Details

# Site Layout Plan

- Project Layout
- Project Visual Simulations
  - Multiple public vantage points

Appendix B Attachment 6

# Interconnection Route

- Map

# Required Government Permits and Approvals

- Preliminary Schedule
- Opportunities for public comment



# Environmental Impacts

- Preliminary environmental assessment of the site (including any pre-existing environmental conditions)

## Cultural Impacts

- Identify any cultural, historic or natural resources that will be impacted by the project
- Describe the potential impacts on these resources
- Identify measures to mitigate such impacts.

## Where to Find More Information

- Project website
- Proposer email and contact information

# How to Provide Comments

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

**COMMUNITY BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix C – Code of Conduct Procedures Manual*



**Maui  
Electric**

## I. INTRODUCTION

The Framework for Competitive Bidding ("Framework") adopted on December 8, 2006, by the Public Utilities Commission of the State of Hawaii (the "Commission") pursuant to Decision and Order No. 23121 (Docket No. 03-0372, Instituting a Proceeding to Investigate Competitive Bidding for New Generating Capacity in Hawaii) requires that the utility develop and follow a Code of Conduct whenever a utility or its affiliate seeks to advance an energy generation resource proposal in response to a request for proposals ("RFP") issued by the Company. Section III.A.4 of the Framework required the utility to submit to the Commission for review and approval (subject to modification if necessary) a code of conduct prior to the commencement of any competitive bid process under the Framework. The proposed *Code of Conduct Pertaining to the Implementation of a Competitive Bidding Process for Community-Based Renewable Energy* (the "Code of Conduct") requires the Companies to also propose this *Code of Conduct Procedures Manual* (the "Procedures Manual") to implement the requirements of the Framework and the Code of Conduct.

This Procedures Manual has been developed to outline the procedures to be followed and the policies that have been developed surrounding the implementation of the Companies' competitive bidding process for system resources. This Code of Conduct Procedures Manual has been developed for the Companies' Community-Based Renewable Energy RFPs and in accordance with the requirements of Section IV.H.9.a(iii) of the Framework and outlines requirements (1), (3) and (4) of such section, namely: (1) the protocols for communicating with Proposers, the Company Self-Build team, and others; (3) the documentation forms, including logs for any communications with proposers; and (4) other information consistent with the requirements of the solicitation process. Requirement (2) of the section, the evaluation process in detail and the methodologies for undertaking the evaluation process for the RFP are described in detail in the Community-Based Renewable Energy RFP. The bid evaluation process and methodology will consider both price/system impacts and non-price criteria in accordance with Section IV.E of the Framework and Tariff Rule 19.

The procedures and policies set forth herein have been designed to ensure that the procurement process is undertaken in a fair and equitable manner and that each Proposer is afforded an equal opportunity to participate and compete within the RFP requirements.

This Procedures Manual is intended to be followed by Company personnel in connection with implementing the Companies' solicitation process and to manage communications between Company personnel and consultants participating in the RFP processes covered by the Framework. Necessary additions, deletions, and/or changes depending on the circumstances surrounding the RFP and directions from the IO may be required.

## **II. DEFINITIONS**

- Affiliate – Any person or entity that possesses an “affiliated interest” in a utility as defined by section 269-19.5, Hawaii Revised Statutes (“HRS”), including a utility’s parent holding company but excluding a utility’s subsidiary or parent which is also a regulated utility.
- Affiliate Team – Employees and consultants of an Affiliate of the Company who prepare a proposal to be submitted to the Company in response to a Company RFP.
- ATRs – The Affiliate Transaction Requirements, issued by the Commission, applicable to the Companies and Affiliates, attached as Exhibit B to Order No. 36112 issued on January 24, 2019 in Docket No. 2018-0065.
- Code of Conduct – The *Code of Conduct Pertaining to the Implementation of a Competitive Bidding Process for Community-Based Renewable Energy* developed by Hawaiian Electric Company, Inc., Maui Electric Company, Limited and Hawaii Electric Light Company, Inc. (each, a “Company” and collectively, the “Companies”) to ensure the fairness and integrity of the competitive bidding process, in particular where the host utility or its affiliate seeks to advance its own system resource proposal in response to an RFP. The Code of Conduct follows the requirements described in Section IV.H.9.c of the Framework.

- Code of Conduct Acknowledgement – The Competitive Bidding Code of Conduct Acknowledgement of Receipt form acknowledging review of, and agreeing to abide by, the Code of Conduct and this Procedures Manual.
- Communications Log – A written record to note activities and/or information shared between the Company RFP Team or Company Self-Build Team with Shared Resources or Unassigned Company Resources, accessed via the RFP Communication Tool Kit SharePoint Site.
- Companies' Executive in Charge – The Companies' executive responsible for ensuring compliance with this Code of Conduct and serving as the point of contact for the Independent Observer for reporting any violations by the Companies' of the Code of Conduct. The Companies' Corporate Compliance Officer shall remain responsible for the Companies' independent corporate code of conduct and may support compliance matters and questions arising with employees, agents and other representatives of the Companies, e.g., conflicts of interest, with respect to this Code of Conduct.
- Company RFP Team – The Company personnel and outside consultants responsible for the development of the Company's RFPs conducted under the Framework and the evaluation of bids submitted in response to these RFPs. Subject to the transfer rules specified herein, the Company RFP Team will have fixed team members who will not have any involvement with the Company Self-Build Team for the subject RFP.
- Company Self-Build Team – The Company personnel and outside consultants responsible for the development of the Company's self-build responses to the RFP. Subject to the transfer rules specified herein, the Company Self-Build Team will have fixed team members who will not have any involvement with the Company RFP Team for the subject RFP.
- Confidential Information – Any non-public information developed and provided by the Company (i.e., proprietary system information, etc.) or Proposers during the RFP process (such non-public information may include, for example, the identity of competing Proposers, and their technical, trade or financial information). This term includes any material non-public information regarding the RFP process developed for and used during the competitive bidding solicitation process, such as the evaluation process or criteria. Confidential Information does not include



public information, such as information in the Company's public filings with the Commission.

- Director of Renewable Acquisition – The supervisor of the Division that will oversee the Company's competitive bidding process.
- Eligible Proposer – A Proposer who has met the minimum requirements and threshold requirements in the RFP necessary to remain eligible to compete in the process.
- Energy Contract Manager – The staff position(s) within the Company's Renewable Acquisition Division responsible for managing the Company RFP Team(s). The Energy Contract Manager shall be a member of the Company RFP Team he/she manages.
- Framework – The Framework for Competitive Bidding contained in Decision & Order No. 23121 issued by Commission on December 8, 2006, to establish rules for competitive bidding in response to a request for proposals when a utility seeks to acquire new generation resources.
- Independent Observer ("IO") – The neutral person or entity appointed by either the Commission or utility to monitor the utility's competitive bidding process, and to advise the utility and Commission on matters arising out of the competitive bidding process, as described in Part III.C of the Framework.
- Manager of Energy Procurement - The supervisor of the department within the Company's Renewable Acquisition Division responsible for directing the resources responsible for the implementation of the competitive bidding process pursuant to the Framework. The Manager of Energy Procurement will report to the Director of Renewable Acquisition on the status of the competitive bidding process and shall be a member of the Company RFP Team.
- Non-Price Evaluation Team – Employees and consultants of the Company who evaluate the Proposal non-price related criteria as set forth in these RFPs. Non-Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.
- Non-Wires Alternative - An electricity grid project that uses non-traditional transmission and distribution (T&D) solutions, such as distributed generation (DG), energy storage, energy efficiency (EE), demand response (DR) and grid software and controls, to defer or avoid the need for conventional transmission and/or

distribution infrastructure investments.

- Price Evaluation Team – Employees and consultants of the Company who evaluate the Proposal price related criteria set forth in these RFPs. Price Evaluation Team members will not include any Shared Resources and will be solely made up of Company RFP Team Members.
- Proposer – Entity who submits or plans to submit a proposal in response to a Company-issued RFP. An Affiliate of the Company or a Company Self-Build Team participating in the RFP and submitting a proposal shall be considered a Proposer.
- RFP – A written request for proposals issued by one of the Companies to publicly solicit bids to supply future system resources to the Company pursuant to the competitive bidding process established in the Framework.
- Roster – A consolidated list of members that comprise the Company RFP Team, Company Self-Build Team, Shared Resources and Unassigned Company Resources located in the RFP Communication Tool Kit SharePoint Site. Company employee names and titles and consultants in their designated role will be identified.
- Shared Resource – Company employees and consultants who, because of the scarcity of their expertise within the Company, are designated and authorized to provide information or input to both the Company RFP Team and the Company Self-Build Team (but not any Affiliate Team) and is not a resource dedicated to either team. For example, Shared Resources may include an environmental attorney and members of the Company’s Risk Management Department.
- Unassigned Company Resource – Company employees unassigned to an essential team that may be called upon by the Company RFP Team and/or the Company Self-Build Team (but not any Affiliate Team) to assist in meeting unforeseen tasks for the RFP or the self-build proposal. For example, the Company RFP Team may be unable to evaluate an unforeseen technical specification included in a bid. In that event, the Company RFP team would need to request assistance from a Company employee or a consultant that is not already assigned to an essential team and possesses the specific expertise. Such personnel are intended to assist the requesting team only in an ad hoc manner, limited in scope and purpose to the particular task required.

### **III. STATEMENT OF OBJECTIVES**

On April 9, 2020, the Commission issued Order 37070, commencing Phase 2 of the Community-Based Renewable Energy Program ("Phase 2"). Phase 2 requires the Companies to implement competitive bidding to procure CBRE projects on all islands served by the Companies. These procurements will be concurrent and overlapping. Subsequent phases of CBRE may require further procurements through competitive bidding. Accordingly, under the Framework and the Code of Conduct, for each of the competitive procurements under the program, the Companies will undertake a detailed multi-stage review and evaluation process whereby eligible proposals will be selected based upon their ability to most cost-effectively and reliably satisfy the CBRE program requirements.

Given that multiple RFPs for CBRE, including and in addition to other RFPs currently being administered by the Companies, will be active at the same time, and because the Companies must work expeditiously, in order to consistently ensure the competitive benefits of the procurement process while continuing to provide equitable and fair consideration for all proposals, the Companies will endeavor to create, designate and maintain the Roster at all times for quicker and more decisive implementation across all active RFPs. Subject to the transfer rules specified herein, the Roster will be maintained for the durations of the RFPs. The Companies also intend that the evaluation process will be well-documented so that the results of the evaluation can be fully reviewed by an IO to confirm that all proposals were treated in a fair and consistent manner.

The Code of Conduct and this Procedures Manual address (1) communication requirements and procedures associated with the relationship between utility employees (Company RFP Team, Company Self-Build Team, Shared Resources and Unassigned Company Resources); (2) communication requirements and procedures associated with the relationship between the Company RFP Team, the Company Self-Build Team and Proposers; and (3) communication requirements associated with the relationship between Company management and the Company RFP Team.

The Code of Conduct and this Procedures Manual also include procedures for the sharing of resources, where appropriate, by the Company RFP Team and the Company

Self-Build Team for the purposes of completing their efforts to effectively evaluate an RFP or to submit a bid in response to an RFP. The small size of the Companies and limitation of resources will require specialized services, information exchange and sharing of resources in certain limited circumstances. Company personnel and consultants identified as "Shared Resources" shall be designated by the Companies for this specific purpose.

#### **IV. ORGANIZATION AND COMMUNICATION RESPONSIBILITIES**

This section outlines the RFP organizational structure for the development of the RFP and the Company self-build options and the organization's responsibilities to ensure that communications between Company personnel and consultants working on their respective RFPs or self-build projects are conducted in a fair, consistent, and equitable basis so that the Company Self-Build Team does not enjoy any unfair advantage over other Proposers responding to an RFP.

##### **A. Organization**

The Companies shall identify and maintain two separate teams to facilitate the independence and objectivity of the Company resources working on an RFP and ensure an arms-length relationship with the resources working on the Company's self-build project to avoid any real or perceived inequity in an RFP process. The two essential teams shall be the "Company RFP Team" and the "Company Self-Build Team."

Other limited Company resources, such as select staff from various functional areas of the Company that are in short supply and thus cannot be dedicated solely to either team, may be designated as "Shared Resources" to perform services for the Company RFP Team and Company Self-Build Team. Shared Resource employees are allowed to carry on with both their RFP (for either the Company RFP Team and/or the Company Self-Build Team) and regular functions throughout the resource planning process (including the development of any Company Parallel or Contingency Plan as defined in the Framework), which may require communications with or services performed for the Company Self-Build Team. Shared Resource employees, however, will not participate in the evaluation and selection process of proposals submitted in response to

an RFP. Rules for communications between Shared Resources and the essential teams are specified below.

Company employees unassigned to an RFP may be called upon by the Company RFP Team, Company Self-Build Team, or both for help to meet unforeseen tasks. After completing the Code of Conduct training, these "Unassigned Company Resources" are eligible to assist on an ad hoc basis with the requirement that all communications as an Unassigned Company Resource must be memorialized and logged in the same manner as communications with Shared Resources on the Communication Log. If an Unassigned Company Resource is called upon repeatedly for a substantial amount of assistance by a particular team, the employee should be assigned to such team or evaluated for designation as a shared resource.

## **B. Essential Teams**

1. Company RFP Team. The Company RFP Team, tasked with preparing the RFP and evaluating the responses and bids in response to the RFP, will consist primarily of Director/Manager-level and other experienced employees together with possible outside consultants, with backgrounds in a number of disciplines necessary to conduct a thorough evaluation of each proposal. The Company RFP Team will be comprised of a Price Evaluation Team and a Non-Price Evaluation Team and will be prepared to evaluate proposals on the basis of their price and non-price aspects pertaining to their level of expertise. Members of the Company RFP Team will include professionals with experience in the following areas of expertise: engineering, siting/land use, environmental, transmission planning, fuel procurement, legal, financial planning, system operations, integrated resource planning, generation planning, production cost analysis, and others as needed.

The Price Evaluation Team and the Non-Price Evaluation Team will conduct their sections of the bid evaluation process separately and will not share the results of their evaluation with members of the other sub-team. Each team will submit their evaluation results to an oversight team, which will be responsible for compiling the results of the evaluations and selecting the Priority List.

The Energy Contract Manager will be responsible for directing the evaluation efforts of the Company RFP Team when the proposals are received. The Energy Contract Manager will be responsible for maintaining the documentation underlying the evaluation of each proposal as well as all communications with Proposers.

2. The Company Self-Build Team. The Company Self-Build Team, tasked with preparing any Company proposal to be submitted by the Company in response to a Company RFP, will consist primarily of Company employees, along with possible outside consultants with backgrounds in a number of disciplines necessary to complete a competitive proposal in response to a Company RFP. The members of the team will include professionals with experience in the following areas of expertise: engineering, siting/land use, environmental, transmission planning, fuel procurement, legal, financial planning, system operations, integrated resource planning, generation planning, production cost analysis, and others as needed.

3. Affiliate Team. Any Affiliate Team will be comprised solely of employees and consultants of the Affiliate and no Company employee or consultant shall serve as a member of an Affiliate Team; provided, however, that a consultant may perform services for an Affiliate and the Company so long as appropriate "walls" are established satisfactory to the Company that ensures that employees of the consultant working for the Affiliate Team do not also perform work for the Company nor communicate with employees of the consultant performing work for the Company, and vice versa. The Company will inform consultants providing services for the Company RFP Team of these separation requirements, and will seek confirmation in writing from any consultant performing services for an Affiliate and the Company that such separation requirements will be met. Affiliate Teams will be considered and treated as separate independent third-party Proposers for all purposes within any RFP and shall have no access to, interaction or communications with Shared Resources or Unassigned Company Resources for the purpose of completing a proposal in response to any RFP. Affiliate Teams shall also be subject at all times to the terms, conditions and restrictions specified in the Company's ATRs.

4. Transfers between Teams. As members of both the Company RFP

Team and the Company Self-Build Team are intended to be fixed, transfers between teams should not be permitted. However, there will be instances where a member of a particular team (whether Company RFP or Company Self-Build) transfers to a position in which he/she may be requested, as part of his/her new job responsibilities, to participate as a member of the other team. Such employee shall not be permitted to transfer from one team to the other during the pendency of any particular RFP (or stage or phase of a particular RFP). After completion of the RFP (or stage or phase of a particular RFP) under which the employee recently participated, the employee may transfer to the other team under the following conditions: (a) the employee is prohibited from disclosing any Confidential Information known to such employee as a result of being a member of his/her former team with members of the new team he/she is joining; and (b) for a period of one (1) year, such employee shall not participate or be involved in the evaluation of any subsequent stage(s) or phase(s) of a prior RFP which such employee participated in with his/her former team.

Transfers of employees between the Company and any Affiliate and their subsequent work on RFPs shall be subject to the terms, conditions and restrictions specified in the ATRs.

## **C. Communications Protocols**

### **1. Overview and General Requirements.**

The Company has developed policies and procedures governing communication between the Company RFP Team, the Company Self-Build Team, Shared Resources, the Proposers, the IO, and with the Commission regarding RFP design and bid evaluation. Bid information and evaluation data and information shall not be communicated between members of the Company RFP Team, outside parties and other employees within the Companies except to those with a business need to know.

To ensure that the competitive bidding process is fair and unbiased, that all Proposers have access to the same information so that no Proposer has an unfair advantage, and that any Company self-build and/or Affiliate proposals do not have any unfair competitive advantage over third-party bids, the Companies shall follow the Code

of Conduct whenever the utility or its Affiliate is seeking to advance a resource proposal as provided in Section IV.H.9.b of the Framework.

Each employee or consultant on the Company RFP Team, Company Self-Build Team and Shared Resources shall read, acknowledge and sign the Code of Conduct Acknowledgement. Unassigned Company Resources who are called upon by the Company RFP Team or Company Self-Build Team for help to meet unforeseen tasks shall also read, acknowledge and sign the Code of Conduct Acknowledgement.

The Company issuing the RFP will establish a shared drive on its corporate computer network designed to maintain the bid evaluation documentation and other information associated with the bidding process. Only Company RFP Team members will have access to all the files on the shared drive.

In cases where staffing and resources are limited or constrained, the Company may identify Shared Resources or those employees eligible to provide information or serve as a resource to both the Company RFP Team and the Company Self-Build Team. Specific rules to log communications with the Company RFP Team or the Company Self-Build Team are described below.

Shared Resources will not have access to the Company's shared drive established for the RFP process which will include the documentation of the bid evaluation results.

Team members should clearly mark all e-mails, documents, or other communications that contain Confidential Information and make clear which team should not receive it with the following header or a substantially similar message: "This communication contains self-build information that must be kept confidential. DO NOT copy, forward, or discuss the contents with Company RFP Team members" OR "This communication contains Company RFP Team information that must be kept confidential. DO NOT copy, forward, or discuss the contents with Company Self-Build Team members."

## **2. Communications Between the Company RFP Team and**



**Proposers, including the Company Self-Build Team and any Affiliate Team.**

During the RFP process, the Energy Contract Manager shall serve as the primary contact person for all RFP communications with Proposers. This is important from the standpoint of maintaining consistency and confidentiality of information between Proposers and the Company. For documentation and oversight purposes, all communications from Proposers must be submitted to an established website link provided by the Company (the "Company RFP website"). The IO will monitor all communications through the Company RFP website. To ensure fair and equal access to information, any Company Self-Build Team and/or Affiliate Team shall be considered a Proposer for communication purposes and any request for information from the Company Self-Build Team or Affiliate Team to the Company RFP Team shall be through the Company RFP website.

Subject to confidentiality obligations, it is the objective of the Code of Conduct that all Proposers, including the Company Self-Build Team and any Affiliate Team, receive access to information released by the Company RFP Team, whether in response to a question from a Proposer or not, at the same time.

The communications process for addressing questions and requests for information from Proposers, and for the Company RFP Team to provide information to Proposers, is provided below:

- a. Other than during Company sponsored conferences, Proposers must submit all questions to the Company RFP website or the designated RFP email address (if the Company RFP website has not been opened yet for the RFP).
- b. Questions will be reviewed and responses will be coordinated with the appropriate functional area within the Company for a response. Every reasonable effort will be made to provide responses in a timely manner.

- c. All responses, including the classification of such response, i.e., whether non-confidential or confidential as described below, will be provided to the IO for monitoring purposes via email or the PowerAdvocate messaging system. The IO may choose to comment on any response at its discretion.
  
- d. Depending on the questions received, responses may involve Confidential Information of the Company and/or Proposers. Release of any Company Confidential Information must be approved in advance by the Company executive authorized to release the Confidential Information. Any release of Company Confidential Information shall be accompanied by appropriate confidentiality and non-disclosure agreements, protective orders or other means required to maintain the confidentiality of the Company Confidential Information while still permitting its disclosure under circumstances deemed appropriate by the responsible Company executive. Other non-Company Confidential Information will not be shared without the prior written consent of the owner of such Confidential Information and the execution of appropriate confidentiality and non-disclosure agreements by all recipients of such Confidential Information. Responses will be categorized as follows:
  - i. Non-Confidential Responses: Questions and responses will either be posted directly on the Company RFP website (process-related questions or simple, non-substantive information) or a description of the information that can be made available will be posted and Proposers will be instructed to submit a request to the Company via the Company RFP website to receive a copy.
  
  - ii. Confidential Responses: Questions and a description or notice of a Confidential Information response will be posted on

the Company RFP website and Proposers will be instructed to submit a request to the Company via the Company RFP website to receive instructions on how to access the Confidential Information. The Confidential Information will only be provided to the requestor after receipt of an executed confidentiality and non-disclosure agreement. Only those who have qualified to submit a bid (i.e., Eligible Proposers) and have executed a confidentiality and non-disclosure agreement will be considered for receipt of Confidential Information.

iii. Process for Distribution of Confidential Information: Confidential Information provided in response to questions from proposers may be made available only to parties as indicated above via the following:

A. Confidential Information that is approved for exchanging on a secured access site: (1) Confidential Information may be made available on a secured website with an individual password provided to each approved Proposer; and (2) Confidential Information in documents may be transmitted to approved recipients through the Company's secure email system.

B. Confidential Information that can be made available for inspection only, but cannot be copied: There may be some types of Confidential Information that the Company may consider making available for inspection only with no copies allowed. This type of Confidential Information will be made available on Company premises for inspection only. Proposers will be advised via the Company RFP website to make arrangements with Company staff to view the Confidential Information.

C. Confidential Information that may not be released:

In the event that Proposers submit questions that require responses that the Company feels are not appropriate to provide for reasons which may include, but not be limited to, safety, security, protection of trade secrets or intellectual property rights, Proposers will be advised as such via the Company RFP website.

- e. Prior to and during the RFP, and outside of the Company RFP website protocol, developers may direct questions to the Company prior to submitting a Proposal to discuss specific questions regarding their specific Proposal. Questions shall be directed to the Company Contact for Proposals listed in the particular applicable RFP. Questions and responses that do not contain Confidential Information and which are deemed relevant to all Proposers will be published without identifying information via the Company RFP website.
- f. Once bids are received, the Company may submit information requests to Proposers to clarify their proposals or request additional information. All contacts with Proposers will be through the Company RFP website. All contacts and information exchanged will be under the oversight of the IO.
- g. A single exception to the communication process outlined above shall be instituted for the purpose of facilitating the verification of proposed project models and documentation required to perform the IRS. For this limited scope, the Company's Manager of Interconnection Services will serve as the primary contact person for all such interconnection communications with the Proposers on the Priority List, provided that all necessary confidentiality and

non-disclosure agreements are in place. The Manager of Interconnection Services and personnel in the Interconnection Services Department shall be members of the Company RFP Team. Interconnection communications will be limited to a Proposer's bid and no more information other than as necessary to facilitate such communications will be permitted. Discussion of locations of proposed projects shall be limited to that necessary only to determine the interconnection requirements of such project. The IO shall have the right to monitor all such communications in his/her discretion.

**3. Communications Between the Companies and the Commission.**

The Company's Regulatory Affairs staff will be responsible for initiating communication with the Commission regarding the RFP or the Companies' evaluation process. Regular updates may be provided to the Commission regarding the RFP process if requested.

**4. Communications Between the Company RFP Team and the IO.**

Communications between the Company RFP Team and the IO will be required for many aspects of the evaluation process. The IO is also required to maintain confidentiality of any Confidential Information. The IO will coordinate all activities through the Energy Contract Manager. The IO will be invited to participate in any meetings or discussions between the Company RFP Team and the Proposers and other communications as noted above. Sufficient notice will be provided whenever possible and teleconference and/or web conference alternatives may be utilized.

**5. Communications Between the Company RFP Team and the Company Self-Build Team or any Affiliate Team.**

Any communication between the Company RFP Team and the Company Self-Build Team or any Affiliate Team with respect to the RFP shall be handled no differently than with Proposers and other outside parties. Accordingly, the Company Self-Build Team or any Affiliate Team will be required to submit any questions or information requests to the Company RFP Team via the Company RFP website and all responses will be provided in the same manner as to other Proposers. Accordingly, as stated in Section 2 above, responses will be provided to the IO for monitoring purposes via email or the PowerAdvocate messaging system. Members of the Company RFP Team are prohibited from providing any input into the development of the self-build option by the Company or an Affiliate. Company RFP Team members are prohibited from sharing any Confidential Information (i.e., detailed evaluation criteria, other proposals, etc.) with any Company Self-Build or Affiliate Teams except in accordance with the procedures in the Code of Conduct, this Manual or the RFP.

Company RFP Team members and Company Self-Build Team members may continue to work with each other on projects not related to the RFP. Further, members of each respective team do not have to be physically separated from each other, but members of each team must make reasonable efforts to keep all Confidential Information (including electronic data) secure and inaccessible to the other team.

Company RFP Team members and Affiliate Team members may continue to work with each other on matters not related to the RFP as permitted under the ATRs.

## **6. Communications among the Company RFP Team, the Company Self-Build Team and Shared Resources.**

Shared Resources may provide services to the Company RFP Team and the Company Self-Build Team (but not any Affiliate Team). Shared Resources shall be limited as much as possible to instances where Company resources cannot provide a dedicated member to the Company RFP Team and the Company Self-Build Team at the same time and still provide the necessary functions of its area to the Company as a whole. Shared

Resources are expressly prohibited from providing any information developed on behalf of the Company RFP Team to the Company Self-Build Team or any information developed on behalf of the Company Self-Build Team with the Company RFP Team, except through the formal communication process outlined above, i.e., through the Company RFP website.

Additionally, a written record of the time, date and substance of all conversations, data and written material directly or indirectly exchanged with the Company RFP Team or the Company Self-Build Team that pertain to the RFP shall be maintained on the Communications Log. The RFP Communication Tool Kit SharePoint Site will be set up and managed by the Energy Contract Manager to provide an easy to use and understand mechanism to log and memorialize these conversations.

Shared Resources will not have direct access to the Company's shared drive developed for the RFP process which will include documentation of the bid evaluation results.

**7. Communications between the Company RFP Team, the Company Self-Build Team and any Unassigned Company Resource or consultant that is not a Shared Resource.**

There may be times where a Company RFP or Company Self-Build team (but not an Affiliate Team) member may need ancillary or other ministerial or administrative assistance that requires communication and/or assistance from Company personnel who are neither on any team nor considered a Shared Resource. Under those circumstances, such personnel may assist the requesting team member on an ad hoc basis upon the following conditions:

- a. The essential team member making the request must inform the Company personnel that sharing of the requested information or assistance with the other team, be it the Company RFP or Company Self-Build Team, is expressly prohibited under the Code of Conduct.

b. The assisting Company personnel shall complete the Code of Conduct training and sign the Code of Conduct Acknowledgement.

c. The assisting Company personnel shall be directed to the Roster provided by such requesting team member to determine and/or confirm the restrictions on communication with the other team members. The essential team member making the request will ensure the Roster is updated by the Energy Contract Manager to include the assisting Company personnel.

d. A written record of the time, date and substance of all conversations, data and written material directly or indirectly exchanged with the Company RFP Team or the Company Self-Build Team that pertain to the RFP shall be maintained on the Communication Log. The RFP Communication Tool Kit SharePoint Site will be set up and managed by the Energy Contract Manager to provide an easy to use and understand mechanism to log and memorialize these conversations.

e. If assistance from an Unassigned Company Resource becomes more than occasional or more substantive than ancillary, ministerial or administrative services, the Unassigned Company Resource should be considered for inclusion on the team that he/she has been assisting on such basis. Additionally, the Unassigned Company Resource may also be considered for inclusion as a Shared Resource. Members of the Company RFP Team and/or Company Self-Build Team shall consult with the Company executive for resolution.

**8. Communications between the Company RFP Team, the Company Self-Build Team and Company Management.**



The Company RFP Team and the Company Self-Build Team will necessarily require management approval of the RFP and the Company Self-Build Team proposal. Because of the size of the Company, it may be possible that a single employee (at whatever level) (the "Approver") may have approval responsibility for matters affecting the RFP and the Company Self-Build Team proposal. Approvers in this situation must use their best judgment in making decisions reviewing and approving matters for the respective teams. The Code of Conduct must be adhered to in these situations and the Approver must not communicate matters learned from the Company RFP Team with the Company Self-Build Team.

If an Approver feels that he/she cannot manage this potential conflict, the Approver is recommended to consult with his/her immediate supervisor to determine whether such higher authority could be appointed with the task of reviewing and approving matters for a designated team, either the Company RFP Team or the Company Self-Build Team. In matters where a team of employees (including one or more Approvers) is responsible for reviewing and approving matters for the respective teams, approving employees (from whatever level, including executives) with information from reporting personnel beneath them from both the Company RFP Team and the Company Self-Build Team may consider recusing himself/herself from the decision making if such employee cannot objectively make a decision on the matter.

Finally, an Approver may be a member of the Company RFP Team and have a subordinate reporting to him/her that is a member of the Company Self-Build Team (or vice versa). In such situations, because the Code of Conduct prohibits communication between the teams, the Approver must recuse himself/herself from the decision making and request his/her manager to review and approve the matter in his/her place.

In all instances, it is possible that any particular situation above may be addressed and/or resolved by the terms and conditions of the Company's internal code of conduct implemented for all employees and consultants of the Company. As appropriate, an Approver or any other team member, Energy Contract Manager or Company executive in Charge may involve the Company's Corporate Compliance Officer for input and possible

resolution under the Company's internal corporate code of conduct.

**V. WHEN THE CODE OF CONDUCT BECOMES EFFECTIVE**

A. Prior to development of the requirements for any particular RFP, the Code of Conduct for that RFP will be activated. However, if the Company Self-Build Team determines at any time that it will not pursue a self-build option for a particular RFP, the Code of Conduct may be de-activated.

B. Upon the activation of the Code of Conduct, members of the Company RFP Team and the Company Self-Build Team must then conduct activities on the RFP or self-build process in compliance with the Code of Conduct. Once identified and having commenced work, no information may be shared outside the respective team members with respect to the RFP or a self-build option except through the formal communication processes outlined above.

C. Immediately upon assignment to a Company team (RFP or Self-Build), designation as a Shared Resource, or request to assist as an Unassigned Company Resource, each such employee or consultant must review this Manual, and sign the Code of Conduct Acknowledgement.

D. Within the RFP process, after a member has been assigned to a particular Company team (RFP or Self-Build), he or she will not be able to transfer to the other Company team during the pendency of any particular RFP (or stage or phase of a particular RFP). It is the responsibility of each team to fill vacant team positions with employees that have not been previously assigned as a team member for a team until the PPA negotiations have been concluded and the final contracts are executed.

E. Each employee and consultant working on the RFP shall review the Code of Conduct and sign the Code of Conduct Acknowledgement attesting to his/her compliance with the Code of Conduct until the employee is no longer working in the position he/she was in while working on the RFP.

F. The Energy Contract Manager will be responsible for maintaining the Roster and the signed Code of Conduct Acknowledgements. The Company Executive in Charge shall be responsible for ensuring compliance with the Code of Conduct and shall have the written authority and obligation to enforce the Code of Conduct.

## **VI. IMMEDIATE ACTIONS UPON ACTIVATION OF THE CODE OF CONDUCT**

The following items are required to be completed as soon as possible after activation of the Code of Conduct, but no later than the designated events specified for each item below.

A. Prior to development of the requirements for any particular RFP, a Roster listing employee (with their title) and consultants in their designated role; Company RFP Team, Company Self-Build Team, Shared Resource or Unassigned Company Resource. When the IO is appointed, this Roster shall be provided to him/her. The Roster shall be placed in the RFP Communication Tool Kit SharePoint Site so that any Company personnel can access the database to determine the identity of the respective teams and Shared Resources.

B. Upon the finalization of the Roster for the RFP, the Energy Contract Manager shall verify that all employees (whether full-time, part-time, temporary, or contract) and consultants involved in the competitive bidding process, such as members of the Company RFP Team, the Company Self-Build Team, Shared Resources or Unassigned Company Resources, have acknowledged receipt of the Code of Conduct and his or her responsibility to comply with the Code of Conduct by submitting the Code of Conduct Acknowledgement (with electronic acknowledgment being acceptable). If an employee or consultant is later added to a team, the Energy Contract Manager shall also verify that such employee or consultant has submitted the Code of Conduct Acknowledgment.

C. Prior to any solicitation for comments or questions to the RFP, establishment of the Company email address to accept requests for information from Proposers, including the Company Self-Build Team or any Affiliate Team.

D. Prior to the drafting of any documents for any particular RFP, establishment of the Company-secured site that houses the accessible database (such as SharePoint).

## **VII. WHEN THE CODE OF CONDUCT TERMINATES**

- A. The Code of Conduct for a specific RFP will terminate after the following two conditions are met when:
- a. the final contract(s) for RFPs conducted under the Framework with the successful proposer(s) is/are executed, or when written notice of termination of the RFPs to be conducted under the Framework is provided by the Manager of Energy Procurement or his/her designee to the IO and the Commission, and
  - b. a certification of Code of Conduct compliance by all employees participating in the specific RFP process is submitted by affidavit by the Company Executive in Charge.

## **VIII. DOCUMENTATION FORMS**

The following documentation forms may be utilized by those Company personnel involved in the RFP. These forms may be amended from time to time as necessary. Additional forms may also be developed as determined necessary.

- Code of Conduct Acknowledgement
- Communications Log
- Roster

## **IX. APPLICABILITY OF THE ATRs**

Except as specifically made applicable under Section V.C.1.i of the ATRs with respect to wholesale power procurement from Affiliates, the ATRs shall not apply to RFP matters covered by the Framework, the Code of Conduct and this Procedures Manual as it relates to the Companies' interactions between the Company RFP Teams and Affiliate Teams. Reference to the ATRs in the Code of Conduct and/or this Manual are specifically

for matters outside the Companies' administration of the RFP; provided, however, that such applicability may be revised as necessary and as may be directed by the Commission for any RFP.<sup>1</sup>

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<sup>1</sup> See Decision and Order No. 35962, filed on December 19, 2018, in Docket 2018-0065, at 56-57.

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix D – PowerAdvocate User Information*



**Maui  
Electric**



## Sourcing Intelligence Quick Start for Suppliers

### Logging In

1. Launch a web browser and go to [www.poweradvocate.com](http://www.poweradvocate.com)
2. Click the orange **Login** button.
3. Enter your account **User Name** and **Password** (both are case-sensitive) and click **Login**.
4. Click the **Events** tab if it is not already displayed.

### Dashboard

Your Dashboard lists the events you have been invited to. A line divides currently accessible events from others.

Click to view Events

Click to view the event's Status tab

Buyer filter

Navigation bar

Buying entity

Number of unread/total messages

Click to view the event's Messaging tab

Click numbers to view event tabs

Datashheet available

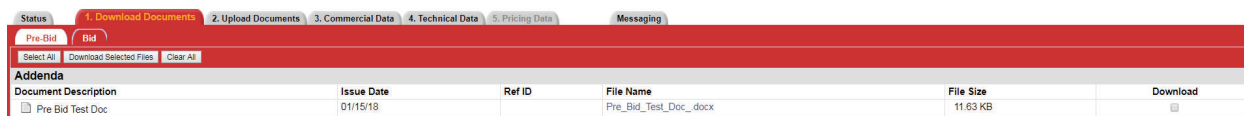
No datashheet available

- Click an event name to view its Status tab, which displays a summary of your activity and key event dates. To view specific details of an event, click the buttons 1-5 to view the corresponding tab.
- To return to the Dashboard, click **Dashboard** in the navigation bar at the top of the window.
- An event will not appear on your Dashboard until you have been added as a participant.



## Downloading Bid Packages

All of the Buyer’s bid package documents (if any) are centrally stored on the PowerAdvocate Platform. To view bid documents, click “1” on your Dashboard or on the **1. Download Documents** tab from within the event.



- You can access the **Bid** sub-tab after the event opens. You can access Buyer documents before the event is opened from the **Pre-Bid** sub-tab, if the Buyer utilizes this feature.
- To view or download a document, click the file name.
- To download multiple documents:
  1. Select the checkbox in the Download column for each document you wish to download or click **Select All**.
  2. Click **Download Selected Files**.

## Uploading Documents

To upload your documents, click “2” on your Dashboard, or on the **2. Upload Documents** tab from within the event.



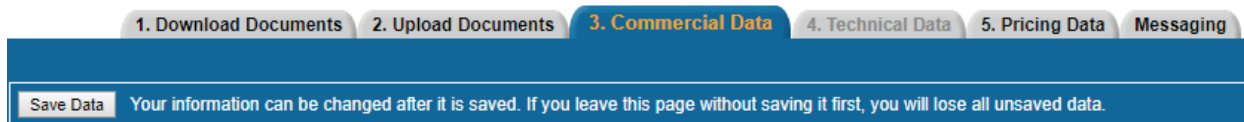
- Do not upload any files to the Pre-Bid tab.
- To upload a document to the Bid tab:
  1. Specify a **Document Type** (Reference ID can be left blank).
  2. Click **Choose File**, navigate to and select the document, and then click Open; multiple files can also be compressed into one .zip file for upload.
  3. Click **Submit Document**.





## Datasheets

Datasheets will not be used in this RFP event. All Proposal information will be uploaded for submission through the 2. Upload Documents tab above. Buttons/tabs are grayed out (e.g., 4) if the event is not using a particular type of datasheet.

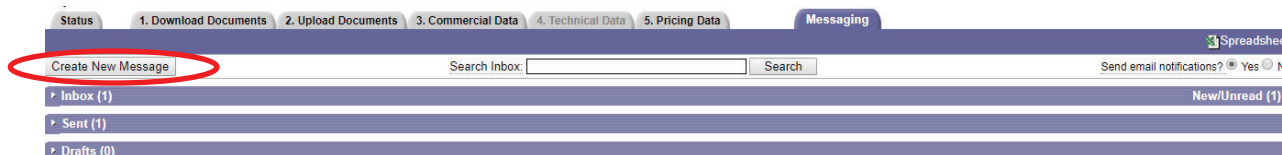


## Communicating with the Bid Event Coordinator /Company Contact

Suppliers should use the PowerAdvocate Messaging tool to contact the Bid Event Coordinator (BEC) while the bid event is open.

### PowerAdvocate Messaging

To send a message to the BEC, go to the **Messaging** tab and click **Create New Message**. To read or reply to a message from the BEC, click the message subject.



- You can send messages to the BEC and Buyer Team
- The Independent Observer can view all messages in the bid event.
- You can receive external e-mail notification of new PowerAdvocate messages by selecting “Yes” to “Send email notifications?” in the Messaging tab.

## Getting More Information

- Click **Help** on the navigation bar to display online help.



- Supplier documentation can be downloaded from the online help system.
- Call PowerAdvocate Support at 857-453-5800 (Mon-Fri, 8 a.m. to 8 p.m. Eastern Time) or e-mail [support@poweradvocate.com](mailto:support@poweradvocate.com).

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

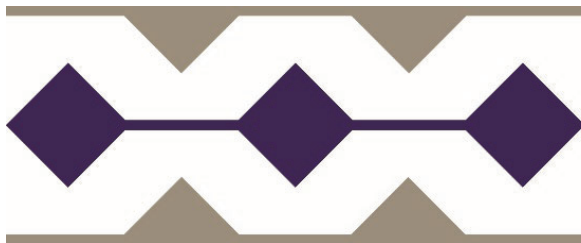
**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix E – Mutual Confidentiality and  
Non-Disclosure Agreement*



**Maui  
Electric**

**APPENDIX E**  
**MUTUAL CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT**  
Independent Power Producers – (“IPPs”)

This Mutual Confidentiality and Non-Disclosure Agreement (this “Agreement”) is effective as of \_\_\_\_\_, 20\_\_\_\_ (the “Effective Date”) between [INSERT NAME OF IPP], a [State of incorporation/organization] [type of entity] (“IPP”) and Hawaiian Electric Company, Inc., Maui Electric Company, Limited, and Hawaii Electric Light Company, Inc., each a Hawaii corporation (collectively, the “Companies”). In consideration of the mutual promises contained in this Agreement, including the provision of Confidential Information (as defined below) by either party to the other hereunder, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Background

The Companies have or intend to issue a Request for Proposals (“RFP”) for Community-Based renewable energy projects. The IPP has or intends to submit one or more proposals for a nominal [ ] MW [TYPE OF FACILITY] facility located at [LOCATION] on the island of Maui, State of Hawai‘i (“Proposal”).

In connection with the IPP’s proposed project, the Companies may conduct an interconnection requirements study (“IRS”) to establish the requirements for interconnection of the IPP’s proposed project to the Companies’ electric grid. The RFP process may also result in the award of a potential power purchase agreement, the terms of which must be agreed upon by the parties (“PPA Negotiations”). For purposes of this Agreement the term “Project” refers to the RFP, Proposal, potential IRS and PPA Negotiations.

In order to evaluate the Project, either party may from time to time provide to the other party certain Confidential Information. The parties are willing to provide such Confidential Information to each other upon the terms and conditions of this Agreement.

2. Confidential Information

Except as set forth in Section 3 (Exclusions from Confidential Information) below, “Confidential Information” means all non-public, confidential or proprietary information disclosed by either party (the “Provider”) to the other party (a “Recipient”) its affiliates and its and their directors, officers, employees, agents, advisors, consultants (including, without limitation, financial advisors, counsel and accountants) and controlling entities or individuals (collectively, “Representatives”) whether disclosed orally or disclosed or accessed in written, electronic or other form of media, and whether or not marked or otherwise identified as “confidential,” including, without limitation:

(a) all information concerning the Provider and its affiliates’, and their customers’, suppliers’ and other third parties’ past, present and future business affairs including, without limitation, finances, customer information, supplier information, products, services, designs,

processes, organizational structure and internal practices, forecasts, sales and other financial results, records and budgets, business, marketing, development, sales and other commercial information and strategies;

(b) information concerning the Companies' generation, transmission, and distribution systems (e.g., engineering and operating characteristics of the Companies' transmission lines and substations) ("Critical Infrastructure Confidential Information");

(c) the Provider's unpatented inventions (whether or not they are patentable), ideas, methods and discoveries, techniques, formulations, development plans, trade secrets, know-how, unpublished patent applications and other confidential intellectual property;

(d) all designs, specifications, documentation, components, source code, object code, images, icons, audiovisual components and objects, schematics, drawings, protocols, processes, and other visual depictions, in whole or in part, of any of the foregoing;

(e) any third-party confidential information included with, or incorporated in, any information provided by the Provider to the Recipient or its Representatives; and

(f) all notes, analyses, compilations, reports, forecasts, studies, samples, data, statistics, summaries, interpretations and other materials ("Notes") prepared by or for the Recipient or its Representatives that contain, are based on, or otherwise reflect or are derived from, in whole or in part, any of the foregoing.

### 3. Exclusions from Confidential Information

Except as required by applicable federal, state, or local law or regulation, the term "Confidential Information" as used in this Agreement shall not include information that:

(a) at the time of disclosure is, or thereafter becomes, generally available to and known by the public other than as a result of, directly or indirectly, any violation of this Agreement by the Recipient or any of its Representatives; provided, however, that Confidential Information shall not be disqualified as Confidential Information (i) merely because it is embraced by more general or generic information which is in the public domain or available from a third party, or (ii) if it can only be reconstructed from information taken from multiple sources, none of which individually shows the whole combination (with matching degrees of specificity);

(b) at the time of disclosure is, or thereafter becomes, available to the Recipient on a non-confidential basis from a third-party source, provided that such third party is not and was not prohibited from disclosing such Confidential Information to the Recipient by a contractual or other obligation to the Provider;

(c) was known by or in the possession of the Recipient or its Representatives, as established by documentary evidence, prior to being disclosed by or on behalf of the Provider pursuant to this Agreement;

(d) was or is independently developed by the Recipient, as established by documentary evidence, without reference to or use of, in whole or in part, any of the Provider's Confidential Information; or

(e) was or is learned of established entirely from public sources, as established by documentary evidence, without reference to or use of, in whole or in part, any of the Provider's Confidential Information.

The parties acknowledge and understand that the confidentiality obligations of this Agreement apply only to the Confidential Information shared in connection with the Project. The parties may share other information with each other under other agreements, provisions or understandings which are not related to the Project. Such information sharing shall be subject to the provisions of the agreements and confidentiality provisions associated thereto and this Agreement shall not be construed to infringe upon or apply to such agreements or provisions.

#### 4. Non-Disclosure of Confidential Information

Unless otherwise agreed to in writing by the Provider, the Recipient agrees as follows:

(a) except as required by law, not to disclose or reveal any Confidential Information to any person or entity other than its Representatives who are actively and directly participating in the evaluation of the Project or who otherwise need to know the Confidential Information for the purpose of evaluating the Project.

(b) not to use Confidential Information for any purpose other than in connection with its evaluation of the Project or the consummation of the Project.

(c) except as required by law, not to disclose to any person or entity (other than those of its Representatives who are actively and directly participating in the evaluation of the Project or who otherwise need to know for the purpose of evaluating the Project) any information about the Project, or the terms or conditions or any other facts relating thereto, including, without limitation, the fact that discussions are taking place with respect thereto or the status thereof, or the fact that Proprietary Information has been made available to the Recipient or its Representatives.

(d) to use diligent efforts to safeguard and protect the confidentiality of the Confidential Information, including, at minimum, implementing the same commercial measures that the Recipient uses to protect its own confidential information. Before disclosing the Confidential Information to any Representative, the Recipient will inform such Representative of the confidential nature of such information, their duty to treat the Confidential Information in accordance with this Agreement and shall ensure that such Representative is legally bound by the terms and conditions of this Agreement or subject to confidentiality duties or obligations to the Recipient that are no less restrictive than the terms and conditions of this Agreement.

(e) Any provision herein to the contrary notwithstanding, the Companies may disclose Confidential Information to the State of Hawai'i Public Utilities Commission ("Commission") and/or the State of Hawai'i Division of Consumer Advocacy (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 entered by the Commission.

5. Required Disclosure and Notice

If the parties or any of their Representatives become legally compelled (by deposition, interrogatory, request for documents, subpoena, civil investigative demand, court order, or similar process) to disclose any of the Confidential Information, the compelled party shall undertake reasonable efforts to provide the other party with notice within three (3) business days of such requirement or advice prior to disclosure so that the other party may (a) seek a protective order or other appropriate remedy, (b) consult with the other party with respect to the compelled party taking steps to resist or narrow the scope of such requirement or advice, and/or (c) waive compliance, in whole or in part, with the terms of this Agreement. If such protective order or other remedy is not obtained, or the other party waives compliance with the provisions hereof, the compelled party agrees to furnish only that portion of the Confidential Information which it is legally required to so furnish and, at the request of the other party, to use reasonable efforts to obtain assurance that confidential treatment will be accorded such Confidential Information, it being understood that such reasonable efforts shall be at the cost and expense of the party whose Confidential Information has been sought. In any event, neither the IPP nor any of its Representatives will oppose action by the Companies to obtain an appropriate protective order or other reliable assurance that confidential treatment will be accorded the Confidential Information.

6. Return or Destruction of Confidential Information

At any time during or after the term of this Agreement, at the Provider's written request, and in any event, upon the termination of the Agreement, the Recipient shall certify within ten (10) business days that it has destroyed all Confidential Information by using industry standard data elimination methods used to prevent unauthorized disclosure of information, and for Personally Identifiable Information (defined as personally identifiable information of individuals, and any information that may be used to track, locate or identify such individuals (or which is otherwise protected by privacy laws), including any automatically generated information (such as IP addresses and other customer identifiers) that identifies or is unique or traceable to a particular individual or computer or other electronic device capable of accessing the internet, including without limitation, name, address, telephone number, social security number, credit card account numbers, email addresses, user identification numbers or names and passwords, which is disclosed to the Recipient or its subcontractors in connection with this Agreement by the Provider, which products and services are used or intended to be used for personal, family or household purposes), such methods shall be consistent with Hawaii Revised Statutes Chapter 487-R; provided, however, that with respect to Confidential information in tangible form, the Recipient may return such Confidential Information to the Provider within ten (10) business days in lieu of destruction. The Recipient's sole obligation with respect to the disposition of any

Notes shall be to redact or otherwise expunge all such Confidential Information from such Notes and certify to the Provider that it has so redacted or expunged the Confidential Information. Notwithstanding the foregoing, with respect to any Confidential Information stored in Recipient's disaster recovery backups or other electronic archives, Recipient is not required to destroy such Confidential Information if it would impose a material cost or burden; provided, however, such Confidential Information shall be destroyed when such archives are destroyed in accordance with Recipient's records retention policies.

7. Authority

Each party represents and warrants that it has full power and authority to enter into and perform this Agreement, and 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.

8. No Representations or Warranties

Neither the Provider nor any of its Representatives make any express or implied representation or warranty as to the accuracy or completeness of any Confidential Information disclosed to the Recipient hereunder, and the Recipient agrees that it is not entitled to rely on the accuracy or completeness of any Confidential Information. Neither the Provider nor any of its Representatives shall be liable to the Recipient or any of its Representatives relating to or arising from the use of any Confidential Information or for any errors therein or omissions therefrom. Notwithstanding the foregoing, the Recipient shall be entitled to rely solely on such representations and warranties regarding Confidential Information as may be made to it in any final agreement relating to the Project, subject to the terms and conditions of such agreement.

9. No Other Obligations

Neither this Agreement nor the disclosure of the Confidential Information shall result in any obligation on the part of either party to enter into any further agreement with the other with respect to the subject matter hereof or otherwise, to purchase any products or services from the other, or to require either party to disclose any further information to the other. Nothing in this Agreement shall be deemed to constitute either party hereto as partner, agent or representative of the other party or to create any fiduciary relationship between the parties. Either party may offer products or services which are competitive with products or services now offered or which may be offered by the other. Subject to the express terms and conditions of this Agreement, neither this Agreement nor discussions and/or communications between the parties will impair the right of either party to develop, make, use, procure, and/or market any products or services, alone or with others, now or in the future, including those which may be competitive with those offered by the other. Whether or not the Project is consummated, neither party shall issue a press release or release any information to the general public concerning such transaction or the absence thereof without the express prior written consent of the other, and the parties agree that neither party will use the other's name whether by including reference to the other in any press release, list of customers advertising that its services are used by Companies or otherwise, without written authorization by the respective party's authorized representative.

10. Property Rights in Confidential Information

All Confidential Information shall remain the sole and exclusive property of the Provider and nothing in this Agreement, or any course of conduct between the parties shall be deemed to grant to the Recipient any license or rights in or to the Confidential Information of the Provider, or any part thereof. Unless otherwise expressly agreed in a separate license agreement, the disclosure of Confidential Information to the Recipient will not be deemed to constitute a grant, by implication or otherwise, of a right or license to the Confidential Information or to any patents or patent applications of the Provider.

11. Publicly Traded

The IPP acknowledges that the Companies' holding company is a publicly traded company, and that Confidential Information of the Companies may constitute material, non-public information with respect to the Companies. The IPP understands, and will advise its Representatives to whom Confidential Information of the Companies is disclosed, of the restrictions imposed by the United States securities laws on (a) the purchase or sale of securities by any person in possession of material, non-public information with respect to such securities, and (b) the communication of material, non-public information with respect to securities to a person who may purchase or sell such securities in reliance upon such information.

12. Remedies

(a) Each party acknowledges and agrees that any breach or threatened breach of this Agreement may give rise to an irreparable injury to the Provider or its Representatives, for which compensation in damages is likely to be an inadequate remedy. Accordingly, in the event of any breach or threatened breach of this Agreement by the Recipient or its Representatives, the Provider shall be entitled to seek equitable relief, including in the form of injunctions and orders for specific performance, in addition to all other remedies available at law or in equity.

(b) In the event that the Recipient learns of dissemination, disclosure, or use of the Confidential Information which is not permitted by this Agreement, the Recipient shall notify the Provider immediately in writing and shall use reasonable efforts to assist the Provider in minimizing damages from such disclosure. Such remedy shall be in addition to and not in lieu of any other rights or remedies available to the Provider at law or in equity.

13. Cumulative Remedies

No rights or remedy herein conferred upon or reserved to either party hereunder is 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, whether now or hereafter existing.

14. Notice



(a) By delivering written notice, either party may notify the other that it no longer wishes to receive or provide Confidential Information. Any further information received or provided by the party who received such notice following receipt of such notice, shall not be subject to the protection of this Agreement.

(b) All notices, consents and waivers under this Agreement shall be in writing and will be deemed to have been duly given when (i) delivered by hand, (ii) sent by electronic mail (“E-mail”) (provided receipt thereof is confirmed via E-mail or in writing by recipient), (iii) sent by certified mail, return receipt requested, or (iv) when received by the addressee, if sent by a nationally recognized overnight delivery service (receipt requested), in each case to the appropriate addresses and E-mail Addresses set forth below (or to such other addresses and E-mail addresses as a party may designate by notice to the other party):

**(1) Companies:**

**By Mail:**

Hawaiian Electric Company, Inc.  
P.O. Box 2750  
Honolulu, Hawaii 96840  
Attn: Manager of Procurement, Renewable Acquisition Division

**Delivered By Hand or Overnight Delivery:**

Hawaiian Electric Company, Inc.  
Central Pacific Plaza  
220 South King St, 21<sup>st</sup> Floor  
Honolulu, HI 96813  
Attn: Manager of Procurement, Renewable Acquisition Division

**By E-mail:**

Hawaiian Electric Company, Inc.  
Attn: Manager of Procurement, Renewable Acquisition Division  
Email: [renewableacquisition@hawaiianelectric.com](mailto:renewableacquisition@hawaiianelectric.com)

With a copy to:

**By Mail:**

Hawaiian Electric Company, Inc.  
Legal Department  
P.O. Box 2750  
Honolulu, Hawaii 96840

Delivered By Hand or Overnight Delivery:

Hawaiian Electric Company, Inc.  
American Savings Bank Tower  
1001 Bishop Street, Suite 1100  
Honolulu, Hawaii 96813  
Attn: Legal Department

By E-mail:

Hawaiian Electric Company, Inc.  
Legal Department  
Email: [legalnotices@hawaiianelectric.com](mailto:legalnotices@hawaiianelectric.com)

**(2) [IPP]**

By Mail:

[INSERT ADDRESS/CONTACT]

Delivered By Hand or Overnight Delivery:

[INSERT ADDRESS/CONTACT]

By E-mail:

[INSERT ADDRESS/CONTACT]

With a copy to:

By Mail:

[INSERT ADDRESS/CONTACT]

Delivered By Hand or Overnight Delivery:

[INSERT ADDRESS/CONTACT]

By E-mail:

[INSERT ADDRESS/CONTACT]

15. No Waiver

Except as otherwise provided in this Agreement, no delay or forbearance of a party in the exercise of any remedy or right will constitute a waiver thereof, and the exercise or partial exercise of a remedy or right shall not preclude further exercise of the same or any other remedy or right.

16. Governing Law

This Agreement is made under, governed by, construed and enforced in accordance with, the laws of the State of Hawaii. Any action brought with respect to the matters contained in this Agreement 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.

17. 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, then the prevailing party in such proceeding shall be awarded its reasonable attorneys' fees and costs.

18. Assignment Prohibited

This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors, legal representatives, and permitted assigns. Neither party shall have the right to assign any of its rights, duties or obligations under this Agreement, by operation or law or otherwise, without the prior written consent of the other party. Any purported assignment in violation of this section shall be null and void.

19. 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 of this Agreement. 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.

20. Entire Agreement

This Agreement constitutes the entire agreement between the parties relating to the subject matter hereof, superseding all prior and contemporaneous agreements, understandings or undertakings, oral or written with respect to the subject matter. Any amendment or modification of this Agreement or any part hereof shall not be valid unless in writing and signed by the Parties. Any waiver hereunder shall not be valid unless in writing and signed via by the party against whom waiver is asserted.

21. Term and Survival

This Agreement shall remain in full force and effect for a period of two (2) years from the Effective Date. All confidentiality obligations within this Agreement shall survive following expiration or termination of this Agreement.

22. Severability

If any term or provision of this Agreement, or the application thereof to any person, entity or circumstances is to any extent invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to persons, entities or circumstances other than those as to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law, and the parties will take all commercially reasonable steps, including modification of the Agreement, to preserve the economic “benefit of the bargain” to both parties notwithstanding any such aforesaid invalidity or unenforceability.

23. 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 any party by reason of the extent to which any party or its professional advisors participated in the preparation of this Agreement.

24. Counterparts and Electronic Signatures

This Agreement 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 notwithstanding that all of the parties are not signatories to the same counterparts. For all purposes, duplicate unexecuted and unacknowledged pages of the counterparts may be discarded and the remaining pages assembled as one document. The parties agree that this Agreement and any subsequent writings, including amendments, may be executed and delivered by exchange of executed copies via E-mail or other acceptable electronic means, and in electronic formats such as Adobe PDF or other formats mutually agreeable the parties which preserve the final terms of this Agreement or such writing. A party’s signature transmitted by E-mail or other acceptable electronic means shall be considered an “original” signature which is binding and effective for all purposes of this Agreement.

*[Signature Page Follows]*

IN WITNESS WHEREOF, each party has caused this Agreement to be executed on its behalf by a duly authorized representative, all as of the Effective Date.

HAWAIIAN ELECTRIC COMPANY, INC.

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

MAUI ELECTRIC COMPANY, LIMITED

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

HAWAII ELECTRIC LIGHT COMPANY, INC,

By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

“Companies”

[Insert Name of IPP]

\_\_\_\_\_  
By: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Its: \_\_\_\_\_

“IPP”

**DRAFT REQUEST FOR PROPOSALS**  
**FOR**  
**VARIABLE RENEWABLE DISPATCHABLE GENERATION**  
**PAIRED WITH ENERGY STORAGE**  
**AND**  
**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix F – Description of the Pūlama Site*



**Maui  
Electric**

**APPENDIX F  
VARIABLE RENEWABLE DISPATCHABLE GENERATION  
DESCRIPTION OF THE PŪLAMA SITE**

**Pūlama Site**

All proposals submitted in response to this RFP must be sited at the Pūlama Site which is an undeveloped site located adjacent to Miki Road, less than 1 mile from the airport. The site is adjacent to the Company's Miki Basin Plant allowing for strategic interconnection to the switchyard. A map of the available area is included as Attachment 1 to this Appendix F. A draft copy of the proposed form of the lease and lease term sheet are included as Attachment 2 and Attachment 3, respectively, to this Appendix F. The terms of the lease will be negotiable with the landowner, Pūlama Lāna'i.

Proposers must include the cost for interconnecting into the switchyard in their Proposals.

**Additional Information**

**Pūlama Lāna'i commissioned an Environmental Assessment EA of the Pūlama Site** in compliance with HRS Chapter 343. Information on the EA is provided for use at Proposer's sole discretion at:

<https://luc.hawaii.gov/pending-petitions-2/boundary-amendments/a19-809-lanai-resorts-llc-dba-pulama-lanai/a19-809-lanai-resorts-llc-dba-pulama-lanai-miki-basin-enviromental-assessment-2020/>

Additionally, the following links to a few publicly available resources relating to renewable energy project permitting and collaboration from the Hawaii State Energy Office are being provided for use at Proposers' sole discretion:

**Project Permitting Assistance and Resources**

<http://energy.hawaii.gov/developer-investor/project-permitting-assistance-and-resources>

Provides numerous resources to support more informed and appropriate project siting and permitting, including the Permit Guide, Renewable Energy Permitting Consultants, DOH, ePermitting Portal, Renewable EnerGIS, Permitting Wizard, and the Renewable Energy Projects Directory.

**Aloha Aina: A Framework for Biocultural Resource Management in Hawai'i's Anthropogenic Ecosystems**

[https://nmshawaiihumpbackwhale.blob.core.windows.net/hawaiihumpbackwhale-prod/media/archive/council/pdfs/aloha\\_aina.pdf](https://nmshawaiihumpbackwhale.blob.core.windows.net/hawaiihumpbackwhale-prod/media/archive/council/pdfs/aloha_aina.pdf)

A framework developed by the Hawaiian Islands Humpback Whale National Marine Sanctuary Advisory Council to integrate Native Hawaiian and Western scientific management approaches toward ecosystem management. While intended for the Sanctuary, this document provides useful insight into successful collaboration in Hawaii.

APPENDIX F ATTACHMENT 1





APPENDIX F ATTACHMENT 1



APPENDIX F ATTACHMENT 2

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*Attachments:*

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| <b>Exhibit A</b> | Legal Description    |
| <b>Exhibit B</b> | Estoppel Certificate |
| <b>Exhibit C</b> | Guaranty             |

**GROUND LEASE**

*BETWEEN*

**LĀNA‘I RESORTS, LLC**

as Landlord

*AND*

---

as Tenant

***FOR PREMISES LOCATED AT:***

Lāna‘i City, Lāna‘i

Tax Map Key No. (2) 4-9-002:061 (por)

[This form of Ground Lease is included in the Request for Proposals for general information only. Landlord reserves the right to revise the Ground Lease to conform to, among other things, the location of the Premises and the Project.]

K-1

## GROUND LEASE

THIS GROUND LEASE (the “Lease”) is made and entered into as of \_\_\_\_\_, 20\_\_ (the “Commencement Date”, between LĀNA‘I RESORTS, LLC, a Hawaii limited liability company (“Landlord”, and \_\_\_\_\_, a \_\_\_\_\_ (“Tenant”).

### Recitals:

(a) At the Commencement Date, Landlord owns the following real property collectively, the “Premises”): (i) the unsubdivided land described in **Exhibit A**, consisting of approximately 73 acres of land (the “Land”) together with an easement over a roadway the “Roadway”); (ii) all buildings, structures, and other improvements and appurtenances located on the Land other than any buildings, structures and other improvements or appurtenances that may have been constructed by on or behalf of Tenant prior to the commencement date; and (iii) the appurtenances and all the estate and rights of Landlord in and to the Land.

b Tenant and Maui Electric Company, Limited (“MECO”) have entered into a Power Purchase Agreement for Variable Renewable Dispatchable Generation dated as of \_\_\_\_\_, 20\_\_ between MECO, as Company, and Tenant, as Seller, as it may be Modified (the “Power Purchase Agreement”).

(c) In connection with the Power Purchase Agreement, and in order to fulfill its obligations under the Power Purchase Agreement, Tenant desires to lease the Premises from Landlord, and Landlord is willing to lease the Premises to Tenant.

### Agreements:

**NOW, THEREFORE**, for good and valuable consideration, Landlord leases and demises the Premises to Tenant, and Tenant takes and hires the Premises from Landlord, subject only to Permitted Exceptions, for the Term, upon the terms and conditions of this Lease.

## 1. DEFINITIONS

1.1 **Terms not Defined in Lease.** Capitalized terms not defined in this Lease have the meanings given in the Power Purchase Agreement, unless the context clearly indicates otherwise. For example, the following terms used in this Lease are defined in the Power Purchase Agreement: “Extension Term,” “Facility,” “Financing Parties” and “Good Engineering and Operating Practices.”

1.2 **Terms Defined in Lease.** The following definitions apply in this Lease.

“**Additional Rent**” means all sums that this Lease requires Tenant to pay Landlord or a third party, whether or not expressly called Additional Rent, except Fixed Rent.

“**Affiliate**” of any specified Person means any other Person Controlling or Controlled by or under common Control with such specified Person. “*Affiliated*” shall have the correlative meaning.

“**Application**” means any agreement, application, certificate, document, or submission or amendment of any of the foregoing :

(a) necessary or appropriate for any Construction this Lease allows, including any application for any building permit, certificate of occupancy, utility service or hookup, easement, covenant, condition, restriction, subdivision plat, or such other instrument as Tenant may from time to time reasonably request for such Construction;

b to allow Tenant to obtain any abatement, deferral, or other benefit otherwise available for Real Estate Taxes;

(c) to enable Tenant from time to time to seek any Approval or to use and operate the Premises in accordance with this Lease; or

(d) otherwise reasonably necessary and appropriate to permit Tenant to realize the benefits of the Premises under this Lease.

“**Approvals**” means any and all licenses, permits including building, demolition, alteration, use, and special permits , approvals, consents, certificates including certificate(s) of occupancy), rulings, variances, authorizations, or amendments to any of the foregoing as shall be necessary or appropriate under any Law to commence, perform, or complete any Construction, or for the zoning, rezoning to the extent this Lease allows), use, occupancy, maintenance, or operation of the Premises, including approval of the State Public Utilities Commission.

“**Bankruptcy Law**” means Title 11, United States Code, and any other or successor state or federal statute relating to assignment for the benefit of creditors, appointment of a receiver or trustee, bankruptcy, composition, insolvency, moratorium, reorganization, or similar matters.

“**Bankruptcy Proceeding**” means any proceeding, whether voluntary or involuntary, under any Bankruptcy Law.

“**Bankruptcy Sale**” means a sale of any property, or any interest in any property, under 11 U.S.C. §363 or otherwise in any bankruptcy, insolvency, or similar proceeding affecting the owner of such property.

“**Baseline Assessment**” means a [Phase I and/or Phase II] Environmental Report dated \_\_\_\_\_, 20\_\_ made by \_\_\_\_\_, revealing the environmental conditions of the Land and Premises as of the Commencement Date.

“**Business Day**” means any weekday on which State-chartered banks are open to conduct regular banking business with bank personnel.

“**Casualty**” means any damage or destruction of any kind or nature, ordinary or extraordinary, foreseen or unforeseen, affecting any or all Improvements, whether or not insured or insurable.

“**Casualty Termination**” means a termination of this Lease because of a Substantial Casualty, when and as this Lease expressly allows such a termination. Tenant’s election of a Casualty Termination shall not be effective without Leasehold Mortgagee’s consent.

“**Certifying Party**” shall have the meaning set forth in Section 23.1 hereof.

“**Clean-up**” shall have the meaning set forth in Section 10.11.1 hereof.

“**Condemnation**” means: a any temporary or permanent taking of or of the right to use or occupy any Premises by condemnation, eminent domain, or any similar proceeding; or b) any action by any Government not resulting in an actual transfer of an interest in or of the right to use or occupy any Premises but creating a right to compensation, such as a change in grade of any street upon which the Premises abut.

“**Condemnation Award**” means any award(s) paid or payable whether or not in a separate award to either party or its mortgagee after the Commencement Date because of or as compensation for any Condemnation, including: (a) any award made for any improvements that are the subject of the Condemnation; (b) the full amount paid or payable by the condemning authority for the estate that is the subject of the Condemnation, as determined in Condemnation; (c) any interest on such award; and (d) any other sums payable on account of such Condemnation, including for any prepayment premium under any mortgage.

“**Condemnation Effective Date**” means, for any Condemnation, the first date when the condemning authority has acquired title to or possession of any Premises subject to the Condemnation.

“**Confidential Information**” shall have the meaning set forth in Section 26.1 hereof.

“**Construction**” means any alteration, construction, demolition, development, expansion, reconstruction, redevelopment, repair, Restoration, or other work affecting any Improvements, including the Facility and any other new construction.

“**Contest**” shall have the meaning set forth in Section 12.1 hereof.

“**Contest Conditions**” shall have the meaning set forth in 12.1 hereof.

“**Contest Security**” shall have the meaning set forth in 12.1.1 hereof.

“**Control**” means possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether by ownership of Equity Interests, by contract, or otherwise.

“**County**” means the County of Maui.

“**CPI**” means the United States Department of Labor, Bureau of Labor Statistics “Consumer Price Index” for Urban Wage Earners and Clerical Workers (CPI-W) published for Honolulu, with a base of 1982-1984 = 100. If the CPI ceases to be published, with no successor index, then the parties shall reasonably agree upon a reasonable substitute index. The CPI for any date means the CPI last published before the calendar month that includes such date.

“**CPI Adjustment Factor**” means, as of any date, the greater of (a) 1.00 or (b) the CPI for such date divided by the CPI for the Commencement Date.

“**Default**” means any Monetary Default or Nonmonetary Default.

“**Default Interest**” means interest at an annual percentage rate per annum equal to the average daily Prime Rate for the period in question plus four (4) percentage points.

“**Depository**” means an FDIC insured financial institution with its principal office in the State, designated by a Leasehold Mortgagee or, if no Leasehold Mortgage exists, then by Landlord).

“**Discovered Items**” shall have the meaning set forth in Section 25.1 hereof.

“**Environmental Law**” means any Law regarding the following at, in, under, above, or upon the Premises: a) air, environmental, ground water, or soil conditions; or b) clean-up, control, disposal, generation, storage, release, transportation, or use of, or liability or standards of conduct concerning, Hazardous Substances.

“**Environmental Report**” shall have the meaning set forth in Section 10.11.1 hereof.

“**Equity Interest**” means all or any part of any direct or indirect equity or ownership interest (whether stock, partnership interest, beneficial interest in a trust, membership interest, or other interest of an ownership or equity nature) in any entity at any tier of ownership that directly or indirectly owns or holds any ownership or equity interest in Tenant.



“**Estoppel Certificate**” means a statement, addressed either to Landlord or Tenant or as directed, in substantially the form of **Exhibit B**, and containing other assurances as Landlord or Tenant reasonably requests.

“**Event of Default**” shall have the meaning set forth in Section 19.1 hereof.

“**Expiration Date**” means the date when this Lease terminates or expires in accordance with its terms, whether on the Scheduled Expiration Date, by Landlord’s exercise of remedies for an Event of Default, or otherwise.

“**Facility**” means the Facility as described in the Power Purchase Agreement, as it may be Restored, modified, expanded or changed from time to time.

“**Fee Debt Service**” means all payments required from time to time under any Fee Mortgage, including principal, interest, late charges, costs of collection, reimbursement of protective advances, and any other sums any Fee Mortgage secures.

“**Fee Estate**” means Landlord’s fee estate in the Premises, including Landlord’s reversionary interest in the Premises after the Expiration Date.

“**Fee Mortgage**” means any mortgage, collateral assignment, or other lien (as modified from time to time) encumbering all or part of the Fee Estate.

“**Fee Mortgagee**” means a holder of a Fee Mortgage (and its successors and assigns).

“**Fixed Rent**” shall have the meaning set forth in Section 3.1 hereof.

“**Foreclosure Event**” means any: (a) foreclosure sale (or assignment in lieu of foreclosure, Bankruptcy Sale, or similar transfer) affecting the Leasehold Estate; or b) Leasehold Mortgagee’s exercise of any other right or remedy under a Leasehold Mortgage or applicable Law that divests Tenant of its Leasehold Estate.

“**GET**” shall have the meaning set forth in Section 4.8 hereof.

“**Government**” means each and every governmental agency, authority, bureau, department, quasi-governmental body, or other entity or instrumentality having or claiming jurisdiction over the Premises (or any activity this Lease allows, including the United States government, the State and County governments and their subdivisions and municipalities, and all other applicable governmental agencies, authorities, and subdivisions thereof. “Government” shall also include any land use commission, planning commission, board of standards and appeals, department of buildings, city council, zoning board of appeals, or similar body having or claiming jurisdiction over the Premises or any activities on or at the Premises.

“**Guarantor**” means \_\_\_\_\_.

**“Hazardous Substances”** includes flammable substances, explosives, radioactive materials, asbestos, asbestos-containing materials, polychlorinated biphenyls, chemicals known to cause cancer or reproductive toxicity, pollutants, contaminants, hazardous wastes, medical wastes, toxic substances or related materials, petroleum and petroleum products, and any “hazardous” or “toxic” material, substance or waste that is defined by those or similar terms or is regulated as such under any Law, including any material, substance or waste that is: (a) defined as a “hazardous substance” under Section 311 of the Water Pollution Control Act 33 U.S.C. §1317, as amended; b) defined as a “hazardous waste” under Section 1004 of the Resource Conservation and Recovery Act of 1976, 42 U.S.C. §6901, et seq., as amended; (c) defined as a “hazardous substance” or “hazardous waste” under Section 101 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Reauthorization Act of 1986, 42 U.S.C. §9601 et seq. or any so-called “superfund” or “superlien” law; (d) defined as a “pollutant” or “contaminant” under 42 U.S.C. §9601(33); (e) defined as “hazardous waste” under 40 C.F.R. Part 260; (f) defined as a “hazardous chemical” under 29 C.F.R. Part 1910; or (g) subject to any other Law regulating, relating to or imposing obligations, liability or standards of conduct concerning protection of human health, plant life, animal life, natural resources, property or the enjoyment of life or property free from the presence in the environment of any solid, liquid, gas, odor or any form of energy from whatever source.

**“Hazardous Substances Claims”** means (a) any actual, alleged or threatened Hazardous Substances Discharge; b any and all enforcement, cleanup, removal, mitigation, remediation or other Government actions instituted, contemplated or threatened pursuant to Environmental Law affecting the Premises; and (c) all claims made or threatened by any third party against Tenant or the Premises relating to damage, contribution, cost recovery, compensation, loss or injury resulting from any Hazardous Substances.

**“Hazardous Substances Discharge”** means any deposit, discharge, generation, release, or spill of Hazardous Substances that occurs at or from the Premises, or into the Land, or that arises at any time from the use, occupancy, or operation of the Premises or any activities conducted therein or any adjacent or nearby real property, or resulting from seepage, leakage, or other transmission of Hazardous Substances from other real property to the Land, whether or not caused by a party to this Lease and whether occurring before or after the Commencement Date.

**“Immaterial Loss”** means a Casualty or Condemnation whose estimated cost to Restore or value does not exceed \$100,000.00, adjusted annually by the CPI Adjustment Factor.

**“Improvements”** means all buildings, structures, and other improvements and appurtenances located or to be located on the Land from time to time, including the Facility and the landscape buffer described in Section 8.3.

“**Indemnify**” means, where this Lease states that any Indemnitor shall “Indemnify” any Indemnitee from, against, or for a particular matter (the “**Indemnified Risk**” , that the Indemnitor shall indemnify the Indemnitee and defend and hold the Indemnitee harmless from and against any and all loss, cost, claims, liability, penalties, judgments, damages, and other injury, detriment, or expense including Legal Costs, interest and penalties) that the Indemnitee suffers or incurs: a) from, as a result of, or on account of the Indemnified Risk; or b) in enforcing the Indemnitor’s indemnity. Counsel retained by Indemnitor to fulfill its obligation to defend Indemnitee(s) shall be subject to Indemnitee’s approval, not to be unreasonably withheld.

“**Indemnitee**” means any party entitled to be Indemnified under this Lease and its agents, directors, employees, Equity Interest holders, mortgagees, and officers.

“**Indemnitor**” means a party that agrees to Indemnify any other Person.

“**Initial Term**” shall have the meaning set forth in Section 2.1 hereof.

“**Insubstantial Condemnation**” means any Condemnation except a Substantial Condemnation, a Temporary Condemnation, or an Immaterial Loss.

“**Land Value**” means, as of the date of a PPA Disconnect or commencement of a Holding Over under Sections 10.11.5, 19.6, or 20.2 hereof, whichever is applicable, the fair market value of the Land as determined by Landlord in good faith. The fair market value of the Land means the amount that a willing buyer would pay a willing seller for the Land, neither being under a particular compulsion to buy or to sell, each fully aware of all applicable facts about the Land, and assuming a reasonable marketing period, considered as if the Land were vacant and clear of any structures or excavations, and free and clear of all leases including this Lease), taking into account then-current general economic conditions; costs of construction; sales of comparable parcels; the real estate marketplace; and all other conditions as in effect on the determination date that may reasonably be considered in determining the fair market value of the Land. Land Value shall otherwise be determined in accordance with prevailing standards of appraisal practice at the time of determination.

“**Landlord**” initially means the Landlord named in the opening paragraph of this Lease. After every transfer of the Fee Estate, “Landlord” means only the owner(s) of the Fee Estate at the time in question. If any former Landlord no longer has any interest in the Fee Estate or a Transfer of the Fee Estate occurs, the Transferor including a Fee Mortgagee, or anyone acting for a Fee Mortgagee, that has acquired and then disposed of the Fee Estate shall be and hereby is entirely freed and relieved of all obligations of Landlord under this Lease accruing from and after the date of such Transfer.

“**Laws**” means all laws, ordinances, requirements, orders, proclamations, directives, rules, and regulations of any Government affecting the Premises, this Lease, or any Construction in any way, including any use, maintenance, taxation, operation, or occupancy of, or environmental conditions affecting, the Premises, or relating to any

State or County land use and zoning, any Real Estate Taxes, or otherwise relating to this Lease or any party's rights and remedies under this Lease, or any Transfer of any of the foregoing, whether in force at the Commencement Date or passed, enacted, or imposed at some later time, subject in all cases, however, to any applicable waiver, variance, or exemption.

**“Lease Impairment”** means Tenant's: a) canceling, Modifying, restating, surrendering, or terminating this Lease, including upon Loss; b) consenting, or failing to object, to a Bankruptcy Sale of any Premises; (c) determining that a Total Loss has occurred; (d) exercising any right to treat this Lease as terminated under 11 U.S.C. §365 h 1) A i or any comparable provision of Law; e) subordinating this Lease or the Leasehold Estate to any other estate or interest in the Premises; or (f) waiving any term s of this Lease.

**“Lease Termination Notice”** means a Notice stating this Lease has been terminated, and describing in reasonable detail any uncured Defaults.

**“Lease Year”** means: a) the twelve calendar months starting on the first day of the first full calendar month after the Commencement Date; and b) every subsequent period of twelve calendar months during the Term.

**“Leasehold Estate”** means Tenant's leasehold estate, and all of Tenant's rights, privileges, and Pre-Emptive Rights, under this Lease, upon and subject to all the terms and conditions of this Lease, and any direct or indirect interest in such leasehold estate.

**“Leasehold Mortgage”** means any mortgage, collateral assignment, or other lien (as modified from time to time) encumbering this Lease and the Leasehold Estate, made in connection with permitted financing under the Power Purchase Agreement to a Financing Party under the Power Purchase Agreement. A Leasehold Mortgage shall not attach to the Fee Estate.

**“Leasehold Mortgagee”** means a holder of a Leasehold Mortgage (and its successors and assigns), provided: (a) it is a Financing Party under the Power Purchase Agreement; b) it is not an Affiliate of Tenant; and (c) Landlord has received notice of its name and address and a copy of its Leasehold Mortgage.

**“Legal Costs”** of any Person means all reasonable costs and expenses such Person incurs in any legal proceeding, including appeals (or other matter for which such Person is entitled to be reimbursed for its Legal Costs), including reasonable attorneys' fees, court costs, and expenses, and in or as a result of any Bankruptcy Proceeding.

**“Loss”** means a Casualty or Condemnation affecting the Premises.

**“Loss Proceeds”** means any Property Insurance Proceeds or Condemnation Award paid or payable for a Loss.

“**Management Meeting**” shall have the meaning set forth in Section 14.7.1 hereof.

“**Market Value**” of the Land or the Facility means, as of any date of determination, the present fair market value of such estate or improvement (including the fair market value of the rights of the holder of such estate in and to any improvements) as of such date, considering: a) as if no Loss had occurred; b) without adjusting for any expectation of any Loss; and c) as if the Leasehold Estate had been terminated. Market Value shall be determined independently of, and without regard to, any valuation established in a Condemnation unless Tenant Notifies Landlord otherwise. Any such Notice shall not be effective without Leasehold Mortgagee’s consent.

“**Memorandum of Lease**” means a memorandum of this Lease, in recordable form, setting forth following provisions of this Lease: (a) all information any Law requires; b) the Term of the Lease; (c) any grant of a power of attorney; and d) such other provisions, except the amount or means of determining Rent, as either party reasonably desires.

“**Modification**” or “**Modify**” means any abandonment, amendment, cancellation, discharge, extension, modification, rejection, renewal, replacement, restatement, substitution, supplement, surrender, termination, or waiver of a specified agreement or document, or of any of its terms or provisions, or the acceptance of any cancellation, rejection, surrender, or termination of such agreement, document, or terms.

“**Monetary Default**” means Tenant’s failure to pay any Rent or other money including Real Estate Taxes and insurance premiums when and as this Lease requires.

“**New Lease**” means a new lease of the Premises and related customary documents such as a memorandum of lease and a deed of Improvements. Any New Lease shall: (a) commence immediately after this Lease terminated; (b) continue for the entire remaining term of this Lease, as if no termination had occurred; (c) give New Tenant the same rights to Improvements that this Lease gave Tenant; (d) have the same terms, and the same priority, as this Lease, subject to any subsequent written amendments made with Leasehold Mortgagee’s consent; and (e) require New Tenant to cure, with reasonable diligence and continuity, within a reasonable time, all Defaults except Tenant-Specific Defaults not otherwise cured or waived.

“**New Tenant**” means Leasehold Mortgagee or its designee or nominee, and any of their successors and assigns.

“**Nonmonetary Default**” means Tenant’s: a) failure to comply with any affirmative or negative covenant or obligation in this Lease, except a Monetary Default; or b) breach of any representation or warranty as of the date made or deemed made).

“**Notice**” or “**Notify**” means any consent, demand, designation, election, notice, or request relating to this Lease, including any Notice of Default. Notices shall be

delivered, and shall become effective, only in accordance with the “Notices” Article of this Lease.

“**Notice of Default**” means any Notice claiming or giving Notice of a Default or alleged Default.

“**Notice of Intent to Cure**” means any Notice claiming or giving Notice of a Leasehold Mortgagee’s intent to cure a Default under this Lease.

“**Permitted Exceptions**” means only: (a) the recorded title exceptions affecting the Fee Estate and prior to this Lease as of the Commencement Date, listed as exceptions in Tenant’s leasehold policy of title insurance for this Lease; (b) any title exceptions (including Subleases caused by Tenant’s acts or omissions, consented to or requested by Tenant, or resulting from Tenant’s Default; (c) any Application made at Tenant’s request; (d) this Lease and its terms and provisions; and (e) any state of facts an accurate survey would show.

“**Phase I Environmental Assessment**” means an environmental assessment and report prepared by a qualified environmental professional reasonably acceptable to Landlord that meets or exceeds the minimum requirements outlined in the then current version of the American Society of Testing and Materials Standard E 1527-00 (Standard Practice of Environmental Site Assessments: Phase I Environmental Site Assessment Process).

“**Phase II Environmental Assessment**” means an environmental assessment and report prepared by a qualified environmental professional reasonably acceptable to Landlord that goes beyond the investigations of a Phase I Environmental Assessment and involves sampling and testing of the Premises, including (a) an asbestos survey conducted according to the standards of the Asbestos Hazard Emergency Response Act protocol; b) testing of any transformers on the Premises for PCBs; (c) testing for lead based paints; d) soil and groundwater sampling to measure the effect of any actual or suspected release or discharge of Hazardous Substances on the Premises; and e) such other sampling and testing reasonably necessary to determine the environmental condition of the Premises.

“**Permitted Use**” means the construction, maintenance and operation of the Facility, consistent with Good Engineering and Operating Practices.

“**PPA Disconnect**” means any period of time during which the Power Purchase Agreement remains in effect but because of a Tenant Event of Default under the Power Purchase Agreement MECO is not purchasing power from Tenant.

“**PPA Restoration**” means either (a) the Power Purchase Agreement is reinstated following a termination of the Power Purchase Agreement; or b) Tenant’s Event of Default under the Power Purchase Agreement has been cured and MECO is purchasing

power from Tenant or its permitted successor assignee) in accordance with the Power Purchase Agreement.

**“Person”** means any association, corporation, Government, individual, joint venture, joint-stock company, limited liability company, partnership, trust, unincorporated organization, or other entity of any kind. (This does not limit any Transfer restriction.)

**“Prime Rate”** means the “prime rate” of interest, as published from time to time by The Wall Street Journal in the “Money Rates” section of its Western Edition Newspaper or the average prime rate if a high and a low prime rate are therein reported . The Prime Rate shall change without notice with each change in the prime rate reported by The Wall Street Journal, as of the date such change is reported. Any such rate is a general reference rate of interest, may not be related to any other rate, may not be the lowest or best rate actually charged by any lender to any customer or a favored rate and may not correspond with future increases or decreases in interest rates charged by lenders or market rates in general.

**“Prohibited Lien”** means any mechanic’s, vendor’s, laborer’s, or material supplier’s statutory lien or other similar lien arising from work, labor, services, equipment, or materials supplied, or claimed to have been supplied, to Tenant or anyone claiming through Tenant , but only if such lien attaches or may attach upon termination of this Lease) to the Fee Estate.

**“Property Insurance Proceeds”** means net proceeds (after reasonable costs of adjustment and collection, including Legal Costs of any property insurance policies covering the Premises, when and as received by Landlord, Tenant, Depository, or any Fee Mortgagee or Leasehold Mortgagee, excluding proceeds of Tenant’s business interruption insurance in excess of Rent.

**“PSC”** shall have the meaning set forth in Section 4.8 hereof.

**“Real Estate Taxes”** means all general and special real estate taxes (including sales taxes, use taxes, and the like , conveyance taxes, transfer taxes, assessments, municipal water and sewer rents, rates and charges, excises, levies, license and permit fees, fines, penalties and other governmental charges and any interest or costs with respect thereto, general and special, ordinary and extraordinary, foreseen and unforeseen, of any kind and nature whatsoever that at any time before or during the Term and applicable to the Term or any part of it may be assessed, levied, imposed upon, or become due and payable out of or in respect of, or charged with respect to or become a lien on, the Premises, or the sidewalks or streets in front of or adjoining the Premises, or any vault, passageway or space in, over or under such sidewalk or street, or any other appurtenances of the Premises, or other facility used in the operation thereof, or the rent or income received therefrom, or any use or occupancy thereof.

If at any time during the Term the method of taxation prevailing at the Commencement Date shall be altered so that any new tax, assessment, levy (including any municipal, state or federal levy, imposition, or charge, or any part thereof, shall be measured by or be based in whole or in part upon the Premises and imposed upon Landlord, then all such new taxes, assessments, levies, Real Estate Taxes, or charges, or the part thereof to the extent that they are so measured or based, shall be deemed to be included within the term “Real Estate Taxes,” to the extent that such Real Estate Taxes would be payable if the Premises were the only property of Landlord subject to such Real Estate Taxes.

“**Remaining Premises**” means any Premises that Landlord continues to own after a Total Loss.

“**Removal Period**” shall have the meaning set forth in Section 20.2 hereof.

“**Rent**” means Fixed Rent, Variable Rent and Additional Rent.

“**Requesting Party**” shall have the meaning set forth in Section 23.1 hereof.

“**Restoration**” and “**Restore**” means, after a Loss, the alteration, clearing, rebuilding, reconstruction, repair, replacement, restoration, and safeguarding of the damaged or remaining Improvements, substantially consistent with their condition before the Loss, subject to such Construction as Tenant shall perform in conformity with this Lease, subject to any changes in Law that would limit the foregoing.

“**Restoration Funds**” means any Loss Proceeds and deposits by Tenant to be applied to Restoration.

“**Scheduled Expiration Date**” means the date upon which the Power Purchase Agreement terminates, i.e., the end of the Term (as defined in the Power Purchase Agreement) *plus* any Extension Term defined in the Power Purchase Agreement).

“**Security Deposit**” means fifty percent (50%) of the Operating Period Security as defined in the Power Purchase Agreement required under the Power Purchase Agreement.

“**State**” means the State of Hawaii.

“**Sublease**” means, for the Premises, any: a) sublease; b) agreement or arrangement (including a concession, license, management, or occupancy agreement allowing any Person to occupy, use or possess; c) subsublease or any further level of subletting; or (d) Modification or assignment of (a) through (c). (Any reference to Subleases does not diminish, impair, limit, or waive any limit on Subleases.

“**Subrent**” means all money due and payable by Subtenants under Subleases.



“**Substantial Casualty**” means a Casualty that, pursuant to Law, prevents the Premises from being Restored for the Permitted Use.

“**Substantial Condemnation**” means any Condemnation that a takes the entire Premises; or (b in Tenant’s reasonable determination with Leasehold Mortgagee’s consent) renders the remaining Premises unsuitable for the Permitted Uses.

“**Subtenant**” means any Person entitled to occupy, use, or possess any Premises under a Sublease.

“**Temporary Condemnation**” means a Condemnation of the temporary right to use or occupy all or part of the Premises.

“**Tenant-Specific Default**” means any Nonmonetary Default that by its nature relates only to, or can reasonably be performed only by, Tenant or its Affiliates.

“**Term**” means the Initial Term, as it may be extended by any Extension Term.

“**Total Loss**” means any (a) Condemnation that affects all or substantially all the Premises; or (b Loss after which Tenant cannot legally Restore the Facility for its Permitted Use.

“**Transfer**” of any property means any of the following, whether by operation of law or otherwise, whether voluntary or involuntary, and whether direct or indirect:

(a) any assignment, conveyance, grant, hypothecation, mortgage, pledge, sale, or other transfer, whether direct or indirect, of all or any part of such property, or of any legal, beneficial, or equitable interest or estate in such property or any part of it including the grant of any easement, lien, or other encumbrance ;

b any conversion, exchange, issuance, modification, reallocation, sale, or other transfer of any direct or indirect Equity Interest s in the owner of such property by the holders of such Equity Interest s ;

(c) any transaction described in b) affecting any Equity Interest(s) or any other interest in such property or in any such owner (or in any other direct or indirect owner at any higher tier of ownership) through any manner or means whatsoever; or

(d) any transaction that is in substance equivalent to any of the foregoing.

A transaction affecting Equity Interests, as referred to in clauses (b) through (d), shall be deemed a Transfer by Tenant even though Tenant is not technically the transferor. However, a “Transfer” shall not include any of the foregoing (provided that the other party to this Lease has received Notice thereof) relating to any Equity Interest: (a) that constitutes a mere change in form of ownership with no material change in beneficial ownership and constitutes a tax-free transaction under federal income tax law

and the State real estate transfer tax; or b to any Person that, as of the Commencement Date, holds an Equity Interest in the entity whose Equity Interest is being transferred.

“**Unavoidable Delay**” means delay in performing any obligation under this Lease (except payment of money) arising from or on account of any cause whatsoever beyond the obligor’s reasonable control, despite such obligor’s reasonable diligent efforts, including industry-wide strikes, labor troubles or other union activities (but only to the extent such actions affect similar premises at that time and do not result from an act or omission of the obligor), the obligor’s inability to obtain required labor or materials after commercially reasonable efforts to do so, litigation unless caused by the obligor, Loss, accidents, Laws, governmental preemption, war, or riots. Unavoidable Delay shall exclude delay caused by the obligor’s financial condition, illiquidity, or insolvency. Any obligor claiming Unavoidable Delay shall Notify the obligee: a within 30 days after such obligor knows of any such Unavoidable Delay; and b within 10 days after such Unavoidable Delay ceases to exist. To be effective, any such Notice must describe the Unavoidable Delay in reasonable detail. Where this Lease states that performance of any obligation is subject to Unavoidable Delay(s) or words of similar import, such Unavoidable Delay(s) shall extend the time for such performance only by the number of days by which such Unavoidable Delay(s) actually delayed such performance.

“**Underground Storage Tank**” means any combination of tanks including pipes connected to the tanks used to contain an accumulation of Hazardous Substances, and the volume of which including the volume of the underground pipes connected to the tanks is ten percent or more beneath the surface of the ground.

**1.3 Principles of Interpretation.** A term defined in the singular may be used in the plural, and vice versa, all in accordance with ordinary principles of English grammar, which also govern all other language in this Lease. The words “include” and “including” shall be construed to be followed by the words: “without limitation.” Each of these terms shall be interpreted as if followed by the words “(or any part of it)” except where the context clearly requires otherwise: Fee Estate; Improvements; Land; Leasehold Estate; Premises; and any other similar collective noun. Every reference to any document, including this Lease, refers to such document as Modified from time to time except, at Landlord’s option, any Modification that violates this Lease, and includes all exhibits, schedules, and riders to such document. The word “or” includes the word “and.”

**1.4 Conflict between Lease and Power Purchase Agreement.** To the extent there exists any conflict between the provisions of this Lease and the Power Purchase Agreement, the Power Purchase Agreement shall control.

## **2. TERM**

**2.1 Initial Term.** The initial term of this Lease (the “**Initial Term**”) shall: (a) commence on the Commencement Date; and b end on the Scheduled Expiration Date, unless terminated sooner. If the Commencement Date is not the first (or the

Expiration Date is not the last) day of a Lease Year, then from the Commencement Date through the day before the first Lease Year or from the day after the last Lease Year through the Expiration Date), the parties shall have all the same rights and obligations under this Lease including regarding Rent that they do during the first (or the last, as applicable) full Lease Year, all prorated daily.

2.2 **Automatic Termination.** Notwithstanding anything to the contrary in this Lease, this Lease shall automatically terminate upon termination of the Power Purchase Agreement, without Notice.

### 3. RENT

3.1 **Fixed Rent.** Tenant shall pay Landlord, without notice or demand, in lawful money of the United States of America, a fixed annual rental (the “**Fixed Rent**”) as follows:

3.1.1 \$200.00 per acre per month, upon execution of the Lease and increased to 50%, \$300.00 per acre per month, as long as the Power Purchase Agreement remains in effect upon commercial operations and adjusted annually by the CPI Adjustment Factor; or

3.1.2 10% of the Land Value per year, adjusted annually by the CPI Adjustment Factor, commencing on the date a PPA Disconnect occurs and continuing for the period a PPA Disconnect remains in effect.

If there is no longer a PPA Disconnect, and a PPA Restoration occurs, the Fixed Rent shall be restored to the rate that was effective at time of PPA Disconnect until any new PPA Disconnect occurs.

3.2 **Annual or Monthly Payment; Proration; Etc.** Tenant shall pay Fixed Rent annually in advance, otherwise Tenant shall pay Fixed Rent in equal monthly installments in advance on the first day of each month. Tenant shall pay all Rent payable to Landlord by good and sufficient check payable to Landlord or by wire transfer, at such address as Landlord shall designate from time to time.

3.3 **Variable Rent.** Tenant shall pay Landlord, without notice or demand, in lawful money of the United States of America, a variable monthly rent (the “**Variable Rent**”) as follows:

3.3.1 2.00% of the monthly gross receipts received from HECO to the Tenant per the negotiated PPA for the project.

3.4 **Additional Rent.** In addition to Fixed Rent and Variable Rent, Tenant shall pay Landlord or the appropriate third party, as applicable, as additional rent under this Lease, all Additional Rent. Except where this Lease provides otherwise, Tenant shall

pay all Additional Rent within 15 days after receipt of an invoice and reasonable backup documentation.

3.5 **No Offsets.** Tenant shall pay all Rent without offset, defense, claim, counterclaim, reduction, or deduction of any kind whatsoever.

#### 4. **ADDITIONAL PAYMENTS BY TENANT; REAL ESTATE TAXES**

4.1 **Landlord's Net Return.** This Lease shall constitute an absolutely "net" lease. The Fixed Rent shall give Landlord an absolutely "net" return for the Term, free of any expenses or charges for the Premises, except as this Lease expressly provides. Tenant shall pay as Additional Rent and discharge subject to Tenant's right of Contest as this Lease expressly provides, before failure to pay creates a material risk of forfeiture or penalty, each and every item of expense, of every kind and nature whatsoever, related to or arising from the Premises, or by reason of or in any manner connected with or arising from the leasing, operation, management, maintenance, repair, use, or occupancy of, or Construction affecting the Premises.

4.2 **No Tenant Obligation.** Notwithstanding anything to the contrary in this Lease, Tenant need not pay the following items payable, accrued, or incurred by Landlord: (a) Fee Debt Service; b depreciation, amortization, brokerage commissions, financing or refinancing costs, management fees, or leasing expenses for the Fee Estate or the Premises; and (c) any costs or expenses that Landlord incurs in or for any Management Meeting, except to the extent that this Lease requires Tenant to pay such costs or expenses.

4.3 **Real Estate Taxes.** Tenant shall pay and discharge all Real Estate Taxes payable or accruing for all periods within the Term, before failure to pay creates a material risk to Landlord of forfeiture or penalty, subject however to Tenant's right of Contest as this Lease expressly provides. Tenant shall also pay all interest and penalties any Government assesses for late payment of any Real Estate Taxes, except late payment because Landlord failed to remit any payment for Real Estate Taxes paid to Landlord by Tenant in accordance with Tenant's reasonable instructions provided they involve only ministerial functions) or failed to forward promptly Tenant a copy of any applicable bill that Landlord receives. In the latter case Landlord shall pay such interest and penalties. Tenant shall within a reasonable time after Notice from Landlord give Landlord reasonable proof that Tenant has paid any Real Estate Taxes that this Lease requires Tenant to pay. Tenant shall have the sole right and authority to contest Real Estate Taxes, in compliance with the Contest Conditions.

4.4 **Assessments in Installments.** To the extent Law allows, Tenant may apply to have any assessment payable in installments. Upon approval of such application, Tenant shall pay and discharge only such installments as become due and payable during the Term.

4.5 **Utilities.** Tenant shall arrange and pay for all fuel, gas, light, power, water, sewage, garbage disposal, telephone, and other utility charges, and the expenses of installation, maintenance, use, and service in connection with the foregoing, for the Premises during the Term. Landlord shall have absolutely no liability or responsibility for the foregoing.

4.6 **Security Deposit.** Concurrently with Tenant's execution of this Lease, Tenant shall deposit with Landlord the Security Deposit. Landlord shall hold the Security Deposit as security for the performance of Tenant's obligations under this Lease. If Tenant Defaults on any provision of this Lease, Landlord may, without prejudice to any other remedy it has, apply all or part of the Security Deposit to any Rent or other sum in default, any amount that Landlord may spend or become obligated to spend in exercising Landlord's rights under this Lease, or any expense, loss, or damage that Landlord may suffer because of Tenant's Default.

4.7 **Tax.** Tenant will pay to Landlord at the time and together with each payment of Rent that is subject to tax, including GET or PSC, whichever is applicable, and any other applicable tax on account of the receipt, actual or constructive, by Landlord of the rental payments, reimbursement of gross income taxes, and any other taxable gross income attributable to the Premises or this Lease, an amount which, when added to Rent (whether actually or constructively received by Landlord), shall yield to Landlord, after deduction of the tax, an amount equal to that which Landlord would have realized had no such tax been imposed. For the purposes of this Section, "GET" means the State of Hawaii general excise tax on gross income under Hawaii Revised Statutes Chapter 237, and any sales or value added taxes under any successor, similar or new federal, state or county law that may be hereafter enacted, and "PSC" means the State of Hawaii public service company tax under Hawaii Revised Statutes Chapter 239. For purpose of illustration only, the amount necessary to reimburse Landlord is as of the Commencement Date 4.1666%.

4.8 **Conveyance Tax.** Tenant shall pay the conveyance tax imposed under Hawaii Revised Statutes Chapter 247 that is due and payable upon the Commencement Date. Tenant shall provide Landlord with proof satisfactory to Landlord that the conveyance tax has been paid.

## 5. USE

5.1 **Permitted Use.** Tenant shall use the Premises for the Permitted Use and only for the Permitted Use. Tenant shall continuously use and operate the Premises for the Permitted Use.

5.2 **Permitted Use Unique.** Landlord has leased the Premises to Tenant solely for the purpose of Tenant's providing electrical power to MECO's system pursuant to the Power Purchase Agreement. The State Public Utilities Commission has authorized Landlord to enter into this Lease only in connection with and for the purposes of the Power Purchase Agreement. Tenant acknowledges and agrees that the Premises cannot

be used for any purpose other than the Permitted Use. Tenant waives and relinquishes any right it may have under Bankruptcy Law, in any Bankruptcy Proceeding, or otherwise to assert the Premises should be used for a purpose other than the Permitted Use.

5.3 **Access.** All access roads made available or maintained by the Landlord, providing access from the Premises to public roads shall at all times be subject to the exclusive control and management of Landlord, and Landlord shall have the right, from time to time, to establish, modify and enforce reasonable rules and regulations with respect to the access and Tenant agrees to comply with all of Landlord's rules and regulations with respect to the access.

5.4 **Exclusive Control.** Tenant shall have exclusive control, possession, occupancy, use, and management of the Premises, subject only to Permitted Exceptions.

5.5 **Operational Costs.** Tenant shall timely pay and discharge all fees, costs, and expenses related to or arising from the management or operation of the Premises and the provision of services to the Premises.

## 6. SECURITY OF PREMISES

6.1 **Secured Facility.** Tenant shall secure the Facility and prevent access to the Facility by unauthorized personnel in the same manner or higher as MECO secures its power generating facilities in the County. Notwithstanding MECO's then current security procedures for its own facilities, Landlord may require Tenant to maintain personnel on the Premises 24 hours a day 7 days a week to monitor the security and safety of the Premises and Facility.

6.2 **Limited Access to Premises.** Tenant will maintain barriers on the Premises to prevent unauthorized persons or vehicles from entering or crossing through the Premises and adjacent lands owned or operated by Landlord.

6.3 **Personnel.** Tenant shall conduct security and background checks on all Tenant employees, independent contractors, and other persons who are regularly allowed access to the Facility and shall require all such persons to take periodic drug tests. Tenant shall not allow on the Premises any persons who do not pass such security checks or drug tests.

## 7. COMPLIANCE

7.1 **Generally.** Tenant shall during the Term, at Tenant's expense, in all material respects, subject to Tenant's right of Contest: (a) comply with all Laws and Permitted Exceptions; b) comply with the Land Use Conditions, if any; (c) procure all Approvals required by Law other than the approval of the Power Purchase Agreement by the State Public Utilities Commission; and (d) comply with all Approvals.

7.2 **Power Purchase Agreement.** Tenant shall during the Term, at Tenant's expense, in all material respects, comply with Tenant's obligations under the Power Purchase Agreement.

7.3 **Notice of Inspections.** Tenant shall give Landlord Notice of any proposed inspection of the Premises or the Facility by any Government agency immediately upon Tenant's receipt of notice of such inspection.

7.4 **Copies of Notices.** Landlord shall promptly give Tenant a copy of any notice of any kind regarding the Premises or any Real Estate Taxes including any bill or statement, and any notice of nonrenewal or threatened nonrenewal of any Approval that Landlord receives from any Government, utility company, insurance carrier, or insurance rating bureau.

## 8. MAINTENANCE AND CONSTRUCTION

8.1 **Obligation to Maintain.** Except to the extent that (a this Lease otherwise expressly provides or allows or b Tenant is performing Construction in compliance with this Lease, Tenant shall during the Term keep and maintain the Premises in good order, condition, and repair, subject to Loss governed by other provisions of this Lease), reasonable wear and tear, and any other condition that this Lease does not require Tenant to repair. Tenant's obligation to maintain the Premises includes an obligation to make all repairs that the Premises including plumbing, heating, air conditioning, ventilating, electrical, lighting, fixtures, walls, building systems, ceilings, floors, windows, doors, plate glass, skylights, landscaping, drainage, retention basins, bridges, driveways, site improvements, curb cuts, parking lots, fences and signs located in, on or at the Premises, together with any sidewalks and streets adjacent to the Premises may require by Law from time to time during the Term, whether structural or nonstructural, foreseen or unforeseen, capital or operating. Tenant shall remove trash and debris from the Premises and the adjoining sidewalk, and maintain them in a reasonably clean condition.

8.2 **Acceptance of Premises.** Tenant acknowledges that it has, or has had the opportunity, to inspect carefully the Premises, and accepts the Premises in **AS IS** condition **WITH ALL FAULTS**. Tenant further acknowledges that neither Landlord nor its agents or employees have made any representations or warranties of any kind whatsoever as to the suitability or fitness of the Premises for the conduct of Tenant's business or for any other purpose, nor has Landlord or its agents or employees agreed to make any repairs, undertake any alterations, or construct any improvements to the Premises or with respect to the Premises.

8.3 **Construction.** At Tenant's sole cost and expense, Tenant shall construct the Facility in accordance with the requirements of the Power Purchase Agreement. Tenant shall not commence Construction until it has the applicable necessary Approvals. Prior to commencement of any Construction, Tenant shall cause each entity involved in such Construction, who is a direct contractor of Tenant and who has mechanic lien rights under Chapter 507 of the Hawaii Revised Statutes, to deliver to Landlord a performance

and payment bond in a form acceptable to Landlord and from a surety reasonably acceptable to Landlord, covering the faithful performance of such entity's contract with the Tenant and the payment of all obligations arising thereunder, and naming Landlord as an obligee. Tenant shall complete Construction of the Facility within the time periods required by the Power Purchase Agreement. Tenant shall pay for all Construction when and as required by the parties that perform such Construction. All Improvements that Tenant constructs on the Land shall become part of the Premises.

**8.4 Plans and Specifications.** To the extent that Tenant obtains plans and specifications or surveys including working plans and specifications and "as-built" plans and specifications and surveys for any Construction, Tenant shall promptly upon Landlord's request give Landlord a copy, subject to the terms of any agreement between Tenant and the applicable architect, engineer, or surveyor. Tenant shall exercise reasonable efforts to cause its agreements with such professionals to permit these deliveries, which are for Landlord's information only except to the extent, if any, this Lease otherwise expressly states.

**8.5 Applications.** Upon Tenant's request, Landlord shall, without cost to Landlord, promptly join in and execute any Application as Tenant reasonably requests, provided that: (a) such Application is in customary form and imposes no material obligations beyond obligations ministerial in nature or merely requiring compliance with Law upon Landlord; b) no uncured Event of Default exists; and (c) Tenant reimburses Landlord's Legal Costs. Promptly upon Tenant's request and without charge except reimbursement of Landlord's Legal Costs), Landlord shall furnish all information in its possession that Tenant reasonably requests for any Application.

## **9. PROHIBITED LIENS**

**9.1 Tenant's Covenant.** If a Prohibited Lien is filed, Tenant shall, within 30 days after receiving Notice from Landlord of such filing but in any case within 15 days after Landlord Notifies Tenant of commencement of any application for a mechanic's lien or foreclosure proceedings, commence appropriate action to cause such Prohibited Lien to be paid, discharged, bonded, or cleared from title. Tenant shall thereafter prosecute such action with reasonable diligence and continuity. If Landlord receives notice of any such filing, then Landlord shall promptly Notify Tenant. Nothing in this Lease shall be construed to: (a) limit Tenant's right of Contest; or b) obligate Tenant regarding any lien that results from any act or omission by Landlord.

**9.2 Protection of Landlord.** Notice is hereby given that Landlord shall not be liable for any labor or materials furnished or to be furnished to Tenant upon credit, and that no mechanic's or other lien for any such labor or materials shall attach to or affect the Fee Estate. Nothing in this Lease shall be deemed or construed in any way to constitute Landlord's consent or request, express or implied, by inference or otherwise, to any contractor, subcontractor, laborer, equipment or material supplier for the performance of any labor or the furnishing of any materials or equipment for any



construction, nor as giving Tenant any right, power or authority to contract for, or permit the rendering of, any services, or the furnishing of any materials that would give rise to the filing of any liens against the Fee Estate. Tenant shall Indemnify Landlord against any claims arising out of Construction undertaken by Tenant or anyone claiming through Tenant, and against all Prohibited Liens.

## 10. HAZARDOUS SUBSTANCES

10.1 **Baseline Assessment.** Tenant has obtained a Baseline Assessment and has provided Landlord with a copy of the results of the Baseline Assessment. Any Hazardous Substances not disclosed in the Baseline Assessment and subsequently discovered on the Premises shall be presumed to be present as a result of Tenant's use and occupancy of the Premises during the Term, unless Tenant shall prove, by clear and convincing proof, that the Hazardous Substances: (a) were present on the Premises prior to the Term; b) migrated onto the Premises as the result of the activities of a third party; or (c) are present on the Premises as the result of Landlord's improper actions.

10.2 **Compliance with Environmental Law.** Tenant shall keep and maintain the Premises, including the Land, the air above the Land, the surface and run-off water on the Land, and the groundwater under the Land, in compliance with, and shall not cause or permit the Premises or any portion of the Premises to be in violation of, any Environmental Law.

10.3 **Use of Hazardous Substances.** Tenant shall not cause or allow any Hazardous Substances Discharge, except (a) in the ordinary course of Tenant's business b) in accordance with the instructions of the manufacturer and for the purpose described in such instructions, and (c) in strict compliance with all applicable Environmental Law. Tenant shall not install any Underground Storage Tank on, within, under or about the Premises without first obtaining Landlord's written approval. Tenant shall not accept hazardous waste as defined under any Environmental Law generated off the Premises for any purpose, including treatment, storage or disposal.

10.4 **List of Hazardous Substances.** On the Commencement Date and on each anniversary of the Commencement Date, and at any other time Landlord requests, Tenant shall provide Landlord with a written list identifying any Hazardous Substances then used, stored, or maintained upon the Premises, the use and approximate quantity of each such material, a copy of any material safety data sheet (MSDS) issued by the manufacturer thereof, written information concerning the removal, transportation, and disposal of the same, and such other information as Landlord may reasonably require or as may be required by Law.

10.5 **Notice of Disturbance of Any Hazardous Substances.** Tenant shall provide Landlord 30 days' prior Notice before commencing any activities, including repair or remodeling of the Facility or the Premises or installation or removal of any personal property from the Premises, which could result in the disturbance of any Hazardous Substances. Together with such Notice, Tenant shall advise Landlord of

protective measures to be taken by Tenant to ensure that Hazardous Substances shall not be released and to ensure compliance with Environmental Law. Tenant shall comply with all reasonable conditions including adequate assurance of financial resources to comply with Environmental Law that may be imposed by Landlord in connection with Tenant's proposed activities.

**10.6 Hazardous Substances Claims.** Tenant shall immediately Notify Landlord of: (a) any Hazardous Substances Claims; or (b) Tenant's discovery of any occurrence or condition of the Premises which could subject Tenant or Landlord to any liability, or restrictions on ownership, occupancy, transferability or use of the Premises under any Environmental Law.

**10.7 Remediation and Removal.** Except for the use of Hazardous Substances permitted by this Lease, Tenant shall cause any Hazardous Substances Discharge to be: (a) remediated on-site in accordance with applicable Environmental Law; or b removed from the Premises for remediation or disposal and to be transported solely by duly licensed Hazardous Substances transporters to duly licensed disposal facilities for final disposition to the extent required by and in accordance with applicable Environmental Law. Tenant shall deliver to Landlord copies of any hazardous waste manifest reflecting the proper disposition of such Hazardous Substances. Except in emergencies or as otherwise required by law, Tenant shall not take any remedial or removal action in response to a Hazardous Substances Discharge without first Notifying Landlord.

**10.8 Proceedings on Hazardous Substances Claims; Indemnity.** Tenant shall not enter into any legal proceeding or other action, settlement, consent decree or other compromise with respect to any Hazardous Substances Claims without first Notifying Landlord of Tenant's intention to do so and affording Landlord the opportunity to join and participate as a party if Landlord so elects in such proceedings. Tenant shall be solely responsible for and shall Indemnify the Indemnitee against any Hazardous Substances Claims, including: (a) the costs of any required or necessary removal, repair, cleanup or remediation of the Premises, and the preparation and implementation of any closure, removal, remedial or other required plans; and (b) all reasonable costs and expenses incurred by Landlord in connection therewith, including Legal Costs.

**10.9 Assurance of Performance.**

**10.9.1 Landlord's Phase II Environmental Assessment.** Landlord may, but shall not be required to, engage such contractors as Landlord determines to be appropriate to perform from time to time a Phase II Environmental Assessment, including environmental sampling and testing, of: (i) the Premises, the surrounding soil and any adjacent areas, and any ground water located under or surface water located adjacent to the Premises or any adjoining property; (ii) Tenant's compliance with all Environmental Law and the provisions of this Lease; and (iii) the provisions made by Tenant for carrying out any removal or remedial action that may be required by reason of the nature of Tenant's business and operations on the Premises.

**10.9.2 Cost of Assessment.** All costs and expenses incurred by Landlord in connection with any such Phase II Environmental Assessment shall be paid by Landlord, except that if any such Phase II Environmental Assessment shows that: (i) the environmental condition of the Premises has materially declined in comparison to the Baseline Assessment; (ii) Tenant has failed to comply with the provisions of this Lease with respect to Hazardous Substances; (iii) the Premises (including surrounding soil and any underlying groundwater or adjacent surface water) has become contaminated due to operations or activities not attributable to Landlord; or (iv) an event that is the basis for a Hazardous Substances Claim occurred during the Term, then all of the costs and expenses of such assessment shall be paid by Tenant.

**10.9.3 Conducting Assessment.** Each Phase II Environmental Assessment shall be conducted: (a) only after advance Notice of such assessment has been provided to Tenant at least 10 days' prior to the date of the assessment; and (b) in a manner reasonably designed to minimize the interruption of Tenant's operations and use of the Premises. Landlord shall repair any substantial damage to the Premises or to Tenant's property that is directly caused by the Phase II Environmental Assessment.

#### **10.10 Tenant's Obligations Prior to and Upon Surrender.**

**10.10.1 Tenant's Phase I and Phase II Environmental Assessment Deposit.** No later than 18 months prior to the Scheduled Expiration Date, Tenant shall deposit with Landlord a sum equal to the then current estimated cost of conducting a Phase I and Phase II Environmental Assessment of the Premises. Landlord shall hold such sum for Tenant and shall apply or reimburse such sum as provided in this section.

#### **10.10.2 Tenant's Phase I (or Phase II) Environmental Assessment.**

(a) No later than the beginning of the last year of the Term, or immediately upon earlier termination of the Term, Tenant, at Tenant's sole cost and expense shall cause a Phase I Environmental Assessment of the Premises to be conducted, or provide Landlord with a report based upon a Phase I Environmental Assessment conducted no earlier than 3 months prior to the beginning of the last year of the Term. In addition, no later than the end of the Term, Tenant shall (A) cause all Hazardous Substances previously owned, stored or used by Tenant to be removed from the Premises and disposed of in accordance with all Environmental Law; and (B) remove any Underground Storage Tanks or other containers installed or used by Tenant to store any Hazardous Substances on the Premises, and repair any damage to the Premises caused by such removal.

b Upon termination of this Lease and Tenant's satisfactory compliance with all of the requirements of this section, Landlord shall return to Tenant, without interest, the amount deposited in accordance with this section. In the event that Tenant does not cause a Phase I Environmental Assessment to be conducted or does not provide Landlord with a timely report based upon an assessment conducted no earlier than 3 months prior to the beginning of the last year of the Term, Landlord may (but shall

not be required to) cause a Phase I Environmental Assessment to be conducted and may apply the sums previously deposited by Tenant to pay for such assessment. If the assessment costs more than the amount of the deposit, Tenant shall pay to Landlord, upon demand, the difference. If the assessment costs less than the amount of the deposit, Landlord shall, no later than 30 days after payment in full of such costs, return to Tenant a sum equal to the amount by which the deposit exceeds the actual costs of such assessment.

(c) If either Tenant's or Landlord's Phase I Environmental Assessment identifies areas of concern that in Landlord's reasonable judgment indicate that further investigation is required, Tenant, at Tenant's sole cost and expense, shall cause a Phase II Environmental Assessment of the Premises to be conducted. If Tenant does not cause such Phase II Environmental Assessment to be conducted, Landlord may but shall not be required to) cause a Phase II Environmental Assessment to be conducted and may apply the sums previously deposited by Tenant to pay for such assessment. If the assessment costs more than the amount of the deposit, Tenant shall pay to Landlord, upon demand, the difference. If the assessment costs less than the amount of the deposit, Landlord shall, no later than 30 days after payment in full of such costs, return to Tenant a sum equal to the amount by which the deposit exceeds the actual costs of such assessment. Tenant hereby expressly acknowledges and agrees that Tenant's covenant and obligation to pay all costs and expenses associated with any Phase II Environmental Assessment required under this section, whether commissioned by Tenant or Landlord, shall survive termination of this Lease.

#### 10.11 Clean-up.

10.11.1 **Environmental Report.** If any written report containing results of any Phase I Environmental Assessment ("**Environmental Report**") shall: (i) reveal that the environmental condition of the Premises has materially declined in comparison to the Baseline Assessment; or (ii) Tenant has materially violated any warranty, representation, or covenant of this section; or (iii) recommend the repair, closure, remediation, removal or other clean-up (collectively, the "**Clean-up**") of any Hazardous Substances found on or about the Premises, and if Landlord determines that Tenant is responsible for such Clean-up, then:

(a) Landlord shall provide Tenant with a copy of such Environmental Report and with a written explanation of the reasons why Landlord believes that Tenant is responsible, under the principles of this section for conducting the Clean-up identified in such Environmental Report.

b If, within 30 days after receiving a copy of such Environmental Report and such written statement, Tenant fails either (i) to complete the Clean-up, or (ii) with respect to any Clean-up which cannot be completed within such 30-day period, fails to proceed with reasonable diligence to complete such Clean-up as promptly as practicable, then Landlord shall have the right, but not the obligation, to

carry out any Clean-up recommended by the Environmental Report or required by any Government, and to recover all of the costs and expenses of such Clean-up from Tenant as Additional Rent together with Default Interest from the date Landlord incurred such costs and expenses until paid in full.

10.11.2 **Emergency.** If the Environmental Report reveals a situation which, in Landlord's sole discretion, constitutes an emergency, then Landlord shall have the right, but not the obligation, to carry out any Clean-up recommended by the Environmental Report or required by any Government, and to recover all of the costs and expenses of such Clean-up from Tenant as Additional Rent together with interest at the Default Interest from the date Landlord incurred such costs and expenses until paid in full.

10.11.3 **Submission of Report to Government.** To the extent required by Law, Landlord shall be entitled to submit the Environmental Report to any Government.

10.11.4 **Completion of Clean-up Before Surrender or Termination.** Tenant shall complete Clean-up prior to surrender of the Premises and termination of this Lease, and shall fully comply with all Environmental Law and requirements of any Government over the Clean-up, including any requirement to file such assessment, mitigation plan, risk assessment or other information with any such Government prior to such surrender or termination.

10.11.5 **Tenant's Inability to Complete.** Should any such Clean-up for which Tenant is responsible not be completed or should Tenant not receive any Government approvals regarding the Premises or areas adjacent to the Premises required under Environmental Law prior to the expiration or sooner termination of this Lease, including any extensions of this Lease, then i Tenant shall deposit with Landlord an amount of money equal to the balance of the estimated costs of the Clean-up; and (ii) if the nature of the Clean-up makes the Premises untenable or unleaseable until the Clean-up is completed, then Tenant shall be liable to Landlord as a holdover tenant, subject to the terms and conditions set forth in this Lease, until the Clean-up has been sufficiently completed to make the Premises suitable for lease to third parties.

## 10.12 Confidentiality.

10.12.1 **Keeping Information Confidential.** Except if required to do so by Law, or compelled by subpoena or discovery proceedings in any legal action or governmental proceeding, Tenant agrees that Tenant shall not disclose, discuss, disseminate or copy any information, data, findings, communications, conclusions and reports regarding the environmental condition of the Premises, to any Person, including any Government, without the prior written consent of Landlord. Upon completion of any Clean-up of the Premises, Tenant shall deliver and return to Landlord, all information, data, findings, communications, conclusions and reports regarding the environmental condition of the Premises whether provided to Tenant by Landlord or not.

10.12.2 **Scope of Obligation.** Tenant's obligation to maintain the confidentiality of all information, data, findings, communications, conclusions and reports regarding the environmental condition of the Premises, include but are not limited to Tenant's officers, employees, agents, attorneys, environmental consultants and contractors. Tenant's obligation to maintain the confidentiality of all information, data, findings, communications, conclusions and reports regarding the environmental condition of the Premises, shall survive the termination of this Lease.

10.13 **Copies of Environmental Reports.** Tenant shall provide Landlord with a copy of any and all environmental assessments, audits, studies and reports regarding Tenant's past or current activities on the Premises or the environmental condition of the Premises within 30 days of Tenant's receipt of such materials. Tenant shall be obligated to provide Landlord with a copy of such materials without regard to whether they are generated by Tenant or prepared for Tenant, or how Tenant comes into possession of such materials.

10.14 **Survival of Agreements.** The covenants of this section, including the indemnification provision, shall survive the expiration or termination of this Lease, or any termination of Tenant's interest in the Premises.

## 11. INDEMNIFICATION; LIABILITY OF LANDLORD

11.1 **Obligations.** Tenant shall Indemnify Landlord against any: (a) wrongful act, wrongful omission, or negligence of Tenant and anyone claiming by or through the Tenant or its partners, members, directors, officers, or employees; b breach or default by Tenant under this Lease; or (c breach of any representation or warranty Tenant makes in this Lease. Tenant shall also Indemnify Landlord against the following during the Term and so long as Tenant remains in possession after the Expiration Date: (u) any Contest Tenant initiates; (v) any Application made at Tenant's request; (w) use, occupancy, control, management, operation, and possession of the Premises; x) any Construction and any agreements that Tenant or anyone claiming through Tenant makes for any Construction; (y) the condition of the Premises or any street, curb or sidewalk adjoining the Premises, or of any roadways or easements adjoining or appurtenant to the Premises; and (z) any accident, injury or damage whatsoever caused to any person in or on the Premises or upon or under roadways or easements adjoining or appurtenant to the Premises. Tenant shall be required to Indemnify Landlord Group notwithstanding the acts or omissions or negligence of Landlord, but Tenant shall not be required to Indemnify Landlord regarding Landlord's intentional acts or gross negligence. This paragraph does not apply to Environmental Law and Hazardous Substances Discharges, which are covered in Section 10.8.

11.2 **No Liability of Landlord.** During the Term: (a) Tenant is and shall be in exclusive control and possession of the Premises; and b Landlord shall not be liable for any injury or damage to any property of Tenant or any other Person) or to any person occurring on or about the Premises, except to the extent caused by Landlord's intentional

act or gross negligence. Landlord's right to enter and inspect the Premises is intended solely to allow Landlord to ascertain whether Tenant is complying with this Lease and the Power Purchase Agreement and (to the extent this Lease allows to cure any Default. Such provisions shall not impose upon Landlord any liability to third parties. Nothing in this Lease shall be construed to exculpate, relieve, or Indemnify Landlord from or against any liability of Landlord: (y) to third parties existing at or before the Commencement Date; or (z) arising from Landlord's intentional acts or omissions or gross negligence.

**11.3 Indemnification Procedures.** Wherever this Lease requires any Indemnitor to Indemnify any Indemnitee, including, without limitation, under Sections 9.2, 10.8, 11.1, 17.5, 18.2, and 26.7 of this Lease:

**11.3.1 Prompt Notice.** Indemnitee shall promptly Notify Indemnitor of any claim. To the extent, and only to the extent, that Indemnitee fails to give prompt Notice and such failure materially prejudices Indemnitor, Indemnitor shall be relieved of its indemnity obligations for such claim.

**11.3.2 Selection of Counsel.** Indemnitor shall select counsel reasonably acceptable to Indemnitee. Even though Indemnitor shall defend the action, Indemnitee may, at its option and its own expense, engage separate counsel to advise it regarding the claim and its defense. Such counsel may attend all proceedings and meetings. Indemnitor's counsel shall actively consult with Indemnitee's counsel. Indemnitor and its counsel shall, however, fully control the defense.

**11.3.3 Cooperation.** Indemnitee shall reasonably cooperate with Indemnitor's defense, provided Indemnitor reimburses Indemnitee's actual reasonable out of pocket expenses including Legal Costs of such cooperation.

**11.3.4 Settlement.** Indemnitor may, with Indemnitee's consent, not to be unreasonably withheld, settle the claim. Indemnitee's consent shall not be required for any settlement by which: w Indemnitor procures by payment, settlement, or otherwise) a release of Indemnitee by which Indemnitee need not make any payment to the claimant; (x) neither Indemnitee nor Indemnitor on behalf of Indemnitee admits liability; (y) the continued effectiveness of this Lease is not jeopardized in any way; and z Indemnitee's interest in the Premises is not jeopardized in any way.

**11.3.5 Insurance Proceeds.** Indemnitor's obligations shall be reduced by net insurance proceeds Indemnitee actually receives for the matter giving rise to indemnification.

## **12. RIGHT OF CONTEST**

**12.1 Tenant's Right; Contest Conditions.** Notwithstanding anything to the contrary in this Lease, Tenant shall have the right to contest, at its sole cost, by appropriate legal proceedings diligently conducted in good faith, the amount or validity of any Real Estate Taxes or Prohibited Lien; the valuation, assessment, or reassessment

whether proposed, phased, or final) of the Premises for Real Estate Taxes; the amount of any Real Estate Tax; the validity of any Law or its application to the Premises; the terms or conditions of, or requirements for, any Approval; or the validity or merit of any claim against which this Lease requires Tenant to Indemnify Landlord (any of the foregoing, a “**Contest**”). Tenant may defer payment or performance of the contested obligation pending outcome of the Contest, provided that Tenant causes the following conditions collectively, the “**Contest Conditions**”) to remain satisfied:

12.1.1 **No Fines.** Such deferral or noncompliance shall not subject Landlord to a material risk of any fine or penalty, except civil penalties for which Tenant has given Landlord a bond, letter of credit, or other security reasonably satisfactory to Landlord (the “**Contest Security**” in an amount equal to the reasonably estimated amount of such civil penalties.

12.1.2 **No Liability.** Such deferral or noncompliance creates no material risk of a lien, charge, or other liability of any kind against the Fee Estate, unless Tenant has given Landlord Contest Security equal to the reasonably estimated amount of such lien, charge, or other liability.

12.1.3 **No Forfeiture.** Such deferral or noncompliance will not place the Fee Estate in material danger of being forfeited or lost.

12.1.4 **No Cost to Landlord.** Such Contest shall be without cost, liability, or expense to Landlord.

12.1.5 **Diligence.** Tenant shall prosecute such Contest with reasonable diligence and in good faith.

12.1.6 **Payment.** If required for such Contest, Tenant shall have paid the Contested Real Estate Taxes or other matter.

12.1.7 **Collection of Real Estate Taxes.** If such Contest relates to any Real Estate Tax, then such Contest shall suspend its collection from Landlord and the Fee Estate.

12.1.8 **No Tax Deed.** If, at any time, payment of any Real Estate Taxes is necessary to prevent the imminent i.e., within 30 days delivery of a tax deed of the Fee Estate for nonpayment, then Tenant shall pay or cause to be paid the sums in sufficient time to prevent delivery of such deed.

12.1.9 **No Event of Default.** No Uncured Event of Default shall exist under this Lease during the pendency of such Contest.

12.1.10 **Security.** If the amount at issue in such Contest (and all other Contests then pending) exceeds an amount equal to \$100,000.00, then Tenant shall,



before proceeding with such Contest, give Landlord Contest Security equal to such excess less any Contest Security otherwise provided for the same Contest .

12.1.11 **Named Parties.** If Landlord has been named as a party in any action, then Tenant shall cause Landlord to be removed as such party and Tenant substituted in Landlord's place, if permissible under the circumstances.

12.2 **Landlord Obligations and Protections.** Landlord need not join in any Contest unless a Tenant has complied with the Contest Conditions; and b) such Contest must be initiated or prosecuted in Landlord's name. In such case, Landlord shall cooperate, as Tenant reasonably requests, to permit the Contest to be prosecuted in Landlord's name. Landlord shall give Tenant any documents, deliveries, and information in Landlord's control and reasonably necessary for Tenant to prosecute its Contest. Landlord shall otherwise assist Tenant in such Contest as Tenant reasonably requires. Tenant shall pay all reasonable costs and expenses, including Legal Costs, of any Contest. Tenant shall, at Landlord's request, advance when Landlord incurs them such reasonable costs and expenses as Landlord incurs or reasonably anticipates incurring, for Tenant's Contest and Landlord's assistance with such Contest.

12.3 **Miscellaneous.** Tenant shall be entitled to any refund of any Real Estate Taxes and penalties and interest paid by Tenant , to the extent attributable to periods within the Term, whether such refund is made during or after the Term. When Tenant concludes Tenant's Contest of any Real Estate Taxes, Tenant shall pay the amount of such Real Estate Taxes if any as has been finally determined in such Contest to be due, to the extent attributable to periods within the Term, and any costs, interest, penalties, or other liabilities in connection with such Real Estate Taxes. Upon final determination of Tenant's Contest of a Law, Tenant shall comply with such final determination. Landlord may contest any matter for which Tenant is entitled to prosecute a Contest, but only if: (a) Landlord Notifies Tenant of Landlord's intention to do so; and b Tenant fails to commence such Contest within 15 days after receipt of such Notice.

12.4 **Contest Security.** Landlord shall promptly release any Contest Security to Tenant after the Contest has been resolved and Tenant has performed its obligations, if any, as determined by such resolution.

### 13. Insurance

13.1 **Tenant to Insure:** Tenant, and anyone acting under its direction or control or on its behalf, shall, at its own expense, acquire and maintain, or cause to be maintained in full effect, at the commencement of this Lease, and continuing throughout the Term, the types and minimum amounts of insurance coverage specified herein.

#### 13.2 Types and Minimum Amounts of Insurance.

13.2.1 **Worker's Compensation and Employers' Liability Insurance:** Workers' Compensation and other similar insurance required by applicable State or U.S.

federal laws. Limits for such coverage shall be not less than the statutory limits for Worker s Compensation and Employers' Liability coverage with minimum limits of:  
\$1,000,000 for Each Accident  
\$1,000,000 Disease-Each Employee  
\$1,000,000 Disease Policy Limit.

13.2.2 **Commercial General Liability:** Minimum limits of liability shall be a combined single limit for bodily injury and property damage of \$1,000,000 each occurrence, \$2,000,000 general aggregate, \$2,000,000 products and completed operations aggregate; \$1,000,000 Personal and Advertising Injury, \$250,000 Fire Legal Liability, \$5,000 any one person Medical Expense limit Such insurance shall include Premises Operations; Products - Completed Operations; Blanket Contractual Liability; Personal and Advertising Injury; Fire Legal Liability; Employees Named as Additional Insureds; Medical Expense and coverage for independent contractors. If coverage is written on a claims-made basis, the Tenant warrants that any retroactive date applicable to coverage under the policy precedes the Term; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three 3 years beginning from the end of the Term. The policy and certificate of insurance shall further contain a provision that the general aggregate limit applies exclusively to the Premises and the operations conducted thereon.

13.2.3 **Automobile Liability:** Minimum limits of liability shall be a combined single limit for bodily injury and property damage of \$1,000,000 for each occurrence and annual aggregate for any owned, leased and non-owned automobiles.

13.2.4 **All Risk Property:** This insurance shall provide All Risk Property Coverage including the perils of wind including named windstorm, earthquake, and flood) against damage to the Premise and the Facility. The amount of coverage shall be purchased on a full replacement cost basis no coinsurance shall apply except for earthquake and flood perils which shall be no less than 40% of the replacement value of the Facility up to Twenty Million Dollars (\$20,000,000 , if such insurance amounts are appropriate and available on commercially reasonable terms. Such coverage may allow for other reasonable sublimits. Tenant will, at its own expense, at all times during the Term effect and maintain coverage for Business Income with Extra Expense Insurance in an amount sufficient to insure payment of Fixed Rent and Additional Rent and other fixed costs, for a period of not less than twelve 12) months, during any interruption of Tenant's business by reason of the Premises or Tenant s business personal property being damaged by fire or other perils covered under an All Risk Property policy.

13.2.5 **Builders and Installation Risk.** Tenant will at its own expense effect and maintain during the whole of the Term builder s and installation risk insurance while the Premises or any part thereof are under construction, written on the Builders Risk Completed Value form nonreporting full coverage), including coverage on equipment, machinery, materials, etc. not yet installed but to become a permanent part of the improvements.

13.2.6 **Umbrella Liability:** Tenant will at its own expense effect and maintain during the whole of the Term Umbrella Liability Insurance providing excess coverage over Commercial General Liability, Employers Liability, and Automobile Liability Insurance. The Umbrella Liability policy shall be written on an "occurrence" form with a limit of liability of not less than \$20,000,000 per policy year and a self-insured retention and/or deductible no greater than \$25,000.00.

### 13.3 **Form of Policies:**

13.3.1 **Form and Substance:** All insurance required to be furnished by Tenant hereunder shall be pursuant to policies in form and substance satisfactory to Landlord, and issued by a company authorized by law to issue such insurance in the State of Hawaii on an admitted or non-admitted basis, and with an A.M. Best Financial Strength Rating of "A-" or better, and an A.M. Best Financial Size Category of "VII" or higher. In the event that such rating system is altered or eliminated, then the insurer shall have a rating comparable to such A-, VII from a comparable rating service that has been adopted for standard use in the insurance industry.

13.3.2 **Required Provision:** All insurance policies shall:

(a) **Additional Insured:** The insurance policies specified herein shall name Landlord, together with its affiliates, including but not limited to Lāna‘i Island Holdings, LLC, and their respective members, officers, employees, agents, successors and assigns "Landlord Group"), as an additional insured, as its interests may appear, with respect to any and all third party bodily injury and/or property damage claims, including completed operations, arising from Tenant's performance of this Lease. All Risk Property Insurance shall include Landlord Group as loss payee, as its interest may appear. Coverage must be primary in respect to the additional insured. Any other insurance carried by the Landlord will be excess only and not contribute with this insurance.

b **Severability of Interest:** Apply separately to each insured against whom claim is made or suit is brought.

(c) **Waiver of Subrogation:** Tenant shall cause its insurers to waive all rights or subrogation which Tenant or its insurers may have against Landlord Group.

(d) The policies and certificate of insurance shall also specifically provide the following or comparable language: "**It is further agreed that such insurance is afforded by this policy for the benefit of the Additional Insured shall be primary insurance, and any other insurance maintained by the Additional Insured shall be excess and non-contributory.**"

13.3.3 **All Insurance:** All insurance shall:

(a) **No Premiums:** Not require Landlord to pay any premiums.

b **No Partnership:** The inclusion of Landlord Group as Additional Insured is not intended to, and shall not make them or any of them, a partner or joint venture with Tenant in the operation of Tenant s Facility in, on, over, under or about the Premises.

(c) **Deductibles:** Any insurance required hereunder may provide for deductibles or self-insured retentions which are reasonable and prudent in relationship to the soundness of Tenant's financial condition at the sole discretion of Landlord. Any deductibles or self-insured retention in excess of \$25,000 shall be disclosed to Landlord. Any deductible shall be the responsibility of Tenant.

13.3.4 **Certificate of Insurance:** Evidence of insurance for the coverage specified herein shall be provided to Landlord before the commencement of the Lease. Within 30 Days of any change of any policy and upon renewal of any policy, Tenant shall provide certificates of insurance to Landlord. During the Term, Tenant, upon Landlord s reasonable request, shall make available to Landlord for its inspection at Tenant s designated location, certified copies of the insurance policies described herein. Receipt of any evidence of insurance showing less coverage than requested is not a waiver of Tenant's obligations to fulfill the requirements.

13.3.5 **Notification:** In the event Tenant receives notice of cancellation or non-renewal of any insurance in accordance with policy provisions, Tenant shall immediately provide verbal and written notice to Landlord. In the event Tenant chooses to voluntarily cancel, non-renew, or reduce the scope of coverage or limits of liability, Tenant shall notify Landlord in writing at least thirty (30) days prior to such cancellation, non-renewal, or reduction in scope of coverage or limits of liability. In any event, the cancellation or non-renewal of any insurance shall not be construed as a limitation of any kind on Tenant's obligations to indemnify, defend, insure, and hold harmless, as may be found anywhere in this or any other document.

13.4 **Annual Review by Landlord:** The coverage limits shall be reviewed annually by Landlord and if, in Landlord's discretion, Landlord determines that the coverage limits should be increased, Landlord shall so notify Tenant. Tenant shall, within thirty (30) Days of notice from Landlord, increase the coverage as directed in such notice and the costs of such increased coverage limits shall be borne by Tenant.

13.5 **No Limitation:** Tenant's procurement and maintenance of insurance, or the delivery of Certificates of Insurance or other written evidence of insurance in form and substance acceptable to Landlord shall not be construed as a limitation of any kind on Tenant's obligations to indemnify, defend, insure, and hold harmless, as may be found anywhere in this or any other document.

**No Representation of Coverage Adequacy:** By requiring insurance herein, Landlord does not represent that coverage and limits will necessarily be adequate to protect Tenant,

and such coverage and limits shall not be deemed as a limitation on Tenant's liability under the indemnities granted to Tenant in this Lease.

**Loss or Damage to Improvements.** In every case of loss or damage to any Improvements on the Land, Tenant shall with all reasonable speed, rebuild, repair or otherwise reinstate the Improvements in accordance with the original plans or such modified plans conforming to laws and regulations then in effect as approved in writing by Landlord. Approval by Landlord shall not be unreasonably withheld, delayed or conditioned. All proceeds of such insurance (excluding the proceeds of any rental value or use and occupancy insurance of Tenant, whether held by Tenant or by Insurance Trustee, shall be used for such purpose, and Lessee will make up any deficiency in the insurance proceeds from its own funds.

#### 14. LOSSES AND LOSS PROCEEDS

14.1 **Notice.** If either party becomes aware of any Casualty or any actual, threatened, or contemplated Condemnation, then such party shall promptly Notify the other.

14.2 **Casualty.** If a Casualty occurs which is not a Substantial Casualty, then: (a) no Rent shall abate; b this Lease shall not terminate or be impaired; and c Tenant shall Restore with reasonable promptness regardless of cost. If the Casualty is determined to be a Substantial Casualty, then Tenant may, by Notice to Landlord, given within 10 days after such determination, terminate this Lease effective 30 days after such Notice, provided that Tenant assigns to Landlord all proceeds from applicable property insurance policies (and rights thereto) arising from the Casualty.

14.3 **Substantial Condemnation.** If a Substantial Condemnation occurs, then this Lease (except as it relates to allocation of the Condemnation Award shall terminate on the Condemnation Effective Date. Rent shall be apportioned accordingly. The Condemnation Award shall be allocated as follows:

14.3.1 **Prepayment Premium.** To Leasehold Mortgagee, to the extent that both 1 because of such Condemnation, any Leasehold Mortgagee imposes any fee or charge that such Leasehold Mortgagee could not have collected but for the Condemnation and the related prepayment of such Leasehold Mortgagee's loan; and (2) the Condemnation Award was directly or indirectly increased by such fee or charge.

14.3.2 **Costs and Expenses.** To reimburse Landlord and Tenant subject to the rights of Leasehold Mortgagees for their actual costs and expenses, including Legal Costs, incurred in the Substantial Condemnation and determining and collecting the Condemnation Award.

14.3.3 **Tenant's Claim.** Tenant shall, subject to the rights of Leasehold Mortgagees, receive such portion of the Condemnation Award as shall equal the lesser of

(a) all sums secured by all Leasehold Mortgages; and (b) the Market Value of the Facility at the Condemnation Effective Date.

14.3.4 **Landlord's Claim.** Landlord shall, subject to the rights of Fee Mortgagees, receive such portion of the Condemnation Award as shall equal the Market Value of the Land, at the Condemnation Effective Date.

14.3.5 **Landlord's Residual Claim.** Landlord shall, subject to the rights of Fee Mortgagees, receive the entire remaining Condemnation Award.

14.4 **Insubstantial Condemnation.** If an Insubstantial Condemnation occurs after the Commencement Date, then any Condemnation Award(s) shall be paid to Depository and applied first toward Restoration, in the same manner as Restoration after Casualty. Whether or not the Condemnation Award is adequate, Tenant shall, at its expense, Restore in compliance with this Lease. After Tenant has completed and fully paid for Restoration, any remaining Condemnation Award shall be distributed to Landlord and Tenant as if it arose from a Substantial Condemnation that affected only the part of the Premises taken, with an equitable allocation of all elements taken into account in determining such distribution.

14.5 **Temporary Condemnation.** If a Temporary Condemnation occurs (a) no Rent shall abate; (b) this Lease shall not terminate or be impaired; and (c) Tenant shall receive any Condemnation Award (to the extent for periods within the Term), without affecting Tenant's obligations in any way.

#### 14.6 **Use of Loss Proceeds.**

14.6.1 **Assignment to Depository.** All Loss Proceeds shall be paid to Depository, to be disbursed by Depository, subject to the terms of the Senior Leasehold Mortgage and this Lease. If Landlord receives any Loss Proceeds, Landlord shall promptly remit them to Depository.

14.6.2 **Immaterial Loss.** If a Loss is an Immaterial Loss, then (subject to the terms of the Leasehold Mortgage on disbursement of Loss Proceeds to Restore) the Depository shall release all Loss Proceeds to Tenant, to be applied first to Restoration.

14.6.3 **Material Loss.** If a Loss is not an Immaterial Loss, then Depository shall retain the Loss Proceeds and pay them over to Tenant from time to time, upon the following terms, for Restoration. Depository shall first reimburse Landlord and Tenant from such Loss Proceeds for their actual, necessary, and proper costs and expenses in collecting such Loss Proceeds. Depository shall release Loss Proceeds to Tenant from time to time as Restoration progresses in accordance with the procedures required by the Leasehold Mortgagee. If no Leasehold Mortgage exists, then Depository shall disburse the Loss Proceeds from time to time pursuant to normal and customary disbursement procedures consistent with this Lease, but excluding any requirement for a guaranty, bond, security, or other credit enhancement or credit support measures.

14.6.4 **Loss Proceeds in Trust.** Until Tenant has completed and paid for Restoration, Tenant shall hold all Loss Proceeds in trust to be used first to Restore and for no other purpose. If any Prohibited Lien is filed against the Premises, Tenant shall not be entitled to receive any further installment of Loss Proceeds until Tenant has satisfied, bonded, or otherwise discharged such Prohibited Lien when and as this Lease requires.

14.6.5 **Remaining Loss Proceeds.** When Tenant has completed and paid for Restoration, Depository shall release to Tenant, and Tenant may retain (subject to rights of Leasehold Mortgages) any remaining Loss Proceeds.

14.6.6 **Insufficient Restoration Funds.** If Restoration Funds are insufficient to Restore, then Tenant shall nevertheless Restore at its expense. Depository shall not release any Loss Proceeds until and unless Tenant has expended on such Restoration an amount equal to any such insufficiency.

#### 14.7 **Disputes.**

14.7.1 **Good Faith Negotiations.** Except as otherwise expressly set forth in this Lease, before submitting any dispute about a Loss (including its characterization, Restoration, timing of Restoration, Loss Proceeds, Restoration Funds, or the use of such proceeds or funds to dispute resolution or litigation, the presidents, vice presidents, or authorized delegates from both Landlord and Tenant having full authority to settle the dispute shall personally meet in Hawaii and attempt in good faith to resolve the dispute (“**Management Meeting**”). Landlord and Tenant shall endeavor to hold the Management Meeting within thirty (30) days after the date of a request for a Management Meeting. Landlord and Tenant shall not file a complaint or initiate other formal dispute resolution proceedings until ninety (90) days after the date of a request for a Management Meeting, except as might be necessary to preserve a right or claim that would expire during the ninety-day period.

### 15. **LANDLORD’S TRANSFERS**

15.1 **Landlord’s Right to Convey.** Landlord may Transfer the Fee Estate from time to time. Landlord will promptly Notify Tenant of a Transfer.

15.2 **Release of Landlord.** Upon any Transfer of the entire Fee Estate in compliance with this Lease, the grantor shall be automatically freed and relieved from all liability excluding liability previously accrued for performance of any covenants or obligations to be performed by Landlord after the Transfer, provided that such successor Landlord assumes Landlord’s past, present, and future obligations under this Lease. This Lease shall bind Landlord only while Landlord owns the Fee Estate, except as to any liabilities and obligations accrued before the date of Transfer of the Fee Estate.

## 16. TENANT'S TRANSFERS

16.1 **Tenant's Limited Right.** Tenant may only Transfer this Lease to an assignee of all of the rights and obligations of the Seller under the Power Purchase Agreement and only after obtaining Landlord's written consent which may be withheld in Landlord's sole discretion. Tenant may not Transfer this Lease to any other Person, and any such Transfer shall be void. Any permitted assignee of Tenant shall assume all obligations and liabilities of Tenant under this Lease. Tenant shall pay all transfer and other taxes payable on account of any Transfer by Tenant or any holder of any Equity Interest in Tenant. Tenant shall promptly Notify Landlord of any Transfer. No Transfer shall affect any obligations of Tenant or rights of Landlord under this Lease.

16.2 **Subleases.** Tenant shall not enter into or Modify any Sublease, without Landlord's prior written consent which may be withheld in Landlord's sole discretion. No Sublease shall affect any obligations of Tenant or rights of Landlord under this Lease, all of which shall continue in full force and effect notwithstanding any Sublease. Any Sublease shall be subject in all respects to the terms and conditions of this Lease except that, unless terminated sooner under the terms thereof, any such Sublease shall expire no later than one hour before the Expiration Date. The fact that any Subtenant causes any Default shall not relieve Tenant of Tenant's obligation to cure it. Tenant shall take all steps reasonable and necessary to prevent any such Default.

16.3 **Conditions to Effectiveness of Certain Transactions.** No assignment of this Lease or Sublease shall be effective or have any validity unless and until such assignment or Sublease otherwise complies with this Lease and Landlord has received: (a) in the case of an assignment, an executed counterpart of the assignment and an assumption of this Lease by the assignee, in recordable form, effective as of the date of assignment; b) in the case of a Sublease, a copy of the executed Sublease complying with this Lease; and (c) Notice of the assignee or Subtenant.

## 17. LEASEHOLD MORTGAGE

17.1 **Leasehold Mortgage.** Provided that any Monetary Default or material Nonmonetary Default has been, or simultaneously is, cured, Tenant may grant a Leasehold Mortgage to a Financing Party under the Power Purchase Agreement in connection with a permitted financing under the Power Purchase Agreement.

17.2 **Leasehold Mortgagee's Remedies.** Without Landlord's consent, at any time (a) any Leasehold Mortgagee may initiate and complete any Foreclosure Event and exercise any other rights and remedies against Tenant and the Leasehold Estate (but not the Fee Estate) under its Leasehold Mortgage; and b) any transferee through a Foreclosure Event, and its successors and assigns, may assign this Lease to a Person who simultaneously assumes all of the rights and obligations of the Seller under the Power Purchase Agreement.



17.3 **Lease Impairments.** Any Lease Impairment made without Leasehold Mortgagee's consent shall (at Leasehold Mortgagee's option be null, void, and of no force or effect, and not bind Tenant, Leasehold Mortgagee, or New Tenant.

17.4 **Notices.** If any Default occurs for which Landlord intends to exercise any remedy, Landlord shall promptly give Leasehold Mortgagee a Notice of Default.

17.5 **Right to Cure; Indemnity.** Any Leasehold Mortgagee shall have the right, but not the obligation, to perform any obligation of Tenant under this Lease and to cure any Default under the terms and conditions provided in this Section 17.5. Landlord shall accept performance by or at the instigation of a Leasehold Mortgagee in fulfillment of Tenant's obligations, for the account of Tenant and with the same force and effect as if performed by Tenant, provided that such performance is rendered within the cure period that applies to a Leasehold Mortgagee under this Lease under this Section 17.5.

17.5.1 **Opportunity to Cure.** Landlord shall accept Leasehold Mortgagee's cure of any Default at any time until 90 days after Leasehold Mortgagee has received the Notice of Default for that Default, provided Landlord has received a Notice of Intent to Cure from Leasehold Mortgagee on or by 30 days after Leasehold Mortgagee's receipt of the Notice of Default. If Landlord does not receive a timely Notice of Intent to Cure under the preceding sentence, Landlord may terminate this Lease under Section 19.2.1 or exercise any other Remedies as may be available at law or in equity or under any terms of this Lease. If Landlord receives a timely Notice of Intent to Cure and Leasehold Mortgagee cannot reasonably cure any Nonmonetary Default within 90 days after receiving the Notice of Default for that Default, Leasehold Mortgagee shall have such further time as it reasonably needs so long as it proceeds with the diligence expected of an experienced independent power producer willing and able to exert commercially reasonable efforts to achieve such cure, but in any event no longer than 180 days. If Leasehold Mortgagee cannot reasonably cure a Default without possession, or if any Tenant-Specific Defaults occur, Leasehold Mortgagee shall be entitled to such additional time as it reasonably needs to consummate a Foreclosure Event and obtain possession, provided Leasehold Mortgagee timely exercises its cure rights for all other Defaults, and completes the Foreclosure Event within 365 days. If Leasehold Mortgagee consummates a Foreclosure Event, Landlord shall waive all Tenant-Specific Defaults, provided that all other Defaults are cured.

17.5.2 **Indemnity for Cure Activities.** Notwithstanding anything to the contrary in this Lease, if any Leasehold Mortgagee (or a representative of Leasehold Mortgagee) desires to enter the Premises to cure any Default, Leasehold mortgagee may enter the Premises to seek to cure a Default. This right or its exercise shall not be deemed to give Leasehold Mortgagee possession. By entering the Premises, such Leasehold Mortgagee shall be deemed to have agreed to Indemnify Landlord in the same manner as this Lease requires Tenant to Indemnify Landlord, but solely regarding direct damages that Landlord suffers as a result of any acts or omissions of such Leasehold Mortgagee or its representative on or in the Premises in seeking to cure any such Default.

**17.6 Cure Rights Implementation.** Whenever Leasehold Mortgagee's time to cure a Default or consummate a Foreclosure Event has not expired, provided that Leasehold Mortgagee has timely provided Landlord with a Notice of Intent to Cure pursuant to Section 17.5.1 above, Landlord shall not terminate this Lease, accelerate any Rent, or otherwise interfere with Tenant's or Leasehold Mortgagee's possession and quiet enjoyment of the Leasehold Estate.

**17.7 New Lease.** If this Lease terminates for any reason except with Leasehold Mortgagee's consent or because of a Total Loss, even if Leasehold Mortgagee failed to timely exercise its cure rights for a Default, Landlord shall promptly give Leasehold Mortgagee a Lease Termination Notice. By giving notice to Landlord on or before the day that is 30 days after Leasehold Mortgagee receives Landlord's Lease Termination Notice, Leasehold Mortgagee may require Landlord to promptly enter into a New Lease with New Tenant. Landlord need not do so, however, unless New Tenant has, consistent with the Lease Termination Notice: a) cured all reasonably curable Defaults (except Tenant-Specific Defaults); b) reimbursed Landlord's reasonable costs and expenses including reasonable attorneys' fees and expenses to terminate this Lease, recover the Premises, and enter into the New Lease; and c) assumed the Power Purchase Agreement, or with Landlord's consent, arranged for the assumption of the Power Purchase Agreement by the New Tenant.

**17.8 New Lease Implementation.** If Leasehold Mortgagee timely requests a New Lease in conformity with this Lease, then from the date this Lease terminates until the parties execute and deliver a New Lease, Landlord shall not: (a) operate the Premises in an unreasonable manner; b) terminate Subleases except for the Subtenant's default; or c) lease any Premises except to New Tenant. When the parties sign a New Lease, Landlord shall transfer to New Tenant and New Tenant shall accept all Subleases including any security deposits Landlord held, service contracts, and Premises operations.

**17.9 Certain Proceedings.** If Landlord or Tenant initiates any mediation, litigation, or other dispute resolution proceeding affecting this Lease, then the parties shall simultaneously Notify Leasehold Mortgagee. Leasehold Mortgagee may participate in such proceedings on Tenant's behalf, or exercise any or all of Tenant's rights in such proceedings, in each case (at Leasehold Mortgagee's option) to the exclusion of Tenant.

**17.10 No Merger.** If the Leasehold Estate and the Fee Estate are ever commonly held, they shall remain separate and distinct estates and not merge without Leasehold Mortgagee's and Fee Mortgagee's consent.

**17.11 Multiple Leasehold Mortgages.** If at any time multiple Leasehold Mortgagees exist: a) any consent by or notice to Leasehold Mortgagee refers to all Leasehold Mortgagees; b) except under clause (a), the most senior Leasehold Mortgagee may exercise all rights of Leasehold Mortgagees, to the exclusion of junior Leasehold Mortgagee(s); (c) to the extent that the most senior Leasehold Mortgagee declines to do

so, any other Leasehold Mortgagee may exercise those rights, in order of priority; and if Leasehold Mortgagees do not agree on priorities, a written determination of priority issued by a title insurance company licensed in the State (or such insurer's designated authorized title agent, e.g. Title Guaranty of Hawaii, Inc.), selected by Landlord in its sole discretion, shall govern.

**17.12 Further Assurances.** Upon request from Tenant or any Leasehold Mortgagee prospective or current , Landlord shall promptly, under documentation reasonably satisfactory to the requesting party and the Landlord: a) agree directly with Leasehold Mortgagee that it may exercise against Landlord all Leasehold Mortgagee's rights in this Lease so long as Leasehold Mortgagee complies with all terms and conditions of this Lease in connection with the exercise of such remedies; and b) certify (subject to any then-existing exception(s) reasonably specified that this Lease is in full force and effect, that no Lease Impairment has occurred, that to Landlord's knowledge no Default exists, the date through which Rent has been paid, and other similar matters as reasonably requested and mutually agreeable between Landlord and such Leasehold Mortgagee.

## **18. QUIET ENJOYMENT; TITLE TO CERTAIN PREMISES; CERTAIN AGREEMENTS**

**18.1 Quiet Enjoyment.** So long as this Lease has not been terminated, Landlord covenants that Tenant shall and may peaceably and quietly have, hold, and enjoy the Premises for the Term, subject to the terms of this Lease, without molestation, hindrance, or disturbance by or from Landlord or anyone claiming by or through Landlord or having title to the Premises paramount to Landlord, and free of any encumbrance created or suffered by Landlord, except Permitted Exceptions.

**18.2 Access and Inspection.** Notwithstanding anything to the contrary in this Lease, Landlord and its agents, representatives, and designees may enter the Premises upon reasonable Notice to: (a) ascertain whether Tenant is complying with this Lease and the Power Purchase Agreement; (b) cure Tenant's Defaults; (c) inspect the Premises and any Construction; d perform such tests, borings, and other analyses as Landlord determines may be necessary or appropriate relating to non)compliance with any Law or possible Hazardous Substances Discharge; or e) show the Premises to a prospective Transferee or Fee Mortgagee. In entering the Premises, Landlord and its designees shall not unreasonably interfere with operations on the Premises and shall comply with Tenant's reasonable instructions. Landlord shall Indemnify Tenant against any claims arising from Landlord's entry upon the Premises (except upon termination of this Lease or an Event of Default).

**18.3 Title.** Notwithstanding anything to the contrary in this Lease, all Improvements located in, on, or at the Premises or otherwise constituting part of the Premises shall during the Term be owned by, and belong to, Tenant. All benefits and

burdens of ownership of the foregoing, including title, depreciation, tax credits, and all other tax items, shall be and remain in Tenant during the Term.

## 19. EVENTS OF DEFAULT; REMEDIES

19.1 **Definition of “Event of Default.”** An “Event of Default” means the occurrence of any one or more of the following:

19.1.1 **Monetary Default.** If a Monetary Default occurs and continues for 30 days after Notice from Landlord, specifying in reasonable detail the amount of money not paid and the nature and calculation of each such payment.

19.1.2 **Prohibited Liens.** If Tenant fails to comply with any obligation regarding Prohibited Liens and does not remedy such failure within 15 days after Notice from Landlord.

19.1.3 **Power Purchase Agreement.** If a Default by Tenant occurs under the Power Purchase Agreement, which continues beyond any cure or grace period allowed under the Power Purchase Agreement.

19.1.4 **Bankruptcy or Insolvency.** If Tenant ceases to do business as a going concern, ceases to pay its debts as they become due or admits in writing that it is unable to pay its debts as they become due, or becomes subject to any Bankruptcy Proceeding (except an involuntary Bankruptcy Proceeding dismissed within 180 days after commencement), or a custodian or trustee is appointed to take possession of, or an attachment, execution or other judicial seizure is made with respect to, substantially all of Tenant’s assets or Tenant’s interest in this Lease (unless such appointment, attachment, execution, or other seizure was involuntary and is contested with diligence and continuity and vacated and discharged within 180 days .

19.1.5 **Nonmonetary Default.** If any other Nonmonetary Default occurs and Tenant does not cure it within 30 days after Notice from Landlord describing it in reasonable detail, or, in the case of a Nonmonetary Default that cannot with due diligence be cured within 30 days from such Notice, if Tenant shall not (a) within 30 days from Landlord’s Notice advise Landlord of Tenant’s intention to take all reasonable steps to cure such Nonmonetary Default; b) duly commence such cure within such period, and then diligently prosecute such cure to completion; and (c) complete such cure within a reasonable time under the circumstances, but in any event within 90 days from the receipt of such Notice.

19.2 **Remedies.** If an Event of Default occurs, then Landlord shall, at Landlord’s option, have any or all of the following remedies, all cumulative so exercise of one remedy shall not preclude exercise of another remedy , in addition to such other remedies as may be available at law or in equity or under any other terms of this Lease. Landlord’s remedies include:

19.2.1 **Termination of Tenant's Rights.** Landlord may terminate Tenant's right to possess the Premises by any lawful means, in which case this Lease and the Term shall terminate, such date of termination shall be the Expiration Date, and Tenant shall immediately surrender possession to Landlord.

19.2.2 **Taking Possession.** Landlord may re-enter and take possession of the Premises with process of law, whether by summary proceedings or otherwise, and remove Tenant, with or without having terminated this Lease, and without thereby being liable for damages or guilty of trespass. This is intended to constitute an express right of re-entry by Landlord. Except as expressly provided in this Lease or prohibited by Law, Tenant, for and on behalf of itself and all persons claiming by, through or under Tenant, expressly waives any right to service of notice of intention to re-enter provided in any Law and any and all right of redemption provided by any Law, or re-entry or repossession or to restore the operation of this Lease if Tenant is dispossessed by a judgment or by writ of any court or judge or in case of re-entry or repossession by Landlord or any expiration or termination of this Lease. No re-entry by Landlord, whether had or taken under summary proceedings or otherwise, shall absolve or discharge Tenant from liability under this Lease. The terms "enter," "re-enter," "entry," and "re-entry," as used in this Lease, are not restricted to their technical legal meanings.

19.2.3 **Suits Before Expiration Date.** Landlord may sue for damages or to recover Rent from time to time at Landlord's election.

19.2.4 **Receipt of Moneys.** No receipt of money by Landlord from Tenant after termination of this Lease, or after the giving of any notice of termination of this Lease, shall reinstate, continue, or extend this Lease or affect any notice theretofore given to Tenant, or waive Landlord's right to enforce payment of any Rent payable or later falling due, or Landlord's right to recover possession by proper remedy, except as this Lease expressly states otherwise, it being agreed that after service of notice to terminate this Lease or the commencement of suit or summary proceedings, or after final order or judgment for possession, Landlord may demand, receive, and collect any moneys due or thereafter falling due without in any manner affecting such notice, proceeding, order, suit or judgment, all such moneys collected being deemed payments on account of use and occupation or, at Landlord's election, on account of Tenant's liability.

19.2.5 **No Waiver.** No failure by Landlord to insist upon strict performance of any covenant, agreement, term, or condition of this Lease or to exercise any right or remedy upon a Default, and no acceptance of full or partial Rent during continuance of any such Default, shall waive any such Default or such covenant, agreement, term, or condition. No covenant, agreement, term, or condition of this Lease to be performed or complied with by Tenant, and no Default, shall be Modified except by a written instrument executed by Landlord. No waiver of any Default shall Modify this Lease. Each and every covenant, agreement, term, and condition of this Lease shall

continue in full force and effect with respect to any other then-existing or subsequent Default of such covenant, agreement, term or condition of this Lease.

19.2.6 **Security Devices.** Landlord may change the locks and other security devices providing admittance to the Premises and Tenant agrees that any such exercise by Landlord shall not be deemed to be unreasonable or a breach of the peace.

19.2.7 **Conditional Limitation.** Landlord may serve upon Tenant a written 30-day notice of cancellation and termination of this Lease. Upon the expiration of such 30-day period, this Lease and the Term shall automatically and without any action by anyone terminate, expire, and come to an end, by the mere lapse of time, as fully and completely as if the expiration of such 30-day period were the Expiration Date. The passage of such 30-day period constitutes the limit beyond which Tenant's tenancy no longer exists. Tenant shall then quit and surrender the Premises to Landlord but remain liable as this Lease provides. It is a conditional limitation of this Lease that the Term shall terminate and expire as set forth in this paragraph. This paragraph is intended to establish a conditional limitation and not a condition subsequent. Nothing in this paragraph shall limit Landlord's right to commence and prosecute a summary possession proceeding under Chapter 666 of the Hawaii Revised Statutes.

19.2.8 **Damages.** Landlord may recover from Tenant all damages Landlord incurs by reason of Tenant's Default, including reasonable costs of recovering possession, reletting the Premises, and any and all other damages legally recoverable by Landlord, and reimbursement of Landlord's reasonable out of pocket costs, including Legal Costs and bank fees for dishonored checks. Such damages shall include, at Landlord's election, either a the present value, calculated at a discount rate equal to the then-current Prime Rate of the excess of the total Fixed Rent under this Lease over the fair market rental value of the Premises for the balance of the Term; or b the Rent payable to Landlord provided for in this Lease, when and as due and payable under this Lease, less in the case of this clause b only) Landlord's actual proceeds of reletting less Landlord's actual reasonable costs of reletting. Landlord may recover such damages at any time after Tenant's default, including after expiration of the Term. Notwithstanding any Law to the contrary, (x Landlord need not commence separate actions to enforce Tenant's obligations for each month's Rent not paid, or each month's accrual of damages for Tenant's Default, but may bring and prosecute a single combined action for all such Rent and damages; and (y) Landlord may not recover any consequential damages for Tenant's Default.

19.2.9 **Injunction of Breaches.** Whether or not an Event of Default has occurred, Landlord may obtain a court order enjoining Tenant from continuing any Default or from committing any threatened Default. Tenant specifically and expressly acknowledges that damages would not constitute an adequate remedy for any Nonmonetary Default.

19.2.10 **Continue Lease.** Landlord may at Landlord's option maintain Tenant's right to possession. In that case, this Lease shall continue and Landlord may continue to enforce it, including the right to collect Rent when due and any remedies for nonpayment.

19.2.11 **Restoration Funds.** Upon any termination of this Lease, to the extent that Landlord or Depository then holds any Restoration Funds, they shall be applied solely as Landlord directs, including as a payment toward any sums then payable to Landlord.

19.3 **Proceeds of Reletting.** Landlord shall apply any proceeds of any reletting as follows, without duplication, but including Default Interest on all such sums:

19.3.1 **Landlord's Costs.** *First*, to pay to itself the cost and expense of terminating this Lease, re-entering, retaking, repossessing, repairing, performing any Construction, and the cost and expense of removing all persons and property therefrom, including in such costs reasonable and customary brokerage commissions and Legal Costs;

19.3.2 **Preparation for Reletting.** *Second*, to pay to itself the cost and expense reasonably sustained in securing any new tenants and other occupants, including in such costs all brokerage commissions, Legal Costs, and any other reasonable costs of preparing the Premises for reletting;

19.3.3 **Costs of Maintenance and Operation.** *Third*, to the extent that Landlord shall maintain and operate the Premises, to pay to itself the reasonable cost and expense of doing so; and

19.3.4 **Residue.** *Fourth*, to pay to itself any balance remaining on account of Tenant's liability to Landlord.

19.4 **Tenant's Late Payments; Late Charges.** If Tenant fails to make any payment to Landlord required under this Lease within 10 days after such payment is first due and payable, then in addition to any other remedies of Landlord, and without reducing or adversely affecting any of Landlord's other rights and remedies, Tenant shall pay Landlord within 10 days after demand Default Interest on such late payment, beginning on the date such payment was first due and payable and continuing until the date when Tenant actually makes such payment. In addition, and without limiting any other rights or remedies of Landlord, Tenant shall pay Landlord, as Additional Rent, an administrative charge equal to 3% of any payment that Tenant fails to pay within 10 days after such payment is first due and payable. Such administrative charge is intended to compensate Landlord for the inconvenience and staff time incurred by Landlord to handle the late or missed payment, shall not be deemed a penalty or compensation for use of funds, and shall not be credited against any other obligations of Tenant under this Lease.

**19.5 Landlord's Right to Cure.** If Tenant at any time fails to make any payment or take any action this Lease requires, then Landlord, after 10 Business Days' Notice to Tenant, or in an emergency with such notice if any as is reasonably practicable under the circumstances, and without waiving or releasing Tenant from any obligation or Default and without waiving Landlord's right to take such action as this Lease may permit as a result of such Default, may but need not make such payment or take such action. Tenant shall reimburse Landlord, as Additional Rent, for an amount equal to a all reasonable sums paid, and reasonable costs and expenses including Legal Costs incurred, by Landlord in exercising its cure rights under this paragraph; and b Default Interest on (a).

**19.6 Holding Over.** If for any reason or no reason Tenant remains in the Premises after the Expiration Date, or fails to complete a Clean-up under Section 10.11.5, or fails to remove Improvements required to be removed after the Removal Period under Section 20.2, then Landlord will suffer injury that is substantial, difficult, or impossible to measure accurately. Therefore, if Tenant remains in the Premises after the Expiration Date, or fails to complete a Clean-up under Section 10.11.5, or fails to remove Improvements required to be removed after the Removal Period under Section 20.2, for any reason or no reason, then in addition to any other rights or remedies of Landlord, Tenant shall pay to Landlord, as liquidated damages and not as a penalty, for each month (prorated daily for partial months during which Tenant holds over after the Expiration Date, a sum equal to: twenty percent 20% of the Land Value, together with all Additional Rent owed for such period.

**19.7 Waivers.** Landlord and Tenant irrevocably waive all rights to trial by jury in any action, proceeding, counterclaim, or other litigation arising out of or relating to this Lease, the relationship of Landlord and Tenant regarding the Premises, enforcement of this Lease, Tenant's use or occupancy of the Premises, any claim of injury or damage arising between Landlord and Tenant, or any actions of Landlord in connection with or relating to the enforcement of this Lease. Tenant waives any right of redemption provided for by Law. Tenant waives any right to interpose any counterclaim in any action by Landlord to enforce this Lease or Landlord's rights and remedies under this Lease.

**19.8 Accord and Satisfaction; Partial Payments.** No payment by Tenant or receipt by Landlord of a lesser amount than the amount owed under this Lease shall be deemed to be other than a partial payment on account by Tenant. Any endorsement or statement on any check or letter accompanying any check or payment of Rent shall not be deemed an accord or satisfaction. Landlord may accept any such check or payment without prejudice to Landlord's right to recover the balance of such Rent or pursue any other remedy.

**19.9 Miscellaneous.** Landlord and Tenant further agree as follows with respect to any Defaults and Landlord's rights and remedies.



19.9.1 **Survival.** No termination of this Lease and no taking possession of or reletting the Premises shall relieve Tenant of its liabilities and obligations hereunder, all of which shall survive such expiration, termination, repossession, or reletting, but subject to any limitations on personal liability or recourse in this Lease.

19.9.2 **Multiple Suits.** Landlord may sue to recover damages, or sums equal to any installment(s) of Rent payable by Tenant, from time to time at Landlord's election. Nothing in this Lease requires Landlord to await the date when this Lease or the Term would have expired absent an Event of Default and a resulting termination of this Lease.

19.9.3 **Receipt of Monies.** Unless such payment shall fully cure all Monetary Defaults, no receipt of moneys by Landlord from Tenant after the giving of a termination notice or a notice to obtain possession, or after the retaking of possession by Landlord as aforesaid, shall reinstate, continue, or extend the Term or affect any notice previously given to Tenant, waive Landlord's right to enforcement of Rent payable by Tenant or thereafter falling due, or waive Landlord's right to recover possession of the Premises. After the service of any such notice, or commencement of any suit or summary proceedings, or after a final order or judgment for possession of the Premises, Landlord may demand, receive, and collect any moneys due or thereafter falling due without in any manner affecting such notice, proceeding, order, suit, or judgment, unless such payments fully cure all Monetary Defaults. Any sums so collected without thereby curing all Monetary Defaults shall instead be deemed payments on account of use and occupation of the Premises or, at Landlord's election, to have been made on account of Tenant's liability under this Lease.

19.9.4 **No Double Recovery.** In no event shall Landlord be entitled, directly or indirectly, to recover twice for the same element of Landlord's damages.

## 20. END OF TERM

20.1 **Improvements.** Upon the termination of this Lease, at Landlord's option (a) all Improvements shall become Landlord's property; or (b) Tenant shall remove all Improvements at no cost to Landlord, and shall leave the Land in a clean and orderly condition free of all debris. Landlord shall Notify Tenant of Landlord's election to have Tenant remove the Improvements not later than ninety (90) days before the Expiration Date.

20.2 **Tenant's Removal of Improvements.** If Tenant is required to remove the Improvements upon termination of the Lease, Tenant shall have reasonable access to the Premises for a period of up to six (6) months after the Expiration Date to dismantle, pack and remove the Improvements from the Premises (the "**Removal Period**"). Tenant shall work promptly and diligently to remove the Improvements. The Removal Period shall end upon Tenant's completion of removal of the Improvements from the Premises. If Tenant fails to remove the Improvements within the Removal Period, the Holding Over provisions of Section 19.6 of this Lease shall apply. The terms and provisions of this

Lease shall apply during the Removal Period, including Tenant's obligations to provide insurance and to Indemnify Landlord.

**20.3 Landlord's Removal of Improvements.** If Landlord determines that Tenant is not making diligent efforts to remove the Improvements, Landlord shall Notify Tenant of Landlord's intention to remove the Improvements at Tenant's cost. If 30 days after such notice to Tenant Landlord in its reasonable judgment continues to believe Tenant is not diligently removing the Improvements, Landlord may remove the Improvements at Tenant's cost.

**20.4 Actions Upon Surrender.** Upon the later of (a) any Expiration Date and b) the expiration of the Removal Period:

**20.4.1 Condition of Premises.** Tenant shall deliver to Landlord possession of the Premises, in the condition this Lease requires, subject to any Loss that this Lease does not require Tenant to Restore.

**20.4.2 Surrender of Premises.** Tenant shall surrender any right, title, or interest in and to the Premises and deliver such evidence and confirmation thereof as Landlord reasonably requires.

**20.4.3 Free and Clear.** Tenant shall deliver the Premises free and clear of all: (a) Subleases, and b) liens except (i) liens that Landlord or any of its agents caused, or (ii) the recorded title exceptions affecting the Fee Estate that are prior to this Lease as of the Commencement Date and listed as exceptions in Tenant's leasehold policy of title insurance for this Lease.

**20.4.4 Assignment of Rights.** Tenant shall assign to Landlord, without recourse, and give Landlord copies or originals of, all assignable licenses, permits, contracts, warranties, and guarantees then in effect for the Premises.

**20.4.5 Orderly Transition.** The parties shall cooperate to achieve an orderly transition of operations from Tenant to Landlord without interruption, including delivery of such books and records (or copies thereof) as Landlord reasonably requires.

**20.4.6 Real Estate Taxes.** The parties shall adjust for Real Estate Taxes and all other expenses and income of the Premises and any prepaid Rent and shall make such payments as shall be appropriate on account of such adjustment in the same manner as for a sale of the Premises but any sums otherwise payable to Tenant shall first be applied to cure any Default .

**20.4.7 Memorandum of Lease.** The parties shall terminate the Memorandum of Lease.

**20.4.8 Deposits.** Tenant shall assign to Landlord, and Landlord shall reimburse Tenant for, all utility and other service provider deposits for the Premises.

**21. NOTICES**

**21.1 Special Notices.** All Notices of Default, Renewal Notices, and similar substantive Notices shall be in writing and addressed to Landlord and Tenant (and their designated copy recipients), and shall be deemed given to a party when a delivered to the appropriate address by hand or by nationally recognized overnight courier service (costs prepaid) or (b) received or rejected by the addressee, if sent by certified mail, return receipt requested, in each case to the following addresses and marked to the attention of the person by name or title) designated below or to such other address or Person as a party may designate by notice to the other party):

Landlord: Lāna‘i Resorts, LLC  
733 Bishop Street, Suite 2000  
Honolulu, HI 96813  
Attention: Kurt Matsumoto  
E-mail: kmatsumoto@pulamalanai.com

With a copy to:  
Lāna‘i Resorts, LLC  
733 Bishop Street, Suite 2000  
Honolulu, HI 96813  
Attention: Harrilynn K. Kameenui, Esq.  
E-mail: hkameenui@pulamalanai.com

Tenant: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attention: \_\_\_\_\_  
Telephone No.: (\_\_\_\_)  
Facsimile No.: (\_\_\_\_)  
E-mail:

**21.2 Ordinary Notices.** Notices in the ordinary course of business with respect to this Lease (for example for the regular payment of Rent under this Lease as opposed to late payments) shall be in writing and addressed to Landlord and Tenant as provided in the foregoing paragraph, and may be sent by first class mail or e-mail, in which case they shall be deemed delivered three Business Days after deposit in the United States mail, provided that no postal strike or other event likely to disrupt postal service) is then in effect.

**21.3 Change of Address.** Either party may change its address by Notice in compliance with this Lease. Notice of such a change shall be effective only upon receipt.

21.4 **Acknowledgment; Notice by Counsel.** Any party giving a Notice may request the recipient to acknowledge receipt of such Notice. The recipient shall promptly comply with any such request, but failure to do so shall not limit the effectiveness of any Notice. Any attorney may give any Notice on behalf of its client.

## 22. NONRECOURSE

Notwithstanding anything to the contrary in this Lease, the liability under this Lease of Landlord and its parent, subsidiaries, or affiliated corporations or other entities, for damages or otherwise, shall be enforceable against, and shall not extend beyond, their interests in the Premises including the proceeds thereof. No property or assets whatsoever, except Landlord's interest in the Premises (including the proceeds thereof), shall be subject to levy, execution or any other enforcement procedure for the satisfaction of any remedies monetary or otherwise of the other party arising under or in connection with this Lease. The limitation of liability and limitation of remedy in this paragraph shall not apply in any way to, and shall not be construed to limit or preclude, personal liability (if any) arising under any Supplementary Agreement. No shareholder, officer, member, manager, director, agent, or employee of Tenant or Landlord shall have any liability under this Lease, but this shall not limit any liability arising under the express terms of any Supplementary Agreement. (This Lease sometimes refers to this paragraph as the "**Nonrecourse Clause.**")

## 23. ADDITIONAL DELIVERIES; THIRD PARTIES

23.1 **Estoppel Certificates.** Up to twice a year, each party to this Lease (a "**Requesting Party**") may require the other party (a "**Certifying Party**") to execute, acknowledge, and deliver to the Requesting Party or directly to a designated third party up to four original counterparts of an Estoppel Certificate. The Certifying Party shall sign, acknowledge, and return such Estoppel Certificate within 15 days after request, even if the Requesting Party is in Default. Any Estoppel Certificate shall bind the Certifying Party.

23.2 **Further Assurances.** Each party shall execute and deliver such further documents, and perform such further acts, as may be reasonably necessary to achieve the parties' intent in entering into this Lease.

23.3 **Memorandum of Lease.** Upon request by either, the parties shall promptly execute, acknowledge, and deliver duplicate originals of a Memorandum of Lease. Either party may record such Memorandum of Lease. Any taxes and fees imposed upon such recording shall be paid by Tenant. If the parties amend this Lease, then the parties shall have the same rights and obligations regarding a memorandum of such amendment as they do for the Memorandum of Lease.

23.4 **Modification.** Any Modification of this Lease must be in writing signed by the party to be bound.

23.5 **Successors and Assigns.** This Lease shall bind and benefit Landlord and Tenant and their successors and assigns, but this shall not limit or supersede any Transfer restrictions.

23.6 **No Third-Party Beneficiaries.** Nothing in this Lease confers on any Person (except Landlord, Tenant, Leasehold Mortgagees, and Fee Mortgagees) any right to insist upon, or to enforce against Landlord or Tenant, the performance or observance by either party of its obligations under this Lease.

## 24. GUARANTY

24.1 **Guaranty.** Concurrently with the execution and delivery of this Lease, Tenant shall deliver to Landlord a Guaranty in the form attached hereto as **Exhibit C** executed by Guarantor and acknowledged.

## 25. ARCHAEOLOGICAL AND HISTORICAL ITEMS

25.1 **Discovery of Items.** In the event any human remains, artifacts, historical items, or any of them collectively the “**Discovered Items**”) are discovered on the Premises, Tenant shall, at Tenant’s sole expense and subject to the approval of Landlord, be responsible to: a) cause all excavation in the immediate area which may damage the Discovered Items and the potential historic site to cease; (b) cause the site to be stabilized and secured to temporarily protect the Discovered Items against damage, theft, or both; (c) cause the Discovered Items to be left untouched so that their archaeological or historical context may be accurately documented; and (d) cause the discovery to be reported immediately to Landlord and to Government as required by applicable Laws. If the artifacts or historical items are found without human remains, and leaving the artifacts or historical items in their stabilized and secured site poses a substantial risk of loss or damage to all or part of them, and their removal is therefore necessary, Tenant shall cause such removal and shall cause any tampering with the artifacts, the historical items, and the site to be minimized as much as possible.

25.2 **Human Remains.** In the case of the discovery of human remains, Tenant shall, at Tenant’s sole expense and in addition to the duties set forth in this section, cause to be prepared and executed a mitigation plan acceptable to Landlord and to Government possessing jurisdiction over such matters. Tenant shall also be responsible to obtain written verification that the mitigation plan has been successfully implemented.

25.3 **Landlord’s Reservation.** If any Discovered Items are discovered, then Landlord shall have the right at all reasonable times to enter the Premises for the purposes of searching for, exploring for, and removing any of the Discovered Items for preservation as permitted by Law. All objects, antiquities and specimens of Hawaiian or other ancient art or handicraft or of prehistoric, historic or archaeological interest found on the Premises belong to and shall remain the property of Landlord.

**25.4 Studies by Tenant.** In the event any archaeological studies or historic preservation studies are sought to be conducted in or on the Premises, by Tenant or anyone acting by or through Tenant, Tenant shall not permit such studies to be commenced without the prior written consent of Landlord, unless Tenant is required by applicable Law to permit such studies, in which case Landlord's consent shall not be required but Tenant shall provide Landlord with prior Notice of the commencement of such studies and shall advise Landlord of the applicable Law mandating such studies. In any event, Tenant shall upon completion of such studies cause a complete copy of the results of such studies to be provided to Landlord at the earliest opportunity.

## **26. MISCELLANEOUS**

**26.1 Confidential Information.** Without limitation of the promises in Section 10.12, each party agrees that, except as otherwise provided by applicable Laws, or in connection with proceedings before the State of Hawaii Public Utilities Commission or other governmental body with jurisdiction over the Premises, or in connection with the evaluation for financing of the Premises, or as part of disclosure to its affiliates, attorneys, consultants, and advisers in order to conduct its business or proceedings to enforce this Lease or the Power Purchase Agreement, or to record a Memorandum of Lease under Section 23.3 of this Lease, such party including its officers, directors, employees, representatives, brokers, attorneys and advisers shall keep the contents of this Lease and any information related to the Premises, Tenant and the transaction contemplated by this Lease confidential, whether or not marked as "confidential" collectively, the "**Confidential Information**"). The Confidential Information shall not include any information publicly known, or which becomes publicly known, other than through the acts of a party to the Lease, or any of their respective officers, directors, employees, representatives, brokers, attorneys or advisers. Tenant may retain possession of all or any part of the Confidential Information to the extent such Confidential Information relates solely to the Property and Tenant's operations thereon.

**26.2 Costs and Expenses; Legal Costs.** In the event of any litigation or dispute between the parties, or claim made by either party against the other, arising from this Lease or the landlord-tenant relationship under this Lease, or Landlord's enforcement of this Lease upon a Default, or to enforce or interpret this Lease or seek declaratory or injunctive relief in connection with this Lease, or to exercise any right or remedy under or arising from this Lease, or to regain or attempt to regain possession of the Premises or terminate this Lease, or in any Bankruptcy Proceeding affecting the other party to this Lease, the prevailing party shall be entitled to reimbursement of its Legal Costs with Default Interest and all other reasonable costs and expenses incurred in enforcing this Lease or curing the other party's default.

**26.3 No Consequential Damages.** Whenever either party may seek or claim damages against the other party whether by reason of a breach of this Lease by such party, in enforcement of any indemnity obligation, for misrepresentation or breach of warranty, or otherwise), neither Landlord nor Tenant shall seek, nor shall there be

awarded or granted by any court, arbitrator, or other adjudicator, any speculative, consequential, collateral, special, punitive, or indirect damages, whether such breach shall be willful, knowing, intentional, deliberate, or otherwise. The parties intend that any damages awarded to either party shall be limited to actual, direct damages sustained by the aggrieved party. Neither party shall be liable for any loss of profits suffered or claimed to have been suffered by the other.

**26.4 No Waiver by Silence.** Failure of either party to complain of any act or omission on the part of the other party shall not be deemed a waiver by the noncomplaining party of any of its rights under this Lease. No waiver by either party at any time, express or implied, of any breach of this Lease shall waive such breach or any other breach.

**26.5 Performance Under Protest.** If a dispute arises about performance of any obligation under this Lease, the party against which such obligation is asserted shall have the right to perform it under protest, which shall not be regarded as voluntary performance. A party that has performed under protest may institute appropriate proceedings to recover any amount paid or the reasonable cost of otherwise complying with any such obligation, with interest at the Prime Rate.

**26.6 Survival.** All rights and obligations that by their nature are to be performed after any termination of this Lease shall survive any such termination.

**26.7 No Broker.** Each party: (a) represents and warrants that it did not engage or deal with any broker or finder in connection with this Lease and no person is entitled to any commission or finder's fee on account of any agreement or arrangement made by such party; and b shall Indemnify the other party against any breach of such representation.

**26.8 Unavoidable Delay.** Each party's obligation to perform or observe any nonmonetary obligation under this Lease shall be suspended during such time as such performance or observance is prevented or delayed by Unavoidable Delay.

## **27. INTERPRETATION, EXECUTION, AND APPLICATION OF LEASE**

**27.1 Captions.** The captions of this Lease are for convenience and reference only. They in no way affect this Lease.

**27.2 Counterparts.** This Lease may be executed in counterparts.

**27.3 Delivery of Drafts.** Neither party shall be bound by this Lease unless and until such party shall have executed and delivered at least one counterpart of this Lease. The submission of drafts or comments on drafts shall bind neither party in any way. Such drafts and comments shall not be considered in interpreting this Lease.

**27.4 Entire Agreement.** This Lease contains all terms, covenants, and conditions about the Premises. The parties have no other understandings or agreements, oral or written, about the Premises or Tenant's use or occupancy of, or any interest of Tenant in, the Premises.

**27.5 Governing Law.** This Lease, its interpretation and performance, the relationship between the parties, and any disputes arising from or relating to any of the foregoing, shall be governed, construed, interpreted, and regulated under the laws of the State, without regard to principles of conflict of laws.

**27.6 Partial Invalidity.** If any term or provision of this Lease or its application to any party or circumstance shall to any extent be invalid or unenforceable, then the remainder of this Lease, or the application of such term or provision to persons or circumstances except those as to which it is invalid or unenforceable, shall not be affected by such invalidity. All remaining provisions of this Lease shall be valid and be enforced to the fullest extent Law allows.

**27.7 No Party Deemed Drafter.** No inference in favor of or against any party shall be drawn from the fact that such party has drafted any part of this Lease. The parties have both participated substantially in its negotiation, drafting, and revision, with advice from counsel and other advisers.

**27.8 Reasonableness.** Wherever this Lease states that a party shall not unreasonably withhold approval: (a) such approval shall not be unreasonably delayed or conditioned; b) no withholding of approval shall be deemed reasonable unless withheld by Notice specifying reasonable grounds, in reasonable detail, for such withholding, and indicating specific reasonable changes in the proposal under consideration that would make it acceptable; and (c) if a party grants its consent (or fails to object to any matter, this shall not waive its rights to require such consent for any further or similar matter.

**IN WITNESS WHEREOF,** Landlord and Tenant have executed this Lease as of the Commencement Date.

**LĀNA'I RESORTS, LLC**

By its Member, Lanai Island Holdings, LLC

By its Manager, LIH Corporation

\_\_\_\_\_



By \_\_\_\_\_  
Kurt Matsumoto  
Its: Vice President

**Landlord**

By \_\_\_\_\_  
Its

**Tenant**

APPENDIX F ATTACHMENT 3

**TERM SHEET**

**GROUND LEASE BETWEEN L NA’I RESORTS, LLC AND \_\_\_\_\_,  
FOR PREMISES LOCATED AT L NA’I CITY, L NA’I  
JULY 2020**

THIS TERM SHEET IS PROVIDED FOR GENERAL INFORMATION ONLY. LANDLORD RESERVES THE RIGHT TO REVISE ANY OF THE FOLLOWING TERMS FOR ANY REASON DURING FINAL NEGOTIATIONS

|  |  |
|--|--|
| Purpose:   | Leasing the Premises for the purpose of building and operating a solar and battery storage facility capable of providing electrical power to MECO’s system pursuant to a Power Purchase Agreement (“PPA”).   |
| Premises:  | Landlord owns the following real property (collectively, the “Premises”): (i) the unsubdivided land described in Exhibit A, consisting of approximately 73 acres of land (the “Land”) together with an easement over a roadway (the “Roadway”); (ii) all buildings, structures, and other improvements and appurtenances located on the Land other than any buildings, structures and other improvements or appurtenances that may have been constructed by on or behalf of Tenant prior to the commencement date; and (iii) the appurtenances and all the estate and rights of Landlord in and to the Land. |
| Commencement Date:   | Execution of Lease   |
| Security Deposit:  | TBD  |
| Initial Term:  | Same Initial Term in PPA   |
| Extended Term:   | Same Extended Term in PPA  |
| Fixed Rent (from execution of lease up to commercial operations) | \$200.00 per acre per month, plus all applicable taxes, as long as the PPA remains in effect; or 10% of the Land Value per year, adjusted annually by the CPI Adjustment Factor, commencing on the date a PPA Disconnect occurs and continuing for the period a PPA Disconnect remains in effect.  |
| Fixed Rent (during commercial operations):                       | 50% increase to \$300.00 per acre per month, plus all applicable taxes, as long as the PPA remains in effect; or 10% of the Land Value per year, adjusted annually by the CPI Adjustment Factor, commencing on the date a PPA Disconnect occurs and continuing for the period a PPA Disconnect remains in effect.  |
| Variable Rent:   | 2% of the monthly gross receipts received during commercial operations from HECO to the Tenant per the negotiated PPA for the Project.   |
| Property Taxes:  | Tenant shall pay all Real Estate Taxes and Assessments for the Premises.   |
| Conveyance Tax:  | Tenant shall pay the conveyance tax imposed under Hawaii Revised Statutes Chapter 247 due and payable upon the Commencement Date.  |
| Utilities:   | Tenant shall arrange and pay for all utility charges, including all installation, maintenance, use and service expenses.   |
| Insurance:   | Tenant shall maintain Worker’s Compensation, Employer’s Liability, Commercial General Liability, Automobile Liability, All Risk Property, Builders and Installation Risk, and Umbrella Liability Insurance Policies in minimum amounts acceptable to Landlord.   |
| Purchase Option:   | None   |
| Termination:   | This Lease shall expire upon the Expiration Date, termination of the PPA, and the occurrence of an Event of Default  |

APPENDIX F ATTACHMENT 3

|   |   |
|---|---|
| Removal of Improvements:                | Upon the termination of the Lease, at Landlord's option (a) all Improvements shall become Landlord's property; or (b) Tenant shall remove all Improvements at no cost to Landlord, and shall leave the Land in a clean and orderly condition free of all debris. Landlord shall Notify Tenant of Landlord's election to have Tenant remove the Improvements not later than ninety (90) days before the Expiration Date. |
| Lease Guaranty:                         | Concurrently with the execution and delivery of the Lease, Tenant shall deliver to Landlord a Guaranty in a form acceptable to Landlord.  |
| Assignment and Subletting:              | Allowed only with Landlord's prior written consent which may be withheld in Landlord's sole discretion.   |
| Right of First Offer at Expiration Date | Landlord has the right of first offer at the Expiration Date to purchase assets on the Land based on valuation at the end of the Lease.   |

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

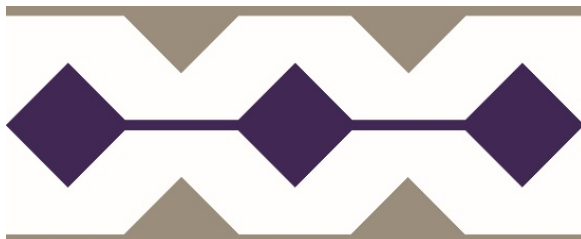
**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix G – Self Build Option and  
Self Build Option Team Certification Form*



**Maui  
Electric**

## Appendix G - Self Build Option

### Overview

To the extent that there are Self Build Option (“SBO”) Proposals to the RFP, the Company will endeavor to evaluate these SBO Proposals on a fair basis compared to third party Proposals. As described in Section 1.9.1 of the RFP, “[t]he Competitive Bidding Framework allows the Company the option to offer a Proposal(s) in response to this RFP (“Self-Build Option” or “SBO”). Accordingly, the Company must follow certain requirements and procedures designed to safeguard against and address concerns associated with: (1) preferential treatment of the SBO or members, agents or consultants of the Company formulating the SBO (the “Self-Build Team”); and (2) preferential access to proprietary information of the Self-Build Team.” Any Proposal from the Self-Build Team will be required to comply with the provisions in the Framework for Competitive Bidding (“Framework”) as well as this RFP.

In addition to its Proposal, the Self-Build Team will be required to submit Attachment 1 to this Appendix G, Self-Build Option Team Certification Form, acknowledging it has followed the rules and requirements of the RFP to the best of its ability and has not engaged in any collusive actions or received any preferential treatment or information providing an impermissible competitive advantage to the Self-Build Team over other proposers responding to this RFP, as well as adherence to PPA terms and milestones required of all proposers and the SBO’s proposed cost protection measures.

Pursuant to the Framework and as set forth in the RFP Schedule, the Company will require that the Proposal for the SBO be submitted electronically through the Electronic Procurement Platform a minimum of one (1) Day before other Proposals are due.

Except where specifically noted, a SBO Proposal must adhere to the same price and non-price Proposal requirements as required of all Proposers.

As described in Section 3.8.3 of the RFP, if selected, a Self-Build Proposer will not be required to enter into a PPA with the Company. However, the SBO will be held to the same performance metrics and milestones set forth in the RDG PPA to the same extent as all Proposers, as attested to in the SBO’s Appendix G Attachment 1 Self Build Option Certification submittal. If liquidated damages are assessed, they will be paid from shareholder funds and returned to customers through the Purchased Power Adjustment Clause (“PPAC”),

In lieu of price components, the SBO will need to provide their total project capital costs, any associated annual O&M costs, as well as annual revenue requirements by year. (See Appendix B Section 2.0.) The SBO shall submit revenue requirement worksheets with their Proposal that support their annual revenue requirements estimates. A starter revenue requirements template file can be requested by the Self-Build Team via email to the RFP Email Address or through the PowerAdvocate Messaging function once the RFP event opens. The revenue requirements worksheets submitted will

be customized to reflect the details of the Project's Proposal. All assumptions used will be reflected in an assumptions input tab.

### **SBO Total Project Capital Cost**

The following is a high-level breakdown followed by a narrative explanation of the total capital cost estimate for a potential SBO Proposal. The total project capital cost (and annual O&M costs) will be used to calculate the Revenue Requirement, which will then be used to calculate a LB for Proposal comparison purposes. The categories of costs include:

- Facility
  - EPC Contract
  - Allowance for Change Orders
  - Equipment
  - Owner's Cost
- Outside Services
- Interconnection
- Overheads
- AFUDC

These costs will be identified in Section 2.3.2.2 of the SBO Proposal. (See Appendix B Section 2.3.2.2)

- Facility (including any generation and storage components) - This line item, to the extent applicable, should include costs such as:

#### Engineering, Procurement, and Construction ("EPC") Contract

The total cost estimate of the facility is the projected EPC contract cost including the design of the facility up to the high-voltage terminals of the step-up transformers, procurement of all the equipment, and services necessary to build the facility and construction and commissioning of the facility.

#### Allowance for Change Orders

This allocation accounts for items such as additional requirements resulting from unforeseen conditions, unexpected permitting requirements, force majeure events, unanticipated interferences, different interpretations of design requirements, material unavailability, and longer than normal delivery times.

#### Equipment

This cost includes the generator and the facility equipment that support the operation of the generator and the distribution of electrical power around the station, as applicable. Engineering and testing services required to ensure that the equipment is properly functioning at the site, training and documentation necessary to operate and maintain the equipment, and performance guarantees may also be included here.

#### Owner's Cost

Owner's costs for the facility are all the costs necessary for the design, permitting, procurement, construction, and commissioning of the facility and for the preparation of the Proposal that are not included in the major contracts (i.e. EPC). The Companies' Labor includes Project Management, Station Operator training and commissioning, Environmental, Safety, Legal, Corporate Communications, Community and Government Relations, Engineering, and Regulatory Affairs. Company Labor for the preparation of the Proposal is also included here. For purposes of recovery, only the incremental costs of Labor will be subject to separate recovery.

- Outside Services - This line item, to the extent applicable, should include costs such as:
  - Construction Management to oversee the EPC contractor
  - Legal for the preparation of the Environmental Impact Statement and PUC process
  - Engineering for development and evaluation of the project technical specifications, Interconnection Requirements Study (IRS), and emissions testing
  - Environmental to conduct the Environmental Impact Statement (EIS) and Air Permit consulting
  - General Services such as surveys, land appraisals, Environmental Condition Reports, public relations, office trailer rental, archeological services, landscaping, miscellaneous permits, builder's risk insurance, switchgear testing, hazard analysis, painting, monitoring services, and moving costs.
  - Material costs including spare parts, furnishings, IT equipment, appliances, generator system initial fills (fuels, oils, water), and telecommunications equipment for the station.
  - Travel costs required to inspect other similar facilities, observe final acceptance testing of critical equipment, and station operators' factory training
  
- Interconnection – This line item covers all interconnection costs that a similarly situated IPP would be responsible for as described in RFP Section 2.3.5, and to the extent applicable, should include costs such as:

#### Distribution Line

The cost estimate includes the design, procurement, and construction of any new transmission infrastructure needed to interconnect with the designated substation.

#### Switchyard

Work at the switchyard will include design, procurement, and construction of the switchyard and the interfaces between the high voltage terminals of the generator step-up transformers and the distribution line to which it will be connected. Site

preparation of the switchyard and the design, procurement, and installation of the step-up transformers located in the switchyard, are typically included in the EPC contract.

#### Substation

Work at the designated substation that will include the design, procurement, and construction of the interfaces between the new distribution line and the substation buswork to which it will be connected.

#### Telecom

Accounts for direct labor, materials, and outside services to install telecommunication requirements for the project.

#### Project Management

Cost estimate of the project management design, procurement, contracting, and scheduling efforts for the interconnection only. Project management costs for the facility are included in the Owner's Cost estimate above.

- Overhead Costs

Overhead costs for the proposed facility will be estimated by the Company's budgeting software (UI Planner) and represent an allocation for those Company costs that are not attributable to any particular project or operation, but are essential nonetheless. Overheads are comprised of non-productive wages (such as holiday, sick, and vacation pay), employee benefits, payroll taxes, corporate administrative costs, and clearing costs.

- Allowance for Funds Used During Construction ("AFUDC")

The AFUDC will be calculated using the Company's budgeting software (UI Planner) and represents the cost of capital funding for the Project. The Company strives to minimize the cost of the AFUDC by ensuring that Project elements that are used or useful are placed in service as soon as possible, as well as minimizing the amount of time that AFUDC can accumulate, by minimizing the amount of time between expenditures on Project elements and their placement in service.

The SBO Proposal will include a Revenue Requirement for each year, which is calculated from the total project capital cost to determine the revenues needed to recover the cost of the project. The value of the Revenue Requirement Calculation for the Total SBO Project Capital Cost will be included in the Levelized Benefit calculation described below.

### **Annual O&M**

The cost for ongoing O&M (fixed and variable) will be a component of the Revenue Requirement. All O&M should be included in this category, unless captured elsewhere in the Revenue Requirement Calculation, including but not limited to annual O&M expense to maintain facility; property taxes (if applicable), and insurance. As described in RFP Appendix G, a SBO Proposal



will be required to cap its O&M costs at the amount included in the Proposal. Only actual costs will be recovered if such actual costs are lower than the maximum amounts in the Proposal.

### **Annual Revenue Requirement**

The SBO Proposal will include a Revenue Requirement for each year, which is calculated from the total project capital cost to determine the revenues needed to recover the cost of the project. The value of the Revenue Requirement Calculation for the Total SBO Project Capital Cost will be included in the Levelized Benefit calculation.

The following is a narrative description of the proposed revenue requirement calculation and significant assumptions that the SBO Proposal should account for. The objective of a revenue requirement analysis is to illustrate the annual revenue requirements (ARR) for a utility SBO Proposal.

Revenue Requirement is defined as a calculated value which represents the estimated revenues needed from ratepayers which would allow the Company to recover its capital investment and expenses, honor its debt obligations, pay its revenue and income tax liabilities, and pay its preferred shareholders while providing a fair return to its common shareholders for their investment. Specific factors or assumptions related to that particular project will be included in the analysis.

The purpose of a revenue requirement calculation is to determine the annual and total revenue requirements of a capital investment and annual O&M expense needed from customers. The ratemaking formula for revenue requirements is shown below.

$$RR = O + T + D + r(RB)$$

Where:

- RR = Revenue Requirements
- O = Operating and Maintenance Expense
- T = Tax Expense (Income and Revenue)
- D = Depreciation Expense
- r = Rate of Return on Rate Base
- RB = Rate Base

The Company, in conjunction with the Independent Observer, may also conduct a risk assessment of the SBO Proposal to ensure an appropriate level of customer cost protection measures are included in such proposal.

**APPENDIX G ATTACHMENT 1 - SELF BUILD OPTION TEAM CERTIFICATION**

**Name of SBO Team Contact:** \_\_\_\_\_

**Unique Name of Facility:** \_\_\_\_\_

This Certification of the Self Build Option (SBO) Team's SBO Proposal for Hawaiian Electric Company, Inc., Maui Electric Company, Ltd, and Hawai'i Electric Light Company, Inc.'s (the "Hawaiian Electric Companies") Variable Renewable Dispatchable Generation Paired with Energy Storage and Community-Based Renewable Energy Request for Proposal (RFP) is made as of the date stated below.

**A. COMPLIANCE WITH THE RFP AND CODE OF CONDUCT**

The SBO Team certifies and acknowledges that it will/has:

1. Adhered to the terms of the RFP applicable to the SBO Team, including but not limited to: Section 1.7.1 (proposal submittal requirements), Section 1.7.3 (certification of non-collusion), Section 1.9 (Procedures for the Self-Build or Affiliate Proposals), and Section 3.4.4 (authorized signatory);
2. Adhered to the technical requirements of the RFP, excluding however those requirements inapplicable to the SBO Team such as execution of the Model PV RDG PPA), pricing formula requirements for independent power producer proposals, submission of a Proposal Fee, dispute resolution, and credit requirements;
3. Complied with the Company's Code of Conduct Procedures Manual, attached as Appendix C to this RFP, with particular attention to the Communications Protocols described in Section C therein with respect to communication with the Company RFP Team.

**B. INDEPENDENT INVESTIGATION**

The SBO Team further certifies and acknowledges that it will/has:

1. Submitted the SBO Proposal based on its own investigations, examinations, and determinations, including assessments of any risks that could have an effect on its obligations under the SBO Proposal.
2. Carefully examined the Company's RFP documents and its appendices and has a clear and comprehensive knowledge of what is required of a Proposer under the RFP, and correspondingly, what is required of the SBO Team.
3. Examined and understands the technical requirements, schedule, and evaluation process as it is laid out in the RFP.

**C. COST PROPOSAL ACKNOWLEDGEMENTS**

The Self Build Team acknowledges and agrees that:

1. Recovery for Project capital costs and O&M costs will be capped at the amount included in the SBO Team's SBO Proposal.
2. Only actual capital costs and O&M costs will be recovered even if such actual costs are lower than the SBO Team's proposed maximum amounts.
3. Costs of developing the proposal must be included in the SBO for evaluation purposes only. Only the incremental costs of developing the SBO Team's proposal will be charged to the project and passed through to customers. Incremental costs for the SBO Proposal not serving as the Parallel Plan and which are not selected to the Final Award Group will not be recoverable from the Companies' customers.

**D. ADHERENCE TO PPA REQUIREMENTS AND MILESTONES**

The Self Build Team acknowledges and agrees that:

1. The SBO Proposal will be consistent with the scope of work and responsibilities of the "Seller" under the terms of the applicable Model PPA excluding inapplicable terms related to commercial and legal interactions between the Seller and the Company.
2. The SBO Facility will be designed and constructed to:
  - a. Achieve the Performance Standards identified in Section 3 - Performance Standards, in Attachment B of the applicable Model PV RDG PPA as modified by the IRS (subject to reasonable adjustment agreeable to the Company consistent with the Company's negotiation of such performance standards that would be completed with an independent power producer under similar circumstances);
  - b. Meet the performance metrics as specified in Article 2 of the applicable Model PV RDG PPA.
    - b.1. For the photovoltaic generation component of the facility, (i) PV System Equivalent Availability Factor, and (ii) Measured Performance Ratio;
    - b.2. For the storage component of the facility, (i) Storage Annual Equipment Availability Factor, (ii) Storage Annual Equivalent Forced Outage Factor, and (iii) Storage Capacity Ratio;
  - c. Pass the Acceptance Test specified in Attachment N – Acceptance Test General Criteria of the applicable Model PV RDG PPA.
  - d. Pass the Control System Performance Test specified in Attachment O – Control System Acceptance Test Criteria of the applicable Model PV RDG PPA;

- e. Pass the On-line Performance Test specified in Attachment W – BESS Capacity Test of the applicable Model PV RDG PPA;
- f. Achieve a Demonstrated Capacity equal to or greater than that indicated in the SBO Proposal as measured pursuant to Attachment W – BESS Capacity Test of the applicable Model PV RDG PPA;
- g. Meet the project milestones identified in the SBO Proposal no later than the dates specified therein, which shall be consistent with the guaranteed project milestones required in Attachment K – Guaranteed Project Milestones of the applicable Model PV RDG PPA (subject to reasonable adjustment agreeable to the Company consistent with the Company’s negotiation of such milestones that would be completed with an independent power producer under similar circumstances). Notice of completion of milestones and any delay will be provided to PUC and Consumer Advocate.
- h. Achieve the reporting milestones identified in the SBO Proposal no later than the dates specified therein, which shall be consistent with the reporting milestones required in Attachment L – Reporting Milestones of the applicable Model PV RDG PPA (subject to reasonable adjustment agreeable to the Company consistent with the Company’s negotiation of such milestones that would be completed with an independent power producer under similar circumstances). Notice of completion of milestones and any delay will be provided to PUC and Consumer Advocate.
- i. Will be subject to the applicable liquidated damages for the applicable Model PV RDG PPA provisions above. These liquidated damages would be paid from shareholder funds and would be passed through to customers through the Companies’ Power Purchase Adjustment Clause. Notice of any liquidated damages assessed and amounts of such liquidated damages will be provided to PUC and Consumer Advocate.
- j. Will reconfirm requirements in GO7 application and any resulting approval order for such application.
- k. Will provide annual report to PUC and Consumer Advocate on performance metrics.

**E. DECLARATION AND SIGNATURE**

- 1. The individual(s) that has (have) signed this Self Build Option Team Certification is (are) duly authorized by the SBO Team to execute such on behalf of the SBO Team; and
- 2. All statements, specifications, data, confirmations, and other information set out in this Self Build Option Team Certification are complete and accurate in all material respects.

IN WITNESS WHEREOF, the SBO TEAM hereby makes the certifications, acknowledgements, and agreements stated herein as of the date stated under the signature of its authorized representative:

Dated at \_\_\_\_\_, \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

\_\_\_\_\_  
Signature of SBO Team Representative

\_\_\_\_\_  
Name of SBO Team Representative (please print)

\_\_\_\_\_  
Title of SBO Team Representative (please print)

**DRAFT REQUEST FOR PROPOSALS**  
**FOR**  
**VARIABLE RENEWABLE DISPATCHABLE GENERATION**  
**PAIRED WITH ENERGY STORAGE**  
**AND**  
**COMMUNITY-BASED RENEWABLE ENERGY**  
**ISLAND OF LĀNA‘Ī**

JULY 9, 2020

Docket No. 2015-0389

*Appendix H – Interconnection Facilities and  
Cost Information*



**Maui  
Electric**

Maui Electric  
 APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

Tariff Rule No. 19, approved by the PUC, establishes provisions for Interconnection and Transmission Upgrades (see [Appendix I](#)). The tariff provisions are intended to simplify the rules regarding who pays for, installs, owns, and operates interconnection facilities in the context of competitive bidding. Unless otherwise specified in this RFP, Tariff Rule No. 19 will be utilized as the basis for addressing interconnection and transmission upgrades for any projects developed through this RFP. Proposers will comply with the terms and conditions as specified therein.

To assist Proposers in assessing the impacts of location on potential projects, the per unit cost figures provided in the tables below are to be used to provide an approximate estimated cost for interconnecting, including communications and distribution line cost to the existing Lānaʻi Electric System. The per-unit cost figures below should not be used to create a detailed project estimate. A detailed project estimate typically requires a certain level of engineering to assess project site conditions and to factor in other parameters specific to the project.

The Proposer should identify the components assumed for their project and the quantity assumed for each. Each table below provides notes on the assumptions for each of the unit cost estimates. If a Proposer’s project requirements are different than what is assumed in the notes, the Proposer should identify each difference and provide an estimated additional cost or savings resulting from those different requirements.

**2.1 Distribution Line Costs**

| <b>Component</b> | <b>Description</b>  | <b>Approximate Cost per Mile</b>                 |
|------------------|---|--|
| 1                | New 12kV Overhead line (accessible 250' spans)                              | \$800,000  |
| 2                | New 12kV Underground line   | \$3,500,000                                      |
| 3                | 12 kV underbuild on existing line (accessible spans, for station service)   | [\$To be updated prior to issuance of final RFP] |
| 4                | 12 kV underbuild on existing line (inaccessible spans, for station service) | [\$To be updated prior to issuance of final RFP] |
| 5                | Padmount service 500 kVA transformer (for station service)                  | [\$To be updated prior                           |

Maui Electric  
 APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

|   |   |  |
|---|---|--|
|   |   | to issuance of final RFP]                        |
| 6 | PME9 and PME3 switches for 1-ph and 3-ph transformers | [\$To be updated prior to issuance of final RFP] |

**Notes:**

1. New 12kV Overhead line (accessible) consists of 45’ height wood poles (39’ above / 6’ below grade).
2. Component 2 - based on 1000 KCM AL 15kV (600A) cable includes duct bank and MH installation.
3. Exclusions to these rough costs are as follows but not limited to the following, Proposers should conduct their own due diligence for these costs:
  - a. Development of the PUC application/proceedings timeline
  - b. State or County right-of-way permitting and SMA
  - c. Environmental studies cost
  - d. Survey of proposed line extension route
  - e. Easement/land issues if discovered in the course of final design
  - f. Archaeological survey and monitoring cost/duration (if needed)
  - g. Clearing/grading along power line corridor and access road
  - h. Final design adjustments required to negotiate terrain, physical landmarks, existing utilities and access
  - i. Construction of permanent roadways/truck access
  - j. Helicopter services
  - k. Traffic control
  - l. Removals (Maui Electric & Hawaiian Telcom as applicable)
  - m. Salvage and depreciation credits
  - n. Street lights
  - o. Delays due to weather and material acquisitions
4. All estimates are provided in 2020 dollars.

**2.2 Miki Basin Interconnection Costs**

**2.2.1 Substation 12kV Interconnection Costs VARIABLE Projects**

| Component | Description                                   | Approximate Cost |
|-----------|---|------------------|
| 1         | 2 – 12kV switchgear additions (Maui Electric) | \$1,200,000      |

**Notes:**



Maui Electric

APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

1. Please refer to Attachment 1 of this Appendix H for a single line diagram depicting the required interconnection to the Company's Miki Basin substation.
2. Conceptual Design is not intended to cover all interconnection requirements. Final interconnection design will be subject to the results of the IRS.
3. Substation land has been graded per Maui Electric's civil and structural requirements. No costs for excavation and fill are included in the estimates.
4. Permits are not included in indicated costs.
5. Costs are in 2020 dollars.
6. Estimate does not contain any of the following costs:
  - a. Telecommunication infrastructure
  - b. Relay coordination study
  - c. Land cost
  - d. Environmental Assessment/Environmental Impact Statement
  - e. Project management
  - f. Any required upgrades to existing substations to integrate the new generating facility into the system.
7. Substation relay protection requirements have not been identified, so costs are based upon typical line protection relaying requirements.
8. Local SCADA equipment are included in cost estimates.
9. The estimate is for addition of Miki Basin switchgear, which does not contain any cost for the conceptual design for RFP interconnection.
10. The estimate does not contain any line extension cost.
11. The largest unit size shall be limited to 2.5MW net export.

### **2.3 Telecommunications**

1. Point-to-point microwave – \$1,162,000 with the following assumptions:
  - a. There is line-of-sight between the communications endpoints.
  - b. FCC licensed microwave frequencies are available.
  - c. There are existing structures/buildings and available space on either end to house the radio equipment.
  - d. Telecommunications grounding standards are up-to-date at both sites.
  - e. 48V DC power with 12-hour battery backup is available. (Note, however, that the cost for such power and backup is not included in the estimate above.)
  - f. This estimate does not include any special site-specific permit/approval that may be required.
  - g. Space is available to locate antenna towers/structures at both ends. Meets category 5 hurricane wind loading.
  - h. Interconnection to Maui Electric's existing communications is not included.

Maui Electric

APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

2. Fiber with overbuild and new construction – \$269,000 per mile with the following assumptions:
  - a. The poles are in good condition and do not need replacing.
  - b. The poles are not overloaded.
  - c. The poles and the attachments are in accordance with NESC 2002 and no work is required to upgrade the poles to current standards.

## **2.4 Security System**

### **2.4.1 Proposals for interconnection via a new substation on a 12 kV network circuit**

1. Equipment/Electronics for security – \$350,000 with the following assumptions:
  - a. Civil facilities associated with security (e.g., site fencing, conduits for security systems) for the new 12 kV substation, costs are included under Item 2.2.1.1 above.
  - b. Systems incorporated will be equivalent to the Tier 1 requirements identified in the table below for Company facilities.
  - c. Costs are in 2020 dollars.

### **2.4.2 Proposals for interconnection via a new substation on a 12 kV radial circuit**

1. Equipment/Electronics for security – \$350,000 with the following assumptions:
  - a. Civil facilities associated with security (e.g., site fencing, conduits for security systems) for the new 12 kV substation, costs are included under Item 2.2.2.1 above.
  - b. Systems incorporated will be equivalent to the Tier 1 requirements identified in the table below for Company facilities.
  - c. Costs are in 2020 dollars.

**2.4.3** The developer shall be responsible to incorporate security components and systems for **their facilities** that consider the Security Guidelines for the Electricity Sector (CIP-014-2): Physical Security, as published by the North American Electric Reliability Corporation (NERC) and that at a minimum adhere to Company’s performance requirements outlined in Company’s Physical Security Strategy for the following four security concepts.

- **Deter:** Deploy visible physical security measures to encourage individuals to seek other, less secure targets.
- **Detect:** Utilize state of the art physical security technologies to detect unauthorized intrusion and provide real-time alerts to monitoring personnel. Detection to include 24/7 monitoring personnel.

Maui Electric

APPENDIX H - INTERCONNECTION FACILITIES AND COST INFORMATION

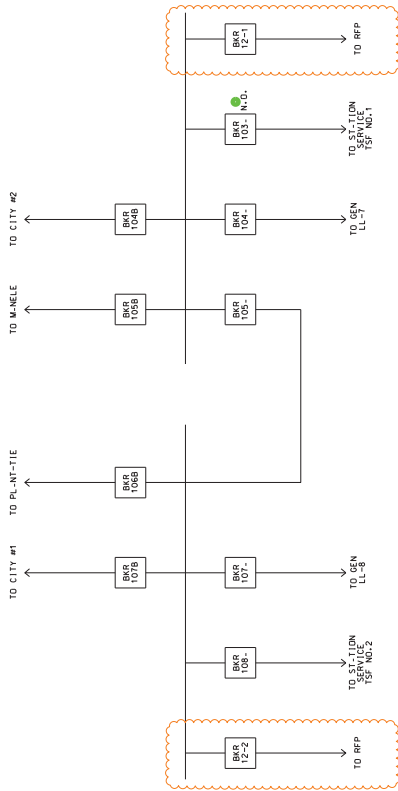
- **Delay:** Deploy multiple physical security countermeasures to delay an intruder’s access to assets and provide time for incident assessment and appropriate response.
- **Respond:** Take immediate measures to assess, interrupt, and/or respond to the incident, including notification to Company and the use of contracted patrol personnel and/or the involvement of law enforcement assets to apprehend an intruder.

The Company’s Physical Security Strategy is available upon request after execution of an NDA with the Company.

| Type of Facility  | Tier One<br>High Criticality  | Tier Two<br>Medium Criticality  | Tier Three<br>Lower Criticality   |
|-------------------|---|---|---|
| <b>Substation</b> | <ul style="list-style-type: none"> <li>• FLIR or Similar camera perimeter monitoring.</li> <li>• Secondary perimeter intrusion detection system.</li> <li>• Interior Video monitoring system with motion detection.</li> <li>• Gunfire detection/IP intercom public address system.</li> <li>• Electronic card access system for control &amp; microwave houses.</li> <li>• Standard 8’ high security fence with 3-strand barbed wire V-top.</li> <li>• Interior mounted 4’ high cattle fencing.</li> <li>• LED perimeter lighting.</li> <li>• All gates will be secured using a proprietary padlock system.</li> </ul> | <ul style="list-style-type: none"> <li>• Video monitoring system with motion detection.</li> <li>• Card access on control and microwave houses.</li> <li>• Standard 8’ high security fence with 3-strand barbed wire V-top.</li> <li>• Interior mounted 4’ high cattle fencing.</li> <li>• All gates will be secured using a proprietary padlock system.</li> </ul> | <ul style="list-style-type: none"> <li>• Standard 8’ high security fence with 3-strand barbed wire V-top.</li> <li>• Interior mounted 4’ high cattle fencing.</li> <li>• All gates will be secured using a proprietary padlock system.</li> </ul> |

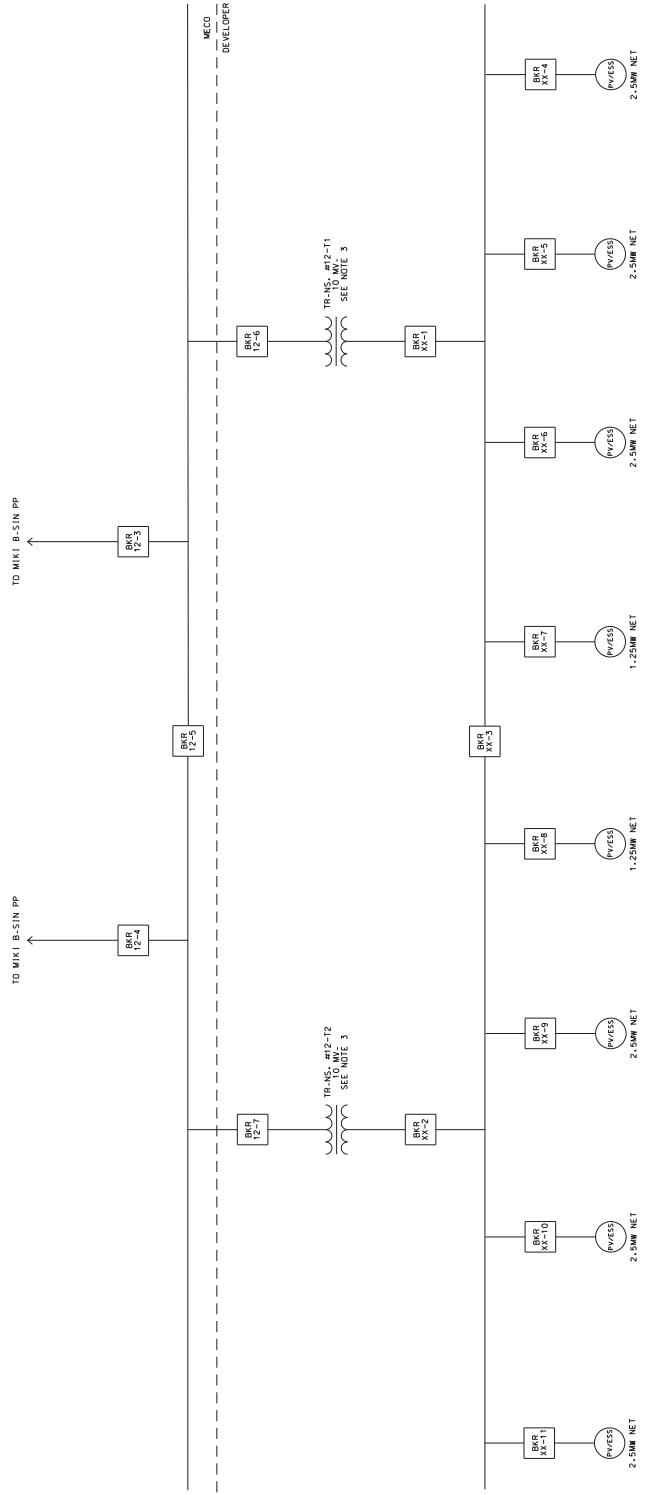
Appendix H Attachment 1

SUB • 302  
MIKI BASIN PP



- NOTES:
1. PROJECT UNIT SIZE SHALL BE 0.5 MW NET EXPORT FOR MISO SCHEME. 17.5 MW NET EXPORT PROJECT.
  2. SWITCHES AND OTHER NECESSARY EQUIPMENT SHALL BE LOADED ONTO DRAWINGS. NO COST ESTIMATES REQUIRED.
  3. THIS IS A CONCEPTUAL DESIGN. THE FINAL DESIGN SHALL BE DETERMINED BY PROJECT SPECIFICATIONS. TRANSDUCER SIZE OF 10 MW ASSUMES 17.5 MW TOTAL NET EXPORT PROJECT SIZE.

CONCEPTUAL DESIGN  
FOR RFP INTERCONNECTION



**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

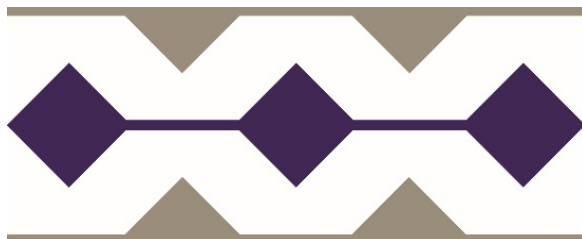
**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix I – Rule 19 Tariff*



**Maui  
Electric**

RULE NO. 19

Interconnection and Transmission Upgrades

A. GENERAL

1. Definitions

- a. "Betterment" means and includes any upgrading to a facility made solely for the benefit of and at the election of the Company, not attributable to the interconnection requirements. The Betterment includes any provisions for future expansion which cannot be charged to replacement. It also includes any related system work beyond that required for interconnection. If an existing facility is replaced with one of greater functional capacity or capability, the difference between the upgraded facility and a replacement facility of equivalent functional capacity is considered Betterment. It does not mean the substitution of a replacement facility for an existing facility, that is, an underground facility for an overhead facility, unless otherwise provided for in the RFP.

Example 1: A substation with a three breaker scheme is required to connect the Generating Facility to the grid. If the Company installs a substation with a six breaker ring bus scheme, the difference between installing a substation with a three breaker scheme and one with a six breaker scheme would be the Betterment.

Example 2: A transmission line needs to be upgraded to accommodate a new Generating Facility. The existing line is designed to withstand a 56 mph wind speed. The project includes upgrading the facilities to withstand a 100 mph wind speed. The increase in the design to the 100 mph wind speed criteria would be the Betterment.

Example 3: A transmission line needs to be upgraded to accommodate a new Generating Facility. In response to the Company's application to upgrade the line, the Commission orders that the line be placed underground. The cost difference between the overhead upgrade and the installation of the underground facilities would not be considered Betterment.

- b. "Company's Dispatch" means the Company's sole and absolute right to control, from moment to moment, through Supervisory Control, or otherwise, and in accordance with good engineering and operating practices in the electric utility industry, the rate of delivery of energy offered by the bidder to the Company.
- c. "Company's System" means the electric system owned and operated by the Company (to include any non-utility owned facilities) consisting of power plants, transmission and distribution lines, and related equipment for the production and delivery of electric power to the public.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- d. "Distribution System" means all electrical wires, equipment, and other facilities at the distribution voltage levels (such as 25kV, 12kV, or 4kV) owned or provided by the Company, through which the Company provides electrical service to its customers.
- e. "Framework" means the Framework for Competitive Bidding dated December 8, 2006, adopted by the Commission in Docket No. 03-0372, Decision and Order No. 23121, which provides the mechanism for acquiring a future energy generation resource or a block of generation resources by the Company.
- f. "Generating Facility" means a bidder or utility-owned electrical energy generation resource that is interconnected to the Company electrical grid.
- g. "Grid Connection Point" means the point at which Interconnection Facilities connect to the Company's System, normally the Company's transmission grid. Facilities from the Generating Facility to the Grid Connection Point shall be considered Interconnection Facilities (see examples given in Attachment A). The Grid Connection Point will be identified in the IRS.
- h. "Interconnection Agreement" means a contract with the bidder that specifies the terms and conditions under which Interconnection Facilities (and, in some cases, certain System Upgrades) will be designed, installed, paid for, owned, operated and/or maintained. In some instances, such terms and conditions may be included in the PPA with a bidder, instead of in a separate Interconnection Agreement.
- i. "Interconnection Facilities" means the equipment and devices required to permit a Generating Facility to operate in parallel with and deliver electric energy to Company's System and provide reliable and safe operation of, and power quality on, the Company's System (in accordance with applicable provisions of the Commission's General Order No. 7, Company tariffs, operational practices and planning criteria), such as, but not limited to, transmission and distribution lines, transformers, switches, and circuit breakers.

Example 1: A wind farm facility constructed on a neighbor island (e.g. Molokai) that exports to the Company the energy it produces would be required to install undersea transmission lines to interconnect the Generating Facility to the Company's System. The undersea transmission lines and related facilities would be considered Interconnection Facilities.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

Example 2: A proposed Generating Facility is remotely located in a region of the island where there are no existing Transmission System facilities. In this case, if the size of the Generating Facility requires that it be tied to the existing Transmission System, the new Transmission System facilities (i.e. all electrical wires, equipment, and other facilities at the transmission voltage level) constructed from the Generating Facility to the Company's existing Transmission System facilities would be considered Interconnection Facilities.

- j. "Interconnection Requirements Study (IRS)" means a study, performed in accordance with the terms of the IRS Letter Agreement and with the applicable terms of the RFP and any resulting PPA, to identify the Interconnection Facilities, System Upgrades and other system requirements and all associated costs to integrate the proposed Generating Facility with the Company's System, and includes a detailed steady-state and a dynamic analysis. The IRS is conducted by the Company or its consultant and the bidder is responsible for the cost of conducting the IRS.
- k. "Interconnection Requirements Study Letter Agreement (IRS Letter Agreement)" means the letter agreement and any written, signed amendments thereto, between the Company and the bidder that describes the scope, schedule, and payment arrangements for the IRS.
- l. "IRP" means an electric utility's Integrated Resource Plan that has been submitted to the Commission for review and approval in the utility's IRP proceeding, in accordance with the Commission's IRP Framework.
- m. "IRP Framework" means the Commission's Framework for Integrated Resource Planning, dated May 22, 1992, as amended by In re Public Util. Comm'n, Docket No. 05-0075, Decision and Order No. 22490, filed on May 26, 2006.
- n. "Point of Interconnection" means the point of delivery of Energy and/or Capacity supplied by the bidder to the Company, where the facilities owned by the bidder interconnect with the facilities owned or to be owned by the Company. The bidder shall own and maintain the facilities from the Generating Facility to the Point of Interconnection. The Company shall own and maintain the facilities from the Point of Interconnection to the Company's System (see examples given in Attachment A). The Point of Interconnection will be identified in the IRS.
- o. "PPA" means a power purchase agreement or contract by the Company to purchase firm capacity, energy, or both.

MAUI ELECTRIC COMPANY, LIMITED



RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- p. "Renewable Energy Facility" means a Generating Facility that generates electricity using renewable energy as the source.
- q. "RFP" means a written request for proposal issued by the Company to solicit bids from interested third-parties, and where applicable from the Company or its affiliate, to supply a future generation resource or a block of generation resources to the Company pursuant to a competitive bidding process.
- r. "Subtransmission System" means all electrical wires, equipment, and other facilities at the subtransmission voltage levels (such as 46kV, 35kV, or 23kV) owned or provided by the Company, through which the utility provides electrical service to its customers.
- s. "Supervisory Control" means remote monitoring and/or control of a Generating Facility's power output and interrupting device status by means of a communication channel that is acceptable to the Company. For Generating Facilities intending to export power with an aggregate export capacity greater than 250kW, computerized supervisory control may be required to ensure the safety of working personnel and prompt response to system abnormalities in case of islanding of the Generating Facility. The Company shall determine the need for supervisory control based upon the results of the initial technical screening and/or IRS. Supervisory control shall include at a minimum monitoring of: (a) gross generation by the Generating Facility; (b) feedback of Watts, Vars, WattHours, current and voltage; (c) Vars furnished by the utility; and (d) status of the interrupting device. In addition, the supervisory control will allow the Company to trip the interrupting device during emergency conditions. Monitoring will be performed by system dispatchers or operators at the Company's control center.
- t. "System Benefit" means a material increase in power flow capability or in the reliability of the Company's electrical system from a system-wide perspective.
- u. "System Upgrades" means improvements made to the Company's System, other than the Interconnection Facilities, required to provide reliable and safe operation of, and power quality on, the Company's System (in accordance with applicable provisions of the Commission's General Order No. 7, Company tariffs, operational practices and planning criteria) when the Generation Facility is interconnected with the Company's System (see Attachment A). Such improvements may include, but are not limited to, new transmission or distribution lines, reconstruction or reconductoring of existing lines, circuit breakers, switches, transformers, buses, protective devices, communications, and substation equipment and facilities.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

v. "Transmission System" means all electrical wires, equipment, and other facilities at the transmission voltage levels (such as 138kV or 69kV) owned or provided by the utility, through which the utility provides electrical service to its customers.

2. Application of Tariff

This Tariff shall apply to an RFP issued pursuant to the Framework and Interconnection Requirement Studies arising from the RFP process. In the event that there is a conflict between any provision of this Tariff and that of an RFP issued pursuant to the Framework and reviewed by the Commission in accordance with Sections III.B.2 and IV.B.6.e. of the Framework, the provisions of the RFP shall prevail. The terms and conditions established in a PPA arising from the RFP and approved by the Commission shall ultimately control over the requirements and terms of both this Tariff and the RFP.

3. Independent Observer

As established in the Framework, the duties and responsibilities of an Independent Observer (IO) include, among other duties and responsibilities, reviewing and monitoring the Company's communications, methods, and implementation of this Tariff, the RFP and related IRS processes.

B. INTERCONNECTION STUDY PROCESS FOR COMPETITIVE BIDDING

1. RFP Package Data -- available to all prospective bidders.

RFP packages issued by the Company shall contain general and regional system information to provide prospective bidders with high level guidance relating to the Company's existing transmission infrastructure. For example, RFP packages may include information in the form of an island map with areas of the Transmission System identified that are at or near their loading limits to provide high level guidance to bidders on areas of the island with transmission constraints. These constraints may include "load pockets", which are load-driven transmission constraints as well as areas of generation-driven transmission constraints. Because transmission impacts are to a large extent specific to the characteristics of supply-side proposals, definitive transmission information cannot be provided in these maps. Detailed geographic maps of the transmission system may not be part of this information due to security concerns. Rather, a map of the island with areas of the map shaded to identify areas (rather than circuits) of transmission constraints, may be provided.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

In addition, the RFP shall include applicable transmission planning criteria that will be used in the determination of interconnection requirements and potential Transmission System impacts. The information in the bid package will provide bidders with information (a) that should help in the selection of the proposed project's characteristics, including project site, project size, and project mode of operation, and (b) to estimate the interconnection requirements associated with their Generating Facilities and the opportunity to reflect the costs of the interconnection requirements in their bids.

2. Information Requests During Bidding Process - available to all prospective bidders.

During the bidding process, if a prospective bidder requires clarification or additional technical or operational information pertaining to the Company's System, a written request with specific questions may be submitted to the Company in accordance with the requirements set forth in the RFP. The written request, specific questions, and written Company response will be provided to all bidders.

3. RFP Requirements and Threshold Criteria Screening - evaluation performed on all bids received

Each bid received will be reviewed to ensure that it satisfies all of the RFP and threshold criteria requirements. The Company will determine whether each bid conforms to the specified RFP requirements and meets the minimum threshold criteria. Applicable performance standards may be part of the threshold criteria. These performance standards may vary depending upon factors such as the size of the generating resource(s) being acquired in the RFP, the Company's ability to dispatch the Generating Facility, the operational status (e.g., as-available vs. firm) of the Generating Facility, and the fuel type of the Generating Facility (e.g., run-of-the-river hydro may have different performance standards from wind power).

4. High Level Evaluation -- performed on all bids that pass threshold screening in RFP process
  - a. All bids which pass the threshold screening in the RFP process will undergo a high level evaluation consistent with the requirements identified in the RFP, which will focus primarily on basic steady-state analyses (e.g., identifying thermal line impacts, voltage impacts, and any obvious "fatal flaws").

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- b. For each bid, a high level estimate of the costs of Interconnection Facilities and required System Upgrades will be developed based solely on the high level evaluation identified in Section B.4.a. of this Tariff and on unitized cost estimates (e.g., \$/mile for 138kV line, \$/transformer).
  - c. Results of the high level evaluation and high level estimate of the costs of Interconnection Facilities and required System Upgrades will be factored into the determination of which bids make the short list based on the requirements specified in the RFP.
  - d. Basic curtailment analysis of the proposed Generating Facility and related impacts to operations of existing Generating Facilities may also be factored into the determination of which bids make the short list based on the requirements specified in the RFP.
5. Full Interconnection Requirements Study - performed only on short list bids.
- a. An IRS shall be performed only for bid(s) that have met the RFP requirements, passed the threshold criteria, and made the short list, or as otherwise specified in the RFP.
  - b. An IRS would be performed either serially starting with the bid evaluated as the most competitive at the point of the evaluation process, then proceeding to the next most competitive bid on the short list or in parallel on all or some of the short list bidders simultaneously. The determination of whether or not IRS work is to be performed serially, in parallel, or a combination of the two will be based upon factors such as resource availability, number of short list bids, RFP schedule, and relative competitiveness of one bid to others, and the availability of all information and data from bidders necessary to perform the IRS work
  - c. The Company may if practicable "bundle" IRS work for multiple short list bids into a single IRS if the bids are, among other factors, technically, operationally and geographically (e.g., size, location, technology, timing, operating characteristics, etc.) identical or sufficiently similar to each other.
  - d. The results of the IRS, including identified Interconnection Facilities, System Upgrades, Point of Interconnection, and Grid Connection Point, will be provided to the bidder.
  - e. Bidders shall be responsible for incorporating the costs of their Interconnection Facilities into their bids. The RFP may provide bidders with an opportunity to revise their pricing proposals under certain circumstances. Any pricing change, if permitted under the terms of the RFP, will prompt a re-evaluation of short list bidders in the selection of the winning bid as provided for in the RFP.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

- f. The Company may perform the analyses included in the IRS, or the IRS or parts of the IRS may be contracted to an outside consultant specializing in such analyses for complex situations or in situations where the Company does not have available resources to conduct the analyses in a time frame agreeable to the Company.
  - g. The scope and cost of the IRS will depend on the complexity of the Company's System and Generating Facility that must be modeled, and the degree to which the Generating Facility will affect the Company's System.
  - h. The bidder will be responsible for the cost of the IRS (or such lesser amount as the Company may specify to facilitate the processing of interconnection requests for similarly situated facilities) to be performed in order to evaluate the impacts of the Generating Facility's interconnection to the Company's System.
- C. INTERCONNECTION COST AND SYSTEM UPGRADE COST ALLOCATION FOR COMPETITIVE BIDDING
- 1. The bidder shall be responsible for the cost of Interconnection Facilities and shall be responsible for the installation and maintenance of Interconnection Facilities from the Generating Facility to the Point of Interconnection, unless otherwise specified in the RFP.
  - 2. Interconnection Facilities from the Generating Facility to the Point of Interconnection shall be built by the bidder, unless the Company agrees otherwise.
  - 3. Interconnection Facilities from the Point of Interconnection to the Grid Connection Point shall be built by the Company and paid for by the bidder, unless the Company agrees or determines otherwise. The Company may elect to include Betterments to Interconnection Facilities from the Point of Interconnection to the Grid Connection Point, and such Betterments shall be paid for by the Company. The cost of Betterments to such Interconnection Facilities will not be considered in the bid evaluations. The bidder shall acquire the necessary land and easements for Interconnection Facilities from the Point of Interconnection to the Grid Connection Point, unless the Company agrees otherwise. Interconnection Facilities from the Point of Interconnection to the Grid Connection Point, if built by the bidder, shall be transferred to the Company upon completion, along with the necessary land rights and easements.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

4. The Company shall install and maintain the identified System Upgrades arising from the interconnection of the Generating Facility and shall be responsible for the cost of such System Upgrades.
  - a. The Company's cost for System Upgrades will be considered as a factor in the bid evaluations.
  - b. The degree to which the System Upgrades provide System Benefits and/or Betterments will be considered in the bid evaluations.
5. Standards and Interconnection Agreements
  - a. Interconnection Facilities and System Upgrades owned or to be owned by the Company shall be constructed in accordance with the Company's applicable standards and in accordance with the PPA or the Interconnection Agreement, if there is a separate Interconnection Agreement.
  - b. Generating Facilities and Interconnection Facilities owned by the bidder shall be constructed in accordance with applicable State and County code requirements and in accordance with the PPA or the Interconnection Agreement, if there is a separate Interconnection Agreement.
  - c. The bidder's Generating Facility may be interconnected and operated in parallel with the Company's System in accordance with the terms and conditions of the PPA between the Company and the bidder, and/or the terms and conditions of an Interconnection Agreement between the Company and the bidder, if there is a separate Interconnection Agreement.
  - d. The bidder will be required to furnish, install, operate, and maintain suitable and sufficient equipment, to maintain adequate records, and to follow such operating procedures, as may be specified by the Company to protect the Company's System from damage resulting from the parallel operation of the Seller's Facility, including the equipment, records and operating procedures more fully described in the PPA and/or Interconnection Agreement, if there is a separate Interconnection Agreement.
  - e. Interconnection Facilities shall be designed, installed operated and maintained in accordance with good interconnection practice. The objectives of good interconnection practice include, but are not limited to,
    1. Safety - To protect the safety of utility personnel, utility customers, and the public.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

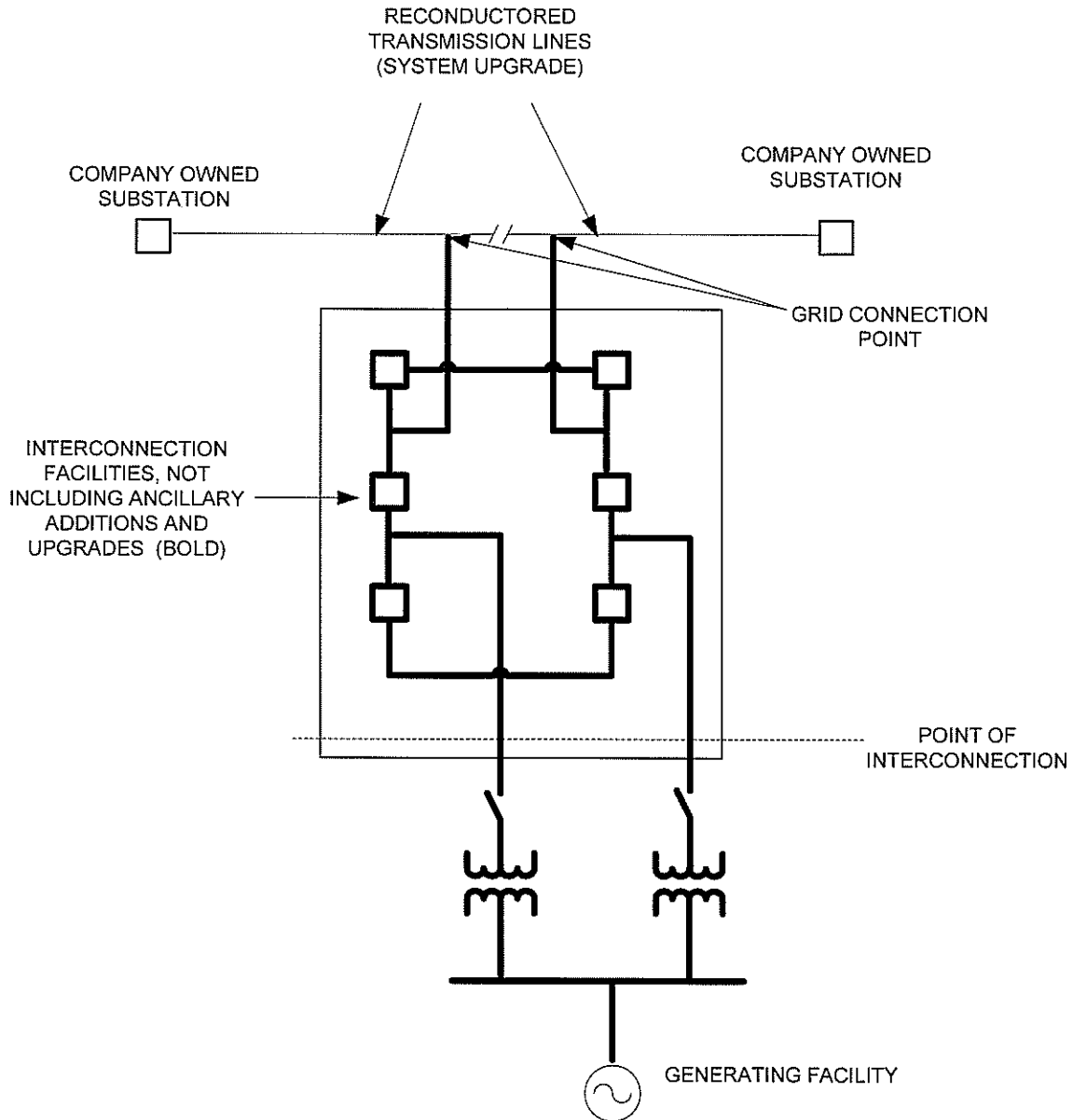
2. Reliability - To maintain the reliability of the utility system for all utility customers.
  3. Power Quality - To provide for acceptable power quality and voltage regulation on the utility system and for all utility customers.
  4. Restoration - To facilitate restoration of power on the utility system.
  5. Protect Utility and Customer Equipment - To protect utility and customer equipment during steady state and faulted system operating conditions.
  6. Protect Generating Facilities - To protect generating facilities from operation of utility protective and voltage regulation equipment.
  7. Utility System Overcurrent Devices - To maintain proper operation of the utility system's overcurrent protection equipment.
  8. Utility System Operating Efficiency - To ensure operation at appropriate power factors and minimize system losses.
- f. The bidder shall obtain, at its expense, any and all authorizations, approvals, permits, and licenses required for the construction and operation of its Generating Facility and the interconnection of its Generating Facility with the Company's System, including but not limited to environmental permits, building permits, rights of way, or easements.
  - g. Where any Company-owned Interconnection Facilities are to be located on the site of the bidder's Generating Facility, the bidder shall provide, at no expense to the Company, a location and access acceptable to the Company for all such facilities.
6. Renewable Energy Facilities
- a. In its IRP process, the Company may propose System Upgrades, to be paid for, owned and maintained by the utility, to encourage the development of Renewable Energy Facilities.
  - b. In its IRP process, the Company may propose to pay for Interconnection Facilities between the Point of Interconnection and the Grid Connection Point, in order to encourage the development of Renewable Energy Facilities.

MAUI ELECTRIC COMPANY, LIMITED

RULE NO. 19 - Continued

Interconnection and Transmission Upgrades

Attachment A



MAUI ELECTRIC COMPANY, LIMITED



**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix J – Rule 29 Tariff*

**[NOTE: Please refer to Exhibit 2 of the July 9, 2020 filing for the proposed Rule 29 Tariff.]**



**Maui  
Electric**

**DRAFT**  
**REQUEST FOR PROPOSALS**  
**FOR**  
**VARIABLE RENEWABLE DISPATCHABLE GENERATION**  
**PAIRED WITH ENERGY STORAGE**  
**AND**  
**COMMUNITY-BASED RENEWABLE ENERGY**  
**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix K – Lāna‘i Community Comments*



**Maui  
Electric**

## **Lānaʻi Community Meeting Feedback** (written comments received by Maui Electric Co., Ltd.)

On July 23, 2019, the Company held a community meeting on Lānaʻi to provide residents information on its plans to conduct a Request for Proposals (“RFP”) for Variable Renewable Dispatchable Generation. During the meeting, the Company gave a presentation to explain the objective of the RFP and overall process.<sup>1</sup> Approximately 40 residents attended the meeting. The Company solicited written feedback from the Lānaʻi community based on the following question:

1: Do you have any feedback/comments you want developers to be aware of?

The following written responses were received:

Comment 1:

Suggest bidders be strongly encouraged to meet w public before submitting bid for consideration to better inform public engagement process if selected~

Comment 2:

Please pronounce the name of our island correct Lānaʻi.

Comment 3:

Price and reliability are major considerations.

What are the plans for restoring power should there be failures, e.g., spare parts readily available on island, technicians on island or can be on island quickly.

Comment 4:

Is the location of the new solar going to take away hunting designated land.

Tell the PUC to bring back net metering?

Can the grid handle the increase in power?

Comment 5:

Is it possible to hire/train Lānaʻi residents to fill these new jobs please?

Will you consider including students at Lānaʻi High & Elem if they would like to learn more about renewable energy?

Comment 6:

So glad MECO incorporated significant opportunities for lots of community input.

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<sup>1</sup> The July 23, 2019 meeting was held in conjunction with the scope and Section 3.11 Project Site specified in the Variable Renewable Dispatchable Generation RFP issued on November 27, 2019.

**DRAFT**

**REQUEST FOR PROPOSALS**

**FOR**

**VARIABLE RENEWABLE DISPATCHABLE GENERATION**

**PAIRED WITH ENERGY STORAGE**

**AND**

**COMMUNITY-BASED RENEWABLE ENERGY**

**ISLAND OF LĀNA‘I**

JULY 9, 2020

Docket No. 2015-0389

*Appendix L – Lāna‘i RDG PPA (PV + Storage only)*

**[NOTE: The Lāna‘i RDG PPA (PV + Storage only) will be provided in advance of the July 29, 2020 Status Conference.]**



**Maui  
Electric**

# EXHIBIT 8

Chart of Differences Between the LMI RFPs

Exhibit 8: Chart of Differences for Community-Based Renewable Energy Projects for Low and Moderate Income Subscribers RFPs between O’ahu, Maui, and Hawaii’s Island

| RFP SECTION NO | SUBJECT  | MAUI  | O’AHU  | HAWAII’I   |
|----------------|--|---|--|--|
| 1.2.8          | Interconnection voltage  | 12 kV or lower; Projects interconnecting at the distribution level (12 kV or lower) must not exceed 3 MW.   | 46 kV or lower; Projects interconnecting at 25 kV or lower must not exceed 3 MW.   | 12kV or lower; Projects interconnecting at the distribution level (12 kV or lower) must not exceed 3 MW.   |
| 1.2.9          | Project size   | Minimum size: 250 kW. Projects smaller than 250 kW may be submitted through the Company’s CBRE website.<br>Maximum size: 3 MW due to interconnection at 12 kV or lower. | Minimum size: 250 kW. Projects smaller than 250 kW may be submitted through the Company’s CBRE website.<br>Maximum size: 3 MW for projects interconnecting at 25 kV or lower. Maximum size will depend on available circuit capacity and need to be confirmed if interconnecting at 46 kV. Single point of failure limit: 135 MW | Minimum size: 250 kW. Projects smaller than 250 kW may be submitted through the Company’s CBRE website.<br>Maximum size: 3 MW due to interconnection at 12 kV or lower |
| 1.8            | Proposal Fee   | \$1,000 per Proposal  | \$1,000 per Proposal for projects between 250 kW and 2.5 MW; \$2,500 for projects between 2.5 MW and 10 MW, and \$5,000 for projects larger than 10 MW.  | \$1,000 per Proposal   |
| 2.2            | Distribution-Level System  | 12 kV or lower possible points of interconnection with limitations based on individual circuit capacity   | 25 kV or lower possible points of interconnection with limitations based on individual circuit capacity.<br><br>Additional requirements for interconnection to 46kV. Section will be renamed to reflect additional interconnection points.   | 12 kV or lower possible points of interconnection with limitations based on individual circuit capacity  |
| 4.3            | Threshold Requirement Assessment                                 | Available Circuit Capacity threshold requirement will not be included due to interconnection at 12 kV and lower.  | Available Circuit Capacity threshold requirement will be included due to possible interconnection at 46 kV. This criteria will not be evaluated for distribution-level projects (25 kV and lower)  | Available Circuit Capacity threshold requirement will not be included due to interconnection at 12 kV and lower.   |
| 4.4.2          | Locational Value: Non-Wires Alternative and Community Resilience | Table 2: Will include Maui System specific information  | Table 2: Will include Oahu System specific information   | Table 2: Will include Hawaii Island System specific information  |
| App. H.        | Interconnection Facilities and Cost Information                  | Specific requirements for the Maui Electric System  | Specific requirements for Hawaiian Electric System   | Specific requirements for Hawaii Electric Light System   |
| App. J         | Model PV RDG PPA   | For projects > 2.5 MW<br>Att. B, N, O   | For projects > 5 MW<br>Att. B, N, O  | For projects > 2.5 MW<br>Att. B, N, O  |
| App. K         | Model Wind RDG PPA   | For projects > 2.5 MW<br>Att. B, N, O   | For projects > 5 MW<br>Att. B, N, O  | For projects > 2.5 MW<br>Att. B, N, O  |
| App. L         | Standard Form Contract for PV projects 250 kW to 2.5 MW          | For projects between 250 kW and 2.5 MW<br>Att. F - Facility Owned by Subscriber Organization  | For projects between 250 kW and 5 MW<br>Att. F - Facility Owned by Subscriber Organization   | For projects between 250 kW and 2.5 MW<br>Att. F - Facility Owned by Subscriber Organization   |
| App. M         | Standard Form Contract for Wind projects 250 kW to 2.5 MW        | For projects between 250 kW and 2.5 MW<br>Att. F - Facility Owned by Subscriber Organization  | For projects between 250 kW and 5 MW<br>Att. F - Facility Owned by Subscriber Organization   | For projects between 250 kW and 2.5 MW<br>Att. F - Facility Owned by Subscriber Organization   |
| App. O         | Grid Needs Assessment  | Grid Needs Assessment will provide Maui System specific information.  | Grid Needs Assessment will provide Oahu System specific information.   | Grid Needs Assessment will provide Hawaii Island System specific information.  |

# EXHIBIT 9

## CBRE RFP Code of Conduct

**The Hawaiian Electric Companies' Code of Conduct**

Hawaiian Electric Company, Inc., Maui Electric Company, Limited, and Hawai'i  
Electric Light Company, Inc. (collectively, the "Companies") Code of Conduct  
Pertaining to the Implementation of a Competitive Bidding Process for Community-  
Based Renewable Energy

**Purpose**

The Framework for Competitive Bidding ("Framework"), adopted on December 8, 2006, by the Public Utilities Commission of the State of Hawai'i (the "Commission") pursuant to Decision and Order No. 23121 (Docket No. 03-0372, Instituting a Proceeding to Investigate Competitive Bidding for New Generating Capacity in Hawaii), requires that the utility develop and follow a code of conduct in order to ensure the fairness and integrity of the competitive bidding process, in particular where a utility or its affiliate seeks to advance an energy generation resource proposal in response to a Company RFP (as defined below). The Framework, at Section III.A.4., requires the utility to submit to the Commission for review and approval (subject to modification, if necessary, by the Commission), a Code of Conduct prior to the commencement of any competitive bid process under the Framework.

This *Code of Conduct Pertaining to the Implementation of a Competitive Bidding Process for Community-Based Renewable Energy* ("Code of Conduct") outlines the policies and general procedures under which the competitive bidding process for system resources will be undertaken by the Company to ensure that the competitive bidding process is undertaken in a fair and unbiased manner, that all proposers have access to the same information to ensure no proposer has an unfair advantage, and that self-build and/or affiliate options do not have any unfair competitive advantage or enjoy undue preference over third-party bids.

**Definitions**

- Affiliate – Any person or entity that possesses an "affiliated interest" in a utility as defined by section 269-19.5, Hawaii Revised Statutes ("HRS"), including a utility's parent holding company but excluding a utility's subsidiary or parent which is also a regulated utility.
- Affiliate Team – Employees and consultants of an Affiliate of the Company who prepare a proposal to be submitted to a Company in response to a Company RFP.
- CBRE – Community-Based Renewable Energy.
- Code of Conduct Acknowledgement – The Competitive Bidding Code of Conduct Acknowledgement of Receipt form required to be executed acknowledging review of, and agreeing to abide by, this Code of Conduct and its respective RFP Code of Conduct Procedures Manual.
- Code of Conduct Procedures Manual – The Company-prepared manual required by the Framework which implements procedures, in accordance with the policies outlined in the Framework and this Code of Conduct, for communications within the Company between



the Company RFP Team, Shared Resources and Unassigned Company Resources and between the Company and proposers into an RFP, including a Company Self-Build Team and/or Affiliate Team.

- Communications Log – A written record to note activities and/or information shared between the Company RFP Team or Company Self-Build Team with Shared Resources or Unassigned Company Resources, accessed via the RFP Communication Tool Kit SharePoint Site.
- Company – Hawaiian Electric Company, Inc., Maui Electric Company, Limited, or Hawai‘i Electric Light Company, Inc., as the context so requires.
- Companies – collectively, Hawaiian Electric Company, Inc., Maui Electric Company, Limited, and Hawai‘i Electric Light Company, Inc.
- Companies’ Executive in Charge – The Companies’ executive responsible for ensuring compliance with this Code of Conduct and serving as the point of contact for the Independent Observer for reporting any violations by the Companies of the Code of Conduct. The Companies’ Corporate Compliance Officer shall remain responsible for the Companies’ independent corporate code of conduct and may support compliance matters and questions arising with employees, agents and other representatives of the Companies, e.g., conflicts of interest, with respect to this Code of Conduct.
- Company RFP – A written request for proposal issued by the electric utility to solicit bids from interested third-parties, and where applicable from the utility or its affiliate, to supply a future system resource or a block of system resources to the utility pursuant to the competitive bidding process.
- Company RFP Team – The Company personnel and outside consultants responsible for the development of the Company’s RFPs conducted under the Framework and the evaluation of bids submitted in response to these RFPs. Subject to the transfer rules specified in the Companies’ Code of Conduct Procedures Manuals, the Company RFP Team will have fixed team members who will not have any involvement with the Company Self-Build Team for the subject RFPs.
- Company Self-Build Team – The Company personnel and outside consultants responsible for the development of the Company’s self-build responses to the RFPs. Subject to the transfer rules specified in the Companies’ Code of Conduct Procedures Manual, the Company Self-Build Team will have fixed team members who will not have any involvement with the Company RFP Team for the subject RFPs.
- Confidential Information – Any non-public information developed and provided by the Company (e.g., proprietary system information) or proposers during the RFP process (such non-public information may include, for example, the identity of competing proposers, and their technical, trade or financial information). This term includes any material non-public information regarding the RFP process developed for and used during the competitive bidding solicitation process, such as the evaluation process or criteria. Confidential Information includes Confidential Resource Proposal Information and Confidential RFP Process Information but does not include public information, such as information in the Company’s public filings with the Commission.
- Confidential Resource Proposal Information – Any non-public information developed and provided by the Company Self-Build Team, its affiliates or third-party proposers during the RFP process (such non-public information may include, for example, the identity of competing proposers, and their technical, trade or financial information).
- Confidential RFP Process Information – Any non-public information regarding the RFP process developed and used during the competitive bidding solicitation process.

- Consumer Advocate – The Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, State of Hawai‘i.
- Director of Renewable Acquisition – The supervisor of the Division that will oversee the Company’s competitive bidding process.
- Energy Contract Manager – The staff position(s) within the Company’s Renewable Acquisition Division responsible for managing the Company RFP Team(s). The Energy Contract Manager shall be a member of the Company RFP Team.
- Independent Observer – The neutral person or entity either appointed by the Commission or, at the direction of the Commission, identified and retained by the utility to monitor the utility’s competitive bidding process, and to advise the utility and Commission on matters arising out of the competitive bidding process, as described in Part III.C of the Framework.
- Manager of Energy Procurement – The supervisor of the department within the Company’s Renewable Acquisition Division responsible for directing the resources responsible for the implementation of the competitive bidding process pursuant to the Framework. The Manager of Energy Procurement will report to the Director of Renewable Acquisition on the status of the competitive bidding process and shall be a member of the Company RFP Team.
- Non-Wires Alternative - An electricity grid project that uses non-traditional transmission and distribution (T&D) solutions, such as distributed generation (DG), energy storage, energy efficiency (EE), demand response (DR) and grid software and controls, to defer or avoid the need for conventional transmission and/or distribution infrastructure investments.
- Roster – A consolidated list of members that comprise the Company RFP Team, Company Self-Build Team, Shared Resources and Unassigned Company Resources located in the RFP Communication Tool Kit SharePoint Site. Company employee names and titles and consultants in their designated role will be identified.
- Shared Resources – Company employees and consultants who, because of the scarcity of their expertise within the Company, are designated and authorized to provide information or input to both the Company RFP Team and the Company Self-Build Team (but not any Affiliate Team) and is not a resource dedicated to either team. For example, Shared Resources may include an environmental attorney and members of the Company’s Risk Management Department.
- Unassigned Company Resources – Company employees unassigned to an essential team that may be called upon by the Company RFP Team and/or the Company Self-Build Team (but not any Affiliate Team) to assist in meeting unforeseen tasks for the RFPs or the self-build proposals. For example, the RFP team may be unable to evaluate an unforeseen technical specification included in a bid. In that event, the RFP team would need to request assistance from a Company employee or a consultant that is not already assigned to an essential team and possesses the specific expertise. Such personnel are intended to assist the requesting team only in an ad hoc manner, limited in scope and purpose to the particular task required.

### **Implementation and Application of the Code of Conduct**

Employees of the Company who will be involved in the competitive bidding process must comply with the Code of Conduct. Members of the Company RFP Team, Company Self-Build Team, Shared Resources and Unassigned Company Resources must implement the Code of Conduct in

order to be eligible to evaluate bids or participate in the development and submission of a Company system resource option.<sup>1</sup> The Code of Conduct addresses: (1) communication requirements and procedures associated with the relationship between utility employees; (2) communication requirements and procedures associated with the relationship between utility RFP personnel and proposers; and (3) communication requirements associated with the relationship between Company management and the various entities involved in the competitive bidding process. The Code of Conduct Procedures Manual implements the requirements of the Framework and this Code of Conduct and provides further requirements for such communications.

The Code of Conduct also includes the procedures for addressing cases where limited resources and expertise of the Company may be shared by the Company Self-Build Team and Company RFP Team. While the Company will make every reasonable effort to develop internally separate teams for evaluating the bids and developing the self-build options, the small size of the Company and limitation of resources and expertise generally will require specialized services, information exchange and sharing of resources in certain limited circumstances, such as in the course of resource planning activities. Where the Company has identified these limited resources and expertise, the Company has designated such resources and expertise as Shared Resources with strict communications restrictions and the requirement to maintain the Communication Log of all communications with either team.

Finally, this Code of Conduct does not apply to communications and information shared between utility employees in the normal course of their employment that is not associated with any active RFP.

### **General Rules**

1. Competitive Bidding Code of Conduct Acknowledgement of Receipt. Any employee (whether full-time, part-time, temporary or contract) or consultant involved in the competitive bidding process as a member of the Company RFP Team or the Company Self-Build Team, or designated as a Shared Resource or Unassigned Company Resource, shall comply with the rules of conduct in this Code of Conduct and the procedures outlined in the Code of Conduct Procedures Manual and must sign the Code of Conduct Acknowledgement.
2. Separation of Teams; No Transfer Between Teams. To enhance the opportunity to maintain separation of resources between the Company RFP Team and the Company Self-Build Team, while recognizing the potential problems associated with limited resources, the following procedures shall be followed. The Company RFP Team will have no involvement with the Company Self-Build Team with respect to the RFP. Further, no team member from one team may switch teams, i.e., from the Company RFP Team to the Company Self-Build Team and vice versa, within any particular stage or phase of an RFP. Other employees, not a member of any team, could serve as Shared Resources or Unassigned Company Resources, but will be subject to the conditions defined in General Rules 7 and 8, respectively, below.

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<sup>1</sup> Note: Shared Resources and Unassigned Company Resources are not eligible to evaluate bids. See *Rules for Evaluators* herein.

3. No Involvement with Affiliate Teams. Affiliate Teams shall be considered and treated as a separate third-party proposer for all purposes within any RFP. There shall be no communication or interaction between the Company RFP Team and any Affiliate Team except as may be permitted under the Framework, this Code of Conduct or the Code of Conduct Procedures Manual and consistent in all respects with communications and interactions permitted with unaffiliated third-party proposers. Affiliate Teams shall have no access to, interaction or communications with Shared Resources or Unassigned Company Resources for the purpose of completing a proposal in response to any RFP. Affiliates of the Company shall also be subject to the terms, conditions and restrictions specified in the Company's Affiliate Transaction Requirements issued by the Commission.<sup>2</sup>
4. Duty Not to Disclose Confidential Information Across Teams. Members of the Company RFP Team may work with members of the Company Self-Build Team or with an Affiliate on other projects not related to the Company RFP, but are prohibited from discussing or disclosing, directly or indirectly through a conduit, Confidential Information with: (i) the Company Self-Build Team and any Affiliates except in accordance with the procedures outlined in this Code of Conduct and the RFP, or (ii) any other Company employee, individual or entity without a business need to know. No transfer of an employee of the Company, including to an Affiliate, shall be used to circumvent this prohibition to create a conduit for the prohibited transfer of Confidential Information.
5. Work Locations. Members of the Company RFP Team and the Company Self-Build Team do not have to be physically separated from each other but members of each team must take all reasonable measures to keep all Confidential Information (including electronic data) pertaining to the competitive bidding process confidential.
6. Roster. The Roster for the Company RFP Team, the Company Self-Build Team, Shared Resources and identified Unassigned Company Resources will be maintained by the Company and provided to the Independent Observer upon request. All team members will be specifically identified by name and position.
7. Managing of Shared Resources. Certain Company resources, such as select staff from various functional areas of the Company (e.g., generation and transmission planning, engineering, system and power plant operations, environmental, financial analysis, risk management, etc.) that are not members of any team, may be treated as a shared resource to perform services for the Company RFP Team and to carry on their regular functions throughout the resource planning process (including the development of the utility's Parallel Plan or Contingency Plan as defined in the Framework), which may require communication with or services performed for the Company Self-Build Team. Shared Resources may perform these services subject to complying with the Code of Conduct and the Code of Conduct Procedures Manual. Any information received by employees serving as a Shared Resource from their communication with one team (either the Company RFP Team or Company Self-Build Team) will not, either directly or indirectly through others, be provided to members on the other team or to other proposers, except through the formal RFP communication process. A written record of the time, date and substance of all

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<sup>2</sup>See Order No. 36112, issued January 24, 2019, in Docket No. 2018-0065, establishing those certain Affiliate Transaction Requirements for the Company and its Affiliates.

conversations, data and written material directly or indirectly exchanged with any member of the Company RFP Team or the Company Self-Build Team that pertain to the Company RFP, shall be maintained on the Communication Log. The Independent Observer will have contemporaneous access to the Communication Log. In any limited case where information or resources are required to be provided by one team to another, and because of confidentiality or proprietary reasons, cannot be disseminated through the Company RFP website, all such communications will be directed through the Energy Contract Manager copied to and with direct oversight by the Independent Observer.

8. Managing of Unassigned Company Resources. Certain Unassigned Company Resources may be requested to perform services for either the Company RFP Team or the Company Self-Build Team on an *ad hoc* basis that does not necessitate such resource being added to the team requesting assistance. Such Unassigned Company Resources may provide such services subject to complying with the Code of Conduct and the Code of Conduct Procedures Manual. In connection with providing such services, a written record of such services shall be maintained in the same manner and fashion as the written records required of Shared Resources on the Communication Log. The Independent Observer will have contemporaneous access to this Communication Log.
9. Access to Information During Bidding Period. It is the objective of the Company that all proposers, as well as the Company Self-Build Team and any Affiliate Team, receive access to the same RFP information at the same time. All communications regarding the RFP will be provided to all proposers through the Company's RFP website or other specialized means of access established for purposes of administering the RFP. No members of the Company Self-Build Team or Affiliate Team will have access to such information before it is distributed to all potential proposers.
10. Duty Not to Disclose Confidential Resource Proposal Information During RFP Process. All Confidential Resource Proposal Information shall be held in confidence during the RFP evaluation and selection process and negotiation of contracts with selected proposers (if necessary), and shall not be discussed or exchanged by the Company RFP Team with any party except the proposer providing the information, Company management personnel responsible for resource decisions, Company RFP Team members, the Independent Observer, and the Commission and the Consumer Advocate, and their respective staffs and consultants. Dissemination of such Confidential Resource Proposal Information shall be limited, to the extent possible, to those with a business need to know.
11. Prohibition of Company Self-Build Team and Affiliates from Advance Disclosure of Confidential Resource Proposal Information to Company RFP Team. The Company Self-Build Team and any Affiliate Team are prohibited from providing team members of the Company RFP Team with any Confidential Resource Proposal Information pertaining to the development of a Company Self-Build Team or Affiliate Team resource option in response to a Company RFP until after that proposal is officially submitted.
12. Treatment of Information Requests from Company Self-Build Team and Affiliate Team. The Company RFP Team will treat all requests from the Company Self-Build Team and Affiliate Team for information pertaining to the Company RFP in the same manner as requests received from non-affiliate entities. The Company Self-Build Team and the Affiliate Team will be required to submit all questions in writing and will receive a

response via the Company RFP website or other means specified in the RFP, as would any other proposers.

13. No Preferential Treatment. The Company RFP Team, when evaluating proposals will give all proposals the same consideration within the parameters of the particular RFP and the eligibility, threshold and evaluation requirements and criteria contained therein. Self-build options and Affiliate Team bids will not be given any preferential or discriminatory treatment.
14. Applicability of Code. Any employee or consultant who directly or indirectly takes part in the conduct of the competitive bidding process, whether an employee of the Company or of a company under contract, shall comply with the requirements for treatment of Confidential Information obtained during the competitive bidding process. Such employee or consultant shall execute the Acknowledgement required under General Rule 1 above.
15. Rules for Evaluators. Any employee or consultant taking part in the evaluation of bids or in the process of selecting system resources (the "evaluator") must comply with the following rules and eligibility requirements:
  - a. In carrying out his or her responsibilities, the evaluator must make his/her decision based on the merits of the proposal and irrespective of all partisan considerations;
  - b. The evaluator must not accept any gifts, favors, entertainment or other advantages from any proposers;
  - c. The evaluator must hold in confidence all Confidential Information obtained through the bidding process;
  - d. Should the evaluator be directly contacted by any proposer, including members of the Company Self-Build Team or Affiliate Team, he/she must promptly relate such contact to the Energy Contract Manager, and, as applicable, the Independent Observer, if such contact could be deemed to have compromised the evaluation process.
  - e. Evaluators shall be members of the Company RFP Team, separated into price and non-price evaluation teams. See *Code of Conduct Procedures Manual*.
  - f. Shared Resources and Unassigned Company Resources shall not be permitted to participate, or advise the Company RFP Team, in evaluating bids.
16. Companies Officer Certification of Code of Conduct Compliance. A Companies officer, identified to the Independent Observer and the Commission, shall have the written authority and obligation to enforce the Code of Conduct. Such officer shall certify, by affidavit, Code of Conduct compliance by all employees participating in a specific RFP process after each specific RFP process ends.
17. Term. This Code of Conduct shall remain in effect until: (a) the final contract(s) for RFPs conducted under the Framework with the successful proposer(s) is/are executed or when written notice of termination of the RFPs to be conducted under the Framework is provided by the Manager of Energy Procurement or his/her designee to the Independent Observer

and the Commission; and (b) a certification of Code of Conduct compliance by all employees participating in the specific RFP process is submitted by affidavit by the Companies' Executive in Charge. The Code of Conduct shall remain in effect through all stages or phases of a particular RFP, regardless of the length of time between such stages or phases in the RFP.