

Attachment 7

**Letter from HECO to PUC, Subject:
Docket No. 2020-0140 – For Approval of
a Second Amendment to Power
Purchase Agreement for Renewable
Dispatchable Generation with
Mahi Solar, LLC
February 15, 2022**



February 15, 2022

The Honorable Chair and Members of the
Hawai'i Public Utilities Commission
Kekuanao'a Building, First Floor
465 South King Street
Honolulu, Hawai'i 96813

Dear Commissioners:

Subject: Docket No. 2020-0140 – For Approval of a Second Amendment to Power Purchase Agreement for Renewable Dispatchable Generation with Mahi Solar, LLC

Hawaiian Electric Company, Inc. (“Hawaiian Electric” or the “Company”) respectfully requests approval of the Second Amendment to Power Purchase Agreement for Renewable Dispatchable Generation (the “PPA Amendment”) executed by the Company and Mahi Solar, LLC (“Seller”) (collectively referred to as the “Parties”) attached as **Exhibit A**. The PPA Amendment reflects changes to the Power Purchase Agreement for Renewable and Dispatchable Generation (“PPA”) dated September 11, 2020, to memorialize the Parties’ agreement to include terms and conditions Seller deems necessary to address delays and price increases due to the COVID-19 pandemic and the global supply-chain crisis, as well as other market conditions that have arisen during the development of the Project, in order to complete development of Seller’s 120 MW solar plus 480 MWh battery storage project (“Project”). The Guaranteed Commercial Operations Date (“GCOD”) for the Project has been updated to the later of March 31, 2024 or twenty-four (24) months after receipt of a Commission order approving the PPA Amendment. As described further below, the Company, at the request of Seller, seeks Commission review and approval of the PPA Amendment by no later than **March 31, 2022**, to ensure the Project can move forward to achieve the earliest possible GCOD of March 31, 2024.

I. Background

The Parties¹ entered into the PPA on September 11, 2020, and the Company sought Commission approval with its Application filed in this proceeding on September 15, 2020. On December 30, 2020, the Commission issued Decision and Order No. 37515 in this proceeding (the “Approval Order”), which among other things, approved the terms and conditions of the PPA, found such terms prudent and in the public interest, authorized the Company to include all payments under the PPA through the Purchased Power Adjustment Clause (“PPAC”) to the extent such costs are not included in base rates, and approved the proposed accounting and

¹ All capitalized terms, unless otherwise defined herein, shall have the meanings ascribed to such terms as they appear in the PPA and/or the PPA Amendment.

ratemaking treatment for the purchased power expenses under the PPA. The Company's request for approval of its overhead line extension remains pending.

On April 7, 2021, the Commission issued Order No. 37715 in Docket No. 2021-0024, inviting developers to submit proposals to expedite their respective project GCODs. In response to the Commission's invitation, Seller filed a proposal to accelerate its GCOD in Docket No. 2021-0024 on May 28, 2021. On July 22, 2021, Seller and the Company executed an amendment to the PPA (the "First Amendment") to include terms and conditions necessary for an accelerated schedule, including an earlier GCOD for the Project, and an amendment of the pricing provisions. On July 30, 2021, the Company submitted a request to the Commission seeking approval of the First Amendment. On September 13, 2021, Seller informed the Company of a potential Force Majeure claim due to the global supply-chain crisis, which may delay the Project schedule by 18 months or more and requested the Company immediately withdraw its approval request for the First Amendment from Commission consideration, since the Project could no longer be accelerated under the terms set forth therein. That same day, the Company informed the Commission that it was withdrawing its request for approval of the First Amendment. On September 21, 2021, Seller provided the Company its Notice of Force Majeure related to the global supply-chain crisis noted above. On October 6, 2021, the Parties executed a letter agreement declaring the First Amendment null and void.

On October 15, 2021, Seller submitted a draft PPA amendment to the Company which included a Unit Price increase and other modifications. At that time, the Company viewed Seller's requested revisions to the PPA extending beyond issues related to the COVID-19 pandemic that the Company believed were already covered in the PPA and provided a response to the Seller on October 21, 2021 with a counteroffer of terms that the Company would be willing to negotiate. The Company and Seller met on October 25, 2021 to discuss the counteroffer. However, Seller notified the Company that it was unable to agree to the Company's proposal and, therefore, would be required to declare the PPA null and void if the Company could not accept Seller's proposed increased Unit Price. On October 28, 2021, the Company filed a Project Status Update with the Commission in this proceeding describing the Parties' efforts to continue negotiations, but explaining that they were unable to reach agreement on a PPA Amendment at that time. On October 29, 2021, the Seller filed a similar update to the Commission asking for guidance on next steps in the negotiation of the PPA Amendment. On November 5, 2021, the Commission filed a letter in this docket stating, among other things, that the Commission is open to continued negotiations between the Parties and to extending the deadline for Seller to declare the PPA null and void. However, the Commission stated that it was not inclined to consider the price increases that Seller proposed in its October 29, 2021 letter. The Parties continued negotiations through November and on November 24, 2021, Seller provided the Company with a revised draft PPA Amendment that would enable the Project to be

completed by December 31, 2023.² Through the month of December, the Parties met on a weekly basis to further discuss the PPA Amendment and pricing terms.³

In early January 2022, the Parties were close to finalizing the PPA Amendment and believed it could be ready for execution by January 10, 2022, and the Company intended to file for Commission approval shortly thereafter. However, on January 7, 2022, Seller informed the Company that due to the rapidly increasing costs in the current market, Seller could no longer build the Project and had made the difficult decision to cancel the Project, with the intent of rebidding it into a future RFP when the market is less volatile. On January 10, 2022, the Company responded to Seller inquiring if there were any other alternatives the Parties could explore before concluding that cancellation of the Project is the only option. Seller responded on January 12, 2022, explaining that, while it was not Seller's intention to seek a higher PPA price, a potential increase to the Unit Price coupled with an extension to the GCOD of March 31, 2024 or approximately 24 months after Commission approval, could allow the Project to continue.

While the Company would not typically entertain such a proposal and such proposal is not consistent with the Stage 2 RFP or PPA, the Company also acknowledges that exceptionally unique circumstances exist – the ongoing global supply-chain crisis resulting from the unprecedented global COVID-19 pandemic has caused labor shortages, logistics delays and significant price increases on materials and services impacting the solar market and transportation operations across the globe. According to a recent report from energy consultancy Rystand Energy,⁴ the cost for photovoltaic modules has risen nearly 50% and as of October 2021, the cost for polysilicon (a key component in solar systems) was up 300% since July 2020. Additionally, shipping costs have risen by nearly 500% between September 2019 and October 2021. These rising costs and supply-chain constraints are expected to have a detrimental impact on more than half of the expected utility-scale solar developments planned for 2022, which could lead to the postponement or even cancelation of projects.

While the Company expects bidders to perform their due diligence when conducting cost estimates for anticipated project expenses, at the time the Stage 2 RFP projects were proposed in November 2019, neither the COVID-19 pandemic nor the global supply-chain crisis were in existence nor could have been reasonably foreseen. All around the world, the COVID-19 pandemic is recognized as a persisting public health emergency that continues to disrupt supply-chain logistics and market conditions. Yet, it remains critical, even during these uniquely challenging times, to move forward as quickly as possible to achieve the State's clean energy goals. Therefore, the Company continued PPA Amendment negotiations with Seller with this important context in mind.

² See Status Update on Parties' Negotiations, filed on December 3, 2021 in this proceeding.

³ See Status Update on Parties' Negotiations, filed on January 18, 2022 in this proceeding.

⁴ Rystand Energy, *Most of 2022's Solar PV Projects Risk Delay or Cancelation due to Soaring Material and Shipping Costs*, Oct. 26, 2021, <https://www.rystadenergy.com/newsevents/news/press-releases/most-of-2022s-solar-pv-projects-risk-delay-or-cancelation-due-to-soaring-material-and-shipping-costs/>.

On February 8, 2022, the Parties executed the PPA Amendment to include terms and conditions Seller deems necessary to address delays and price increases due to the COVID-19 pandemic, and the global supply-chain crisis and market conditions. As further described in **Section IV. B.** below, the Company determined that, with the new pricing terms and updated GCOD set forth in this PPA Amendment, the Project is expected to result in a savings to customer bills, a reduction to fossil fuel, and a positive contribution to the island and consolidated Renewable Portfolio Standard. This PPA Amendment is now presented to the Commission for approval.

Should the Project's PPA be declared null and void, other programs and projects such as the Scheduled Dispatch Program, Community-Based Renewable Energy, Grid Services Purchase Agreement and other Stage 1 and Stage 2 RFP solar and/or energy storage projects will contribute energy reserves on the island to meet customer's energy needs. However, in consideration of the risk that other projects or programs may also become impacted by the ongoing COVID-19 pandemic and supply-chain crisis, and the anticipated retraction of the U.S. solar industry (estimated to slow by 25%⁵), as well as the expected increase in PPA pricing for future procurements due to inflation driving commodities prices higher and increasing the cost of project development,⁶ the Company finds it prudent to continue development of the Project in order to help achieve the State's clean energy goals as efficiently and as cost-effectively as possible.

II. Requested Approvals

Hawaiian Electric respectfully requests that the Commission issue an order as follows:

1. Approve the PPA Amendment, as further described below and attached hereto as **Exhibit A**, and find that the increased Unit Price, in exchange for the Project's development completion, among other matters, is prudent and in the public interest;
2. Ratify and affirm that the approved purchased power arrangements under the PPA, as amended by the PPA Amendment, pursuant to which Hawaiian Electric will dispatch energy on an availability basis from Seller and pay fixed Lump Sum

⁵ See Wood Mackenzie, *Solar Prices Continue to Rise but Build Back Better Act Will Boost Installs 31% Through 2026*, Dec. 14, 2021, <https://www.woodmac.com/press-releases/quarterly-solar-monitor/>; see also Pippa Stevens, *U.S. Solar Industry Will Grow 25% Less Than Expected During 2022 Thanks to Supply Chain Issues and Rising Costs*, *New Report Says*, CNBC, Dec. 14, 2021, <https://www.cnbc.com/2021/12/14/us-solar-industry-will-grow-25percent-less-than-expected-in-2022-report-finds.html>.

⁶ See Tim Sylvia, *Supply Chain Constraints Continue To Drive Up Solar Contract Prices*, PV Magazine, Jan. 18, 2022, <https://pv-magazine-usa.com/2022/01/18/supply-chain-constraints-continue-to-drive-up-solar-contract-prices/>.

Payments to Seller, remain prudent and in the public interest with explicit consideration, if required by law under Hawai'i Revised Statutes ("HRS") § 269-6, of the effect of the State of Hawai'i's reliance on fossil fuels on price volatility, export of funds for fuel imports, fuel supply reliability risk, and greenhouse gas ("GHG") emissions;

3. Ratify and affirm that Hawaiian Electric is authorized to include all payments as compensation for both energy and non-energy services under the PPA, as amended by the PPA Amendment, including the Lump Sum Payment, and related revenue taxes, through the PPAC, to the extent such costs are not included in base rates;
4. Ratify and affirm the approval of the proposed accounting and ratemaking treatment for the purchased power expenses under the PPA, as amended by the PPA Amendment; and
5. Grant such other relief as may be just and reasonable under the circumstances.

Hawaiian Electric, at the request of Seller, respectfully asks that the Commission issue this order by **March 31, 2022**, which is the deadline Seller has indicated is necessary to facilitate the Project's schedule to meet the new GCOD in the PPA Amendment of **March 31, 2024**.

Nevertheless, the PPA Amendment provides for a day for day extension to the GCOD, for the number of days that the Commission approval of the PPA Amendment is issued after March 31, 2022, as Seller has indicated it can only move forward with the Project if provided a full 24 months from Commission approval for development. However, if no order is issued by March 31, 2022, the Parties have the option at that time to declare the PPA Amendment null and void.

III. Supporting Exhibits

Attached for reference are the following exhibits in support of this request for approval:

- Exhibit A – PPA Amendment
- Exhibit B – Project Benefits Analysis
- Exhibit C – Renewable Portfolio Percentage
- Exhibit D – Seller's Justification for PPA Amendment Proposal
- Exhibit E – [Reserved for GHG Analysis]
- Exhibit F – Confidentiality Justification Table

This Letter, Exhibits A, B, and D contain confidential and/or proprietary information that is being provided pursuant to Protective Order No. 37370, issued in this proceeding on October 16, 2020. **Exhibit F** to this filing provides the confidential justifications for these redactions.

IV. PPA Amendment Terms and Conditions

The Parties entered into the PPA Amendment for the primary purpose of including terms and conditions Seller deems necessary to address delays and price increases due to the COVID-19 pandemic, the global supply-chain crisis and market conditions, in order to complete development of the Project and, in consideration for such completion of the Project, increasing the pricing, specifically the Unit Price, accordingly. The PPA Amendment also updates defined terms, revises certain provisions, and updates Attachments J and K of the PPA.

A. Pricing

In exchange for completing the Project by its new GCOD, the Parties ultimately agreed to a new, increased Unit Price of \$0.115750000 per kWh, which is approximately 1.9¢ higher than the Unit Price of \$0.097045944 per kWh in the existing approved PPA.

For comparison purposes, below is a list (in order of lowest to highest price, by island) of the Unit Price for the other Stage 2 RFP projects successfully negotiated on O'ahu, Maui and Hawai'i Island:

O'AHU		
Project Developer	Project Size	Unit Price (\$/kWh of NEP)
Mahi Solar (Original PPA)	120MW/480 MWh BESS	\$0.097045944
Barbers Point Solar	15 MW/60 MWh BESS	\$0.111849570
Mahi Solar (PPA Amendment)	120MW/480 MWh BESS	Updated is: \$0.115750000
BCE Kuponono Solar	42 MW/168 MWh BESS	\$0.123799404
Waiawa Phase 2 Solar	30 MW/240 MWh BESS	\$0.124196794
Kupehau Solar ⁷	60 MW/240 MWh BESS	\$0.127636877
AES Mountain View Solar	7 MW/35 MWh BESS	\$0.130377024
MAUI		
Project Developer	Project Size	Unit Price (\$/kWh of NEP)
Kamaole Solar ⁸	40 MW / 160 MWh	\$0.081500000
Kahana Solar	40 MW / 160 MWh	\$0.089478833
Pulehu Solar (Original PPA)	40 MW / 160MWh	\$0.092003202
Pulehu Solar (First Amendment to PPA)	40 MW / 160 MWh	Updated is: \$0.109750000
HAWAI'I ISLAND		
Project Developer	Project Size	Unit Price (\$/kWh of NEP)
Puakō Solar PV + BESS ⁹	60 MW / 240 MWh	\$0.091684252

During negotiations, the Company requested Seller to consider alternative contract pricing arrangements to minimize the impact to customer bills. Seller affirmed that a price increase was necessary for the Project to remain viable, but was willing to agree to terms such that the new Unit Price will be decreased: (1) if the Build Back Better Act ("BBB Act") is enacted prior to the Commercial Operations Date and the BBB Act contains provisions that remove the requirement that certain equipment for solar projects must be safe-harbored in order to receive the Investment Tax Credit ("ITC"), and therefore, Seller is able to utilize more efficient, non-safe-harbored solar modules, then the new Unit Price shall be reduced by \$1 per MWh (\$0.001 per kWh); and/or (2) if the total actual costs with respect to single-axis trackers and other racking equipment, battery energy storage, design and engineering, labor and

⁷ Please note that the Kupehau Solar PPA was declared null and void on December 6, 2021.

⁸ Please note that Kamaole Solar has indicated concerns with its project due to market conditions and the ongoing COVID-19 pandemic and at this time, Kamaole Solar and the Company are in discussions regarding possible amendments to the PPA that would allow its project to continue to move forward.

⁹ Please note that the Puakō Solar PV + BESS PPA was declared null and void on October 25, 2021.

**Confidential Information
Deleted Pursuant To
Protective Order No. 37370**

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equipment, the Seller-Owned Interconnection Facilities and the Company-Owned Interconnection Facilities are less than the total estimated costs described in Section 3.c. of **Exhibit A** to this filing, then the new Unit Price shall decrease by an amount sufficient to account for such reduction in costs in accordance with the formula set forth in such Section 3.c.

As explained by Seller in **Exhibit D** to this filing, the proposed price increase is the [REDACTED] In the event that the Commission does not approve the pricing and terms of the PPA Amendment as currently drafted, Seller has noted that it would have no choice but to declare the PPA null and void.

B. Project Benefits Analysis

As shown in **Exhibit B** to this filing, the PPA Amendment is expected to provide bill savings to Hawaiian Electric's customers over the term of the contract. It is estimated that, as a result of the PPA Amendment, a typical residential Hawaiian Electric customer consuming 500 kWh per month could save approximately \$0.34 per month on average during the term of the PPA. For reference, a typical residential Hawaiian Electric customer consuming 500 kWh per month could have saved approximately \$0.75 per month on average during the term of the PPA under the original PPA GCOD and original Lump Sum Payment. Over the life of the PPA, the Net Present Value ("NPV") of the Total System Costs for the Project's new proposal is \$11,867,225,678 (a \$8,643,906 cost savings compared to the NPV of the Total System Costs under the Base Case without the Project). The renewable energy generation from this Project is also expected to reduce fossil fuel consumption over the life of the PPA by 7,093,468 barrels. For reference, the avoided fossil fuel consumption under the original PPA was also expected to have resulted in a reduction of 7,093,468 barrels of fossil fuel over the term of the PPA since the NEP under both scenarios remains unchanged.

As an added benefit, the PPA Amendment also allows for an upward adjustment to the percentage of grid charging that may be allowed during the first five years of service (the "ITC" period). Currently, the PPA allows 0% of grid charging during the ITC period. After the ITC period has passed, up to 100% of grid charging is allowed. However, in the PPA Amendment, Seller has agreed that, in the event the BBB Act is enacted prior to the Commercial Operations Date and the BBB Act allows all or a portion of the total energy charged to the Battery Energy Storage System to be charged from the grid prior to the end of the ITC period without impacting Seller's ability to receive the full federal ITC for which it is eligible, such percentage of energy as allowed under the BBB Act may be charged to the BESS from the grid during the ITC period. This would offer greater value in terms of the Project's ancillary services to the system during the first five years of service.

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C. Renewable Portfolio Percentage

The Project will assist Hawaiian Electric in satisfying its Renewable Portfolio Standard (“RPS”) requirements, as further shown in **Exhibit C** to this filing. The Project’s annual RPS contribution on average for the earliest GCOD of March 31, 2024 will be 3.51 percentage points over the 25-year term of the PPA and will increase the Hawaiian Electric Companies’ annual consolidated RPS on average 2.69 percentage points. For reference, the Project’s annual RPS contribution on average for the original GCOD was 4.14 percentage points over the 25-year term of the original PPA and was projected to increase the Hawaiian Electric Companies’ annual consolidated RPS on average 3.12 percentage points.¹⁰

D. Greenhouse Gas Analysis

The Company is currently working on a revised GHG analysis, which will subsequently be submitted for Commission review by March 15, 2022.

E. Guaranteed Milestones

Seller’s GCOD was revised to the later of March 31, 2024 and twenty-four (24) months after receipt of a Commission order approving the Amendment, as shown in Section 3.e. of **Exhibit A** to this filing. Failure to meet Guaranteed Project Milestones subjects Seller to Daily Delay Damages and, if such failure continues beyond the agreed upon time frames, potential termination of the PPA in the event that Seller is unable to cure such failure. While the Company was hesitant to agree to a three-month delay to the Project’s GCOD in the original PPA, as described in more detail in **Exhibit D** to this filing, Seller affirmed at least 24 months to bring the Project into Commercial Operations after receipt of Commission approval of the PPA Amendment and the new earliest GCOD of March 31, 2024 was necessary in order for Seller to proceed with the PPA Amendment. Therefore, in order to achieve the earliest GCOD of March 31, 2024, Seller is requesting that the Commission issue its decision on the PPA Amendment by March 31, 2022. A favorable decision by this date will enable Seller to [REDACTED] which is necessary to complete construction and testing in time to meet the earliest GCOD in the PPA Amendment. The Company also acknowledges that the new GCOD will likely still allow the Project to come online ahead of any future procurement, in the event the developer was asked to rebid into a future RFP, and bringing the renewable energy on sooner to aid in the retirement of fossil fuel generation is a benefit for customers.

¹⁰See Docket No. 2020-0140 – PPA Application for Approval of Power Purchase Agreement for Renewable Dispatchable Generation with Mahi Solar, LLC filed on September 15, 20220.

F. Force Majeure Events

The Parties agree that the PPA Amendment is intended to address Seller's Force Majeure claims tied to the current delay caused by the COVID-19 pandemic, the global supply-chain crisis, and market conditions, namely the delay in the delivery of, and increased costs with respect to, single-axis trackers and other racking equipment, battery energy storage, design and engineering, construction, labor and equipment, and Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities. In the event the PPA Amendment is approved by the Commission and is not otherwise declared null and void, Seller agrees that it will withdraw such Force Majeure claims and any potential future Force Majeure claim shall be limited to non-cost-related delays (*e.g.*, delays that cannot be reasonably mitigated by the payment by Seller to its vendor or contractor for the timely delivery of such equipment or services). This provision ensures Seller cannot request another price increase as a result of a potential future cost-related event.

G. Null and Void Rights

Either Party has the right to declare the PPA Amendment null and void under certain conditions described in Section 7 of **Exhibit A**, including the issuance of an order denying this approval request or an approval order that is deemed unacceptable by the Company or Seller. If the Commission does not issue an order on this approval request by March 31, 2022, then either Party has the right to declare the PPA Amendment null and void.

V. Conclusion

Based on the foregoing, **Hawaiian Electric respectfully requests that the Commission issue an order approving the PPA Amendment by March 31, 2022 in order to facilitate the implementation of the Project's new GCOD**, as follows:

1. Approve the PPA Amendment, attached hereto as **Exhibit A**, and find that the increased Unit Price, in exchange for the Project's development completion, among other matters, is prudent and in the public interest;
2. Ratify and affirm that the purchased power arrangements under the PPA, as amended by the PPA Amendment, pursuant to which Hawaiian Electric will dispatch energy on an availability basis from Seller and pay fixed Lump Sum Payments to Seller, remain prudent and in the public interest with explicit consideration, if required by law under HRS § 269-6, of the effect of the State of Hawaii's reliance on fossil fuels on price volatility, export of funds for fuel imports, fuel supply reliability risk, and GHG emissions;

3. Ratify and affirm that Hawaiian Electric is authorized to include all payments, as compensation for both energy and non-energy services under the PPA, as amended by the PPA Amendment, including the Lump Sum Payment, and related revenue taxes, through the PPAC, to the extent such costs are not included in base rates;
4. Ratify and affirm the approval of the proposed accounting and ratemaking treatment for the purchased power expenses under the PPA, as amended by the PPA Amendment; and
5. Grant such other relief as may be just and reasonable under the circumstances.

Sincerely,

/s/ Kanoelani S. Kane

KANOELANI S. KANE
Associate General Counsel
Hawaiian Electric Company, Inc.

Enclosures

- c: Division of Consumer Advocacy (with Enclosure)
Counsel for Mahi Solar, LLC (with Enclosure)

**SECOND AMENDMENT TO POWER
PURCHASE AGREEMENT FOR RENEWABLE DISPATCHABLE GENERATION**

This Second Amendment to Power Purchase Agreement for Renewable Dispatchable Generation ("Amendment") is made and entered into effective as of February 8, 2022 ("Execution Date"), by and between **HAWAIIAN ELECTRIC COMPANY, INC.**, a Hawai'i corporation ("Hawaiian Electric" or "Company"), and **MAHI SOLAR, LLC**, a Delaware limited liability company ("Seller") (Company and Seller are jointly referred to as the "Parties").

WHEREAS, Company and Seller entered into that certain Power Purchase Agreement for Renewable Dispatchable Generation dated September 11, 2020 ("PPA" or "Agreement") for the Mahi Solar project ("Project");

WHEREAS, on April 7, 2021, the State of Hawai'i Public Utilities Commission ("PUC") issued Order No. 37715 in Docket No. 2021-0024, inviting developers to submit proposals to expedite their Project Guaranteed Commercial Operations Dates ("GCOD");

WHEREAS, on May 28, 2021, in response to the PUC's invitation, Seller filed a proposal in Docket No. 2021-0024;

WHEREAS, on July 22, 2021, Seller and Company executed an amendment to the PPA (the "First Amendment") to include terms and conditions necessary for an accelerated schedule, including an earlier GCOD for the Project, and an amendment of the pricing provisions;

WHEREAS, on September 13, 2021, based on a request from Seller, Company informed the PUC that it was withdrawing its request for approval of the First Amendment;

WHEREAS, on October 6, 2021, the Parties executed a letter agreement declaring the First Amendment null and void;

WHEREAS, the Parties now intend to execute this Amendment to include terms and conditions necessary to address delays and price increases due to the COVID-19 pandemic, the global supply-chain crisis and market conditions; and

WHEREAS, the Parties agree that they shall have the right to declare this Amendment null and void under certain circumstances as specified herein;

NOW, THEREFORE, in consideration of the respective promises contained in this Amendment, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereby agree as follows:

1. DEFINITIONS

Initially capitalized terms used in this Amendment not otherwise defined in the context in which they first appear shall have the meanings given them in the PPA.

2. AMENDMENT EFFECTIVE DATE

The Parties acknowledge and agree that this Amendment shall be effective as of the Execution Date, except that Section 3 (Amendment of PPA) shall not become effective until the "Amendment Effective Date" which shall be the date that the PUC issues an order approving this Amendment and such order has become final and non-appealable. Notwithstanding the above, this Amendment is subject to null and void rights of either Seller, Company or both in accordance with Section 7 (Null and Void Rights of Company and Seller).

3. AMENDMENT OF PPA

- a. Definitions. The following definition is hereby deleted and replaced in its entirety with the revised definition provided below:

"Unit Price": \$0.115750000 per kWh of Net Energy Potential annually, provided that the Unit Price may be adjusted as set forth in Section 2(a) and 2(b) of Attachment J.

- b. Section 9(d)(i) of Attachment B (Facility Owned by Seller) is deleted in its entirety and replaced with the following:

"(i) No more than 0% of the total energy charged to the BESS can be charged from the grid during the ITC Period; provided, however, that in the event (1) the Build Back Better Act (H.R. 5376 - 117th Congress) ("BBB Act") is enacted prior to the Commercial Operations Date, and (2) the BBB Act allows all or a portion of the total energy charged to the BESS to be charged from the grid prior to the end of the ITC Period without impacting Seller's ability to receive the full federal investment tax credit ("ITC") for which it is eligible, then such percentage of energy as allowed under the BBB Act (the

"Allowed Grid Charging Percentage") may be charged to the BESS from the grid during the ITC Period. The "ITC Period" means the period of years that commences on the Commercial Operations Date, and ends on the fifth anniversary of the Commercial Operations Date. In any single Contract Year during the ITC Period, if the aggregate grid charging is at risk of exceeding the Allowed Grid Charging Percentage, then Seller shall advise Company, and Company and Seller shall work together to implement adjustments as necessary. After the ITC Period, up to 100% of the BESS Contract Capacity can be charged from the grid. All charging from the grid, during any period, will be at the direction of Company."

- c. Section 2(a) of Attachment J (Company Payments for Energy, Dispatchability and Availability of BESS) is hereby added as follows:

"(a) Unit Price Adjustment Due to the COVID-19 Pandemic, the Global Supply-Chain Crisis and Market Conditions. Due to the COVID-19 pandemic, the global supply-chain crisis and market conditions, the costs with respect to single-axis trackers and other racking equipment ("Trackers"), battery energy storage ("Storage"), and design and engineering, construction, labor and equipment ("Construction and Engineering"), and Seller-Owned Interconnection Facilities and Company Owned-Interconnection Facilities ("Interconnection Facilities") [REDACTED]. The Cost Comparison Table attached hereto as Attachment J-1, as of January 31, 2022, provides cost estimates for each of the Trackers, Storage, Construction and Engineering, and Interconnection Facilities costs ("Estimated TSCEIF Costs"). As shown on the Cost Comparison Table, the sum of the Trackers, Storage, Construction and Engineering, and Interconnection Facilities costs in line items 2 (Trackers), 3 (Storage), 4 (Construction and Engineering), 5 (Seller-Owned I/C Facilities) and 6 (Company-Owned I/C Facilities) as of January 31, 2022, was approximately \$[REDACTED] million (the sum of such items, the "Total Estimated TSCEIF Costs"). Upon the Commercial Operations Date, Seller shall provide Company with an updated Cost Comparison Table showing the actual Project costs of the Trackers, Storage, Construction and Engineering, and Interconnection Facilities (the sum of such items, the "Total Actual TSCEIF Costs"), and supporting documentation, provided

that any such documentation shall be deemed "Confidential Information" for purposes of the Mutual Confidentiality and Non-Disclosure Agreement, effective as of April 8, 2021, between Seller and Company, and provided further that, given the complexity of the effects of the COVID-19 pandemic, the global supply-chain crisis, and market conditions, and the difficulty of proving a direct causal relationship between the COVID-19 pandemic and the associated cost increases, such supporting documentation shall be documentation sufficient to show the actual costs for Trackers, Storage, Construction and Engineering, and Interconnection Facilities as applicable, but Seller shall not be required to provide evidence that such costs, including any increases (or decreases) from the Estimated TSCEIF Costs, are specifically the result of the COVID-19 pandemic, the global supply-chain crisis or market conditions. For the avoidance of doubt, invoices and/or vendor purchase agreements provided by (1) the EPC contractor, showing the actual final costs of the Trackers, Construction and Engineering, and Interconnection Facilities costs, and (2) the battery supplier, showing the actual Storage costs, shall be adequate supporting documentation demonstrating such actual costs. If the Total Actual TSCEIF Costs are less than the Total Estimated TSCEIF Costs, then the Unit Price shall decrease by an amount sufficient to account for such reduction in costs in accordance with the following formula, which shall result in the "Adjusted Unit Price." Specifically, for every \$1 that the Total Actual TSCEIF Costs are less than the Total Estimated TSCEIF Costs, the Unit Price will decrease by \$0.000000000316 per kWh.

Formula: Unit Price - ((Total Estimated TSCEIF Costs - Total Actual TSCEIF Costs ("Total TSCEIF Cost Difference") * Price Multiplier) = Adjusted Unit Price.

For the avoidance of doubt, the formula shall only be applied in the instance where the Total Actual TSCEIF Costs are less than the Total Estimated TSCEIF Costs; if the Total TSCEIF Cost Difference is a negative number, no price adjustment shall occur.

Example:

Costs in \$Millions					
Item	Description	Bid	Estimated TSCEIF Costs (1/31/2022)	Actual TSCEIF Costs (COD)	TSCEIF Cost Difference
2	Trackers	█	█	█	(1)
3	Storage	█	█	█	1
4	Construction and Engineering	█	█	█	3
5	Seller-Owned I/C Facilities	█	█	█	(1)
6	Company-Owned I/C Facilities	█	█	█	1
	Total	█	█	█	3

Price Decrease Example:

Total TSCEIF Difference	\$3,000,000
Price Multiplier	0.000000000316
Unit Price	\$0.115750000
Unit Price Decrease	\$0.000948000
Adjusted Unit Price	\$0.114802000"

- d. Section 2(b) of Attachment J (Company Payments for Energy, Dispatchability and Availability of BESS) is hereby added as follows:

"(b) Unit Price Adjustment Due to Enactment of Build Back Better Act. The Parties acknowledge that if the BBB Act is enacted, Seller may have the opportunity to utilize more efficient solar modules due to the removal of certain ITC requirements and thereby increase its Net Energy Potential. In the event that: (i) the BBB Act is enacted prior to the Commercial Operations Date, and (ii) the BBB Act contains provisions that remove the requirement that certain equipment for solar projects must be safe-harbored in order to receive the ITC, and therefore, Seller is able to utilize more efficient,

non-safe-harbored solar modules, then the Unit Price shall be reduced to \$0.114750000 per kWh of Net Energy Potential annually, provided that the Unit Price may be subject to further adjustment as set forth in Section 2(a) of Attachment J (Company Payments for Energy, Dispatchability and Availability of BESS)."

- e. The "Guaranteed Commercial Operations Date" in Attachment K (Guaranteed Project Milestones) is hereby deleted in its entirety and replaced with the following:

The later of March 31, 2024 and twenty-four (24) months after receipt of a PUC order approving the Amendment	<u>Guaranteed Commercial Operations Date.</u>
---	---

4. DEVELOPMENT PERIOD SECURITY

Section 14.2 (Development Period Security) of the PPA is hereby deleted in its entirety and replaced with the following:

"Section 14.2 (Development Period Security). To guarantee undertaking the performance of Seller's obligations under the Agreement for the period prior to the Commercial Operations Date (including but not limited to Seller's obligation to meet the Guaranteed Commercial Operations Date), Seller shall provide 50% of the Development Period Security to Company within ten (10) Days of Execution Date of the Agreement and the remaining 50% of the Development Period Security by April 10, 2022."

5. PUC APPROVAL OF AMENDMENT

Company shall submit the application for approval of the Amendment to the PUC as soon as reasonably possible after the Execution Date. In its application for approval of the Amendment, Company shall request that the PUC approve the Amendment by March 31, 2022.

6. FORCE MAJEURE EVENTS

The Parties hereby agree that this Amendment is intended to address the current delays caused by the COVID-19 pandemic, the global supply-chain crisis, and market conditions, namely the delay in the delivery of, and increased costs with respect to, the Trackers, Storage, and Construction and Engineering as referenced in Seller's letter to Company dated October 5, 2021 (together, the "Force Majeure Claims"). In the event this Amendment is approved by the PUC and the Amendment or Agreement is not otherwise declared null and void, Seller agrees that it will withdraw such Force Majeure Claims. Seller agrees that it shall not make additional Force Majeure claims due to further delays in the delivery of, and increased costs with respect to, Trackers, Storage, Construction and Engineering, and Interconnection Facilities, in each case, resulting from the COVID-19 pandemic, the global supply-chain crisis, and market conditions. However, in the event there is any other delay in the delivery of items other than Trackers, Storage, Construction and Engineering, and Interconnection Facilities, Seller agrees that any such Force Majeure claim shall be limited to non-cost-related delays (e.g. cannot be reasonably mitigated by the payment by Seller to its vendor or contractor for the timely delivery of such equipment or services).

7. NULL AND VOID RIGHTS OF COMPANY AND SELLER

The following null and void rights shall apply to this Amendment:

- a. If the PUC issues an order concerning this Amendment that: (i) dismisses or denies Company's request for approval or (ii) approves Company's request for approval but contains terms and conditions deemed unacceptable by Company or Seller in each Party's sole discretion ("Unacceptable PUC Order"), then either Party shall have the right to declare this Amendment null and void by providing the other Party with written notice no later than (a) thirty-five (35) days after issuance of the Unacceptable PUC Order so long as no motion for clarification or reconsideration or appeal is filed, (b) thirty-five days after the PUC issues an order on any motion for clarification or reconsideration ("PUC Clarification Order"), or (c) ten (10) days after any appeal of the Unacceptable PUC Order or the PUC Clarification Order is filed.

- b. If the PUC fails to issue any order dismissing, denying or approving Company's request for approval of this Amendment by March 31, 2022, or if such order does not become final and non-appealable by April 30, 2022, then either Party shall have the right to declare this Amendment null and void by providing the other Party with written notice within ten (10) days of March 31, 2022 or April 30, 2022, as applicable.
- c. Either Party shall have the right to declare the Agreement null and void within ten (10) days of the Amendment being declared null and void by either Party.
- d. Notwithstanding the foregoing, the Parties, by written agreement executed prior to expiration of any null and void right herein, may extend the expiration of such right for an agreed upon number of days.
- e. If this Amendment is declared null and void by either Party, this Amendment shall have no effect whatsoever, the Parties hereto shall thereafter be free of all obligations hereunder and shall pursue no further remedies against one another regarding this Amendment, and the PPA shall remain in full force and effect. If the Agreement is declared null and void in accordance with Section 5(c) above, the Parties hereto agree that such declaration shall have the same effect as declaring the Agreement null and void under one of the sections as set forth under Section 12.7 (Agreement Null and Void), Section 14.3 (Return of Development Period Security) and Section 3(c) (True-up) of Attachment G (Company-Owned Interconnection Facilities), and therefore, the Parties shall thereafter be free of all obligations thereunder except as set forth in Section 12.7 (Agreement Null and Void), Section 14.3 (Return of Development Period Security) and Section 3(c) (True-up) of Attachment G (Company-Owned Interconnection Facilities), and shall pursue no further remedies against one another with respect to the Agreement. For the avoidance of doubt, Company shall return to Seller any unused Development Period Security after all outstanding payments that may be due by Seller to Company have been satisfied, within a reasonable time after the declaration by a Party of the Agreement as null and void, and the true-up provisions of Section 3(c) (True-Up) of Attachment

G (Company-Owned Interconnection Facilities) shall apply.

8. AUTHORITY AND REPRESENTATIONS

Both Company and Seller represent that as of the Execution Date:

- a. Each respective Party has all necessary right, power and authority to execute, deliver and perform this Amendment.
- b. The execution, delivery and performance of this Amendment by each respective Party will not result in a violation of any Laws, or conflict with, or result in a breach of, or cause a default under, any agreement or instrument to which such Party is also a party or by which it is bound. No consent of any person or entity not a Party to this Amendment, including any Governmental Authority (other than agencies whose approval is necessary for the development, construction, operation and maintenance of the Facility and the Company-Owned Interconnection Facilities or the PUC), is required for such execution, delivery and performance by either Party.

9. MISCELLANEOUS

- a. All of the terms and conditions of the PPA that are not altered, amended or replaced by this Amendment shall remain in full force and effect. This Amendment, together with the PPA (including all Attachments thereto) and the IRS Letter Agreements (together with any confidentiality or nondisclosure agreements entered into by the Parties during the process of negotiating the PPA and/or discussing the specifications of the Facility), constitute the entire understanding and agreement between the Parties with respect to the subject matter hereof.
- b. This Amendment shall be governed by and construed in accordance with the laws of the State of Hawai'i. The venue for a civil action related to the PPA and Amendment shall be the judicial circuit in which the Facility is located.
- c. This Amendment 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.

- d. The Parties agree that this Amendment may be executed and delivered by exchange of executed copies via electronic mail ("email") or other acceptable electronic means, and in electronic formats such as Adobe PDF or other formats mutually agreeable between the Parties which preserve the final terms of this Amendment or such writing. A Party's signature transmitted by email or other acceptable electronic means shall be considered an "original" signature which is binding and effective for all purposes of this Amendment.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have executed this Amendment on the Execution Date, which shall be effective as described in Section 2 (Amendment Effective Date) of this Amendment.

HAWAIIAN ELECTRIC COMPANY, INC.,
a Hawai'i corporation

By 
Name: Shelee Kimura
Its: President & Chief Executive Officer

By 
Name: Colton Ching
Its: Senior Vice President, Planning and Technology

("Company")

MAHI SOLAR, LLC
a Delaware limited liability company

By _____
Name:
Its:

("Seller")

IN WITNESS WHEREOF, the Parties have executed this Amendment on the Execution Date, which shall be effective as described in Section 2 (Amendment Effective Date) of this Amendment.

HAWAIIAN ELECTRIC COMPANY, INC.,
a Hawai'i corporation

By _____
Name: Shelee Kimura
Its: President & Chief Executive
Officer

By _____
Name: Colton Ching
Its: Senior Vice President, Planning
and Technology

("Company")

MAHI SOLAR, LLC
a Delaware limited liability company

By Michael U. Alvarez
Name: Michael U. Alvarez
Its: Chief Operating Officer

("Seller")

ATTACHMENT J-1
COST COMPARISON TABLE

Mahi Solar Estimated Cost \$ Millions				
Item	Description	Bid	1/31/2022	Variance
1	PV Modules	█	█	█
2	Trackers	█	█	█
3	Storage	█	█	█
4	Construction and Engineering	█	█	█
5	Seller Owned I/C Facilities	█	█	█
6	Company Owned I/C Facilities	█	█	█
7	Development	█	█	█
8	Finance Costs	█	█	█
9	HI GET	█	█	█
	Total	█	█	█

*Trackers + Storage + Construction and Engineering + Interconnection Facilities = \$█ ("Total Estimated TSCEIF Costs")

EXHIBIT B

Mahi Solar

System Revenue Requirement NPV Differential for Original PPA Proposal

Year	Base Case Total System Costs	Alt Case Total System Costs	Differential of Total System Cost
	(\$)	(\$)	(\$)
	a	b	c = a - b
2024			
2025			
2026			
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			
2036			
2037			
2038			
2039			
2040			
2041			
2042			
2043			
2044			
2045			
2046			
2047			
2048			
NPV	\$ 11,875,869,584	\$ 11,802,927,947	\$ 72,941,638

Mahi Solar
System Revenue Requirement NPV Differential for
Updated Proposal with BBB Act Pricing

Year	Base Case Total System Costs (\$)	Alt Case Total System Costs (\$)	Differential of Total System Cost (\$)
	a	b	c = a - b
2024			
2025			
2026			
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			
2036			
2037			
2038			
2039			
2040			
2041			
2042			
2043			
2044			
2045			
2046			
2047			
2048			
NPV	\$ 11,875,869,584	\$ 11,863,788,043	\$ 12,081,542

Mahi Solar
System Revenue Requirement NPV Differential
for Updated Proposal without BBB Act Pricing

Year	Base Case Total System Costs	Alt Case Total System Costs	Differential of Total System Cost
	(\$)	(\$)	(\$)
	a	b	c = a - b
2024			
2025			
2026			
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			
2036			
2037			
2038			
2039			
2040			
2041			
2042			
2043			
2044			
2045			
2046			
2047			
2048			
NPV	\$ 11,875,869,584	\$ 11,867,225,678	\$ 8,643,906

Mahi Solar

O‘ahu System Fuel Consumption for Original PPA Proposal

Year	LSFO Avoided Fuel Consumption (Barrels)	Diesel Avoided Fuel Consumption (Barrels)	ULSD Avoided Fuel Consumption (Barrels)	Biodiesel Avoided Fuel Consumption (Barrels)	Total Avoided Fuel Consumption (Barrels)
2024					
2025					
2026					
2027					
2028					
2029					
2030					
2031					
2032					
2033					
2034					
2035					
2036					
2037					
2038					
2039					
2040					
2041					
2042					
2043					
2044					
2045					
2046					
2047					
2048					
Total	6,698,111*	357,786*	37,571*	895,851	7,989,319

*Total Avoided Fossil Fuel = 7,093,468

Mahi Solar

O‘ahu System Fuel Consumption for Updated Proposal without BBB Act Pricing

Year	LSFO Avoided Fuel Consumption (Barrels)	Diesel Avoided Fuel Consumption (Barrels)	ULSD Avoided Fuel Consumption (Barrels)	Biodiesel Avoided Fuel Consumption (Barrels)	Total Avoided Fuel Consumption (Barrels)
2024					
2025					
2026					
2027					
2028					
2029					
2030					
2031					
2032					
2033					
2034					
2035					
2036					
2037					
2038					
2039					
2040					
2041					
2042					
2043					
2044					
2045					
2046					
2047					
2048					
Total	6,698,111*	357,786*	37,571*	895,851	7,989,319

*Total Avoided Fossil Fuel = 7,093,468

Mahi Solar

Typical Residential Bill Impact for Original PPA Proposal

	a	b	c = a - b	d	e = (c/d)/10	f = (500 * e)/100
Year	Mahi Solar Total Revenue Requirement (Current Year \$)	Hawaiian Electric Total Avoided Revenue Requirement (Current Year \$)	Incremental Revenues Required (Current Year \$)	Estimated Hawaiian Electric Sales (MWh)	Estimated Rate Impact (cents/kWh in Current Year \$)	Est Impact on Typical Residential Bill of 500 kWh (Current Year \$)
2024	\$28,919,827			6,441,818		\$0.16
2025	\$28,919,827			6,520,703		\$0.21
2026	\$28,919,827			6,599,300		\$0.06
2027	\$28,919,827			6,611,700		\$(0.20)
2028	\$28,919,827			6,645,400		\$(0.26)
2029	\$28,919,827			6,681,300		\$(0.49)
2030	\$28,919,827			6,753,400		\$(0.39)
2031	\$28,919,827			6,787,600		\$(0.12)
2032	\$28,919,827			6,823,700		\$(0.37)
2033	\$28,919,827			6,878,700		\$(0.24)
2034	\$28,919,827			6,922,700		\$(0.32)
2035	\$28,919,827			6,977,200		\$(0.20)
2036	\$28,919,827			7,058,300		\$(0.23)
2037	\$28,919,827			7,111,800		\$(0.68)
2038	\$28,919,827			7,185,800		\$(0.79)
2039	\$28,919,827			7,285,800		\$(0.90)
2040	\$28,919,827			7,431,700		\$0.07
2041	\$28,919,827			7,512,000		\$(0.26)
2042	\$28,919,827			7,637,300		\$(0.61)
2043	\$28,919,827			7,776,400		\$(1.24)
2044	\$28,919,827			7,945,400		\$(1.66)
2045	\$28,919,827			8,079,300		\$(1.62)
2046	\$28,919,827			8,237,100		\$(2.30)
2047	\$28,919,827			8,396,300		\$(2.82)
2048	\$28,919,827			8,574,400		\$(3.47)
Average Bill Impact						(\$0.75)

Mahi Solar

Typical Residential Bill Impact for Updated Proposal with BBB Act Pricing

	a	b	c = a - b	d	e = (c/d)/10	f = (500 * e)/100
Year	Mahi Solar Total Revenue Requirement (Current Year \$)	Hawaiian Electric Total Avoided Revenue Requirement (Current Year \$)	Incremental Revenues Required (Current Year \$)	Estimated Hawaiian Electric Sales (MWh)	Estimated Rate Impact (cents/kWh in Current Year \$)	Est Impact on Typical Residential Bill of 500 kWh (Current Year \$)
2024	\$34,195,661			6,441,818		\$0.60
2025	\$34,195,661			6,520,703		\$0.65
2026	\$34,195,661			6,599,300		\$0.49
2027	\$34,195,661			6,611,700		\$0.23
2028	\$34,195,661			6,645,400		\$0.17
2029	\$34,195,661			6,681,300		\$(0.07)
2030	\$34,195,661			6,753,400		\$0.03
2031	\$34,195,661			6,787,600		\$0.30
2032	\$34,195,661			6,823,700		\$0.05
2033	\$34,195,661			6,878,700		\$0.17
2034	\$34,195,661			6,922,700		\$0.09
2035	\$34,195,661			6,977,200		\$0.20
2036	\$34,195,661			7,058,300		\$0.16
2037	\$34,195,661			7,111,800		\$(0.29)
2038	\$34,195,661			7,185,800		\$(0.40)
2039	\$34,195,661			7,285,800		\$(0.52)
2040	\$34,195,661			7,431,700		\$0.44
2041	\$34,195,661			7,512,000		\$0.10
2042	\$34,195,661			7,637,300		\$(0.26)
2043	\$34,195,661			7,776,400		\$(0.89)
2044	\$34,195,661			7,945,400		\$(1.32)
2045	\$34,195,661			8,079,300		\$(1.28)
2046	\$34,195,661			8,237,100		\$(1.97)
2047	\$34,195,661			8,396,300		\$(2.50)
2048	\$34,195,661			8,574,400		\$(3.17)
Average Bill Impact						\$(0.36)

Mahi Solar

Typical Residential Bill Impact for Updated Proposal without BBB Act Pricing

	a	b	c = a - b	d	e = (c/d)/10	f = (500 * e)/100
Year	Mahi Solar Total Revenue Requirement (Current Year \$)	Hawaiian Electric Total Avoided Revenue Requirement (Current Year \$)	Incremental Revenues Required (Current Year \$)	Estimated Hawaiian Electric Sales (MWh)	Estimated Rate Impact (cents/kWh in Current Year \$)	Est Impact on Typical Residential Bill of 500 kWh (Current Year \$)
2024	\$34,493,662			6,441,818		\$0.63
2025	\$34,493,662			6,520,703		\$0.67
2026	\$34,493,662			6,599,300		\$0.52
2027	\$34,493,662			6,611,700		\$0.25
2028	\$34,493,662			6,645,400		\$0.19
2029	\$34,493,662			6,681,300		\$(0.05)
2030	\$34,493,662			6,753,400		\$0.05
2031	\$34,493,662			6,787,600		\$0.32
2032	\$34,493,662			6,823,700		\$0.07
2033	\$34,493,662			6,878,700		\$0.19
2034	\$34,493,662			6,922,700		\$0.11
2035	\$34,493,662			6,977,200		\$0.22
2036	\$34,493,662			7,058,300		\$0.19
2037	\$34,493,662			7,111,800		\$(0.26)
2038	\$34,493,662			7,185,800		\$(0.38)
2039	\$34,493,662			7,285,800		\$(0.50)
2040	\$34,493,662			7,431,700		\$0.46
2041	\$34,493,662			7,512,000		\$0.12
2042	\$34,493,662			7,637,300		\$(0.24)
2043	\$34,493,662			7,776,400		\$(0.87)
2044	\$34,493,662			7,945,400		\$(1.30)
2045	\$34,493,662			8,079,300		\$(1.26)
2046	\$34,493,662			8,237,100		\$(1.95)
2047	\$34,493,662			8,396,300		\$(2.48)
2048	\$34,493,662			8,574,400		\$(3.15)
Average Bill Impact						\$(0.34)

Exhibit C

Mahi Solar

Renewable Portfolio Percentage for Updated Proposal without BBB Act Pricing

Year	Mahi Solar's Impact on O'ahu RPS	Mahi Solar's Impact on Consolidated RPS
2024	4.21%	3.22%
2025	4.09%	3.14%
2026	4.03%	3.09%
2027	4.04%	3.10%
2028	4.00%	3.07%
2029	3.98%	3.06%
2030	3.96%	3.05%
2031	3.93%	3.02%
2032	3.92%	3.02%
2033	3.85%	2.97%
2034	3.86%	2.97%
2035	3.82%	2.93%
2036	3.78%	2.90%
2037	3.75%	2.88%
2038	3.72%	2.85%
2039	3.69%	2.82%
2040	3.44%	2.64%
2041	3.51%	2.69%
2042	3.44%	2.63%
2043	3.38%	2.59%
2044	3.27%	2.50%
2045	2.93%	2.25%
2046	2.88%	2.21%
2047	2.85%	2.19%
2048	2.84%	2.18%
Average	3.51%	2.69%



February 8, 2022

Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawai'i 96840
Attn: Scott Kesaji
Manager, Energy Contract Management
Email: [REDACTED]
ppanotices@hawaiianelectric.com

Re: Docket No. 2020-0140 – Mahi Solar Project PPA Amendment

Dear Mr. Kesaji:

Reference is made to (1) that certain Power Purchase Agreement for Renewable Dispatchable Generation (the "PPA"), dated September 11, 2020, between Mahi Solar, LLC ("Mahi Solar" or "Seller") and Hawaiian Electric Company, Inc. ("Company"), with respect to the Mahi Solar project (the "Project"), and (2) that certain amendment to the PPA ("PPA Amendment") which provides a means to mitigate the impacts of COVID-19, the resulting global supply chain crisis and recent cost increases throughout the market, and has been the subject of recent negotiations between Seller and Company. As a condition to executing the PPA Amendment, Company has requested that Seller provide this letter to fully explain the reasons for these requested PPA revisions. Capitalized terms used herein but not otherwise defined have the meanings ascribed to such terms in the PPA.

As Company is aware, the ongoing global supply chain crisis resulting from the COVID-19 pandemic has impacted the timelines and costs of solar projects in Hawaii and around the country. Faced with sharp increases in shipping costs or an extended delay of 18 months or more, on October 15, 2021, Seller proposed to Company a draft PPA Amendment to revise the Unit Price to address the economic challenges being faced by the Project. In response, Company provided a counter-proposal on October 21, 2021, in which it offered a smaller increase to the Unit Price to accommodate only those cost increases that were directly caused by the COVID-19 pandemic. On October 29, 2021, Seller submitted a letter to the Commission seeking guidance concerning differences between the parties' proposals. The Commission responded by issuing a letter, dated November 5, 2021, which indicated its openness to continued negotiations by the parties and its opposition to Seller's proposed price increase. On November 9, 2021 the parties executed a letter which extended the date to complete negotiations and execute the Interconnection Requirements Amendment to January 10, 2022. Thereafter, the parties continued to negotiate to find a solution that would enable the Project to continue.

In the midst of the supply chain crisis, the Stage 2 projects are being developed in a period of unprecedented global market volatility, in which supplies and services are highly uncertain and prices are changing daily. Seller believes the recent market conditions are the unique result of the COVID-19 pandemic and the supply chain crisis, but the economic factors are so numerous and complex that it would be difficult to provide evidence to prove a direct causal connection. [REDACTED]

The Parties followed the guidance of the Commission, initially limiting the price increase to those factors that could be shown to be the direct result of the pandemic and supply chain constraints. Unfortunately, costs of solar and battery project components continued to increase substantially and broadly across the market. Due to this continued escalation of costs, as of January 2022, the total cost to build the Project was approximately \$ [REDACTED] higher than anticipated when the PPA was executed in 2020. Consequently, the Project could no longer be completed at the proposed Unit Price, and Seller provided notice to Company in January 2022 of its intention to cancel the Project.

In response to Seller's notice, Company asked if [REDACTED] Seller responded by providing a Unit Price that would be required as well as an extension of the GCOD to March 31, 2024 or 24 months after PUC approval. Seller also agreed to [REDACTED] which is the [REDACTED] taking into account the particular risks involved. Seller normally would avoid proposing any changes to an executed and approved PPA, but given the unprecedented cost increases and volatile supply chain, the Amendment is the only alternative to avoid cancelling the Project entirely.

The Parties continued discussions and now intend to execute the PPA Amendment, which includes the following changes that are both justifiable and reasonable to mitigate the impacts of the recent cost increases and global supply chain crisis resulting from the COVID-19 pandemic and enable the Project to be completed as early as March 31, 2024:

1. The Parties agreed to the Unit Price of \$115.75000000 per MWh. The proposed increase to the Unit Price is necessary to mitigate excessive cost increases to the Project of approximately [REDACTED] that are, directly or indirectly, the result of the unique market conditions brought on, directly or indirectly, by the COVID-19 pandemic and the resulting global supply chain crisis. Seller has represented to Company that the amended Unit Price is absolutely necessary in order for the Project to proceed, and Seller would otherwise be forced to declare the PPA null and void and cancel the Project. [REDACTED] the estimated cost of Trackers, Storage, Construction and Engineering, and Interconnection Facilities. If actual costs increase above such estimates, then Seller will not seek a further Unit Price increase. However, if actual costs decrease and are ultimately less than such estimates, then in accordance with the terms of the PPA Amendment, the Unit Price shall be reduced.

2. The Parties agreed to a reduction in the Unit Price and additional grid charging capability if the Build Back Better legislation is enacted in its current form. While this legislation was put on hold by the Senate, provisions in the latest version allowed for the use of non-safe-harbor solar modules and 100% grid charging of the BESS starting with the first year of operation. The PPA Amendment includes a discounted Unit Price if the Project can use all newer, more efficient non-safe-harbor solar panels, and offers 100% grid charging immediately after COD if the ITC is not affected.
3. The Parties agreed to a GCOD of the later of March 31, 2024 and 24 months following PUC approval of the PPA Amendment. Seller intends to make every effort to achieve a Commercial Operations Date that is earlier than the GCOD, however, the time needed to place remaining equipment orders, receive equipment deliveries in Hawaii, secure building permits, construct, commission and test the Project following any Commission approval is likely 24 months. Given the many steps that would need to occur after the PPA Amendment is approved, the continued uncertainty in the global market and the financial risk of paying liquidated damages for delays, it is not practically or financially possible for Seller to commit to an earlier GCOD.

It is Seller's position that the proposed price increase and other revisions in the PPA Amendment are reasonable because they enable the completion of the Project as early as March 31, 2024, and mitigate a delay of potentially 18 months or longer, which may be required for costs to return to previous levels. The Project will continue to be one of the lowest priced Stage 2 projects on Oahu. Benefits to ratepayers are substantial, as the Project will be completed and online, delivering clean energy to households sooner than would otherwise be possible during the supply chain crisis. Mahi Solar will be the largest renewable energy project on Oahu and will support the transition from the AES Coal Plant. While certain other Stage 2 projects have been canceled, Mahi Solar has completed major development milestones, including securing all discretionary permits, completing 90% engineering designs, and, with the assistance of Hawaiian Electric, has nearly completed the Interconnection Requirements Amendment. The Project has broad community support, and Seller does not anticipate any additional Project delays.

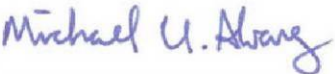
The proposed price increase is the [REDACTED] [REDACTED] As explained above, Seller has agreed to share the financial impacts of the COVID-19 pandemic and accept substantially lower financial returns for the Project from what was expected at the time of bid. After extensive negotiations between the parties, sharing of vendor quotes and updated proforma financial information, this price and other terms as set forth in the PPA Amendment represents the best proposal that Seller can offer. In the event that the Commission does not approve the pricing and terms of the PPA Amendment as currently drafted, Seller would have no choice but to declare the PPA null and void. This would be an unfortunate scenario for Seller, Company and Company's customers, but there is no guarantee if or when costs will recover to previous levels.

In order to achieve a Commercial Operations Date of March 31, 2024, Seller is requesting that the Commission issue its decision on the PPA Amendment by March 31, 2022. If such decision is positive, this will enable Seller to [REDACTED] which is necessary in order to complete construction and testing in time to meet the amended GCOD.

Seller and Company have worked diligently and collaboratively to find a workable solution to a challenging situation. This global situation is not tied to anything within the Company's control and the Company should not shoulder any "blame" or responsibility for this unprecedented global supply chain crisis caused by an unforeseen and prolonged global pandemic, the effects of which are still being experienced. For example, cost increases in the Company-Owned Interconnection Facilities are the result of escalation of equipment and construction costs and not caused by any changes in the Company's requirements. Similarly, Seller is not responsible for the volatile market conditions and has done everything possible to keep the Project on track. Given these difficult and unique circumstances, we hope that the changes in the PPA Amendment are found to be fair and reasonable. Seller greatly appreciates the time and effort the Commission, the Consumer Advocate and the Company have put into the development of this Project to date, and is hopeful that it can continue to support the State of Hawaii in its efforts towards a 100% renewable future.

Sincerely,

Mahi Solar, LLC

By: 

Name: Michael U. Alvarez

Title: Chief Operating Officer

cc: Hawaiian Electric Company, Inc.
Legal Division
legalnotices@hawaiianelectric.com

EXHIBIT E

Hawaiian Electric

Reserved for GHG Analysis

EXHIBIT F: CONFIDENTIALITY JUSTIFICATION TABLE

Pursuant to Protective Order No. 37370, Hawaiian Electric Company, Inc. (the “Company”) hereby identifies redacted confidential and/or proprietary information that is being submitted as “confidential information” or “restricted information” and: (1) identifies, in reasonable detail, the confidential information’s source, character, and location; (2) states clearly the basis for the claim of confidentiality; and (3) describes, with particularity, the cognizable harm to the producing party or participant from any misuse or unpermitted disclosure of the information. For designations of restricted information, additional descriptions of the cognizable harm are provided.

Reference	Identification of Item	Restricted?	Basis of Confidentiality	Harm
Letter, Exhibit A (Second Amendment to PPA)	Confidential and proprietary Seller commercial, financial, and development information.	No.	Document contains Seller’s confidential commercial, financial, and development information that Seller considers confidential and/or proprietary information which falls under the frustration of legitimate government function exception of the Uniform Information Practices Act (“UIPA”). ¹	Public disclosure of Seller’s confidential negotiations with Hawaiian Electric and development information would place Seller at a competitive disadvantage because such disclosure could adversely affect Seller’s present and future negotiations and relationships with Hawaiian Electric as well as other counterparties, including vendors, contractors, landowners, and lenders who could use such information to Seller’s disadvantage in negotiations by adjusting their commercial terms and negotiation strategies based on unearned nonpublic information, or who may be dissuaded from entering into agreements with Seller due to concerns regarding disclosure to the public of such proprietary commercial information. In addition, such disclosure would provide Seller’s competitors with insight into Seller’s development and pricing strategies, methodologies, proposals and expenses that could place Seller at a competitive disadvantage because those competitors could use such unearned nonpublic information to adjust their own strategies, methodologies, and proposals. Public disclosure of such information would also have the effect of discouraging

¹ HRS § 92F-13(3).

Reference	Identification of Item	Restricted?	Basis of Confidentiality	Harm
				open communication between the parties and impeding future negotiations, contract administration, and/or dispute resolution.
Exhibit B (Project Benefits Analysis)	Pricing Evaluations	Yes. Restricted information disclosed only to: PUC, CA Restricted from: Mahi Solar, LLC	Confidential financial and cost information which falls under the frustration of legitimate government function exception of the UIPA.	<p>Exhibit B (Project Benefits Analysis) shows the detailed pricing analysis and associated methodology for the project. The exhibit shows the revenue requirement, avoided fuel consumption, and typical residential bill impacts of the project over the PPA term. Public disclosure of the subject information could harm the Company by placing it at a competitive disadvantage, and may jeopardize the Company's current or future contract negotiations. The Company believes that if the subject information is disclosed to third parties, such information could be used to derive pricing proposals for potential projects and third parties would receive an unfair business advantage resulting in prejudice to the Company and its customers.</p> <p>The Company maintains that the subject information falls under the frustration of legitimate government function exception of the UIPA as disclosure of subject information would impair the Commission's ability to obtain necessary information to properly perform its review of this regulatory proceeding (as the Company would not have submitted the confidential information in this docket but for: (1) the governmental function of reviewing the Company's request for approval of the PPA; and (2) the Company's belief and reliance that the information would not be publicly disclosed).</p> <p>Basis from withholding from Mahi Solar, LLC: The harms stated above apply to restrict information from Mahi Solar, LLC. In particular, disclosure of the restricted information to Mahi Solar, LLC, which is an independent power producer,</p>

Reference	Identification of Item	Restricted?	Basis of Confidentiality	Harm
				could harm the Company by jeopardizing the Company's current or future competitive bidding solicitations, procurements and contract negotiations by being used to derive pricing proposals for potential projects, and by providing an unfair business advantage, resulting in prejudice to the Company and its customers.
<p>Exhibit D (February 8, 2022 Letter from Mahi Solar, LLC)</p>	<p>Confidential and proprietary Seller commercial, financial, and development information, as well as personal contact information for employee of Hawaiian Electric.</p>	<p>No.</p>	<p>Document contains personal identification information which falls under the unwarranted invasion of personal privacy² and frustration of legitimate government function exceptions of the UIPA.</p>	<p>Public disclosure of Seller's confidential negotiations with Hawaiian Electric and development information would place Seller at a competitive disadvantage because such disclosure could adversely affect Seller's present and future negotiations and relationships with Hawaiian Electric as well as other counterparties, including vendors, contractors, landowners, and lenders who could use such information to Seller's disadvantage in negotiations by adjusting their commercial terms and negotiation strategies based on unearned nonpublic information, or who may be dissuaded from entering into agreements with Seller due to concerns regarding disclosure to the public of such proprietary commercial information. In addition, such disclosure would provide Seller's competitors with insight into Seller's development and pricing strategies, methodologies, proposals and expenses that could place Seller at a competitive disadvantage because those competitors could use such unearned nonpublic information to adjust their own strategies, methodologies, and proposals. Public disclosure of such information would also have the effect of discouraging open communication between the parties and impeding future negotiations, contract administration, and/or dispute resolution.</p>

² HRS § 92F-13(1).

Reference	Identification of Item	Restricted?	Basis of Confidentiality	Harm
				<p>In addition, public disclosure of the personal contact information exposes the subject employee(s) to, among other things, potential victimization. This could expose the Company to certain liabilities.</p> <p>The Company maintains that the subject information falls under the frustration of legitimate government function exception of the UIPA as disclosure of subject information would impair the Commission's ability to obtain necessary information to properly perform its review of this regulatory proceeding (as the Company would not have submitted the confidential information in this docket but for: (1) the governmental function of reviewing the Company's request for approval of the PPA; and (2) the Company's belief and reliance that the information would not be publicly disclosed).</p> <p>The confidential information: (1) has not been previously disclosed or otherwise publicly disseminated; (2) is not of the kind of information that the Company would customarily disclose to the public; and (3) is of a nature that its disclosure could (a) impair the Commission's ability to obtain necessary information from similarly situated parties in the future, and (b) cause substantial harm to the Company and/or its customers as previously described above.</p>

FILED

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PUBLIC UTILITIES
COMMISSION

The foregoing document was electronically filed with the State of Hawaii Public Utilities Commission's Document Management System (DMS).

Attachment 8

**Public Utilities Commission
Order No. 38251 –
Docket No. 2020-0140
March 2, 2022**

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of))
HAWAIIAN ELECTRIC COMPANY, INC.) DOCKET NO. 2020-0140
))
For Approval of Power Purchase))
Agreement for Renewable))
Dispatchable Generation with))
Mahi Solar, LLC.))
_____))

ORDER NO. 38251

DECLINING TO APPROVE THE SECOND AMENDMENT TO THE PPA

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of))
HAWAIIAN ELECTRIC COMPANY, INC.)) DOCKET NO. 2020-0140
))
For Approval of Power Purchase)) ORDER NO. **38251**
Agreement for Renewable))
Dispatchable Generation with))
Mahi Solar, LLC.))
_____))

DECLINING TO APPROVE THE SECOND AMENDMENT TO THE PPA

By this Order, the Public Utilities Commission (“Commission”)¹ declines to approve the Power Purchase Agreement (“PPA”) Amendment² between HAWAIIAN ELECTRIC COMPANY, INC. (“Hawaiian Electric”) and Mahi Solar, LLC (“Mahi Solar”). As discussed below, the Commission finds the proposed Unit Price increase and the substantial delay in Project completion are not in the public interest, and therefore declines to approve the

¹The Parties to this proceeding are HAWAIIAN ELECTRIC and the DIVISION OF CONSUMER ADVOCACY (“Consumer Advocate”), an ex officio party to this proceeding pursuant to Hawaii Revised Statutes (“HRS”) § 269-51 and Hawaii Administrative Rules (“HAR”) § 16-601-62(a). The Commission has also admitted Mahi Solar as a participant. See Order No. 37386, “Granting Mahi Solar, LLC’s Motion to Participate,” filed on October 20, 2020.

²Letter From: K. Kane To: Commission Re: Docket No. 2020-0140 - “For Approval of a Second Amendment to Power Purchase Agreement for Renewable Dispatchable Generation with Mahi Solar, LLC,” filed February 15, 2022 (“Second Amendment”).

proposed Second Amendment. The Commission encourages Mahi Solar to focus its attention on the upcoming Stage 3 procurement.³

I.

BACKGROUND

On September 15, 2020, Hawaiian Electric filed its Application requesting approval of a PPA for Renewable Dispatchable Generation with Mahi Solar, and for approval of additional requests, relating to a 120-megawatt ("MW") photovoltaic system paired with a four-hour, 120 MW/480 megawatt-hour ("MWh") battery energy storage system, to be located in Kunia, on the island of Oahu (the "Project").⁴

On October 20, 2020, consistent with its intent to review the PPAs resulting from the Hawaiian Electric Companies'⁵ Phase 2 competitive procurement on an accelerated timeline, the Commission

³See Docket No. 2017-0352, Letter from Commission to R. Matsushima re: To Institute a Proceeding Relating to a Competitive Bidding Process to Acquire Dispatchable and Renewable Generation - "Guidance for Development of Stage 3 Renewable and Dispatchable Generation Request for Proposals on Oahu and Maui," filed on February 18, 2022.

⁴See "Hawaiian Electric Company, Inc.'s Application; Exhibits 1-9; Verification; and Certificate of Service," filed on September 15, 2020 ("Application"), at 5-7.

⁵The "Hawaiian Electric Companies" are Hawaiian Electric, Maui Electric Company, Limited, and Hawaii Electric Light Company, Inc.

filed Order No. 37383, setting the issues and procedural schedule for this proceeding, among other things.⁶

On December 30, 2020, the Commission issued Order No. 37515, approving the PPA-related requests in the Application.⁷

On July 30, 2021, Hawaiian Electric filed its First Amendment to the PPA.⁸ On October 6, 2021, Hawaiian Electric and Mahi Solar jointly declared the First Amendment null and void.⁹

On February 15, 2022, Hawaiian Electric proposed the Second Amendment and requested Commission approval on or before March 31, 2022. The Second Amendment contains the following changes:

- (1) The guaranteed Commercial Operations Date ("GCOD") for the Project was amended to be the later of March 31, 2024, or 24 months after receipt of a Commission

⁶Order No. 37383, "(1) Approving Hawaiian Electric Company, Inc.'s Request to Bifurcate its Power Purchase Agreement-Related Requests from its Interconnection-Related Requests; and (2) Adopting a Procedural Order to Govern the PPA-Related Requests," filed October 20, 2020 ("Order No. 37383").

⁷Order No. 37515, "Decision and Order," filed on December 30, 2020.

⁸See Letter From: K. Kane To: Commission Re: "Docket No. 2020-0140, For Approval of a First Amendment to Power Purchase Agreement for Renewable Dispatchable Generation with Mahi Solar, LLC," filed on July 30, 2021 ("First Amendment").

⁹See Second Amendment at 2.

order approving the Second Amendment, and Commission review of the Second Amendment would be required to be no later than March 31, 2022, to meet the new GCOD; and

(2) In exchange for completing the Project by the new GCOD, the Second Amendment includes an increase to the Unit Price to \$0.115750000 per kilowatt hour ("kWh"), which is approximately 1.9 cents higher than the Unit Price of \$0.097045944 per kWh in the existing, approved PPA.

According to Mahi Solar, the price increase was necessary for the Project to remain viable, but the Unit Price would be decreased:

(1) if the [Build Back Better Act ("BBB Act")] is enacted prior to the Commercial Operations Date and the BBB Act contains provisions that remove the requirement that certain equipment for solar projects must be safe-harbored in order to receive the Investment Tax Credit ("ITC"), and therefore, [Mahi Solar] is able to utilize more efficient, non-safe-harbored solar modules, then the new Unit Price shall be reduced by \$1 per MWh (\$0.001 per kWh); and/or (2) if the total actual costs with respect to the single-axis trackers and other racking equipment, battery energy storage, design and engineering, labor and equipment, the Seller-Owned Interconnection Facilities and the Company-Owned Interconnection Facilities are less than the total estimated costs described [in the Second Amendment], then the new Unit Price shall decrease by an amount sufficient to account for such reduction in costs in accordance with the formula set forth in [Second Amendment].¹⁰

¹⁰Second Amendment at 7-8.

According to Hawaiian Electric, under the Second Amendment, a typical residential Hawaiian Electric customer consuming 500 kWh per month could save approximately \$0.34 per month on average during the term of the PPA, as opposed to the \$0.75 per month average savings estimated under the existing PPA.¹¹ The PPA Amendment incorporates changes to the Project's benefit analysis, satisfaction of Renewable Portfolio Standard ("RPS") requirements, guaranteed milestones, force majeure events, null and void rights, and offers that a revised greenhouse gas ("GHG") analysis will be submitted for Commission review by March 15, 2022.¹²

II.

DISCUSSION

Although the Commission has previously expressed support for Hawaiian Electric and Mahi Solar exploring negotiated amendments to the PPA,¹³ significant time has passed since that guidance, and despite the Commission's instruction to

¹¹See Second Amendment at 8.

¹²See Second Amendment at 8-9.

¹³See Letter from Commission To: J. Lootens and R. Dayhuff Matsushima Re: Docket No. 2020-0140 - In re: Hawaiian Electric Company, Inc., for Approval of Power Purchase Agreement for Renewable Dispatchable Generation with Mahi Solar, LLC, filed on November 5, 2021.

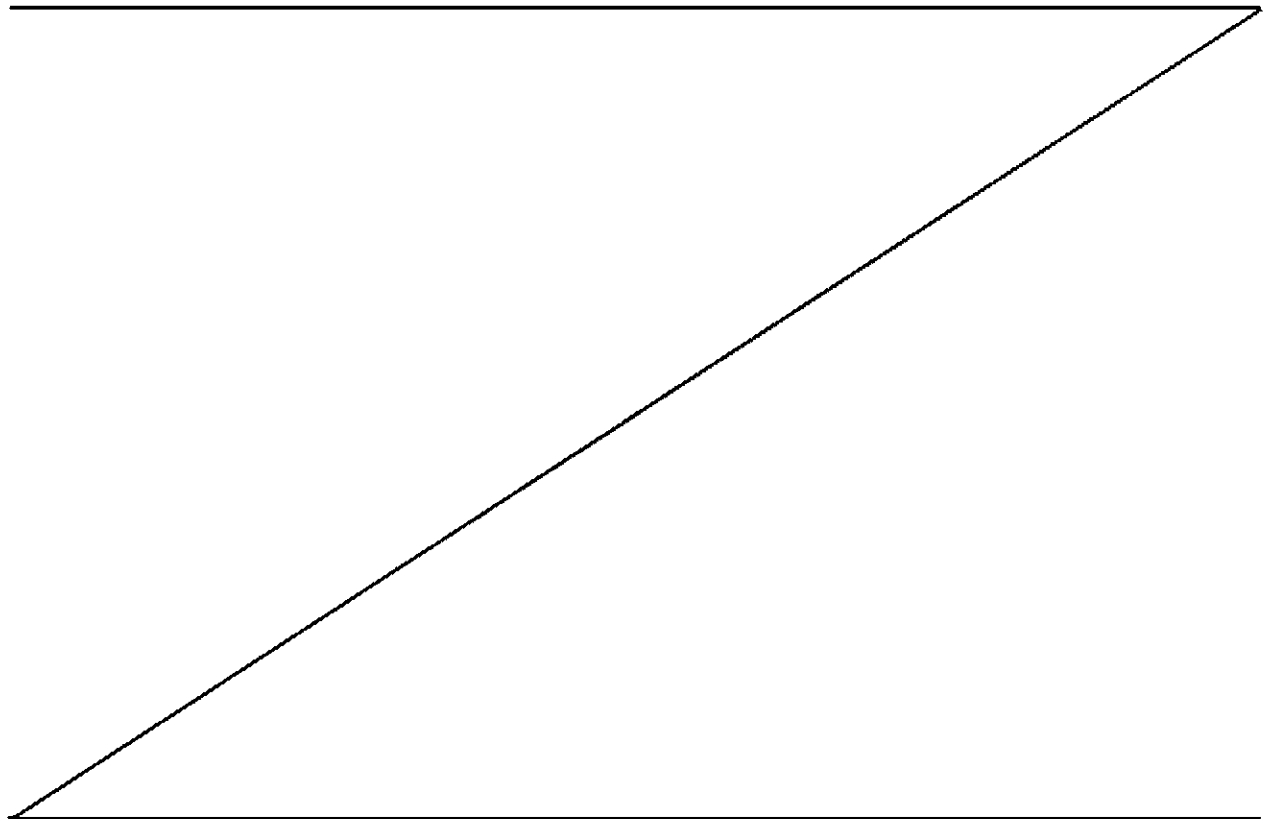
Hawaiian Electric and Mahi Solar to seek a resolution that did not include a Unit Price increase, the Second Amendment includes an increased Unit Price. The Commission notes that although the Second Amendment allows for a decrease in the Unit Price under certain circumstances, these circumstances are outside of the contracting parties' control (i.e., on the enactment of the BBB Act). Further, even in the decreased Unit Price scenario, the resulting Unit Price decrease would still be significantly higher than the original PPA Unit Price. Given the Project's 120 MW size and the PPA's 25-year term, even a small increase in the Unit Price could dramatically increase customer costs. Specifically, the total revenue requirement over the PPA term under the scenarios in the Second Amendment result in an increase between approximately \$130 million and \$140 million in nominal terms, depending on the enactment of the BBB Act.¹⁴ This is an increase the Commission is unwilling to approve.

The Commission finds that the March 30, 2024 GCOD proposed in the Second Amendment is beyond the December 31, 2023 GCOD identified in the approved PPA. The Commission finds the Unit Price increase and the delay in Project completion

¹⁴See Second Amendment at 6-8. These figures were established by calculating the difference in the Mahi Solar Total Revenue Requirement (Column A) from the Original PPA Proposal and the Total Revenue Requirements (Column A) from the Updated Proposal with and without BBB Act Pricing, respectively, over the 25-year PPA term.

unacceptable and therefore declines to approve the proposed Second Amendment.

The Commission notes that Mahi Solar has previously suggested that it could potentially re-bid the Project into a future procurement. Should Mahi Solar choose to terminate the PPA, the Commission encourages Mahi Solar to focus its attention on preparing for the Stage 3 procurement. The Commission appreciates Mahi Solar's and Hawaiian Electric's efforts to date, and believes that allowing Mahi Solar to re-bid its Project, with any modifications or amendments it chooses to make, into the Stage 3 procurement best serves the public interest under the circumstances.



III.

ORDERS

THE COMMISSION ORDERS:


The Commission declines to approve the proposed PPA Amendment between Hawaiian Electric and Mahi Solar.

DONE at Honolulu, Hawaii MARCH 2, 2022.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By 
James P. Griffin, Chair

By 
Jennifer M. Potter, Commissioner

By 
Leodoloff R. Asuncion, Jr., Commissioner

APPROVED AS TO FORM:


Mike S. Wallerstein
Commission Counsel

2020-0140.mt

CERTIFICATE OF SERVICE

Pursuant to Order No. 37043, the foregoing Order was served on the date it was uploaded to the Public Utilities Commission's Document Management System and served through the Document Management System's electronic Distribution List.

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COMMISSION

The foregoing document was electronically filed with the State of Hawaii Public Utilities Commission's Document Management System (DMS).

Attachment 9

**Public Utilities Commission
Order No. 38502 –
Docket No. 2020-0140
July 15, 2022**

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of))
HAWAIIAN ELECTRIC COMPANY, INC.) DOCKET NO. 2020-0140
For Approval of Power Purchase))
Agreement for Renewable))
Dispatchable Generation with))
Mahi Solar, LLC.))
_____))

ORDER NO. 38502

CLOSING THE DOCKET

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of))	
HAWAIIAN ELECTRIC COMPANY, INC.)	DOCKET NO. 2020-0140
)	
For Approval of Power Purchase)	ORDER NO. 38502
Agreement for Renewable)	
Dispatchable Generation with)	
Mahi Solar, LLC.)	
_____)	

CLOSING THE DOCKET

By this Order,¹ the Public Utilities Commission ("Commission"): (1) acknowledges the declaration of Mahi Solar, filed by Hawaiian Electric in this docket, declaring both the Power Purchase Agreement for Renewable Dispatchable Generation between Hawaiian Electric and Mahi Solar dated September 11, 2020 ("Power Purchase Agreement" or "PPA"), and the Second Amendment to the Power Purchase Agreement for Renewable Dispatchable Generation

¹The Parties to this proceeding are HAWAIIAN ELECTRIC COMPANY, INC. ("Hawaiian Electric") and the DIVISION OF CONSUMER ADVOCACY ("Consumer Advocate"), an ex officio party to this proceeding pursuant to Hawaii Revised Statutes ("HRS") § 269-51 and Hawaii Administrative Rules ("HAR") § 16-601-62(a). The Commission has also admitted MAHI SOLAR, LLC ("Mahi Solar") as a participant, pursuant to Order No. 37386, "Granting Mahi Solar, LLC's Motion to Participate," filed on October 20, 2020.

dated February 8, 2022 ("Second Amendment")² null and void;³ and (2) closes this docket.

I.

BACKGROUND

On September 15, 2020, Hawaiian Electric filed its Application requesting approval of a PPA with Mahi Solar, and for approval of additional requests, relating to a 120-megawatt ("MW") photovoltaic system paired with a four-hour, 120 MW/480 megawatthour battery energy storage system, to be located in Kunia, on the island of Oahu (the "Project").⁴

On December 30, 2020, the Commission issued Order No. 37515, approving the PPA-related requests in the Application.⁵

²See Letter From: K. Kane To: Commission Re: "Docket No. 2020-0140, For Approval of a Second Amendment to Power Purchase Agreement for Renewable Dispatchable Generation with Mahi Solar, LLC," filed on February 15, 2022 ("February 15, 2022 Letter From: K. Kane") at Exhibit A.

³Letter From: R. Matsushima To: Commission Re: "Docket No. 2020-0140 - Power Purchase Agreement between Hawaiian Electric Company, Inc. and Mahi Solar, LLC; Project Update," filed on May 6, 2022 ("Project Update").

⁴See Hawaiian Electric Company, Inc.'s Application; Exhibits 1-9; Verification; and Certificate of Service," filed on September 15, 2020 ("Application"), at 5-7, 21.

⁵Order No. 37515, "Decision and Order," filed on December 30, 2020.

On July 30, 2021, Hawaiian Electric filed its First Amendment to the PPA.⁶

On October 6, 2021, Hawaiian Electric and Mahi Solar jointly declared the First Amendment null and void.⁷

On February 15, 2022, Hawaiian Electric proposed the Second Amendment.⁸

On March 2, 2022, the Commission issued Order No. 38251, declining to approve the Second Amendment.⁹

On March 14, 2022, Mahi Solar filed its Motion for Leave requesting approval to file a motion for reconsideration of Order No. 38251.¹⁰

⁶See Letter From: K. Kane To: Commission Re: "Docket No. 2020-0140, For Approval of a First Amendment to Power Purchase Agreement for Renewable Dispatchable Generation with Mahi Solar, LLC," filed on July 30, 2021 ("First Amendment").

⁷See February 15, 2022 Letter From: K. Kane at 2.

⁸See February 15, 2022 Letter From: K. Kane at 1, 10.

⁹Order No. 38251, "Declining to Approve the Second Amendment to the PPA," filed on March 2, 2022 ("Order No. 38251").

¹⁰"Mahi Solar, LLC's Motion for Leave to File a Motion for Reconsideration of Order No. 38251 Issued March 2, 2022; Exhibit 'A'; and Certificate of Service," filed on March 14, 2022 ("Motion for Leave").

On May 4, 2022, Mahi Solar filed a Notice of Withdrawal of its Motion for Leave.¹¹

On May 6, 2022, Hawaiian Electric informed the Commission that Mahi Solar concurrently declared the PPA and Second Amendment null and void, and that Hawaiian Electric did not dispute Mahi Solar's right to make such a declaration.¹²

Given that the PPA and Second Amendment have been declared null and void by Mahi Solar, which was not disputed by Hawaiian Electric, no further Commission action is anticipated or required in this docket. Therefore, the Commission closes this docket.

¹¹"Mahi Solar, LLC's Notice of Withdrawal of Its Motion for Leave to File a Motion for Reconsideration of Order No. 38251, filed March 14, 2022; and Certificate of Service," filed on May 4, 2022 ("Notice of Withdrawal").

¹²See Project Update at 1 and Exhibit A.

II.


ORDER

THE COMMISSION ORDERS:

This docket is closed unless otherwise ordered by the Commission.

DONE at Honolulu, Hawaii July 15, 2022.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By  _____
Leodoloff R. Asuncion, Jr., Chair

By  _____
Jennifer M. Potter, Commissioner

By  _____
Naomi U. Kuwaye, Commissioner

APPROVED AS TO FORM:


Mike S. Wallerstein
Commission Counsel

2020-0140.ljk

CERTIFICATE OF SERVICE

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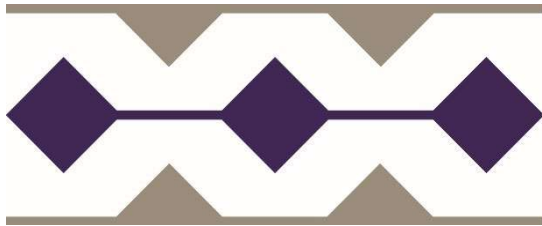
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PUBLIC UTILITIES
COMMISSION

The foregoing document was electronically filed with the State of Hawaii Public Utilities Commission's Document Management System (DMS).

Attachment 10

**HECO Request for Proposals for
Renewable Dispatchable Generation and
Energy Storage, Island of O‘ahu
January 20, 2023**



**Hawaiian
Electric**

REQUEST FOR PROPOSALS
FOR
RENEWABLE DISPATCHABLE GENERATION
AND
ENERGY STORAGE
ISLAND OF O‘AHU

JANUARY 20, 2023

Docket No. 2017-0352

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Appendix L	Model Firm PPA
Appendix M	Model ESPA

Chapter 1: Introduction and General Information

Hawaiian Electric Company, Inc. (“Hawaiian Electric” or the “Company”) seeks proposals to acquire at least 965 gigawatt hours (“GWh”) annually of variable renewable dispatchable generation, and proposals to acquire 500 to 700 megawatts (“MW”) of renewable firm capacity through this Request for Proposals (“RFP”), as defined further in Section 1.2.2.¹ Hawaiian Electric will target having (1) the 965 GWh of variable renewable dispatchable generation acquired through this RFP in service by December 1, 2027, (2) 300 to 500 MW of renewable firm capacity acquired through this RFP in service by the end of 2029, and (3) an additional 200 MW of renewable firm capacity acquired through this RFP in service by the end of 2033. From the targeted amount of renewable firm capacity for 2029, Hawaiian Electric will seek proposals for at least 150 MW of non-spinning reserves that can be dispatched from offline to full load within 15 minutes or less. Proposers should submit Proposals to achieve commercial operations as soon as possible to address urgent reliability needs, especially for the renewable firm capacity. Proposers are expected to have their permitting requirements addressed and provide a realistic project schedule in their Proposals. The Company stresses that Proposers must fully demonstrate that their Projects are able to meet their Guaranteed Commercial Operations Date. Failure to do so may result in Proposals not advancing through the evaluation phase of the RFP. This RFP is intended to replace and incorporate the scope of the draft Oahu Renewable Dispatchable Firm Generation RFP, filed on February 28, 2022.

The Company seeks three general types of projects in this RFP, 1) new variable renewable dispatchable generation projects (with or without energy storage systems),² 2) standalone energy storage projects, and 3) new firm renewable dispatchable generation projects. The Company will also accept Proposals from existing renewable generation projects or existing fossil fuel projects that convert to a renewable source for new terms after the expiration of their current agreements. Any existing project’s Proposal must meet all of the terms of this RFP, including agreement to use the applicable model Stage 3 Contract attached hereto. Existing projects, however, still maintain the rights to use their existing interconnection facilities and points of interconnection.³ Through this RFP, the Company intends to contract any variable renewable dispatchable generation projects using its Model Renewable Dispatchable Generation Power Purchase Agreement (“RDG PPA”),⁴ which treats variable generation facilities as fully dispatchable; any firm⁵ dispatchable generation projects using its Model Firm Renewable Dispatchable Generation

¹ Procurement fulfillment will be dependent on the types of Proposals received in this RFP. The Company may consider selecting Proposals that will provide additional energy and other services in excess of or less than the targeted amounts depending on whether such Proposals demonstrate benefits to customers and meet the needs of the grid.

² Any photovoltaic (“PV”) projects must be paired with an energy storage component.

³ Sections 1.2.10, 2.2.1, and Appendix H interconnection cost applications may not apply to existing projects currently interconnected and operating on the Hawaiian Electric System. Please contact the Company via the RFP Email Address in Section 1.6 to seek clarification on what is required for existing projects.

⁴ The Company offers a Model PV+BESS RDG PPA version for PV paired with energy storage and a Model Wind+BESS RDG PPA version for wind paired with energy storage. If a generation-only wind proposal is proposed, the BESS-specific provisions will be removed from the Model Wind+BESS RDG PPA.

⁵ Firm generation is available up to 100% of the contract capacity at any time under Company dispatch, except during periods of outage and deration, independent of source energy resource availability.

Power Purchase Agreement (“Firm PPA”); and any standalone energy storage projects using its Model Energy Storage Purchase Agreement (“ESPA”). Collectively, these model purchase agreements are referred to as the “Stage 3 Contracts”.⁶ If a proposed Project utilizes a technology that is not encompassed by the model purchase agreements provided, then the terms of the applicable model purchase agreement will be modified to address the specific technology and/or component.⁷

Each successful Proposer will provide variable renewable dispatchable generation with/without energy storage, standalone energy storage, or firm renewable dispatchable generation to the Company pursuant to the terms of an applicable Stage 3 Contract which will be negotiated between the Company and Proposer, and also be subject to review and approval by the State of Hawai‘i Public Utilities Commission. Proposers are instructed to thoroughly review their respective model Stage 3 Contract attached as Appendix J, K, L, and M that represents the technology of their project. The structure of the RDG PPA, Firm PPA and ESPA intends to provide monthly payments to the Proposer by the Company (e.g., Lump Sum Payment, Capacity Charge payment), based upon the energy potential or contract capacity, as applicable, of the Facility, regardless of the actual energy dispatched.⁸ In exchange, the utility maintains full dispatch control of the Facility as needed. Under the RDG PPA, Firm PPA and ESPA, each Facility must meet certain requirements to receive the full Lump Sum Payment/Capacity Charge payment (as applicable) each month. The Firm PPA also provides for a separate monthly Energy Charge payment. These requirements ensure that each plant is available to the Company for dispatch to meet System needs. The Company intends to use all Projects selected for the Final Award Group in accordance with the performance and dispatchability requirements described in the model Stage 3 Contracts to meet various grid needs identified in Appendix I of this RFP (“GNA Update”).

Appendix I provides information to Proposers on the grid needs of the System based on computer modeling of the future dispatch of the System, including how new resources acquired through this RFP may be dispatched to provide various services (e.g., 20- and 1-minute upward and downward regulating reserve, ramp, and capacity). In addition to the expected provision for grid services, the GNA Update also provides the portfolio of projects’ aggregated dispatch on typical days to inform Proposers when and how the projects may be utilized in addition to existing system resources. In turn, Proposers can use this information to design their Project to better fit within the O‘ahu resource portfolio. Proposers must review Appendix I. The GNA Update in Appendix I was determined by modeling which selected the addition of resources including onshore wind, standalone storage, and geothermal resources. The Company, however, is committed to selecting a portfolio of projects based on the results of the RFP to meet the System needs and is not focused on any particular technology. Therefore, acquiring the amount of grid needs set forth in Appendix I will be dependent on the final resource mix selected. As

⁶ Herein, the term “Stage 3 Contract” will be used generically to refer to the applicable purchase agreement for that technology (i.e., PV+BESS RDG PPA, Wind+BESS RDG PPA, Firm PPA, or ESPA).

⁷ Contact the Company if there is any uncertainty with which model Stage 3 Contract the Proposer’s technology aligns.

⁸ Firm proposals may include an Energy Charge payment component in addition to the Capacity Charge payment component. The Energy Charge payment would be based on actual production and delivery to the grid. The Firm PPA allows the Company dispatch rights and does not guarantee Seller any amount of energy will be delivered to the Point of Interconnection - in the event that the Company does not accept any energy at the Point of Interconnection, the Company will not pay any Energy Charge payment.

detailed in this RFP, during the detailed evaluation, modeling will be performed to assess the grid resources being provided by the final selected portfolios.

To assist Proposers in developing costs of potential projects, the Company also offers interconnection facilities cost and schedule information in Appendix H. The information provided in Appendix H can be used to approximate the cost for Company-Owned Interconnection Facilities, including substation, telecommunications, security, transmission and distribution lines, and project management.

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

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; transmission and distribution availability; and changes to regulatory or legal requirements. If attractive Proposals are received that will provide energy and other services 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 applicable RDG PPA, Firm PPA, and ESPA attached as Appendix J, K, L, and M.

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. 38735 issued on December 1, 2022 in Docket No. 2017-0352 as part of the procurement process established by the PUC.
- 1.1.2 While storage was not contemplated in 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”), the Company intends to follow the Framework to the extent applicable for this RFP. This RFP is also consistent with the Updated Framework for Competitive Bidding (“Updated Framework”), which was drafted to be more inclusive of various technologies, and filed on February 12, 2021 in Docket No. 2018-0165. Order No. 38481 issued on June 30, 2022 in that docket recently approved the Updated Framework for use in the first round of integrated grid planning. Until the first round of integrated grid planning RFPs commence, the Company will continue to follow the Framework.

1.1.3 Proposers must review Appendix I, the Company’s GNA Update, to inform Proposers of the assessment performed and the resulting recommended grid needs identified that shape the basis of this RFP, including the manner in which the modeling software chose to dispatch the energy based on System need. As conveyed in the Introduction above, the GNA Update provides the portfolio of projects’ aggregated dispatch on typical days to inform Proposers when and how projects may be utilized, so Proposers can use this information to design their Project to better fit within the O’ahu resource portfolio.

1.2 Scope of the RFP

1.2.1 The Company has established two separate targets in this RFP. The first is for variable renewable dispatchable generation projects (with or without energy storage systems) and standalone energy storage projects. The second is for firm renewable dispatchable generation projects. There is no predetermined preference for a particular renewable energy generation or storage technology; however, the firm renewable dispatchable generation targets must be from a synchronous machine-based generation technology. The two separate targets are also intended to diversify the generation portfolio on the island of O’ahu and reduce procurement and execution risks associated with a potentially homogenous Final Award Group, if not for separate procurement targets.

1.2.2 Proposals may be submitted as:

- Target 1: Renewable Dispatchable Generation Need
 - Variable renewable generation Projects (“Variable Generation Projects”)⁹
 - Paired variable renewable generation with energy storage Projects (“Paired Projects”)
 - Standalone energy storage Projects (“Standalone Storage Projects”)
- Target 2: Firm Renewable Generation Need
 - Firm renewable generation Projects¹⁰

1.2.3 All Proposals with a generation component submitted in response to this RFP must utilize qualified renewable energy resource(s), as defined under the Hawai’i Renewable Portfolio Standards (“RPS”) law.¹¹ By statute, “Renewable Energy” means energy generated or produced using the following sources: (1) wind; (2) the sun; (3) falling water; (4) biogas, including landfill and sewage-based digester gas; (5) geothermal; (6) ocean water, currents, and waves, including ocean thermal energy conversion; (7) biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste; (8) biofuels; and (9) hydrogen produced from renewable energy sources.¹²

⁹ Variable Generation Projects, with the exception of PV, do not need to include an energy storage component. PV generation projects must be paired with an energy storage component and proposed as a Paired Project.

¹⁰ As noted in footnote [6] above, firm generation is a synchronous machine based technology that is available up to 100% of the contract capacity at any time under Company dispatch for as long as needed, except during periods of outage and deration, independent of source energy resource availability. Firm generation must not be energy limited or weather dependent.

¹¹ RPS requirements in Hawai’i are codified in Hawai’i Revised Statutes (“HRS”) §§ 269-91 through 269-95.

¹² See HRS § 269-91.

All Proposals with a generation component that operates on fuel must include any and all costs of such fuel for the entire proposed Firm PPA term in its Proposal with the exception of biofuel proposals. Proposals operating on biofuel¹³ do not need to include the cost of biofuel in their Proposal cost, but those Proposals must provide a biofuel price forecast. The Proposal will not have to guarantee the biofuel forecast pricing, but the Company reserves the right to use an alternative appropriate fuel forecast when evaluating the Proposal (i.e., the Company may choose to use the Company's biofuel forecast, or potentially look at more than one fuel forecast for evaluation purposes).

Proposers must also describe their fuel supply plan that will ensure sufficient fuel and other necessary consumables required for unconstrained dispatch and fuel storage on site for at least fourteen (14) days of 16 hours of Full Load¹⁴ operation per day. If offsite storage connected via pipeline is utilized, or is otherwise immediately accessible, the on-site requirement can be reduced to seven (7) days of 16 hours of Full Load operation with the additional 7 days off site. In no event will there be less than seven days of fuel (based on 16 hours of operation) available on site.¹⁵ This shall be calculated using the following Fuel Floor Requirement Calculation:

Average Fuel Usage Per Day (Based on 16 hours Full Load) x Minimum Floor Requirement (7 or 14 days - Minimum Number of days required on Hand. See below to determine the Minimum Floor Requirement Amount.)

- ***Example for Illustration Purposes (numbers below are for illustration purposes only):***
 - *Average Fuel Usage Per Day (Based on 16 Hours Full Load) = 2,000 barrels*
 - *Minimum Floor Requirement = 14 days (2 weeks) for fuel being stored on-site; 7 days (1 week) for fuel being stored offsite but connected via a pipeline.*
 - *2,000 barrels x 14 days = 28,000 barrels*

28,000 barrels is the minimum Floor Requirement based on average fuel usage of 16 hours full load.

In addition, Proposers must provide the following:

- Storage of 30 days of fuel and necessary consumables on island based on normal expected operation.¹⁶ Fuel may be owned or under guaranteed contract and stored

¹³ Biofuel is defined in HRS § 269-91: "Biofuels" means liquid or gaseous fuels produced from organic sources such as biomass crops, agricultural residues and oil crops, such as palm oil, canola oil, soybean oil, waste cooking oil, grease, and food wastes, animal residues and wastes, and sewage and landfill wastes.

¹⁴ Full Load is defined as the Contract Firm Capacity as defined in the Model Firm PPA.

¹⁵ Days refer to calendar days, unless the term "business day" is used, which means calendar day excluding weekends and federal and State of Hawai'i holidays.

¹⁶ The Grid Needs Assessment information provided in App. I of the RFPs can be used to estimate the future normal expected operation for initial fuel supply planning purposes. Over the term of the Project, the future normal expected operation shall be based upon (i) the average level of Company Dispatch during the previous six (6) months and (ii) the expected level of Company Dispatch during the following month as indicated by Company.

onsite or offsite but in all cases must be on island. Reserve fuel may be any fuel the developer is permitted to consume.

- A fuel management plan that guarantees that fuel and necessary consumables stored offsite will be delivered to the Project site, particularly during an emergency event when fuel is required.

Alternative fuel management plans that demonstrate the resilience sought by the above requirements may be considered. The fuel requirements may be revisited and adjusted downward in the future if needs so require.

All Proposals with a generation component that operate on fuel must also commit to provide fuel for the entire proposed term of the Firm PPA and, with the exception of biofuel, provide evidence, such as in the form of contracts, that the fuel will be secured for the duration of the Firm PPA term.¹⁷ All Proposals utilizing a fuel source must also specify any minimum monthly, quarterly, and/or annual fuel purchases in their fuel contract. Proposers for facilities that elect to use a liquid or gaseous fuel source must also be capable of operating using fossil fuel, including obtaining the proper permitting, and include the costs for the use of such fuel in its Proposal. The Company will maintain the right to consent to any fuel supply changes during the term of the PPA. It is the responsibility of the Seller to operate within the limits of any applicable permits while being able to operate per the terms in the Firm PPA. Any operational constraints need to be identified in the Proposal. In the event that there are changes to operational limitations, such changes will be memorialized through an amendment to the Firm PPA. At a minimum Proposers are responsible for researching permitting and environmental requirements in existence and identifying such requirements and any resulting operational limits in their Proposal.

To assist with proposal preparation, the Near-Term Grid Needs Assessment for O‘ahu, attached as [Appendix I](#), provides the annual capacity factors, as shown below, for the new firm thermal units that were modeled as a proxy for the renewable firm capacity targets included in this RFP.

O‘ahu – Base Case (see [Appendix I](#), page 123)

Capacity Factor (%)	Base 508 Staggered		Base 607 Staggered			Base 688 Staggered		
	CT	CC	CT	ICE	CC	CT	Biomass	CC
2029	12%	N/A	4%	26%	N/A	1%	97%	N/A
2030	5%	N/A	2%	10%	N/A	0%	76%	N/A
2031	5%	N/A	2%	8%	N/A	0%	73%	N/A
2032	4%	N/A	1%	8%	N/A	0%	72%	N/A
2033	0%	10%	0%	2%	11%	0%	69%	1%
2034	1%	8%	0%	2%	9%	0%	66%	1%
2035	0%	6%	0%	1%	6%	0%	59%	0%

¹⁷ Proposals operating on biofuel must commit to providing fuel for the entire duration, but do not have to provide evidence of a fuel supply contract for the entire duration of the contract. However, Proposals utilizing biofuel must commit to provide evidence of a fuel supply for at least the first 3 years of the Firm PPA term.

O‘ahu – Land Constrained Case (see Appendix I, page 125)

Capacity Factor (%)	LC 508 Staggered		LC 607 Staggered			LC 688 Staggered		
	CT	CC	CT	ICE	CC	CT	Biomass	CC
2029	24%	N/A	10%	44%	N/A	4%	97%	N/A
2030	13%	N/A	6%	21%	N/A	3%	95%	N/A
2031	13%	N/A	6%	23%	N/A	2%	96%	N/A
2032	23%	N/A	12%	36%	N/A	5%	96%	N/A
2033	11%	56%	4%	23%	50%	1%	96%	24%
2034	12%	57%	5%	27%	50%	2%	96%	24%
2035	3%	31%	1%	9%	28%	0%	89%	11%

The capacity factors provided above are intended to represent typical conditions, and are for illustrative purposes only. If an emergency occurs like a severe weather event that causes the forced outage of multiple resources, higher capacity factors of the new firm thermal units may be required. Additionally, many other factors may affect the capacity factor or run hours of generating units, such as the type and cost of fuel oil used, heat rate, existing generating units that remain in-service or retired, the amount of variable renewable dispatchable projects on the system, among others.

- 1.2.4 Each Proposal submitted into 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.
- 1.2.5 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.
- 1.2.6 Projects submitted into this RFP must be located on the island of O‘ahu.
- 1.2.7 The term of the Firm PPA for any proposed firm renewable dispatchable generation Project must be thirty (30) years. Proposals utilizing the RDG PPA or ESPA, for variable renewable dispatchable generation projects (with or without energy storage systems) and standalone energy storage projects, respectively, may propose the term of such contract.
- 1.2.8 Proposers must determine their Project Site, interconnection facilities and route of interconnection facilities, and Point(s) of Interconnection (“POI”).
- 1.2.9 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 Vulnerability, and Adaptation Report (2017);¹⁸
- not located within a Tsunami Evacuation Zone;¹⁹ and
- not located within the Hawaii Department of Land and Natural Resources flood map’s flood zones A, AE, AEF, AH, AO, VE based on the Federal Emergency Management Agency’s Digital Flood Insurance Rate Maps.²⁰

All equipment required for a Proposer’s project must be sited within the proposed Project Site with no assumptions that any equipment will be sited on Company property unless specified by the Company.

1.2.10 Projects must either interconnect to the Hawaiian Electric System (1) at the 138 kV transmission-level via the transmission lines identified in Section 2.2.1 and constructing a new substation to the 138 kV transmission-level line, (2) via 138 kV substations – Ewa Nui, Campbell Estate Industrial Park, Hoohana, Kahe, AES, Koolau, or Waiau, or (3) via 46 kV subtransmission-level as described in Section 2.2.1. Proposers must inquire about the transmission line available MW capacity or substation conditions. See Section 2.2.1 below. To the extent the Company’s existing land rights for any Company-provided interconnection location are not perpetual, Proposers will remain responsible for securing land rights in Company’s favor for any such Company-provided interconnection location in accordance with the requirements of the applicable Stage 3 Contract.

1.2.11 A Project’s size must be greater than 5 MW, the threshold for a waiver from the Competitive Bidding Framework applicable to O‘ahu. No single point of failure from the Facility shall result in a decrease in active power output measured at the Project’s POI greater than 142 MW. Additionally, in meeting the single point of failure requirement, if the Project’s generator step-up transformers are operated in parallel, the parallel step-up transformers must be equal in size (MVA) and have the same electrical characteristics and available tap positions. Each generator step-up transformer must have its own POI not in adjacent positions of the same breaker-and-a-half bay into the Hawaiian Electric System that can be independently dispatched via the Company’s Energy Management System. Revisions will need to be made to the Stage 3 Contract to account for multiple POI.

1.2.12 Contracts for Projects selected through this RFP must use the appropriate Stage 3 Contract as described in Section 3.8. Under the RDG PPA and Firm PPA, the Company shall maintain exclusive rights to fully direct dispatch of the Facility, subject to

¹⁸ 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

¹⁹ 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”).

²⁰ See Hawaii Department of Land and Natural Resources Flood Hazard Assessment Tool at <http://gis.hawaiiinfip.org/FHAT/>.

availability of the resource for those Projects using the RDG PPA. Under the ESPA, the Company shall maintain exclusive rights to fully direct the charging and discharging of the Facility. Additionally, due to the critical nature and usage of this to support the grid, the ability to control and tune the Facility's response to certain grid events and conditions is an important aspect that will be required of all facilities.

- 1.2.13 The storage component of a Paired Project will be charged from its generation component during periods when full potential export of the generation component is not being dispatched by the Company. Energy in the storage component will be exported to the Company's System subject to Company dispatch. The storage component of a Paired Project must be sized to support the Facility's Net Nameplate Capacity (in MW)²¹ for at least two (2) continuous hours for a Wind+BESS Project or at least four (4) continuous hours for a PV+BESS Project throughout the term of the respective RDG PPA and support a minimum of 365 full charging/discharging cycles per year (or 366 full charging/discharging cycles per leap year).

For example, for a paired 10 MW PV facility, the energy storage component must be able to store and discharge at least 40 MWh of energy in a cycle throughout the term of the PV+BESS RDG PPA. For a paired 10 MW wind facility, the Proposer must propose an energy storage component that is able to store and discharge at least 20 MWh of energy in a cycle throughout the term of the Wind+BESS RDG PPA.

Paired Projects must also be capable of being 100% charged from the grid at the direction of the Company from the GCOD.

- 1.2.14 The amount of energy discharged from any energy storage component (Paired Project or Standalone Storage Project) in a year will be limited to the BESS Contract Capacity (in MWh) multiplied by the number of days in that year. An energy storage component may be dispatched more than once per day, subject to such discharge energy limitations.
- 1.2.15 Standalone Storage Projects will be charged from the grid and provide energy to the Company during times that are deemed by the Company to be beneficial to the System. These facilities must be connected to the grid at all times, with the exception of allowed maintenance periods.
- 1.2.15.1 Standalone Storage Projects must be sized to support the Facility's Net Nameplate Capacity (in MW) for either two (2) or four (4) continuous hours throughout the term of the ESPA and support a minimum of 365 full charging/discharging cycles per year (or 366 full charging/discharging cycles per leap year).

For example, for a 10 MW facility, the energy storage component must be able to store and discharge at least 20 MWh or 40 MWh of energy in a cycle throughout the term of the ESPA.

²¹ A Project's Net Nameplate Capacity is the net maximum instantaneous active power capability of the Facility at the point of interconnection, considering: nameplate power rating of energy generating equipment sizing, expected losses in delivery of power to the POI, and any project control system involved in managing the delivery of power to the POI.

For both Paired Projects and Standalone Storage Projects, the inverter which interfaces between the BESS DC side and AC side must be a grid-forming control type inverter.

- 1.2.16 Proposals for Variable Generation Projects, Paired Projects and Standalone Storage Projects must specify a GCOD no later than December 1, 2027. A Proposer’s GCOD set forth in its Proposal will be the GCOD in any resulting Stage 3 Contract 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.
- 1.2.17 Proposals for Firm renewable dispatchable generation Projects must specify a GCOD as set forth in the table below. Proposals with multiple variations must include a variation that indicates the earliest possible GCOD the Proposal can achieve. A Proposer’s GCOD set forth in its accepted Proposal or variation will be the GCOD in any resulting Firm 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 accepted Proposal or variation.

Firm Renewable Generation	GCOD No later than December 1, 2029	GCOD No later than December 1, 2033
MW requested	300 to 500 MW	200 MW

- 1.2.18 If selected, Proposers will be responsible for all costs throughout the term of the Stage 3 Contract, including but not limited to Project development, completion of an Interconnection Requirements Study (“IRS”), the cost of conducting a greenhouse gas (“GHG”) emissions analysis, land acquisition, permitting, financing, construction of the Facility and all Interconnection Facilities including system upgrades, all fuel to operate the Facility, and the operation and maintenance (“O&M”) of the Facility.
- 1.2.19 If selected, Proposers will be solely responsible for the decommissioning of the Project and the restoration of the Site upon the expiration of the Stage 3 Contract, as described in Attachment G, Section 7 of the RDG PPA, Firm PPA or ESPA.
- 1.2.20 If selected, Proposers shall pursue all available applicable federal and state tax credits (including, without limitation, all available applicable tax credits from the federal Inflation Reduction Act). Proposal pricing must be set to incorporate the benefit of such available federal tax credits. In the event additional federal tax credits become available through new tax legislation after Proposals are submitted but before Proposals are selected to the Final Award Group, the Company may require applicable Proposals propose an additional downward only price adjustment to allow the benefits of those additional tax credits to be passed along to the Company’s customers.

However, to mitigate the risk on Proposers due solely to potential changes to Hawai‘i 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 Stage 3 Contract 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, Firm PPA, or ESPA. The Stage 3 Contract will also provide that the Proposer will be responsible for payment of liquidated damages for failure to pursue such maximum available state tax credit.

- 1.2.21 If selected, Proposers will submit project schedules as required per Attachment S of the Stage 3 Contract, including creating their schedules using Microsoft Project and submitted in .mpp file format.

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 and Independent Engineer

- 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

An Independent Engineer will be engaged by the PUC for this RFP. The Independent Engineer will provide technical expertise to oversee matters related to interconnection in the RFP process. The Independent Engineer's role will include, but not be limited to:

- Reviewing the Company's requirements and standards for interconnection
- Review the interconnection documents provided by Proposers

- Participate in discussions with the Company and Proposers over interconnection requirements, scope, and cost
- Verify any one-time Net Energy Potential RFP Projection adjustment allowed in Section 3.10.1.1
- Review requirements imposed on Proposers which bear cost implications
- Review system available MW capacity information to Proposers to ensure accuracy
- Oversee technical issue dispute resolution
- Investigate and review the cost of interconnection from the Proposers

1.4.3 The Independent Observer for this RFP is: **Bates White, LLC**.
The Independent Observer Email Address: vincent.musco@bateswhite.com

The Independent Engineer for this RFP is: **PA Consulting**
The Independent Engineer Email Address: suman.gautam@paconsulting.com

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 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.

To ensure the Independent Observer can monitor communication, questions regarding the RFP or a proposed Project submitted to the RFP Email Address should include the Independent Observer Email Address found in Section 1.4.3 above. In addition to the Independent Observer who should be included on all correspondence to the Company, Proposers should also include the Independent Engineer on any questions to the RFP Email Address of a technical nature. Frequently asked questions submitted by prospective Proposers and the answers to those questions may be posted on the Company’s RFP website. 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 respective Proposal Due Date (RFP Schedule in Section 3.1, Table 2). The Company will endeavor to respond to all questions no later than five days before the respective 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 Stage 3 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:

Jasmine Wong
Energy Contract Manager
Hawaiian Electric Company, Inc.

RFP Email Address: oahurenwablerfp@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, 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 contract 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 respective Proposal Due Date shown in the RFP Schedule in Section 3.1, Table 2. No hard copies of these Proposals will be accepted by the Company.

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, the 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, the Company, in consultation with the Independent Observer, may permit the error(s) to be corrected without further revision to the Proposal, or may require the Proposer to adhere to terms of the Proposal as submitted without correction. Additionally, and in the Company’s sole discretion, if such error(s) would materially affect the Priority List or Final Award Group, the 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 the 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 all Proposals were submitted by the respective Proposal Due Dates shown in Section 3.1, Table 2. The Electronic Procurement Platform automatically closes to further submissions after the IPP Proposal Due Date shown in Section 3.1, Table 2.

1.8 Proposal Fee

- 1.8.1 IPP and Affiliate Proposers are required to tender a non-refundable Proposal Fee of \$10,000 for each Proposal submitted.
- 1.8.2 Proposers may submit up to three (3) variations of their Proposal, one of which is the base variation of the Proposal, under a single Proposal Fee
- 1.8.3 Variations of GCOD,²² pricing terms, Facility size or with/without storage (solar energy must include storage) can be offered. In addition to the targeted GCOD, as indicated in Sections 1.2.16 and 1.2.17, Proposers for firm renewable generation must include at least one (1) variation that indicates the earliest possible GCOD for the proposed Project as part of the Proposal. Variations which propose a different Site or different generation technology will not be considered and will be deemed a separate Proposal, and a separate Proposal Fee must be paid for each such Proposal. 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 pertaining to “(Optional) Minor Proposal Variations”.
- 1.8.4 The Proposal Fee must be in the form of a cashier’s check from a U.S.-chartered bank made payable to “Hawaiian Electric Company, Inc.” and must be delivered and received

²² Differing from the Stage 2 RFPs, GCOD is no longer evaluated as part of the non-price criteria; however, all GCODs must be no later than December 1, 2027 to meet the corresponding Eligibility Requirement in Section 4.2.

by the Company by 2:00 pm (HST) on the respective Proposal Due Date shown in the RFP Schedule in Section 3.1, Table 2. The cashier's check should include a reference to the Proposal(s) for which the Proposal Fee is being provided. Proposers must identify in the Proposal Response Package (instructions in Appendix B, Section 1.3.1) the delivery information for its Proposal Fee. 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:

Jasmine Wong
Energy Contract Manager
Hawaiian Electric Company, Inc.
Mail Code AL12-IU
PO Box 2750
Honolulu, Hawai'i 96840

If the Proposal Fee is delivered by other courier services, the Proposer shall address it to:

Hawaiian Electric Company, Inc.
Ward Receiving
Attention: Jasmine Wong, Energy Contract Manager
Mail Code AL12-IU
799 S. King St.
Honolulu, Hawai'i 96813

Due to coronavirus prevention measures, in-person delivery of Proposal Fees by Proposers will not be allowed.

1.9 Procedures for any Hawaiian Electric Proposal or Affiliate Proposal

- 1.9.1 The Competitive Bidding Framework allows the Company the option to offer a Self-Build Proposal in response to this RFP ("Hawaiian Electric Proposal"). Accordingly, the Company must follow certain requirements and procedures designed to safeguard against and address concerns associated with: (1) preferential treatment of the Hawaiian Electric Proposal or members, agents, or consultants of the Company formulating the Hawaiian Electric Development Team; and (2) preferential access to proprietary information by the Hawaiian Electric Development Team. These requirements are specified in the Code of Conduct required under the Framework and implemented by certain rules and procedures found in the Procedures Manual submitted with this RFP and attached as Appendix C. The Code of Conduct will apply to this RFP, regardless of whether the Company submits a Hawaiian Electric Proposal.

The Competitive Bidding Framework also allows Affiliates of the Company to submit Proposals²³ to RFPs issued by the Company. All Hawaiian Electric Proposals and

²³ A Proposal will also be treated as an Affiliate Proposal if the Affiliate is a partner for the Proposal.

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 IPP Proposals and must be submitted electronically through the Electronic Procurement Platform by the Hawaiian Electric and Affiliate Proposal Due Date in RFP Section 3.1, Table 2.

- 1.9.2 The Company will require that the Hawaiian Electric Proposal(s) and Affiliate Proposals be submitted electronically through the Electronic Procurement Platform. Hawaiian Electric and Affiliate Proposals will be due a minimum of one (1) day before other Proposals are due. A Hawaiian Electric and Affiliate Proposal 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 Hawaiian Electric and Affiliate Proposals are timestamped by the Hawaiian Electric and Affiliate Proposal Due Date found in RFP Section 3.1, Table 2.
- 1.9.3 Detailed requirements for a Hawaiian Electric Proposal can be found in Appendix G. These requirements are intended to provide a level playing field between Hawaiian Electric Proposals and third-party Proposals. Except where specifically noted, a Hawaiian Electric Proposal must adhere to the same price and non-price Proposal requirements as required of all Proposers, as well as certain Stage 3 Contract requirements, such as milestones and liquidated damages, as described in Appendix G. The non-negotiability of the Performance Standards shall apply to any Hawaiian Electric Proposal to the same extent it would for any other Proposal. Notwithstanding the fact that it will not be required to enter into a Stage 3 Contract with the Company, a Hawaiian Electric Proposal will be required to note its exceptions, if any, to the Stage 3 Contract in the same manner required of other Proposers, and will be held to such modified parameters if selected. In addition to its Proposal, the Hawaiian Electric Development Team will be required to submit the Hawaiian Electric Development Team Certification Form provided as Attachment 1 of Appendix G, 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 Hawaiian Electric Development Team over other Proposers responding to this RFP, as well as adherence to Stage 3 Contract terms and milestones required of all Proposers and the Hawaiian Electric Proposal's proposed cost protection measures.

The cost recovery methods between a regulated utility 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 a Hawaiian Electric Proposal are its total project capital cost and any associated annual O&M costs. During the RFP's initial pricing evaluation step, these

capital costs²⁴ 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 Hawaiian Electric Proposal revenue requirements are then used to determine a levelized energy price (“LEP” in \$/MWh), which will then be used for comparison to IPP and any Affiliate Proposals (see Section 4.4.1).

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

If the Hawaiian Electric Proposal is not included in any shared savings mechanism for this RFP pre-approved by the PUC, the Hawaiian Electric Proposal 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 Hawaiian Electric Proposal and the actual cost to construct the Project. If the Hawaiian Electric 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 Hawaiian Electric 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

²⁴ Hawaiian Electric 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, interconnection, overhead, and Allowance for Funds Used During Construction.

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.²⁵ There will be no right to hearing or appeal from this informal expedited dispute resolution process.
- 1.10.6 By submitting a Proposal in response to this RFP, each Proposer expressly agrees that if it initiates a dispute resolution process for any dispute or claim submitted in violation of or arising under or relating to this RFP (e.g., a court proceeding, arbitration, etc.), other than as permitted by the Framework and Section 1.10 of this RFP, such dispute shall be dismissed with prejudice and the Proposer filing such dispute or claim 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 to any court or other dispute resolution organization, any award, non-award or disqualification of a Project made by the Company or any decision by the Commission made pursuant to Section 1.10.5.

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 a Stage 3 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

²⁵ 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 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.

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 Performance Standards and attributes set forth in this RFP, and the Performance Standards and requirements set forth in the respective model Stage 3 Contract. This RFP and the applicable Stage 3 Contract 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. The Company has not yet fully adopted IEEE 2800-2022 as it was recently published. However, the inverters being procured in this RFP may need to conform to certain functions of IEEE 2800-2022 as identified in studies completed within this RFP, or in the future operations of the project. The interconnection study will incorporate IEEE 2800 to the extent applicable to our island systems.

- 2.1.1 Storage inverters (i.e., Paired Projects and Standalone Storage Projects) must be able to operate in grid-forming mode²⁶ as defined in the applicable Stage 3 Contract.
- 2.1.2 Black start capability²⁷ is preferred, but not required, for all Projects. Proposals electing to provide black start capability will need to identify²⁸ any incremental costs to enable their facility to be black start capable, if not already enabled.
- 2.1.3 For Proposals with energy storage components, the functionality and characteristics of the storage must be maintained throughout the term of the Stage 3 Contract since the Company will rely on the capacity the energy storage components provide. To be clear, Proposers may not propose any energy storage degradation for either capacity or efficiency in their Proposals. Ensuring that there is no degradation in storage capacity or efficiency over the term of the PPA can be accomplished in a number of ways, including overbuilding or pricing in replacement components. The particular manner in which this requirement is achieved is ultimately up to the Proposer to include in its Proposal. Note that selected Projects shall not sell energy to off-takers or third parties. The Companies are not seeking proposals for microgrids and will not pay for availability, energy, capacity or any other service if a Project is being operated in a microgrid mode. However, in the event that a landowner requires a Project have the capability to provide

²⁶ While not required, generation-only wind Proposals are also encouraged to propose Projects with grid-forming capabilities.

²⁷ Black start capability refers to the Facility's ability to start itself and provide power to the Company's grid without relying on any services or energy from the Company's grid in order to assist the grid in recovering from a total or partial shutdown. During such a total or partial shutdown of the grid, 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 grid during start-up (if the Project remains connected) or while connecting to the loads the Project is picking up (not the start-up and connecting of the Facility itself).

²⁸ If black start is not already enabled for the Proposal, any additional costs necessary to enable black start will be identified in the submission instructions defined in [Appendix B](#).

such services to the landowner, the Companies require that Proposals being used for microgrid applications must operate in a grid-connected mode as its primary function but may operate from grid-connected mode to island mode at the Company's sole discretion. Microgrid generators in island mode must return to grid-connected mode at the Company's sole discretion.

2.2 Transmission System Information

As specified in Section 1.2.10, Projects must interconnect to the Hawaiian Electric System at the 138 kV transmission-level or 46 kV sub-transmission-level. Proposers must inquire about the potential available MW capacity of the line at the specific location at which they propose to interconnect, or about the available MW capacity and substation conditions of the offered Company substation at which they propose to interconnect.²⁹ Proposers may also request a high-level map identifying the offered 138 kV transmission-level line, 46 kV sub-transmission-level line, and the offered substations. Requests shall be directed to the RFP Email Address in Section 1.6 after the execution of the NDA as specified in Section 3.12.1.

Proposers should perform their own evaluation of project locations, and the Company does not guarantee any project output or ability to connect based on information provided prior to the completion of an IRS. For example, an IRS may find that a project causes an effective grounding issue, requiring additional grounding equipment to mitigate the issue.

Proposers may propose Project sizes greater than the potential available MW capacities, but such proposals are expected to require reconductoring of existing lines, the addition of transmission lines, the rebuild or expansion of an existing substation and/or other infrastructure, which would be at the Proposer's cost and must be able to be completed in time for the Project to reach its bid GCOD. Proposers seeking to propose Projects with system upgrades must seek feedback from the Company prior to bid submittal, as there may be reliability limitations on certain facilities that do not allow capacity increases. Proposers must include and reflect all system upgrade costs, schedule and timeline impacts, and design impacts in their Proposal. Further, Projects may require capacity reduction if identified in the detailed IRS.

- 2.2.1 Process for developers electing to interconnect to non-offered 138 kV transmission lines or substations or 46 kV sub-transmission lines: Proposers proposing Projects to non-offered locations should submit a proposed interconnection location, project size, and other available project details. The Company will review the interconnection location and project size to provide high-level requirements for interconnection of the project. The Proposers shall then use this information, along with unit pricing in Appendix H to include system upgrade costs in their proposal. Appendix H does not include an exhaustive list of estimates, and Proposers may need to develop their own estimates for work that is not covered. Proposers are ultimately responsible for development of their pricing to incorporate these system upgrades, and may submit follow-up questions to the Company as necessary to develop their cost estimate.

²⁹ Responses will be provided upon the execution of an NDA with the Company as specified in Section 3.12.1.

The Company re-iterates the reason for providing an offered 46 kV and 138 kV interconnection list is to provide a streamlined process for developers, as more upfront information is provided and locations were based on a preliminary feasibility assessment. Proposers should anticipate the following system upgrades for interconnections to non-offered sites:

- 2.2.1.1 Interconnection to a non-offered 46 kV or 138 kV line or for projects larger than the available MW capacity on offered 46 kV or 138kV lines: Lines that have been offered for interconnection are known to have available MW capacity to allow project interconnections. However, non-offered line interconnections have a high likelihood of requiring reconductoring and/or new transmission lines to the proposer's switching station. In addition, new transmission lines require terminations at the nearest or most feasible transmission substation, which may also trigger rebuild, reconfiguration, and/or expansion to accommodate the line interconnection.
- 2.2.2 A detailed IRS, when performed, may reveal other adverse system impacts that may further limit a Project's contract capacity or require interconnection upgrades.

2.3 Interconnection to the Company System

- 2.3.1 The Proposer must provide information pertaining to the design, development, and construction of the Interconnection Facilities. Interconnection Facilities includes both: (1) Seller-Owned Interconnection Facilities; and (2) Company-Owned Interconnection Facilities. 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's System. The proposed Interconnection Facilities must be compatible with the Company's System. In the design, Projects must adequately consider Company requirements to address impacts on the performance, safety, and reliability of the Company System.

In addition to the Performance Standards and findings of the IRS, the design of the Interconnection Facilities, including power rating, POI with the Company's System, and scheme of interconnection, must meet Company standards.

To facilitate Proposers receiving additional information on the Company's required specifications and procedures early in the RFP process, the Company will offer its Engineer, Procure, Construct Specifications for Hawaiian Electric Power Lines and Substations ("EPC Specifications")³⁰ to Proposers if requested via the communication method identified in Section 1.6 and upon the execution of an NDA as specified in Section 3.12.1 and the execution of a separate Confidentiality, Waiver, and Hold Harmless Agreement with the Company provided as Attachment 1 of Appendix E. These EPC Specifications are intended to illustrate the scope of work typically required to

³⁰ The Company's EPC Specifications are currently being updated, but the Company will provide these in draft form. The draft is currently being reviewed to ensure consistency between all documents, but the drafts should provide useful guidance to assist with the Proposal development. The Company will not be responsible for updates made to the EPC Specifications after transmittal to a Proposer, even if such update results in the need for a Proposer to make necessary revisions to its designs and/or plans.

administer and perform the design and construction of a Hawaiian Electric substation and power line.

The Company will also make available typical substation layouts and typical transmission and distribution estimating assumptions to assist with Proposal estimations and familiarize Proposers with the Company's engineering expectations for the Proposer's Interconnection Facilities. The layouts and design assumptions may not reflect the exact requirements of a Proposer's Project but should provide useful guidance to assist with their Proposal development. To request these layouts and assumptions, Proposers may submit a request via the communication method identified in Section 1.6 upon the execution of an NDA as specified in Section 3.12.1.

The most updated and applicable Company standards and specifications will also be provided later to Projects that are selected to the Final Award Group and continue through negotiations. At that time, if the EPC Specifications have since been updated, the Company will also make available an updated version.

Past PPAs executed with the Company are filed with the PUC and are publicly available on the PUC's Document Management System website. Attachment G and Matrix G-1 of recently filed PPAs contain summarized total estimated interconnection cost information of the Company-Owned Interconnection Facilities and the identification of substation responsibilities. In addition, on March 31, 2022, the Company's Key Performance Metrics Interconnection Experience website went live. The website contains a list of projects and their estimated and actual interconnection costs for the portions of interconnection built by the Company. These resources may also aid Proposers in estimating the costs of their Interconnection Facilities. However, the Company notes that each Project and point of interconnection is unique and it is the Proposer's responsibility to ensure it conducts proper due diligence to determine the proper interconnection requirements for its Project. Proposers should therefore not assume that an interconnection configuration and associated interconnection costs for a prior project is suitable and appropriate for its proposed Project.

- 2.3.1.1 Interconnection Facilities must be designed such that it meets or exceeds the applicable single line diagram in Appendix H. Attachments 5 through 12 of Appendix H may be requested via the communication method identified in Section 1.6 upon the execution of an NDA as specified in Section 3.12.1.
- 2.3.2 Tariff Rule No. 19 establishes provisions for Interconnection and Transmission Upgrades and can be found at https://www.hawaiianelectric.com/documents/billing_and_payment/rates/hawaiian_electric_rules/19.pdf. 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. As stated in the tariff, in the event there is any conflict between the tariff and this RFP, the provisions of this RFP shall prevail. Proposers shall be required to build the Company-Owned Interconnection Facilities, including the switching station and line work, except for any work in the Company's existing energized facilities and the final tap as described in Appendix H. 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 2.3.1.)

- 2.3.3 The Proposer shall be responsible for all costs required to interconnect a Project to the Company's System, including all Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities, regardless of who is responsible for building such facilities. Unless otherwise explicitly stated in this RFP, a Proposer must assume that it is responsible for all interconnection costs, and should not assume that any portion of such interconnection costs is for a System upgrade allocable to the Company.
- 2.3.4 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 POI. 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 interconnection costs for its Project including Seller-Owned Interconnection Facilities and Company-Owned Interconnection Facilities (see Appendix H), 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.
- 2.3.5 Proposers are required to account for all costs for distribution-level service connection for station power in their pricing proposal.
- 2.3.6 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. 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 Stage 3 Contract.
- 2.3.7 To maintain the integrity of the transmission system, Proposals will only be allowed to interconnect to the following:
 - 2.3.7.1 **Existing 138 kV substations, as provided in Table 1 below.** Available terminations are 138 kV line terminations, which may be used for interconnecting up to 142 MW³¹ of generation. Note that each termination is required to be a Breaker-and-a-Half ("BAAH") configuration and may require additional land to complete the expansion. These substations have space available and the necessary infrastructure to meet the transmission planning criteria for firm generation resources.

³¹ Additional equipment upgrades may be required to allow 142 MW of generation at each termination.

Table 1
Potential 138 kV Substation Points of Interconnection

Voltage	Location	Available Terminations	Comments
138 kV	Ewa Nui Substation	2	2 BAAH bay expansion required
138 kV	CEIP Substation	1	1 BAAH bay expansion required. Routing new 138kV interconnecting line into the sub will be challenging due to future planned buildout around existing substation.
138 kV	Hoohana Substation	3	Assumes substation is built. 1 termination available as currently designed. Expansion of 2 additional BAAH bays to terminate Kahe-Halawa 2 138 kV line is required to interconnect the 2 nd and 3 rd terminations. Generation interconnected is limited if connected to Kahe-Halawa 1 only.
138 kV	Kahe Substation	3	3 BAAH bay expansion required
138 kV	AES Substation	2	1 BAAH bay currently in use by existing IPP. 1 additional BAAH bay requires substation perimeter expansion.
138 kV	Koolau Substation	1	Space available for one new interconnecting line (two breakers need to be installed in existing BAAH bay). Routing new 138kV interconnecting line into the sub will be challenging due to future planned buildout around existing substation
138 kV	Waiau Power Plant	4	Available if using existing generation interconnections (e.g., existing units are removed).

2.3.7.2 **Existing 138 kV lines running in parallel.** Proposers shall provide a new BAAH switching station to interconnect transmission lines and the new generating resource. Existing 138 kV lines meeting this requirement are:

- 1) Ewa Nui 1 & 2, between Ewa Nui substation and Waiau substation;
- 2) Waiau-Koolau 1 & 2, between Waiau substation and Koolau substation; and
- 3) Koolau-Pukele 1 & 2, between Koolau substation and Pukele substation.

Proposers must include the costs for use of the land and site preparation for a new switching station, as specified in Appendix H. The evaluation of these Projects is specified in Section 4.4.

2.3.7.3 **Existing 46 kV lines.** Proposers shall request available hosting capacity of subtransmission lines intended for interconnection. Generating resources added above available hosting capacity may be allowed, but will require upgrades if possible (e.g., reconductoring, equipment replacements, etc.) to existing infrastructure at the Proposer's cost.

- 2.3.7.3.1 Proposals for Firm renewable dispatchable generation Projects shall provide a new ring bus switching station to interconnect subtransmission lines and the new generating resource. The switching station must connect to two subtransmission lines.
- 2.3.7.3.2 Proposals for Variable Generation Projects, Paired Projects and Standalone Storage Projects may be tapped to subtransmission lines via a new interconnection.

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 to the Proposers and posted on the RFP website.

**Table 2
Proposed RFP Schedule**

Milestone	Schedule Dates
(1) Draft RFP filed	May 2, 2022
(2) Community Meeting	May 10, 2022
(3) Parties and Participants filed Comments by	June 2, 2022
(4) Community Meeting 2	July 12, 2022
(5) Technical Conference	August 5, 2022
(6) Order 38735 Issued	December 1, 2022
(7) Proposed Final RFP Filed	December 22, 2022
(8) Issue RFP	January 20, 2023
(9) Hawaiian Electric and Affiliate Proposal Due Date	April 19, 2023 at 2:00 pm HST
(10) IPP Proposal Due Date	April 20, 2023 at 2:00 pm HST
(11) Selection of Priority List	July 6, 2023
(12) Hawaiian Electric and Affiliate BAFOs Due	July 13, 2023
(13) IPP BAFOs Due	July 14, 2023
(14) Selection of Final Award Group	October 27, 2023
(15) IRS and Contract Negotiations Begin	November 3, 2023

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:

www.hawaiianelectric.com/OahuStage3RFP

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 PowerAdvocate³² is the Electronic Procurement Platform that the Company has licensed and will utilize for the receipt of Proposals in 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 Information Exchange

Virtual Community Meetings were held on May 10, 2022 and July 12, 2022. A virtual Technical Status Conference was also held on August 5, 2022. The Company has also been fielding questions from prospective Proposers via the RFP Email Address and posting applicable Q&As on the RFP Website since April 2022.

Prospective Proposers may submit written questions regarding the RFP and their Proposal to the RFP Email Address set forth in Section 1.6. Proposers should include the Independent Observer when submitting questions to the RFP Email Address. In addition to the Independent Observer who should be included on all correspondence to the Company, Proposers should also include the Independent Engineer on any questions to the RFP Email Address of a technical nature. The Company will endeavor to address all questions. Questions and responses that might be helpful to other prospective Proposers will be shared 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 applicable Stage 3 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

³² PowerAdvocate became part of Wood Mackenzie in 2021, but web addresses and support email addresses still reference PowerAdvocate.

confirmation of receipt of submission of information. Under Section 1.7.5, the Proposer is solely responsible for all errors in its Proposal(s). The Company has no obligation to inform the Proposer of any error, and 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) information conference participation; (3) third-party consultant consultation; and (4) 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 agent³³ 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.
- 3.5.2 The Proposer must contact the Company to request any alterations from the proposal format if the Proposer feels the format will not allow the pricing, capabilities, functionality or characteristics of the Project to be captured in the Proposal. The Proposer must provide sufficient time for the Company to respond with guidance as to what alterations will be allowed.

3.6 Proposal Limitations

In submitting a Proposal, Proposers expressly acknowledge and agree that Proposals are submitted subject to the following limitations:

³³ 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.

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.

Proposers understand and agree that if its Proposal is selected by the Company for the Final Award Group, such selection shall in no way constitute the Company's confirmation that a Proposer's Project will meet the requirements under this RFP, e.g., that the Project's proposed interconnection is feasible and will meet the Company's requirements. The Proposer is ultimately responsible for ensuring that its Project meets the technical requirements specified in this RFP, and if the parties reach agreement on a Stage 3 Contract, the requirements specified in the Stage 3 Contract.

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 Stage 3 Contracts

- 3.8.1 The Stage 3 Contract for any PV Paired Project selected under this RFP will be in the form of the Company's PV+BESS RDG PPA attached as Appendix J.

The Stage 3 Contract for any wind Generation Project or wind Paired Project selected under this RFP will be in the form of the Company's Wind+BESS RDG PPA attached as Appendix K.

The Stage 3 Contract for any Firm Project selected under this RFP will be in the form of the Company's Firm PPA attached as Appendix L.

- 3.8.2 The Stage 3 Contract for Standalone Storage Projects selected under this RFP will be in the form of the Company's ESPA, attached as Appendix M.
- 3.8.3 If selected, any Affiliate Proposers will be required to enter into the applicable Stage 3 Contract with the Company.
- 3.8.4 If selected, a Hawaiian Electric Development Team will not be required to enter into a Stage 3 Contract with the Company. However, the Hawaiian Electric Development Team will be held to the proposed modifications to the applicable Stage 3 Contract, if any, it submits as part of the Hawaiian Electric Proposal in accordance with Section 3.8.6. Moreover, the Hawaiian Electric Proposal will be held to the same performance metrics and milestones set forth in the applicable Stage 3 Contract to the same extent as all Proposers, as attested to in the Hawaiian Electric Proposal's Appendix G, Attachment 1, Hawaiian Electric Development Team Certification submittal. If liquidated damages are assessed, they will be paid from shareholder funds and returned to customers through the Purchased Power Adjustment Clause or other appropriate rate adjustment mechanisms.

To retain the benefits of operational flexibility for a Company-owned facility, the Hawaiian Electric 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 Stage 3 Contract with PUC approval.

- 3.8.5 In general, under the RDG PPA and ESPA, payment to the Seller consists of a Lump Sum Payment to cover the costs of the Project. For Firm Projects only, in addition to a Capacity Charge payment, the Company will allow developers to also include an additional Energy Charge payment component (\$/MWh) to cover variable operations and

maintenance costs that cannot be captured within the Capacity Charge payment component. In return for the payments, the Seller shall guarantee minimum performance and availability metrics to ensure that the Facility is maintained and available for energy, storage (if applicable) and dispatch, as well as provide an indication of the available energy in near real-time for the Company's dispatch. The 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 evaluation criterion under Sections 4.3 and 4.4.2, respectively. As such, these Performance Standards are non-negotiable by any Proposer. As previously stated, if a Proposer proposes a technology that is not already represented in any model Stage 3 Contract, the terms of the applicable model Stage 3 Contract will be modified to address the specific technology and/or component. Proposers must provide documentation to support their requests for contract modifications. For example, for firm generation facilities, recognizing some firm technologies operate significantly differently, necessary modifications required for particular technologies will be permitted if Proposer provides technical specifications that support the need for such proposed modifications. Proposers may propose modifications to other sections of the model Stage 3 Contracts (see Section 3.8.8 below) 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, the Hawaiian Electric Development Team or any other Proposer who elects to propose modifications shall provide a Microsoft Word red-line version of the relevant document identifying specific proposed modifications to the model Stage 3 Contract 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 any model Stage 3 Contract 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 Stage 3 Contracts on the RFP website and through the Electronic Procurement Platform for the RFP. Any proposed modifications to the model Stage 3 Contract will be subject to negotiation between the Company and the Final Award Group and should not be assumed to have been accepted either as a result of being selected to the Final Award Group or based on any previously executed PPA. 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 Stage 3 Contracts, such as the calculation of availability and payment terms. Therefore,

for such provisions, the Company will endeavor to negotiate similar and consistent language across Stage 3 Contracts for the Final Award Group.

- 3.8.7 Proposals that do not include specific proposed modifications to the attached model Stage 3 Contracts will be deemed to have accepted the model Stage 3 Contract in its entirety.
- 3.8.8 As stated in Section 3.8.6 above, Proposers may propose modifications to sections of the model Stage 3 Contracts. However, certain sections specified below in the various model Stage 3 Contracts are non-negotiable.
 - 3.8.8.1 For the RDG PPAs, Performance Standards are non-negotiable. Also, as identified in the Schedule of Defined Terms in the RDG PPAs that contain an energy storage component under “BESS Allocated Portion of the Lump Sum Payment”, the allocated portion of the Lump Sum Payment specified for energy storage for the Facility for determining liquidated damages is 50% and shall be a non-negotiable percentage in the RDG PPA. Further, as stated in Section 3.13.2 below, Proposers shall not propose an amount lower than that set forth in the RDG PPA for Development Period Security and Operating Period Security.
 - 3.8.8.2 For the Firm PPA, Performance Standards are non-negotiable, except as recognized in Section 3.8.6 above, and, as stated in Section 3.13.2 below, Proposers shall not propose an amount lower than that set forth in the Firm PPA for Development Period Security and Operating Period Security.
 - 3.8.8.3 For the ESPA, Performance Standards are non-negotiable, and, as stated in Section 3.13.2 below, Proposers shall not propose an amount lower than that set forth in the ESPA for Development Period Security and Operating Period Security.

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 applicable Stage 3 Contract. Pricing cannot be specified as contingent upon any other factor (e.g., changes to federal tax policy, assuming that all applicable federal tax credits are received, assuming that the Company will accept any proposed change to the applicable Stage 3 Contract).
- 3.9.2 Escalation in Lump Sum Payment or Capacity Charge payment pricing over the term of the Stage 3 Contract is prohibited.
- 3.9.3 Pricing information must only be identified within specified sections of the Proposal as instructed by this RFP’s Appendix B (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:

- [For PV+BESS, Wind+BESS, and Standalone Storage Projects]
 - **Lump Sum Payment (\$/year):** Payment amount for full dispatchability of the Facility. Payment will be made in monthly increments.
 - **Black Start (\$):** If not already black start enabled/capable, the incremental cost required for the Facility to enable black start or for the Facility to be black start capable.
- [For Firm Projects]
 - **Capacity Charge payment (\$/kW/Month):** Payment for the capacity available to the Company's System from the Facility.
 - **Energy Charge payment (\$/kWh):** Payment for delivery of net energy sourced from the generation resource, if desired. As stated in Attachment J of the Firm PPA, the Energy Charge payment consists of two components: a Fuel Component and a Variable O&M Component. No Energy Charge will be provided for any energy delivery that is sourced originally from the grid (Company's System). The Energy Charge may contain a Variable O&M Component; however, the Variable O&M Component must be guaranteed and not be tied to an index. The Variable O&M Component may include escalations; however, such escalation must be in the form of a guaranteed percentage.
 - **Heat Rate Curve (if applicable):** A guaranteed heat rate curve specified as a three-term second-order polynomial relative to facility net MW output. This curve will be used to determine the variable cost of the fuel for a given MW output.

For Hawaiian Electric 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.
- [For Hawaiian Electric Firm Project Proposals]
 - **Heat Rate Curve (if applicable):** A guaranteed heat rate curve specified as a three-term second-order polynomial relative to facility net MW output. This curve will be used to determine the variable cost of the fuel for a given MW output.

See [Appendix G](#) for descriptions and detail on the Total Project Capital Costs, Annual O&M Costs, and ARR for Hawaiian Electric Proposals.

3.9.5 To allow Proposers to offer the most competitive pricing while offering protection during these times of market volatility, the Company will allow an indexed one-time capped pricing adjustment explained in [Section 4.6.3](#) below.

3.10 Project Description

3.10.1 NEP and Capacity

3.10.1.1 Proposals utilizing the RDG PPA are required to provide a Net Energy Potential (“NEP”) RFP Projection for the proposed Facility. The NEP RFP Projection represents the estimated annual net energy potential (in MWh) that could be produced by the Facility and delivered to the POI over a 10-year period with a probability of exceedance of 95%. The NEP RFP Projection represents the energy generated by the Facility from the renewable resource and delivered to the POI assuming all energy is directly exported to the POI in the moment it is generated (full dispatch during all production hours) and never in excess of the Contract Capacity. The NEP RFP Projection should ignore any contributions from the energy storage component of the Facility.³⁴ The NEP RFP Projection is independent of the actual dispatch of the Facility as dispatch is at the full discretion of the Company. The NEP RFP Projection should be reduced by anticipated maintenance and losses such as System degradation and balance of plant losses. The NEP RFP Projection will be used in the RFP evaluation process and therefore Proposers will be held to their provided value.³⁵ However, after selection to the Final Award Group and prior to the completion of the NEP Independent Engineering Estimate, the Company will allow the Proposer a one-time upward adjustment to its NEP RFP Projection of up to five percent (5%) above its original Proposal’s NEP RFP Projection along with any proportioned change to its Lump Sum Payment as long as the Project’s RDG PPA unit price does not change.

3.10.1.2 Proposals utilizing the Firm PPA are required to provide their Contract Firm Capacity which is the amount of MW of net dependable active power anticipated to be made available to Company from the Facility at the Metering Point subject to Company Dispatch upon Commercial Operations. Along with the Contract Firm Capacity, Proposers utilizing the Firm PPA should provide an anticipated maintenance schedule and level of reductions expected to the Contract Firm Capacity during maintenance. Proposals must also agree to meet the warranties and guarantees of performance outlined in Section 3.2(B) of the Firm PPA, including, but not limited to, the guaranteed equivalent availability factor (“EAF”) of ninety percent (90%), the equivalent forced outage rate (“EFOR”) of four percent (4%), and no more than three (3) disconnection events per contract year. Further, any minimum loads or minimum up-times driven by the technical and operational capabilities of the Facility should also be provided in the Proposal.

3.10.1.3 Proposals utilizing the ESPA are required to provide their BESS Contract Capacity (MW/MWh), which is the anticipated maximum net instantaneous active power

³⁴ Since only the generation component of the Project generates energy, only its contributions should be counted in the NEP, which is intended to represent the potential net generation expected to be made available to the Company from the Project’s siting and generating equipment and design. The benefit of the storage component will be included in the Company’s production modeling of the Project dispatch.

³⁵ If a Proposal is selected to the Final Award Group and a RDG PPA 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, 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.

and maximum energy storage capability (MWh stored that represents a 100% State of Charge) for export to the POI upon Commercial Operations. Proposals must also specify their Allowed Losses (kWh/24-hour period) which will be utilized for purposes of establishing the limit in Section 2.13 of the ESPA.

- 3.10.2 Paired Project and Standalone Storage Project Proposals are required to provide a single value Round Trip Efficiency (“RTE”), measured at the POI, that the Facility’s BESS component is required to maintain throughout the term of the RDG PPA or ESPA. This RTE value will be used in the RFP evaluation process and therefore Proposers will be held to this provided value as it will become the RTE Performance Metric in Section 2.11 of the RDG PPA or ESPA. Review the applicable Stage 3 Contract for potential liquidated damages assessed against Seller if the BESS does not maintain the required RTE. The RTE is further specified in Appendix B, Section 2.2.4.
- 3.10.3 Each Proposer must also agree to provide Project financial information, including proposed Project finance structure information as specified in Appendix B. Such information will be used to evaluate Threshold Requirements and non-price criteria (e.g., Financial Compliance, 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 Stage 3 Contract approval process. If requested, such information would be provided to the PUC, Consumer Advocate, and Company pursuant to a protective order in the docket.
- 3.10.4 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 Potential Sites

3.11.1 Potential Sites Identified through the Land RFI

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 Request for Information (“Land RFI”) issued on June 15, 2020. Proposers will be responsible for working directly with the landowner and must secure Site Control with such landowner prior to submitting a Proposal. The information that has been gathered through this RFI is available upon request by following the instructions at <http://hawaiianelectric.com/landrfi>. Land RFI information is available to interested parties who sign the NDA.

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. The Hawaiian Electric Companies also make 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. A Proposer may ask the Company questions as set forth in Section 2.2.1 if it seeks interconnection information at a specific proposed Site.

3.11.2 Hawai'i Powered – Renewable Energy Zones Feedback

The Company has begun a process to identify areas with potential for future renewable energy development. While the whole of this work is not yet complete and available for this RFP, as part of this process the Company has started community outreach and invited members of the community to provide feedback on areas of the island that the Community is or is not amenable to use for renewable energy projects and to provide other feedback that would be helpful in siting renewable energy projects. This information is available at www.hawaiipowered.com/rez. While intended to be used as part of the development of Renewable Energy Zones for future RFPs beyond this Stage 3 RFP, such community feedback may be instructive for Proposers in this RFP. Proposers are encouraged to carefully review such information when selecting sites and developing their community outreach plans. In addition, the Hawaii State Energy Office has developed a community engagement strategy called Energize Kākou³⁶ which includes a guide for best practices for community engagement.

3.12 Confidentiality

3.12.1 Each prospective Proposer must submit an executed NDA in the form attached as Appendix E by the respective Proposal Due Date specified in the RFP Schedule in Section 3.1, Table 2. 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. NDAs that were fully executed for prior non-Stage 3 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 NDA, the Company reserves the right to share any information, even if marked

³⁶ Energize Kākou website is available at <https://energy.hawaii.gov/get-engaged/energize-kakou/>. The Playbook of community engagement best practices is available at https://energy.hawaii.gov/wp-content/uploads/2022/10/Energize-Kakou-Playbook_FINAL.pdf.

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. The Proposer shall acknowledge this in the Response Package submitted with its Proposal. Notwithstanding such certification, if the Company observes or receives evidence from a Proposer that appears to place one or more Proposers in violation of this RFP Section 3.12.2, e.g., a representative from one Proposer uses the same information in multiple Proposals submitted by different Proposers (e.g. individual Proposers with different names, joint ventures, etc.), Company will seek additional information and clarification from such Proposer(s) to determine whether such a violation does in fact exist (and, if so, in consultation with the Independent Observer, whether disqualification of one or more Proposals is appropriate).
- 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 an RDG PPA, Firm PPA or ESPA must post Development Period Security and Operating Period Security in the form of an irrevocable standby letter of credit from a bank doing business in the United States and subject to United States state or federal regulation, with a credit rating of "A-" or better from Standard & Poor's ("S&P") or A3 or better from Moody's as required and set forth in Article 14 of the RDG PPA or ESPA, or Article 7 of the Firm PPA. Cash, a parent guaranty, or other forms of security will not be accepted in lieu of the irrevocable standby letter of credit.
- 3.13.2 The Development Period Security and Operating Period Security identified in the RDG PPA, Firm PPA or the ESPA are minimum requirements. Proposers shall not propose an amount lower than that set forth in the RDG PPA, Firm PPA or the ESPA.
- 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 doing business in the United States and subject to United States state or federal regulation, with a credit rating of "A-" or better from S&P or A3 or better from Moody's 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, Firm PPA or the ESPA.

3.13.4 Proposers may be required to provide an irrevocable standby letter of credit in favor of the Company from a bank doing business in the United States and subject to United States state or federal regulation, with a credit rating of “A-“ or better from S&P or A3 or better from Moody’s 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 the ESPA. Source code escrow is not required for synchronous generators.

3.13.5

Chapter 4: Evaluation Process and Evaluation Criteria

4.1 Proposal Evaluation and Selection Process

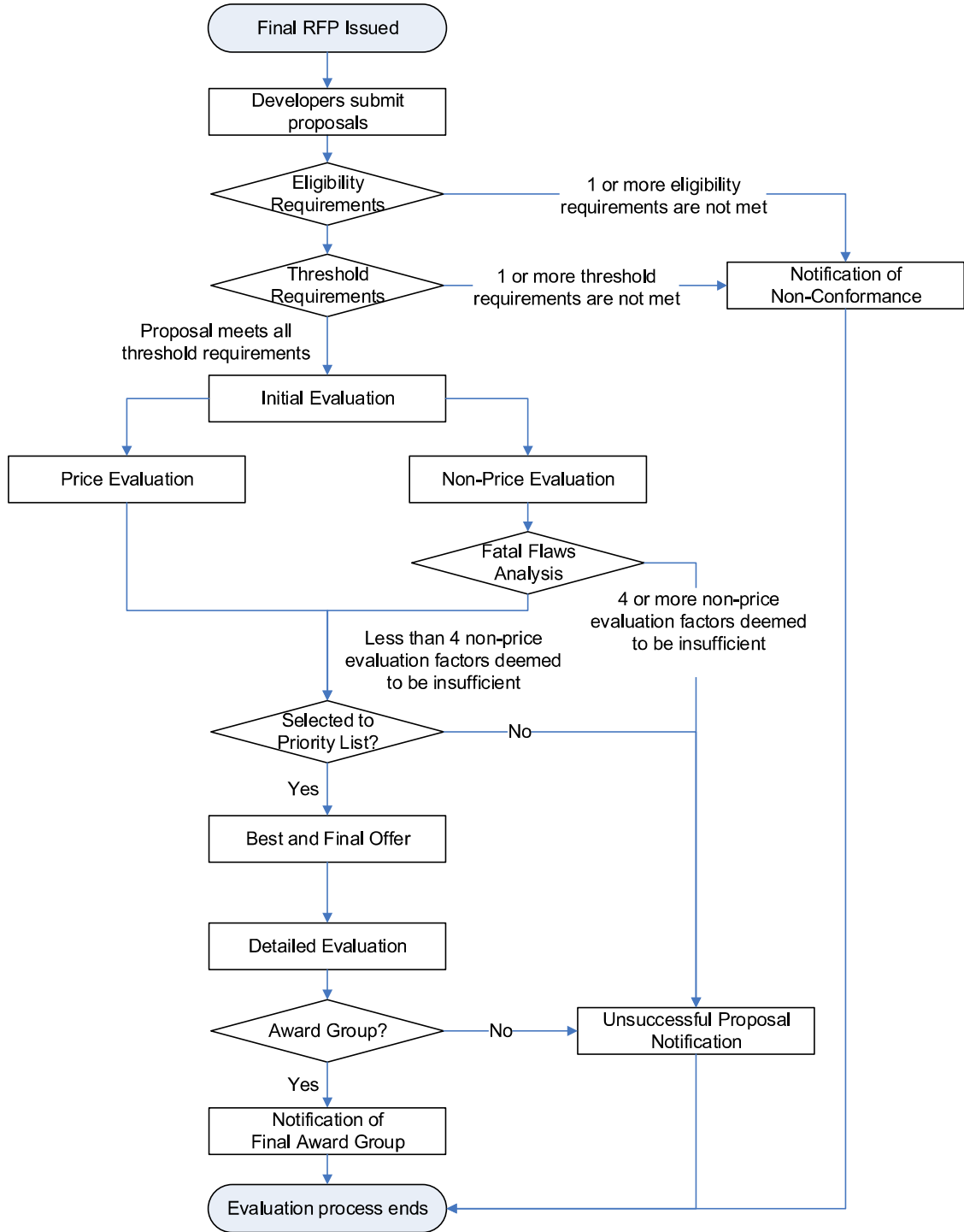
The Company will employ a multi-step evaluation process. Once the Proposals are received, the Proposals will be subject to a consistent and defined review, evaluation, and selection process. This Chapter provides a description of each step of the process, along with the requirements of Proposers at each 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.³⁷ 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.³⁸ 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.

³⁷ 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.

³⁸ The three (3) business day period will apply to the initial opportunity to cure. The Company, at its discretion, and in consultation with the Independent Observer, may allow for additional cure periods, if any, for subsequent inquiries.

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.

1. The Proposal including required uploaded files must be received on time via the Electronic Procurement Platform.
2. The Proposal Fee must be received on or before the Proposal Due Date.³⁹
3. The Proposal must not contain material omissions.
4. The Proposal must be signed and certified by an officer or other authorized person of the Proposer.
5. The Proposer must fully execute the NDA and any other document required pursuant to this RFP.
6. The Proposer must provide a Certificate of Vendor Compliance from the Hawai'i Compliance Express with their Proposal that is current (dated and issued no earlier than 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 a federal and Hawai'i state tax clearance certificates for the Proposer may be substituted for the Certificate of Vendor Compliance.
7. The Proposal must not be contingent upon changes to existing county, state, or federal laws or regulations.
8. The proposed Project must be located on O'ahu and interconnect to the Hawaiian Electric System as identified in Section 2.2.1.
9. The proposed Project must be greater than 5 MW.
10. The proposed Project must interconnect at the 138 or 46 kV level or existing Company substation offered in this RFP.
11. No single point of failure from the Facility shall result in a decrease of active power output measured at the Project's POI greater than 142 MW.
12. The proposed Project infrastructure and POI 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), not located within a Tsunami Evacuation Zone, and not located within the Hawaii Department of Land and Natural Resources flood map's flood zones A, AE, AEF, AH, AO, VE.
13. Proposals for Variable Generation Projects, Paired Projects and Standalone Storage Projects must specify a GCOD that has been carefully considered and that is no later than December 1, 2027. Firm renewable dispatchable generation Project Proposals must specify a GCOD that has been carefully considered and that is no later than December 1, 2029 (for Tranche 1) and no later than December 1, 2033 (for Tranche 2).
14. Proposers must confirm the available MW capacity at the POI and/or available substation accommodation with the Company for the interconnection of their proposed Project.
15. Proposers shall agree to post Development Period Security and Operating Period Security as described in Section 3.13.

³⁹ Proposal Fees will not be required for Hawaiian Electric 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.

Proposals must provide explanations and contain supporting information demonstrating how and why the Project proposed 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:

1. **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, with the exception of right-of-way or easements for the interconnection route, 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.

Site Control will be judged by how well the documentation demonstrates the Proposal meeting 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 Stage 3 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 Stage 3 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 landowner (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 Stage 3 Contract should the Proposal be selected to the Final Award Group.

While land rights for the interconnection route are not required at the time of submission of the Proposal, (1) the Proposal must thoroughly describe the interconnection route as set forth in Attachment B, Section 2.5.4, and (2) if the Proposal is selected to the Final Award Group, and if the Proposer and Company are able to reach agreement on a Stage 3 Contract, it will be the Proposer's sole responsibility to obtain all required land rights within the timeframes set forth in the Stage 3 Contract. The Proposer must also provide a credible and viable plan for obtaining such rights-of-way or easement(s), including the proposed timeline, the identification of all steps necessary to obtain such right-of-way or easement(s), and evidence of any steps taken to date. 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.

2. **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 shall include sufficient documentation to support the stated claim that the Facility will be able to meet the Performance Standards. The Proposal shall include information required to make such a determination in an organized manner to ensure this evaluation can be completed within the evaluation review period.
3. **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 power purchase agreement) 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.
4. **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 and/or standalone storage project, including all components of the project (i.e., paired energy 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 in size and scope to the Project being proposed.

5. **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 Stage 3 Contract being a Variable Interest Entity 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 contract negotiations.
6. **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), plan for reporting construction schedules and activities which include resulting impacts (e.g., traffic, noise, and dust) and mitigation plans beginning at least one month prior to the start of scheduled work, and a comprehensive communications plan which factors in monthly Project status updates and includes a timeline. Hawaiian Electric will carefully review the Community Outreach Plans to ensure that outreach to residents, area elected officials and known community leaders and organizations is documented and that the plan is tailored by community and includes the outreach schedule, communication plans and required project information that will be shared in each engagement.

7. **Cultural Resource Impacts:** Proposers need to be mindful of the Project’s potential impacts to historical and cultural resources. Proposers must 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 any identified cultural, historical, or natural resources in the area in question, and the reasonable protection of traditional and customary native Hawaiian rights in the affected area. Proposers must also have already contracted with a consultant with expertise in this field to begin a cultural assessment for the Project.

Also, at a minimum, Proposers must conduct and provide at least an initial Archaeological Literature Review of existing cultural documentation filed with the State Historic Preservation Division and a Field Inspection Report which identifies any known archaeological and/or historical sites within the project area. If sites are found, Proposers must provide a plan for mitigation from an archaeologist licensed in the State of Hawaii. An Archaeological Literature Review and Field Inspection Report should ideally be submitted at the appropriate Proposal Due Date in Table 2. However, if it is not submitted with the Proposal, these must be submitted three weeks before the Selection of Priority List date in Section 3.1, Table 2. If Proposers are unable to deliver the required cultural documentation with the allocated timeframe due to access and right of entry issues, the Company will work with Proposers to deliver a documented Field Inspection Report prior to signing of the Stage 3 Contract.

8. **Available MW Capacity:** This criterion is intended as a check to ensure that the proposed Project’s Net Nameplate Capacity is within the available MW capacity of the 138 kV or 46 kV transmission-level line or substation identified for interconnection.⁴⁰
9. **Technical Model:** Developing an accurate and functional facility technical model is imperative to commencing the Interconnection Requirement Study phase of the process. This criterion is to check whether Proposers have provided the required models per Appendix B, Attachment 4, as well as documentation that Proposers have tested their models under all scenarios prescribed in Appendix B, Attachment 3.⁴¹
10. **State of Project Development and Schedule & Permitting:** Projects must fully demonstrate how they will reach their GCOD specified, including identification of risks and schedule assumptions. Proposals must also fully demonstrate, via a

⁴⁰ The available MW capacity is verified under the assumption there is only one project interconnecting to the line. Interactions among proposed projects in close proximity with each other will be analyzed when the Company performs load flow analyses as described in Section 4.7 below.

⁴¹ Proposers of an existing Project should contact the Company via the communication method identified in Section 1.6 to clarify any concerns they have about meeting all the model requirements in this RFP.

detailed critical path schedule, that the Project will be able to reach commercial operations as specified. This is particularly important for renewable firm capacity projects, as the need-by date in the RFP is critical to meet. Proposals shall include a Gantt chart that clearly illustrates the overall schedule and commercial operations by their specified GCOD. The Gantt chart shall include realistic task durations, accurate dependencies, tasks that will be fast tracked, as well as slack time and contingencies. The Gantt chart must also include the milestones identified in Appendix H, Section 4 and reflect the appropriate durations associated with such milestones. Proposals must be sure to include permitting and scheduling issues for any system upgrades.

Proposals shall identify all permits necessary for the Project and provide realistic durations to obtain such permits. Proposals shall also provide the current status of the permits (ex. permit application identified, permit application submitted, permit received).

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. The Company will establish two teams 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 sixty percent (60%) of the total score and non-price-related criteria will account for forty percent (40%) 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, the Company will complete a levelized price calculation for each Project based on the contracted energy output (e.g., NEP) and/or capacity (e.g., MW, Contract Firm Capacity) using the fixed and variable pricing (as applicable per Stage 3 Contract type).

In order to fairly evaluate Proposals with different technologies and characteristics, the Company will group Proposals into technology-based and storage-based evaluation

categories,⁴² dependent on the types and quantities of Proposals received in this RFP. For example⁴³: (1) Wind generation (MWh) only; (2) Wind generation (MWh) and Energy storage; (3) Solar generation (MWh) only; (4) Solar generation (MWh) and Energy storage; (5) Standalone Energy Storage (MW/MWh); (6) Firm synchronous generation (MW).

The Eligible Proposal with the lowest LEP in each evaluation category will receive 600 points. All other Eligible Proposals in that evaluation category will receive points based on a proportionate reduction using the percentage by which the Eligible Proposal's LEP exceeds the lowest LEP in that evaluation category. For example, if a Proposal's LEP is ten percent (10%) higher than the lowest LEP in that evaluation category, the Proposal will be awarded 540 points (that is, 600 points less 10%). The result of this assessment will be a ranking and scoring of each Proposal within each evaluation category.

In instances where Proposers offer a Proposal variation for the same resource type in the same electrical location (i.e., POI), only the highest scoring variation for that location and technology type will be considered for the Priority List.

4.4.2 Initial Evaluation of the Non-Price Related Criteria and Previous Performance

For the non-price analysis, each Proposal will be evaluated on each of the eleven (11) non-price criteria categories set forth in Section 4.4.2.1 below. The non-price score accumulated after evaluation of such criteria is subject to reduction based on a new Previous Performance evaluation described in Section 4.4.2.2 below.

4.4.2.1 Non-Price Criteria and Scoring

The non-price criteria are as follows and further described below:

1. Community Outreach
2. State of Project Development and Schedule
3. Performance Standards
4. Environmental Compliance and Permitting Plan
5. Experience and Qualifications
6. Financial Strength and Financing Plan
7. Proposed Contract Modifications
8. Carbon Emissions
9. Cultural Resource Impacts
10. Technical Model
11. Land Use and Impervious Cover

⁴² If Proposals with various storage sizes are received in the RFP, different categories based on storage size will be established during the Initial Evaluation to enable the benefits of the Projects' storage to be assessed.

⁴³ There may be other technologies that are offered in this RFP. This list is illustrative of how technology-based evaluation categories will be established for the Initial Evaluation. The categorizing of Proposals will depend on the types and quantities of Proposals received in this RFP.

Each of the first three criteria – Community Outreach, State of Project Development and Schedule, Performance Standards – will be weighted twice as heavily as the others to reflect the impact these categories have on projects achieving a successful completion. 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 criterion.

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:

1. **Community Outreach** – 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 – that include area residents, elected officials and community leaders – and will reflect a deep understanding and respect for the community's desire for information and provide opportunities that 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.

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 more robust and customized the stakeholder list, meeting frequency, and commitments are defined in the plan, the higher the rating the Proposer will receive as part of the scoring and evaluation process. 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 Project milestones will facilitate the community's understanding of the development process.
- 6) Community benefits package. Details on the amount of funds that the Proposer will commit on an annual basis to providing as community benefits and other community benefits in addition to funding that the proposer intends to provide. At a minimum, Proposers should commit to setting aside at least \$3,000 per MW per year for community benefits. These shall be donated to actions and/or programs aimed at addressing specific needs identified by the Host Community, or to a 501(c)(3) not-for-profit community-based organization(s) to directly address Host Community-identified needs. A documented community benefits package highlighting the distribution of funds must be developed by Proposers for the Company's review. This document will be made public on each Proposer's website and must demonstrate how funds will directly address needs in the Host Community to benefit community members. Proposers will provide details regarding the intended beneficiaries of the funds, including recipients, and the area(s) in which the funds will be directed. The community benefits package must include documentation of each Proposer's community consultation and input collection process to define Host Community needs, along with actions and programs aimed at addressing those needs. Preference will be given to Proposers that commit to setting aside a larger amount or commit to providing other benefits (including but not limited to creating local jobs, payment of prevailing wages, or improving community infrastructure). The Proposer may choose to identify and select an eligible non-profit organization to serve as the administrator for the duration of the contract term responsible for ensuring the project's community benefit is appropriately disbursed. Should a Proposer need an example of the use of a community benefit funding host, the Company will provide such example(s) upon request.
- 7) 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, including monthly Project status updates.

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 Company's community engagement expectation whereby all developers will be required to engage in community outreach prior to signing a Stage 3 Contract

with the Company. This process is also outlined in RFP Section 5.3. Further information and instructions regarding expectations for the Community Outreach Plan are included as Attachment 5 and 6 to Appendix B.

Preference would also be given to a Proposer's commitment that eighty percent (80%) of non-supervisory construction and operations workers' hours associated with project construction or repowering of a project will be paid at prevailing wage equivalent indicated under HRS Chapter 104 during all periods of construction; and the preference to hire qualified construction and operations/maintenance workers from Hawai'i County, and the State of Hawai'i, in that order, before hiring non-resident laborers.

2. **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 reach their GCOD specified, including identification of risks and schedule assumptions, and capture any tax-related safe harbors, if applicable. (Schedules must be created in Microsoft Project and submitted in .mpp file format and must identify the IRS completion date and PUC approval dates assumed.) Proposals must also fully demonstrate, via a detailed critical path schedule, that the Project will be able to reach commercial operations as specified. This is particularly important for renewable firm capacity projects, as the need-by date in the RFP is critical to meet. Proposals shall include a Gantt chart that clearly illustrates the overall schedule and demonstrates achievement of any tax-related 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. The Company will specifically look to see if the Proposer has included all of the cost line items from Appendix H applicable to the Project type for Company-Owned Interconnection Facilities. An example of what the Company is looking for is identified in Appendix H, Attachment 1. Proposals that do not appear to include all the applicable cost line items from Appendix H that are reasonable for a project of the size proposed may result in a lower ranking for this criterion as it may reflect risk that the Project cannot 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. The Company may require an attestation from the Proposer that they understand their proposed interconnection costs do not appear accurate to the Company and should the Proposer continue and is selected that the Proposer shall be responsible for the final determination of interconnection costs whether or not it is higher than what the Proposer has included in its Proposal.

3. **Performance Standards** – The proposed Facility must be able to meet the performance attributes identified in this RFP ([Section 2.1](#)) and the Performance Standards identified in the applicable Stage 3 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 applicable Stage 3 Contract and in this RFP. At a minimum, in addition to meeting the Performance Standards, the Proposal 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. Preference will also be provided on facilities that offer additional capabilities over and above the required performance attributes.

4. **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 required permitting in a timely manner is also important and Proposals will be evaluated on their plan to identify, apply for, and secure required permits for the Project, any permitting activity that has been completed to date, including having initial discussions with the applicable regulating agencies such as U.S. Fish and Wildlife and the State of Hawai‘i Department of Land and Natural Resources’ Division of Forestry and Wildlife, prior to submitting a Proposal, and the degree of certainty offered by the Proposer in securing 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 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 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.

The Proposal's non-price score for this requirement will reflect the lower of either the Environmental Compliance sub-score or the Permitting Plan sub-score.⁴⁴

5. **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.
6. **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

⁴⁴ Two different teams will assess the Proposals for this non-price criteria – one focusing on the environmental impacts of the Proposal and the other on the permitting plans and activities of the Proposer. Each team will contribute a sub-score, and the overall score for this criterion will be based on the lower of the two sub-scores.

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.

7. **Proposed Contract Modifications** – Proposers are encouraged to accept the contract terms identified in the applicable model Stage 3 Contract in their entirety to expedite the overall RFP process and potential contract negotiations. Proposers who accept the Stage 3 Contract without edits will receive a higher score and will be the only Proposals that can achieve the highest scoring for this non-price evaluation criterion. 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 modifications⁴⁵ 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.

8. **Carbon Emissions** – Proposals should provide responses to the Carbon Criteria Questions provided in Section 2.15 of Appendix B, which will be used to score each Project depending on Project-specific design, siting, procurement, construction and O&M information likely to impact the Project's lifecycle GHG emissions. In line with carbon neutral goals set forth by Hawaiian Electric⁴⁶ and the State of Hawai'i,⁴⁷ preference will be given to Proposers expected to have lower lifecycle GHG emissions based on the responses to the Carbon Criteria Questions.

9. **Cultural Resource Impacts** – Proposers need to be mindful of the Project's potential impacts to historical and cultural resources. Proposers should have identified (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 any identified cultural, historical, or natural resources in the area in

⁴⁵ See Section 3.8.8 for all non-negotiable sections of the Stage 3 Contracts.

⁴⁶ See <https://www.hawaiianelectric.com/about-us/our-vision-and-commitment/climate-change-action>.

⁴⁷ See HRS § 225P-5.

question, and the reasonable protection of traditional and customary native Hawaiian rights in the affected area.

Also, Proposers should have already contracted with a consultant with expertise in this field to begin a cultural assessment for the Project. Proposals will be evaluated on the Proposer's plan and commitment to addressing cultural resource impacts on their Project, if any. Therefore, in order to be evaluated for this criterion, Proposers should, at least, provide the following documentation, as applicable: (1) Proposer's or its consultant's experience with cultural resource impacts on past projects; (2) the status of their cultural assessment plan. Should the Project Proposal cite a previously completed cultural assessment of the area, a copy of the assessment document should be included. Proposals will be evaluated on the extent to which their cultural assessment plan has been developed, and preference will be given to Proposals that are further along in the assessment process, including but not limited to, whether a mitigation/action plan has been provided that addresses any identified cultural resource issues, or a date for when such a plan will be available has been identified, or any portions of such plan have been completed.

10. **Technical Model** – Developing an accurate and functional facility technical model is imperative to the successful completion of the IRS, the accuracy of study results, and, by extension, the reliability of the System. Models must be accurate representations of the Facility and its operation. The Company validates the quality of the models and acceptability for the IRS through a model checkout process. Proposers should have developed, executed, tested, and documented results of their models prior to submitting a proposal. This criterion is to evaluate the extent to which Proposers have met the requirements in Appendix B, Attachment 3. Scoring will be based on the Proposer's documentation, which are the result of self-testing and benchmarking documentation, demonstrating the model's ability to meet the requirements of Appendix B, Attachment 3. Preference will be given to Proposals for which the accompanying documentation show they are able to meet the requirements and achieve the expected results for all scenarios proposed in Appendix B, Attachment 3.
11. **Land Use and Impervious Cover** – The Company encourages Proposers to site Projects on developed lands and to preserve open spaces and agricultural lands. Proposers will be scored more favorably for locating Projects on:
 - Land with greater existing impervious cover;⁴⁸
 - Land zoned industrial or industrial mixed use, commercial or business mixed use, or apartment or apartment mixed use, based on county zoning designations, with a preference in that order; or

⁴⁸ As defined by the Environmental Protection Agency (“EPA”) ([8 Tools of Watershed Protection in Developing Areas | Watershed Academy Web | US EPA](#)), impervious cover is “the sum total of all hard surfaces within a watershed including rooftops, parking lots, streets, sidewalks, driveways, and surfaces that are impermeable to infiltration of rainfall into underlying soils/groundwater.” For purposes of evaluation, PV panels shall be considered impervious.

- Land deemed as reclaimed, such as brownfield.⁴⁹

In addition, projects that minimize the net increase of impervious cover of a Project site will be scored more favorably.

4.4.2.2 Previous Performance Evaluation.

A new overall Previous Performance scoring criterion will be employed in this RFP. Based on any underperformance experienced within the past five (5) years from any Proposer, its parent company, or an affiliate of such Proposer, the Company will deduct points from the Proposer's total non-price score based on the infraction. Unlike the 11 non-price criteria above that generally score each project on a scale of 1 to 5, the Previous Performance scoring criteria will deduct points from the total non-price score. The total deductions could range from 0 to 20 points. If a Proposer has not been awarded a project by the Company or does not have an existing or past contract with the Company within the past five years, no points will be deducted.

The Company will evaluate Proposers (which for purposes of the Previous Performance criteria, includes the Proposer, its parent company, or any affiliate) for any past underperforming infractions listed below. For each of the following infractions identified for any of the Proposer's existing or past projects, points will be deducted, up to a maximum of ten (10) points, from the Proposer's total non-price score in this RFP. Any infraction caused by force majeure will not be counted into the deductions.

1. Proposer declined a Priority List or Final Award Group invitation. [1 point deduction]
2. Proposer withdrew from an awarded project after accepting a Final Award Group invitation. [2 point deduction]
3. Proposer terminated an executed contract, except for a termination due to a Company-event of default, including declaring the contract null and void, except for a null and void declaration due to an unfavorable PUC order, which was not reinstated or otherwise superseded by a subsequent contract. [2 point deduction]
4. Termination of an executed contract by Company due to a Proposer-, parent company-, or affiliate-event of default, unless such default was cured by the contracting Proposer, parent company, or affiliate in an expeditious manner to the satisfaction of the Company. [2 point deduction]
5. Proposer missed the Guaranteed Commercial Operations Date under an existing or past PPA. [1 point deduction for missing GCOD by more than 10 days up to 3 months, 2 point deduction for missing GCOD more than 3 months up to 6 months, and 3 point deduction for missing GCOD by more than 6 months.]
6. Proposer missed one or more PPA Milestones or Seller's Conditions Precedents, other than GCOD, by more than 10 days. [1 point deduction]

⁴⁹ As defined by the EPA ([Overview of EPA's Brownfields Program | US EPA](#)), brownfield is "a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."

7. Proposer paid LDs during the development phase of the project. [0.5 point deduction]
8. Proposer breached its representations and warranties under the PPA. [0.5 point deduction]
9. Proposer failed to remedy one or more violations of the Company's performance standards during operations within 6 months. [0.5 point deduction]
10. During the operating term of the PPA, Proposer paid LDs or failed to meet one or more performance metrics, warranties or guarantees (NEP, EAF, EFOR, MPR, Unit Trips, etc.) for more than one reporting period. [0.5 point deduction]

In addition to the above-referenced infractions, ten (10) points shall be deducted from any Proposal's non-price score in the event the Proposer, its parent company, or an affiliate of the Proposer is involved in any pending litigation in which the Proposer, parent company, or affiliate has made claims against the Company or in which the Company has made claims against the Proposer, parent company, or affiliate, which is not subject of a settlement agreement that is currently in effect. This ten-point deduction for involvement in pending litigation is not subject to the maximum of ten (10) points that may be deducted for the other Previous Performance criteria delineated above. As such, a total of up to twenty (20) points may be deducted from a Proposal's non-price score for infractions of Previous Performance criteria.

During the non-price criteria evaluation, should the Company identify any Previous Performance infractions, including the identification of pending litigation, the Company will notify Proposers of any potential deductions and provide them with the opportunity to respond with a written explanation within 5 business days. The Company, in consultation with the Independent Observer, will review the explanations and determine whether there were instances outside of the Proposer's control or otherwise excusable. The Company will finalize deductions with the objective of determining the risk of future under/non-performance based on past experiences.

The resulting non-price score will be the sum of the scores for each of the individual non-price criteria minus any points deducted for underperformance infractions based on this new Previous Performance scoring criterion. 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 400 points, and all other Proposals will receive points equal to the Proposal's score divided by the top score, multiplied by 400.

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 the required number of non-price factors that are indicative as to the general feasibility and operational viability of a proposed Project.

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 Proposal using the 60% price-related criteria / 40% 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 within each technology-based evaluation category.

Following the price and non-price scoring, an initial pool of top scoring Proposals for each technology-based category with consideration for electrical location of each resource will be determined. The Company may consider using a computer model to optimize the pool of resources by technology category in order to select Proposals in each technology-based category to advance to the Priority List.

The collective export of portfolios will be reviewed against the existing transmission available MW capacity.

The selection to the Priority List does not assure an eligible Project's inclusion in the selection of the Final Award Group.

Proposers will not be able to update their Proposals based on any feedback provided by the Company after Proposal submission. Pricing components, as explained in [Section 3.9.4](#), will not be allowed to change, except as allowed at the Best and Final Offer stage noted in [Section 4.6](#).

4.5.1 Generation Facility Technical Model Requirements and Review Process

Proposers selected to the Priority List are required to submit an initial payment of \$15,000⁵⁰ to commence with a Generation Facility Technical Model Requirements and Review Process, as prescribed in [Appendix B, Attachment 3, Section 3](#). The \$15,000 payment will be used to offset the costs to perform one cycle of model reviews by Hawaiian Electric and its consultants related to the Generation Facility Technical Model Review Process. Any feedback provided to Proposers is expected to be actioned and resolved by the Proposer prior to the commencement of the Interconnection Requirement Study.

Upon completion of one cycle of review, Proposers will have the option to:

Closeout the model review process: A true-up will be completed upon closure of the process. Any remaining funds may either be refunded to the Proposer or applied to the Interconnection Requirements Study phase. If costs to complete the

⁵⁰ The \$15,000 payment is for review of one variation. If a Proposal has multiple variations that advance to the Priority List, only one variation will be required to perform a model review if all variations utilize the same equipment. Otherwise, additional reviews (and payments) may be required for the variations with different equipment. The feedback provided for the one variation selected can be utilized to assist the developer in preparing its models for other Priority List variation(s). The Proposer may request the Company perform a cycle of model reviews on other variations, but each variation request will require a \$15,000 initial payment.

review exceed the \$15,000, the Proposer is required to submit payment of the balance within 30 days of the invoice.

Continue review: Upon receiving the first cycle of model review feedback, Proposers have the option to request another cycle of reviews. Proposers selecting this option will be required to submit another \$15,000 payment, unless explicitly directed by the Company – such as if the Company determines the remaining balance of the first cycle will cover the estimated cost of another review cycle.

In order to minimize the cost and schedule for all Proposers, as well as study the impacts of the portfolio of projects, portions of the System Impact Study will be performed as a group study, requiring all Proposer models to be an accurate, functional model, and deemed suitable by the Company prior to commencement of the study. The IRS process (Section 5.1) includes a 30-day timeframe for all model reviews to be completed prior to commencement of the group study. Should a Proposer’s model not be ready by that time, the Project will be subject to a standalone IRS, which will result in increased cost and potential delays to the Proposer, as the study will have to be undertaken after the group study is completed.

4.5.2 Community Outreach Plan and Cultural Resource Impacts

Within thirty (30) days of notifying Proposers of their selection to the Priority List (which is after the Initial Evaluation where Proposals are scored), the Company will provide feedback to such Proposers on the following portions of their Proposal(s): 1) Community Outreach Plan and 2) Cultural Resource Impacts. Proposers shall respond to any Company requests for clarification and resolve potential issues identified by the Company related to either the Community Outreach Plan or the Cultural Resource Impacts portion of their Proposal. Proposers will not be able to update their Proposals before selection to the Final Award Group based on any feedback provided by the Company on the Community Outreach Plan and/or Cultural Resource Impacts. Pricing components, as explained in Section 3.9.4, will not be allowed to change, except as allowed at the Best and Final Offer stage noted in Section 4.6.

The methods or means of addressing/resolving the potential issues identified by the Company shall be reflected in an updated Community Outreach Plan submitted to the Company within five (5) business days of notification of selection to the Final Award Group (see RFP Section 5.3). Unless the Company otherwise determines, such methods or means of addressing/resolving the potential issues identified by the Company shall be incorporated as additional obligations of the Seller in the negotiated Stage 3 Contract for the Project.

4.6 Best and Final Offer (BAFO)

4.6.1 The Company will solicit a Best and Final Offer from Proposers selected to a Priority List in a technology-based evaluation category. All Proposers selected to the Priority

List, including any Hawaiian Electric Proposals,⁵¹ will have the opportunity to update (downward only)⁵² the pricing elements in their Proposal in order 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:

- [For PV+BESS, Wind+BESS, Standalone Storage Projects] Lump Sum Payment (\$/year) amount
- [For Firm Projects] Capacity Charge payment (\$/kW/month) and Energy Charge payment(\$/kWh) amount.
- [For Hawaiian Electric Proposals] Total Project Capital Costs (\$/year), Annual O&M Costs (\$/year), ARR (\$/year)

Proposers will not be allowed to increase their price⁵³ 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.⁵⁴
- 4.6.3 To allow Proposers to offer the most competitive pricing while offering protection during these times of market volatility, the Company will allow all Proposals that are selected into the Final Award Group a one-time pricing adjustment of their BAFO-defined Lump Sum Payment amounts for PV and wind Projects and Standalone Storage Projects, and Capacity Charge payment amounts for Firm PPA Projects⁵⁵ (or Total Project Capital Costs for the Hawaiian Electric Proposal) based on the difference in the Gross Domestic Producer Price Index between the BAFO submission date and the Commission approval date of the Stage 3 Contract. The price adjustment will be capped to be no greater than a ten percent (10%) adjustment. If there is no inflation during the time period or the index decreases, pricing will remain as bid in the BAFO.

⁵¹ Similar to the Proposal Due Date, if any Hawaiian Electric Proposals or Affiliate Proposals are selected to the Priority List, the Company will require that the Hawaiian Electric Proposal(s) and Affiliate Proposals be submitted a minimum of one (1) day before other Proposals are due.

⁵² 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, Contract Firm Capacity, GCOD, etc.)

⁵³ 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.

⁵⁴ 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.

⁵⁵ No adjustment will be allowed for the Energy Charge payment amounts for the Firm PPA Projects.

4.7 Detailed Evaluation

The Best and Final Offers of the Priority List Proposals from this RFP will be further assessed in the Detailed Evaluation to determine the Proposals selected to the Final Award Group.

Computer modeling will evaluate the Total Net Cost (Cost and Benefits) of integrating and operating the portfolio onto the Company's System. The portfolio's Total Net Cost will be compared against a reference case that uses the latest inputs and assumptions in the Integrated Grid Planning proceeding (Docket No. 2018-0165), described further below.

All Proposals from the Priority List will be input into the computer model using the Proposal's performance data (i.e., NEP, Contract Firm Capacity, BESS Contract Capacity), and Proposal costs (i.e., Lump Sum Payments, Capacity Charge payments, Energy Charge payments, etc.). An optimal, least-cost resource portfolio will be selected by the computer model, RESOLVE. RESOLVE will be used to determine the optimal type and quantity of resource additions based on a range of constraints such as pricing, GCOD, reliability, operational characteristics and services offered. Note, depending on the number of Proposals on the Priority List, multiple iterations of the computer model may be needed. Additional modeling scenarios or portfolios may also be completed in consultation with the Independent Observer. The evaluation will be based on the Total Net Cost (Costs and Benefits) to the Company of integrating the combination of Priority List Proposals 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, where applicable) 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.

The Company may complete additional analyses of the portfolio in consultation with the Independent Observer to verify other operating requirements are met.

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 line constraints that will factor into the selection process. This is to address the possibility that even though sufficient available MW capacity was identified for an individual Project, Projects that are in close proximity with each other could introduce additional line constraints. The Projects selected must not have any additional constraints imposed based on the Load Flow Analysis to advance to the Final Award Group. However, the Company reserves the right, in consultation with the Independent Observer, to allow minor modifications and/or downsize the project to a Proposal to avoid such additional constraints or the Proposer can choose to perform interconnection upgrades to eliminate the 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 its 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.

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 from which to begin contract negotiations. The Company intends to select projects that meet the targeted needs and provide customer benefits. As noted above, only firm generation utilizing synchronous generators will be selected to meet the firm renewable generation target and variable renewable dispatchable generation is expected to meet the renewable dispatchable generation target. However, in the event that either target in this RFP is not completely met by Proposals received in either the firm generation or the renewable generation categories, the Company may then, if the Company determines such Proposals can meet the needs identified for such target, consider Proposals responsive to one target to satisfy the needs of the alternate target. 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 Stage 3 Contract.

Up to the selection announcement of the Final Award Group, should any new legislation for renewable energy be enacted that would offer developers further tax credits, the Company reserves the right to require Proposers to provide a downward pricing adjustment reflective of such savings for the benefit of the Company's customers.

Further, if at any time during the evaluation process it is discovered that a Proposer's Proposal contains incorrect or misrepresented information that has 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 Stage 3 Contract 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 Stage 3 Contract 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 Stage 3 Contract, 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

At Proposal Submission

Development of accurate and functional facility technical model is imperative to the successful completion of the IRS, the accuracy of study results, and, by extension, the reliability of the System. Models must be accurate representations of the Facility and its operation. The Company validates the quality of the models and acceptability for the IRS through a model checkout process. Proposers should have developed, executed, tested, and documented results of their models prior to submitting a proposal.

A complete package of Project Interconnection Requirement Data Request worksheets, Project single line and three line diagrams, models (see Appendix B, Attachment 3), and documentation prescribed in Appendix B, Attachment 4, including a report, with plots, documenting that Proposers have tested their models under all scenarios, is required upon Proposal submission. See Section 2.11 of Appendix B.

The models required are set forth in Appendix B, Attachment 4. 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 Stage 3 Contract performance requirements. These must be checked for functionality by the Proposer or its vendors and consultants prior to submission to the Company (see Appendix B, Attachment 3). Similar and fully accurate PSCAD models shall be submitted in a condition that complies with the PSCAD modeling guidelines provided by the Company.

Post Selection to Final Award Group

Within thirty (30) days after selection of the Final Award Group, final submissions, incorporating any updates, shall be made for the Project data and modelling submittals described above.

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 the Priority List or Final Award Group, or may terminate contract negotiations or executed Stage 3 Contracts if their submission requirements are deemed incomplete for the lack of requested models. The Proposal must be complete to begin the IRS process. 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 each 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 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. Interconnection cost and schedule, including cost of any required System upgrades, will be determined in a subsequent Facilities Study.

In order to minimize the cost and schedule for all Proposers, as well as study the impacts of the portfolio of Projects, portions of the System Impact Study will be performed as a group study, requiring all Proposer models to be an accurate, functional model, and deemed suitable by the Company prior to commencement of the study. Within thirty (30) days after selection of the Final Award Group, final submissions, incorporating any updates, shall be made for the Project data and modelling submittals. The IRS process includes a 30-day timeframe, following this model submittal deadline, for all model reviews to be completed prior to commencement of the group study. Should a Proposer's model not be ready by that time, the Project will be subject to a standalone IRS, which will result in increased cost and potential delays to the Proposer, as the study will have to be undertaken after the group study is completed.

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 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, Proposers will have the opportunity to not move forward with the Project and therefore not complete execution of the Stage 3 Contract 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 or the ESPA, or Section 2.2(D) of the Firm PPA.

Proposers should assume, at a minimum, a 12-month process for the completion of the IRS, and the execution and filing of the Stage 3 Contract for approval. Such assumption is dependent on, among other factors, working and finalized models being timely provided for study by Proposers in accordance with the requirements of this Section 5.1.

5.2 Contract Negotiation Process

Within five (5) business days of being notified by the Company of its intent to enter into contract negotiations, 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.

As described in Section 5.1 above, a draft IRS Agreement will be provided upon notification of selection to the Final Award Group. The IRS process will commence upon payment of the deposit and execution of the IRS Agreement. Contract negotiations will commence in parallel with the IRS process. The Stage 3 Contract will not be executed until completion of the IRS, and any impacts from the IRS are folded into the Stage 3 Contract. The submission of an executed Stage 3 Contract for PUC approval will take place thereafter.

5.3 Community Outreach and Engagement

The public meeting and comment solicitation process described in this section and Section 29.21 of the Stage 3 Contracts or Section 12.1(L) of the Firm 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 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.

By the fifth (5th) 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 then post on the Company's website. Each Proposer will launch a Project website that will go-live by that fifth (5th) business day after notification of Final Award Group selection. Information on what should be included on the Project website is identified in Appendix B.

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 updated Community Outreach Plan shall also incorporate the recommendations of the Company to address potential issues identified in the Company's reviews outlined in Section 4.5.2. The Community Outreach Plan shall include but not be limited to the following information: Project description, identification of Project stakeholders, community concerns and Proposer's efforts to address such concerns, Project benefits, government approvals, Project schedule, plan for reporting construction related updates, labor and prevailing wage commitment, details regarding the intended beneficiaries of the funds (including recipients, and the area(s) in which the funds will be directed), the methods or means of addressing/resolving the potential issues identified by the Company based on its review (as described in RFP Section 4.5.2), and a comprehensive communications plan which factors in monthly Project status updates. Proposers must provide to the Company the name of the individual designated to implement the Project's Community Outreach Plan. The Proposer's Community Outreach Plan shall be a public document identified on the Proposer's Project website for the term of the Stage 3 Contract and made available to the public upon request. If requested by the Company, Proposers shall provide their updated Community Outreach Plan and website information to the Company for review and feedback. If there is no such request by the Company, a Proposer may still provide their updated Community Outreach Plan and website information to the Company for review and feedback. If provided at least thirty (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. Further information and instructions regarding expectations for the Community Outreach Plan can be found in Appendix B, Attachments 5 and 6.

Prior to the execution date of the Stage 3 Contract, Proposers shall also host a public meeting in the community where the proposed Project is to be located. The public meeting shall provide to the community it is situated in, other 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; (iii) an update regarding the Proposer's cultural impact plan, including any findings made and mitigations identified to-date as part of the Archaeological Literature Review and Field Inspection Report; and (iv) information concerning the process and/or intent for the public's input and engagement, including advising attendees that they will have thirty (30) 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 and for inclusion on the Proposer's website. The Proposer shall collect all public comments, and then provide the Company copies of all comments received in their original, unedited form. If a Stage 3 Contract 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 (3) weeks in advance of the meeting. The Company shall be informed of the meeting. The Company has provided Proposers with detailed instructions regarding the community meeting requirement after the selection of the Final Award Group (Attachment 5 to Appendix B). (For example, notice will be published in county and 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 Stage 3 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 in accordance with the requirements ultimately agreed to in the Stage 3 Contract. The public meeting and comment solicitation process described in this section or in the Stage 3 Contract do not represent the only community outreach and engagement activities that can or should be performed. The Company will also require (monthly/bi-monthly) Project status updates from Proposers to verify the implementation of the Community Outreach Plan and will ensure Proposers provide accessible opportunities for community members and stakeholders to provide public comment as required by the RFP.

5.4 Greenhouse Gas Emissions Analysis

Proposers whose Proposal(s) are 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 GHG emissions analysis and report in support of a PUC application for approval of the Stage 3 Contract for the Project (the "GHG Review"). Proposers shall be responsible for the full cost of the GHG Review associated with their Project under a Greenhouse Gas Analysis Letter 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 Stage 3 Contract 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 Stage 3 Contract is reasonable in light of the potential for GHG emissions, and whether the terms of the Stage 3 Contract are prudent and in the public interest in light of its potential hidden and long-term consequences.

5.5 PUC Approval

Any signed Stage 3 Contract resulting from this RFP is subject to PUC approval as described in the applicable Stage 3 Contract.

5.6 Facility In-Service

To facilitate timely commissioning of 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 may lose its place in the queue, with the Company retaining the flexibility to adjust scheduling as it sees fit. 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 Stage 3 Contract milestones if tests are not completed within the original allotted time. Liquidated damages for missed milestones will be assessed pursuant to the Stage 3 Contract.

5.7 Archaeological Literature Review and Field Inspection Report

All Projects selected to a Final Award Group must, within five (5) months of selection, complete and submit to the Company a plan for mitigation from an archaeologist licensed in the State of Hawaii for any archaeological and/or historical sites identified in the completed Archaeological Literature Review of existing cultural documentation filed with the State Historic Preservation Division and a Field Inspection Report.

Any results available at the time of the Community Outreach meeting required prior to Stage 3 Contract execution discussed in [Section 5.3](#) must be presented at that time, along with an update regarding the Proposer's cultural impact plan.

Attachment 11

**HECO Renewable Project Status Board –
Final Award Group
December 8, 2023**

Hawaiian Electric Renewable Project Status Board

NEWLY IN SERVICE					
Name	Island	Developer	Tech	Size	In Service
Kapolei Energy Storage	O'ahu (Barbers Point Harbor)	Plus Power LLC	BESS	185 MW, 565 MWh	12/19/2023

STAGE 3 O'AHU, HAWAI'I ISLAND, MAUI VARIABLE - FINAL AWARD GROUP PROJECTS IN NEGOTIATION					
Name	Island	Developer	Tech	Size	Estimated Completion
Pu'uloa Energy	O'ahu	Ameresco, Inc.	Internal Combustion (biofuel)	99 MW	2027
Pu'uloa Solar	O'ahu	Ameresco, Inc.	Solar + BESS	6 MW + BESS	2026
Base Proposal	O'ahu	Kalaeloa Partners, L.P.	Combustion Turbine (biofuel)	208 MW	2033
Waiiau Repower	O'ahu	Hawaiian Electric Company, Inc.	Combustion Turbine (biofuel)	253 MW	2033
Mahi Solar and Storage	O'ahu	Longroad Development Company, LLC	Solar + BESS	120 MW + BESS	2027
Makana Lā	O'ahu	Clearway Energy Group LLC	Solar + BESS	80 MW + BESS	2027
Par Hawai'i Renewable Combined Heat and Power	O'ahu	Par Hawai'i Refining, LLC	Renewable CHP	33.9 MW	2027
Kuihelani Phase 2 Solar	Maui	AES Corporation	Solar + BESS	40 MW + BESS	2027
Puu Hao Solar	Maui	AES Corporation	Solar + BESS	20 MW + BESS	2027
Kaheawa Wind 1	Maui	Terraform US	Wind	30 MW	2026
Pūlehu Solar & Storage	Maui	Longroad Energy Holdings LLC	Solar + BESS	20 MW + BESS	2027
Keamuku Solar	Hawai'i Island	AES Coporation	Solar + BESS	86 MW + BESS	2030
Puako Solar	Hawai'i Island	Clearway Energy Group LLC	Solar + BESS	60 MW + BESS	2028
Kaiwiki Solar	Hawai'i Island	Clearway Energy Group LLC	Solar + BESS	55 MW + BESS	2028
Hamakua Firm Renewable Energy	Hawai'i Island	Pacific Current LLC	Combined Cycle + BESS	60 MW + BESS	2030



**Hawaiian
Electric**

STAGE 2 RFP - FINAL AWARD GROUP PROJECTS AWAITING REGULATORY APPROVAL					
Name	Island	Developer	Tech	Size	Estimated Completion
Keāhole Battery Energy Storage	Hawai'i Island (Kailua-Kona)	Hawaiian Electric Company	BESS	12 MW, 12 MWh	2025
Waena BESS	Maui (Kahului)	Hawaiian Electric Company	BESS	40 MW, 160 MWh	2026

APPROVED BY REGULATORS					
Name	Island	Developer	Tech	Size	Estimated Completion
AES Kuihelani	Maui (Central Maui)	AES Corporation	Solar + BESS	60 MW 240 MWh (BESS)	2024
AES West Oahu Solar, LLC	O'ahu (West O'ahu)	AES Corporation	Solar + BESS	12.5 MW 50 MWh (BESS)	2024
Hale Kuawehi Solar LLC	Hawai'i Island (Waimea)	Innergex Renewable Energy Inc.	Solar + BESS	30 MW 120 MWh (BESS)	2024
Ho'ohana Solar 1, LLC	O'ahu (Kunia)	Hanwha Energy USA Holdings Corp (174 Power Global)	Solar + BESS	52 MW 208 MWh (BESS)	2024
Kūpono Solar	O'ahu (Ewa)	Kupono Solar Development Company, LLC	Solar + BESS	42 MW, 168 MWh (BESS)	2024
Mountain View Solar	O'ahu (Wai'anae)	AES Corporation	Solar + BESS	7 MW, 35 MWh (BESS)	2024
Puna Geothermal Venture	Hawai'i Island (Puna)	Ormat Technologies Inc.	Geothermal	46 MW	2026
Waiawa Phase 2 Solar	O'ahu (Waiawa)	AES Corporation	Solar + BESS	30 MW, 240 MWh (BESS)	2024

OUT OF SERVICE				
Name	Island	Owner	Tech	Size
Waiiau Hydro	Hawai'i Island (Hilo)	Hawaiian Electric	Hydro	1 MW



Attachment 12

**Mahi Solar Project Website
Award Announcement
January 2024**

Mahi Solar & Storage Project

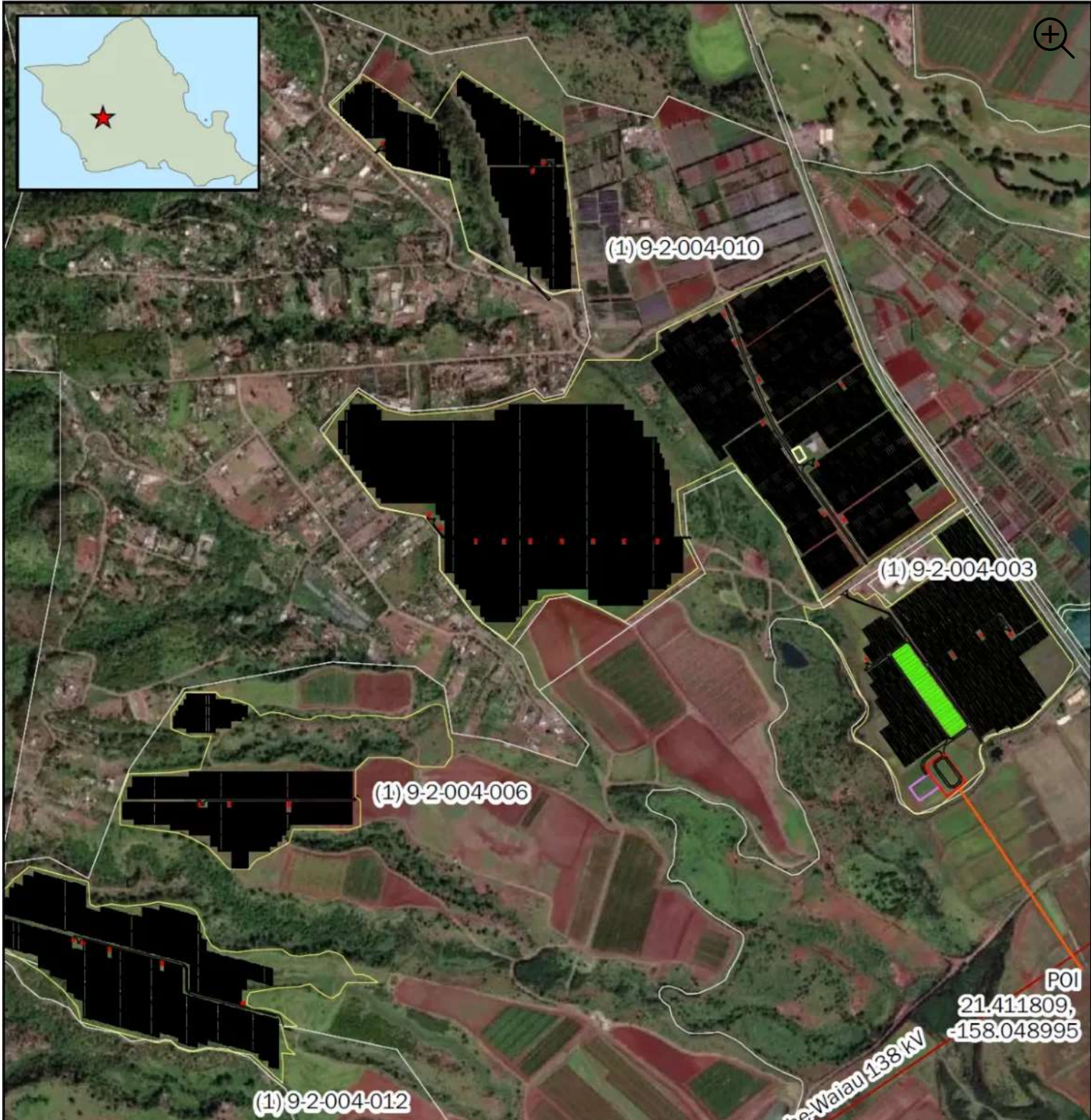
The Mahi Solar project was awarded in the Hawaiian Electric Stage 3 RFP. Previously postponed due to the global supply chain crisis, the project is now back on track and will provide O'ahu with clean, renewable energy by 2027. Development of the project has been successful, obtaining most of the needed permits and approvals, completing all studies and most engineering, and having strong community support. In the coming weeks and months, we will be reaching out to community members and stakeholders to share information and ideas for the project. We're also working with stakeholders to provide ongoing benefits to the community in farming facilities, infrastructure, and support for the agricultural industry.

Project Description

Longroad Energy is designing the Mahi Solar project to produce clean energy and support local agriculture in Kunia, O'ahu. At 120 MW(ac), this project could produce 4% of the island's electricity annually, enough to power 37,000 local homes, enabling HECO to burn less fossil fuel and emit less greenhouse gasses. The project also includes a 480 MWh (4-hour) battery system would store solar energy generated during the day to provide power at night, and an electrical substation to connect to the O'ahu grid.

Since 2005, the team at Longroad (previously as First Wind) has worked successfully with local communities to develop 7 of Hawaii's largest energy projects. Named Mahi (which means "to cultivate"), this project plans to work with the Hawaii Farm Bureau and local farmers to find innovative agricultural uses for land between and under PV panels. The project would occupy 617 acres across several parcels of land, on the Ewa (west) side of Kunia Road. Leasing less-productive land for solar enables landowners to continue farming the rest of their properties. The project would create more than 200 jobs during construction and another 2-3 long-term positions during operations.

The project is located away from residential areas and would be visible along Kunia Road and from a distance. Based on initial studies, the project is not expected to impact cultural activities, archaeological or natural resources, but we will be conducting site assessments and also want to hear from people in the surrounding communities. If you would like to receive further information about the project or have thoughts, suggestions or questions, [please sign up for our email list.](#)



(1)9-2-004-010

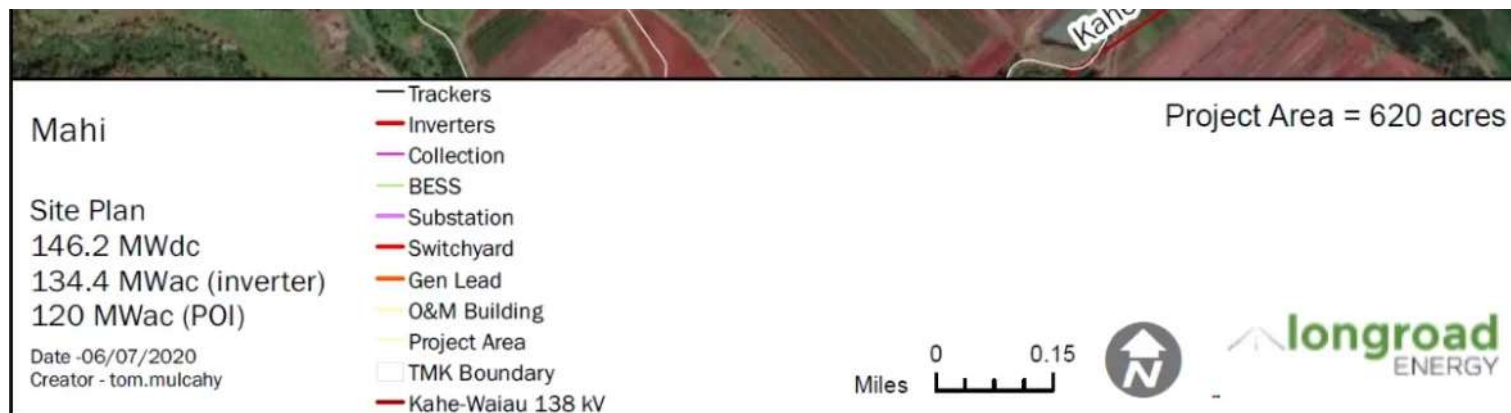
(1)9-2-004-003

(1)9-2-004-006

(1)9-2-004-012

POI
21.411809,
-158.048995

Te-Waiāu 138 KV



Potential Impacts

The positive impacts from a solar project are more clean, locally generated renewable energy, less fossil-fuel burning, less greenhouse gasses that contribute to climate changes, and hopefully lower and/or more stable electricity prices. Because of the distance of the project from residential areas, most people who live in the general area will not see the project from their homes or experience any sound, visual or other impacts. Based on initial studies, the project is not expected to create significant impacts to archaeological resources, cultural practices, or any sensitive flora or fauna. We will conduct further site studies to learn more about potential resource impacts.

Portions of the project will be visible along Kunia Road and at a distance from certain viewpoints between Mililani and Honolulu. If the project were to move forward, during the construction phase, there would be some additional vehicles on Kunia Road and some dust, but likely similar to what is now produced during farming in the same area. We want to gather more information from members of the communities near the project site to share information about potential impacts - positive and negative - and to hear their input and suggestions about how to improve the project for everyone.

Based on initial studies, the project is not expected to create significant impacts to archaeological resources, cultural practices, or any sensitive flora or fauna. Longroad conducted an initial site assessment in 2017 which looked at archaeological, cultural, biological and other environmental resources, as well as potential impacts to drainage, traffic, view plan, and many other factors. The result was that the project will create minimal, if any, negative impacts to the on-site resources or the surrounding community.

To date, no sensitive resources or unique conditions have been identified that warrant special consideration in the siting process. Based on the land use and zoning designations, the proposed solar project is consistent with state and county land use regulations, and no changes in the land use classification or zoning district would be required for project implementation. The project received approval of its archaeological assessment from the State Historic Preservation Division and received approval of its Special Use Permit from the Honolulu DPP, Planning Commission and from the State Land Use Commission.

ANTICIPATED PERMIT/APPROVAL	AUTHORIZING AGENCY
STATE	
Special Use Permit	City & County of Honolulu Planning Commission and State Land Use Commission (LUC)
Historic Preservation Review (HRS Chapter 6E)	State Historic Preservation Division (SHPD)

ANTICIPATED PERMIT/APPROVAL	AUTHORIZING AGENCY
National Pollutant Discharge Elimination System (NPDES)	State Department of Health (DOH) Clean Water Branch
Noise Permit	DOH Indoor and Radiological Health Branch
COUNTY	
Conditional Use Permit (minor) and Zoning Waiver (if needed) 1	City & County of Honolulu Department of Planning and Permitting (DPP)
Building Permit	DPP
Grading, Grubbing, and Stockpiling Permit	DPP

Community Outreach Plan

This Community Outreach Plan focuses on work with community stakeholders, including our approach, our team, outreach to date, next steps, and a summary of our community benefits discussions to date. For information about the project itself and the plan for its development, permitting, hiring, impacts, construction and operation, please refer to the appropriate section of this page.

Our Approach

Longroad is a strong proponent of community outreach and is committed to sharing information about our planned energy projects and to seeking community input that reflects the neighboring community voice, insight into cultural and environmental impacts and feedback on benefits and challenges. For every project, we meet or talk with people that live, work or spend time around the project site, or who are stakeholders in other ways, such as having family history in the area or other kuleana in or around the location.

Ensuring that residents, especially the neighboring communities of the Project, are informed and engaged is a top priority. Neighboring communities and stakeholders will be provided timely information during all phases of the project, including the Power Purchase Agreement negotiation period, the permitting process periods, and throughout construction. Through outreach efforts with stakeholders, Longroad will:

- Share information about the plans for the project from development through construction and operation
- Ask for ideas and input that could help improve the project for the community
- Identify concerns about the project and discuss ways to solve or mitigate
- Discuss what additional benefits the project could provide to the community
- Identify a community point of contact in Longroad responsible for the Project development

Our Team

Longroad's local team has extensive experience with community outreach for previous renewable energy projects developed from 2005 to 2015 by Longroad Energy and First Wind, including Kaheawa Wind, Kahuku Wind, Kawaihoa Wind, Kawaihoa Solar, Waipio Solar and

Lanikuhana/Mililani II Solar. Longroad has established a reputation for engaging with community members early, being accountable in communicating, and listening to community input in order to modify projects to mitigate negative impacts. The community engagement team for the Project also includes consultants, Kawika McKeague (Principal at G70), Donalyn Dela Cruz (DDC Consulting), both of whom bring extensive local knowledge and many relationships with community leaders, government officials and cultural practitioners in the affected communities. Members of the team are both kanaka (of Native Hawaiian descent) and keiki o ka 'āina (from Hawai'i), who are vested in the improvement of Hawai'i's future for generations to come.

Outreach to Date

Longroad began the process of community outreach regarding the Mahi project in 2017. We contacted and spoke with many people in and around the greater Kunia area, which we consider the “host community,” including individual residents, farmers, organizations, businesses, community leaders and government officials. We also conducted public meetings online and community meetings at Kunia Village and Kunia Loa Ridge Farmlands. We also identified other people who could provide feedback and suggestions about history, impacts to the landscape and cultural significance. Some of Longroad's community outreach efforts focus on Native Hawaiian culture, including conducting initial community outreach and engagement with identifiable loea (practitioners), kumu (cultural teachers) or kupu'āina (individuals with genealogical ties to the area) as a means to introduce the project as a concept and to seek to understand the perspectives, beliefs, and range of opportunities and concerns that these individuals may have regarding the project area and its historical/cultural context; its resources; and/or the nature of the project's perceived impact on those elements.

So far, community reaction to this project has been mostly positive or neutral. The majority of community members' comments have expressed support or acceptance about renewable energy generally and an understanding that renewables will replace fuel-based generation over time. Very few community members expressed concerns about the Project, either through more critical questions or occasionally stating their opposition to the proposed project. Compared to other projects that the Longroad team has developed in Hawai'i, the Mahi Solar project has received the fewest negative comments or concerns so far.

When the project was postponed in 2022, the Longroad team notified our community contacts, and explained that we hoped to resume the project once it was selected to the final award group in the Stage 3 RFP. Now that the project has been awarded, we will be resuming active community outreach work, reaching out to stakeholders and continuing discussions around community benefits. If you would like to be included in future updates, please join our email list. If you have ideas for other organizations to include in our outreach, please contact us any time.

Next Steps in Outreach

Beginning in early December, the project's community outreach will include the following:

December 2023 - December 2024

- Reach out to existing stakeholders via email or phone to provide update on the project
- Publish updated project web page with information on the project
- Share contact information so that interested people can easily contact us about the project
- Publicize and conduct online and/or in-person community meetings about the project
- Expand the list of current contacts to engage more community members in planning efforts

- Conduct individual conversations with individuals, community groups, organizations, businesses, stakeholders, and government officials
- Publish and maintain Project Website
- Continue conversations with stakeholders on developing community benefits

January 2025 - December 2026

- Inform community members about pre-construction and construction activities including potential impacts to the community
- Maintain open method of communication so that community concerns can be addressed
- Finalize community benefits commitments and agreements

January 2027 through Operations

- Ongoing communication channel throughout operations to receive and share info with community

Community Benefits

We believe that the additional benefits that a project provides to the local community should be designed in consultation with community members. In many conversations with stakeholders about the Mahi Solar Project, the consensus has been that Kunia has long been an agricultural area, and the Project's *community benefits should focus on supporting agriculture and farmers.*

Longroad is committed to providing at least *\$500,000 annually in community benefits* for the Project after it begins operations. We have been working with many stakeholders to develop a community benefits package that details where and how those funds will be spent, and what written commitments or agreements will be included to ensure that funding continues during

the life of the projects. So far, Longroad has already made contributions the Hawai'i Agriculture Foundation (\$30,000) and the Agricultural Leadership Foundation of Hawai'i (\$5,000), as well as a 3-year investment (\$380,000 spent or committed to date) in an Agrivoltaic research program by the Hawai'i Agriculture Research Center (HARC) to study what types of crops can be successfully farmed under solar panels in Hawai'i. Thanks to Longroad's initiative, HARC's Agrivoltaic research is now also co-funded by other IPP's, in the interest of sharing results with the solar and agricultural industries and finding new ways to use our limited land for both agriculture and renewable energy. It is possible that Mahi Solar will be the largest agrivoltaic project in the United States, combining both commercial solar and commercial farming, and potentially developing new opportunities for sustainable, local food production.

Ideas for other agricultural benefits include: increasing row spacing in parts of the Project to facilitate certain types of farming, keeping some parts of the site open (no Project equipment) to construct shared farming facilities for washing or packing produce, a potable water system for washing produce, as well as providing other benefits to local farmers. These general commitment areas below have been proposed by members of the surrounding community in many meetings and conversations to date. More specifics on how and where funds are spent, the beneficiaries, actual agreements - will be developed in further community discussions. If you have other ideas for benefits, please contact us.

COMMITMENT AREA	PERCENTAGE
Support for Local Farmers & Ranchers	80%

COMMITMENT AREA	PERCENTAGE
Agricultural Research	10%
Organizations Supporting Agriculture	10%
TOTAL	100%

Additional Plan Details

Community Outreach Plan Elements:

Elements of Longroad's Community Outreach Plan include the following:

Individual and Small-Group Stakeholder Conversations

Longroad has already engaged in dozens of individual and small group conversations with community members, including residents, kupuna, business owners, nonprofit groups, cultural practitioners and government officials. Outreach is made through email, phone and word-of-mouth, to engage with individual stakeholders. Conversations often occur in-person, over the phone or online videoconference, and occasionally via email. Questions, concerns and comments are logged for later follow up as needed and generate ideas for benefits to be discussed more broadly with communities.

Community Meetings: Virtually accessible

Longroad will plan both in-person and virtual community meetings to ensure that the community is well informed and has an opportunity to provide feedback. There will be advanced information shared in preparation with key stakeholders. To ensure widespread accessibility, community meetings will be televised on Nā Leo TV. Options to attend the meeting virtually will also be made available to allow for live engagement.

Notification of Meetings

Longroad will advertise in the community papers about any community meetings two weeks in advance of the meeting. This is in addition to email notifications to stakeholders and those who have signed up for updates. Media advisories regarding public meetings will be issued to O'ahu and statewide media, which includes but is not limited to: Honolulu Star-Advertiser, Civil Beat, Hawai'i News Now, KHON2 News, and KITV News.

Educational Kiosk

Longroad proposes to set up an educational kiosk, at or near the Project site, where people can access information about the project on their own time. This educational kiosk will be advertised in the local media and in mailings to share with residents that it is available. This kiosk would be designed in collaboration with Hawaiian Electric as a demonstration site that highlights renewable energy needs and the benefits the Project provides in that community.

Website: [longroadenergy.com/mahi](https://www.longroadenergy.com/mahi/) (<https://www.longroadenergy.com/mahi/>)

Longroad will post information regarding the project to this website - including this communication plan. The website will offer an option to sign up for updated information and have an email address for inquiries. Emails will then be added to the distribution list that will be another aspect of ongoing public communication.

Email: [mahisolar@longroadenergy.com \(mailto:mahisolar@longroadenergy.com?subject=Mahi Solar and Storage Project Inquiry\)](mailto:mahisolar@longroadenergy.com?subject=Mahi Solar and Storage Project Inquiry)

Longroad will provide email updates prior to meetings, and periodically, to a distribution list of stakeholders. We have also established an email address, so that inquiries regarding the Project can be directed here.

Public Comments

Supportive and opposing comments and feedback will be gathered throughout the outreach process. These will be compiled and filed with the Public Utilities Commission.

Contact

For more information, sign up below to be on our project email list.

"*" indicates required fields

Name *

First

Last

Enter Your Email *

Attachment 13

**Annual Compliance Report In the
Matter of: Special Use Permit (Docket
No. SP21-412) for a 120-Megawatt Solar
and Energy Storage Facility
November 2023**

**Annual Compliance Report
In the Matter of:**

Special Use Permit (Docket No. SP21-412) for a 120-Megawatt Solar and Energy
Storage Facility

Prepared by:

Mahi Solar, LLC

November 2023

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1.0 Introduction

This Annual Compliance Report has been prepared in compliance with the State Land Use Commission's Decision and Order, Special Use Permit, Docket No. SP21-412, approved by the Land Use Commission on (September 9, 2021) (the "Special Use Permit" or "SUP"). This Annual Report by Mahi Solar, LLC ("Permittee") provides an update on land ownership, project schedule, and agricultural activities which demonstrate the status of compliance of the Mahi Solar Project ("Project") with the conditions of the SUP. This report covers the period from (September 9, 2021) through September 30, 2023, and is meant to meet the reporting requirements for 2022 and for 2023.

As overall update on the Project, due to the global supply chain crisis in 2021-2022, the Project was forced to withdraw from the HECO Stage 2 procurement and instead enter the Stage 3 procurement which is now underway. This will result in a delay to the project schedule of approximately 2 years.

Despite the delay to the project construction scheduler, the Petitioner has continued to develop the project and its agricultural plan by investing in agricultural research, planning farming infrastructure and negotiating its first lease with a farming tenant. While the schedule delay is unfortunate, the Petitioner is committed to moving forward with the Project and excited to bring this important source of renewable energy online as soon as possible. Longroad Energy has been funding the Hawaiian Agricultural Research Center (HARC)'s research at the operational Mililani Solar site (owned by Clearway Energy) where many crops are being tested for commercial production. A recent summary of the agrivoltaic testing program is provided with this report (Attachment I).

2.0 Annual Compliance Report on Conditions of Special Use Permit

2.1 SUP Condition #1

Usable lands of the Petition Area, as required under Section 205-4.5(a)(21)(A), shall be made available for compatible agricultural use at a lease rate that is at least 50 percent below the fair market rent for comparable properties, as long as the Project is in operation. Compatible agricultural operations shall be established, or the Petitioner shall be actively seeking to have such operations established, within six months of the start of commercial power generation (referred to as the "initial six-month period"). Extensions to this deadline may be granted by the Director of the DPP for unforeseen circumstances that were beyond the control of the Applicant. The Agricultural Plan, approved by the Director of the DPP, shall include the following:

- a. The Agrivoltaics Program as outlined in the Petition as "proof-of-concept" to determine the suitability of the to-be-determined agricultural activities to be researched and field trialed by the HARC.*
- b. A collaborative process establishing an organization or association between the Petitioner and the individual agricultural operators interested in and working in the Petition Area for agricultural productions including livestock, crops, or hydroponics.*
- c. An irrigation system proposed for future agricultural activities that may occur under and adjacent to the solar panel arrays.*
- d. Fencing and gating to be in place prior to full operation of the Project to prepare for the needs of the anticipated agricultural activities.*

2.1.1 Response to Condition #1

By way of overall project update, the HECO procurement of power from Mahi Solar has been delayed, but the Petitioner has continued to pursue the agricultural use plan prior to construction of the solar facility. The current land remains in similar agricultural use and will remain in such use until construction start, which is anticipated in 2025. Longroad Energy (LRE) has launched and funded the "Agrivoltaic Research and Development Program" which is designed and managed by the Hawaii Agricultural Research Center (HARC). Now in its third year, the HARC research is taking place at the Mililani Solar Project in Mililani and has tested more than 20 different crops growing under and between solar panels, including mamaki tea, lettuce, sweet potato, taro, swisschard, cabbage, broccoli, radish and many more. The HARC research is actively providing "proof of concept" for agrivoltaics in Hawaii and will help develop the agricultural plan at Mahi Solar, which will include plans for irrigation, produce washing, a working association between tenant farmers and ranchers, and fencing to support the agricultural activities. The Petitioner has already substantially negotiated a lease with its first farming tenant, at a nominal annual rate.

2.2 SUP Condition #2

If at any time during the term of the SUP no compatible agricultural operations exist on the usable lands of the Petition Area for six months after the initial six-month period (referred to as the "subsequent six-month periods"), the Petitioner shall notify the Planning Commission and the Director of the DPP in writing within 30 days of the end of any subsequent six-month periods. If requested by the Planning Commission, the Petitioner shall attend a meeting of the Planning Commission detailing the Petitioner's actual and reasonable efforts to actively seek the establishment of compatible agricultural operations on the usable lands of the Petition Area. The Planning Commission shall determine whether probable cause exists to re-evaluate the SUP and to hold a hearing pursuant to Section 2-49 of the Rules of the Planning Commission for unforeseen extenuating circumstances.

2.2.1 Response to Condition #2

See response to Condition #1. Currently, several farmers and ranchers have indicated interest in conducting agricultural activities at the Project. However, if the issue described in this condition does arise, the Permittee will comply as required.

2.3 SUP Condition #3

This SUP operational period shall be valid for a period of 25 years plus a 10-year extension preceded by three-years of construction and 12 months of decommissioning from the date of the State LUC Decision and Order approving the SUP, subject to further extensions upon a timely request for extension filed with the Planning Commission at least 120 days prior to the SUP's 39-year expiration. Approval of time extensions shall be required from the Land Use Commission.

2.3.1 Response to Condition #3

See response to Condition #1.

The LUC's Decision and Order approving the SUP was issued on September 17, 2021. Due to the global supply chain crisis and the delay to the Project's schedule, which was out of the Permittee's control, Mahi Solar will provide a written letter to the DPP requesting an extension of time to establish the Project, which would be then be filed with the Planning Commission.

2.4 SUP Condition #4

The Petitioner shall establish the Project within three years of the date of the LUC's Decision and Order approving the SUP. Requests for extension of this deadline shall be submitted to the Director of the DPP prior to the expiration of the deadline. The Land Use Commission may grant an extension to the deadline to establish the Project due to unforeseen circumstances that were beyond the control of the Petitioner.

2.4.1 Response to Condition #4

See response to Condition #1.

The LUC's Decision and Order approving the SUP was issued on September 17, 2021. Due to the global supply chain crisis and the subsequent delay to the Project's schedule, which was out of the Permittee's control, Mahi Solar will provide a written letter to the DPP requesting an extension of time to establish the Project.

2.5 SUP Condition #5

Approval of the AIS from the SHPD shall be obtained prior to the issuance of building permits. Any specific required conditions of such approval may be added to the CUP or grading permit or building permit at the discretion of the Director of DPP.

2.5.1 Response to Condition #5

An Archaeological Inventory Survey (AIS) was conducted by ASM Affiliates in April 2021, and subsequently reviewed and accepted by SHPD on September 8, 2021 (Project No. 2021PR00380, Doc No. 2109SL01). The HRS Chapter 6E-42 determination of effect for the proposed Mahi Solar project is "effect with agreed upon mitigation." As mitigation for this effect, archaeological monitoring will occur during ground-disturbing activities pursuant to an Archaeological Monitoring Plan that will be prepared in accordance with HAR §13-279-4 and submitted to the SHPD for review and acceptance prior to initiating ground-disturbing activity.

2.6 SUP Condition #6

The Petitioner shall submit for review and obtain the approval of the following from the Director of the DPP, prior to any subdivision action or the issuance of a grading or building permit:

- a. The Agricultural Plan listed in the Condition No. 1 with a site plan showing the minimum land area to be made available and the types of agricultural activity proposed for compatible agricultural use.*
- b. A revised landscape plan showing a proposed landscape treatment to screen the Project along the southern (makai) boundary of the Petition Area Number 5, adjacent to Honouliuli National Historic site. If the Project created a negative visual impact to the Honouliuli National Historic site in the future, and vegetative visual screening is requested by the National Park Service, the Petitioner shall install such screening.*

2.6.1 Response to Condition #6

See response to Condition #1. The Permittee will comply with this condition prior to applying for grading and building permits.

2.7 SUP Condition #7

Upon the conclusion of Project operations, the Petitioner, its assignees, or the landowner, shall cause the decommissioning of the Project at the Petitioner's, assignee's, or owner's expense by removing all of the equipment related to the SEF by no more than 12 months of the conclusion or operation or its useful life and the restoration of the disturbed earth to substantially the same physical condition as existed prior to the development of the SEF.

2.7.1 Response to Condition #7

The decommissioning plan will be implemented at the end of Project operations.

2.8 SUP Condition #8

Prior to the closing of a building permit for the SEF, the Petitioner shall submit to the DPP proof of financial security to decommission the Project and restore the Petition Area to substantially the same physical condition as existing prior to development of the Project. Such proof may include, but not be limited to, a posted letter of credit, performance bond, escrow account, or similar mechanism from a creditworthy financial institution. This shall be in favor of the owners of the land subject to the SUP, in the amount based on the used acreage of that landowner by the Project multiplied by the 2020 estimated rate of decommissioning established by the Petitioner's consultant, Engineering Analytics, Incorporated (\$6,830 per acre of the constructed Project, escalated per year for inflation), which security shall remain in place for the duration of the SUP.

2.8.1 Response to Condition #8

See response to Condition #1.

A reclamation cost estimate will be completed prior to the closing of a building permit for the project, and the Permittee will post financial security in the form of a bond, letter of credit, or similar instrument in favor of the landowners to ensure that the decommissioning funds will be available at the time that the project is decommissioned, should the project owner be unable to complete the decommissioning.

2.9 SUP Condition #9

The Petitioner shall comply with the recommendations of the State of Hawaii, Department of Land and Natural Resources, Division of Forestry and Wildlife ("DOFAW"), regarding the protection of endangered, threatened, and native flora and fauna species and their associated habitat should be monitored and observed. If identified in the Petition Area, the Petitioner shall follow the mitigation, monitoring, and avoidance measures contained in the Biological Resource Report prepared for the Project.

2.9.1 Response to Condition #9

See response to Condition #1.

At the appropriate time, the Permittee will ensure compliance with recommendations of the State of Hawaii, Department of Land and Natural Resources, Division of Forestry and Wildlife ("DOFAW"), are adequately met.

2.10 SUP Condition #10

On or before December 31 of each year that the SUP is in effect, the Petitioner or its successor shall file an annual report to the DPP, the State Office of Planning and Sustainable Development, the State Department of Agriculture and the Land Use Commission that demonstrates the Petitioner's compliance with conditions of the SUP. The annual report shall also include, but not be limited to:

- a. The total acreage per type of agricultural activity, their yields, amount sold locally and out-of-state, revenues in aggregate for each agricultural activity.*
- b. Evidence of proof of financial security for decommissioning of the Project.*
- c. Detailed records of inspection of decreased wildlife as a result of natural causes or facility operations; the hours spent by specialists training operations staff in the proper response, documentation, and reporting of any downed wildlife observed; the results of the established and implemented Downed Wildlife Observation Program; the recorded fatalities of state-listed species, federally-listed species, or species protected under the Migratory Bird Treaty Act that were reported to the DOFAW and the United States Fish and Wildlife Service; and invasive species found in the Petition Area that were reported to the Oahu Invasive Species Committee.*
- d. Avoidance and mitigation measures conducted to protect and preserve historic, cultural, and archaeological features, sites, and resources.*
- e. Quantities of water demand, storage, pumping, delivery, availability by sources for each of the five Project Areas prior to Phase Two of the Agrivoltaics Program of the Agricultural Plan.*

2.10.1 Response to Condition #10

See response to Condition #1. This SUP Compliance Report will be provided to the DPP, the State Office of Planning and Sustainable Development, and the State Department of Agriculture and the Land Use Commission prior to December 31, 2023, noting the project status and overall delay relating to the HECO procurement of Power from Mahi Solar.

2.11 SUP Condition #11

Major modifications to: (1) The Project plans, including but not limited to significant increases in the number of PV panels; (2) Amendments to the conditions of approval; (3) Significant expansions of the approved area; or (4) Change in uses stated herein, shall be subject to the review and approval of the Planning Commission and the LUC. Minor modifications including minor additional to accessory uses and structures, and new incidental uses and structures in the approved area are subject to review and approval by the Director of DPP.

2.11.1 Response to Condition #11

See response to Condition #1. Currently no major modifications are planned by the Permittee.

2.12 SUP Condition #12

The Petitioner and/or landowner shall notify the Director of DPP of:

- a. Any change or transfer of licensee on the property;*
- b. Any change in uses on the property;*
- c. Termination of any uses on the property; and/or*
- d. Transfer in ownership of the property.*

The Planning Commission, in consultation with the Director of the DPP, shall determine the disposition of this SUP, and the facilities permitted herein.

2.12.1 Response to Condition #12

See response to Condition #1. Approximately 220 acres of the planned Project site was purchased from Hartung Brothers, Inc. by Mahi Land Holdings, LLC an affiliate of the Permittee. The remaining land for the Project will be leased.

2.12.2 SUP Condition #13

Enforcement of the conditions of the SUP shall be pursuant to the Rules of how the Planning Commission and the Land Use Commission, including the issuance of an order to show cause as to the reason the SUP should not be revoked if the Planning Commission has reason to believe that there has been a failure to perform consistent with representations made by the Petitioner or the conditions imposed herein.

2.12.3 Response to Condition #13

See response to Condition #1. The Permittee plans to comply with all required conditions.

2.13 SUP Condition #14

The Applicant shall develop and operate the facility, including the implementation of measures to mitigate potential impacts of the Project, in substantial compliance with the representations made to the Planning Commission and the LUC as reflected in this Decision and Order. Such mitigation measures include, but are not limited to, the use of temporary and permanent BMPs to ensure that the development and operation of the facility does not result in an increase in stormwater runoff that adversely impacts downstream properties. Failure to develop the Petition Area may result in revocation of the SP.

2.13.1 Response to Condition #14

See response to Condition #1. At the appropriate time, the Permittee will ensure the Project is developed and operated, including the implementation of measures to mitigate potential impacts in compliance with representations made to the Planning Commission and LUC as reflected in the Decision and Order.

2.14 SUP Condition #15

In the event that historic resources, including skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes, are identified during demolition and/or construction activities, all work shall cease in the immediate vicinity of the find, the find shall be protected from additional disturbance, and the SHPD and O'ahu Island Burial Council, as applicable, shall be contacted immediately. Without any limitation to any other condition found herein, if any burials or archaeological or historic sites are discovered during the course of construction of the facility, all construction activity in the vicinity of the discovery shall stop until the issuance of an archaeological clearance from the SHPD that mitigation measures have been implemented to its satisfaction. An Archaeological Monitoring Plan ("AMP") that satisfies the requirements of HAR section 13-279-4, shall be prepared to guide monitoring and be reviewed and accepted by SHPD before work begins.

2.14.1 Response to Condition #15

See response to Condition #1. As part of the Project's future construction activities, the Permittee will comply with established mitigation processes relating to the potential identification of historic resources.

2.15 SUP Condition #16

The Applicant will comply with the recommendations made in the Archaeological Inventory Survey with regards to the:

- *Waiahole Ditch – avoidance and protection during development activities*
- *Oahu Sugar Company irrigation infrastructure – conduct archaeological monitoring during development activities and prepare an archaeological monitoring plan subject to acceptance by the State Historic Preservation Division prior to ground-disturbing activities.*

2.15.1 Response to Condition #16

See response to Condition #1. As part of the Project's future development, the Permittee will comply with recommendations made in the Archaeological Inventory Survey.

2.16 SUP Condition #17

The Applicant and its successors shall (1) maintain the surface and aboveground areas of the easement of the Waiahole Ditch where it traverses the Petition Area and shall have non-exclusive access to such areas; and (2) not interrupt or impair delivery of Waiahole Ditch water during construction and operation of the Project.

2.16.1 Response to Condition #17

See response to Condition #1. At the appropriate time, conditions relating to the *Waiahole Ditch* will be met as part of the Project's development.

2.17 SUP Condition #18

As recommended by Petitioner's Ka Paakai O Ka Aina analysis to mitigated impacts to traditional and customary practices, Petitioner shall consult with appropriate agencies and persons who have knowledge of the Pohakea trail's historical location and possible status and incorporate consultation recommendations in its development plans. Petitioner shall also identify and avoid all native plant communities and their associated habitats.

2.17.1 Response to Condition #18

See response to Condition #1. At the appropriate time, the Permittee will meet mitigation measures as recommended in the Ka Paakai O Ka Aina analysis.

Attachment I

Hawaiian Agricultural Research Center APV Phase 2 Project Report



HAWAII AGRICULTURE RESEARCH CENTER

P.O. Box 100, Kunia, HI 96759

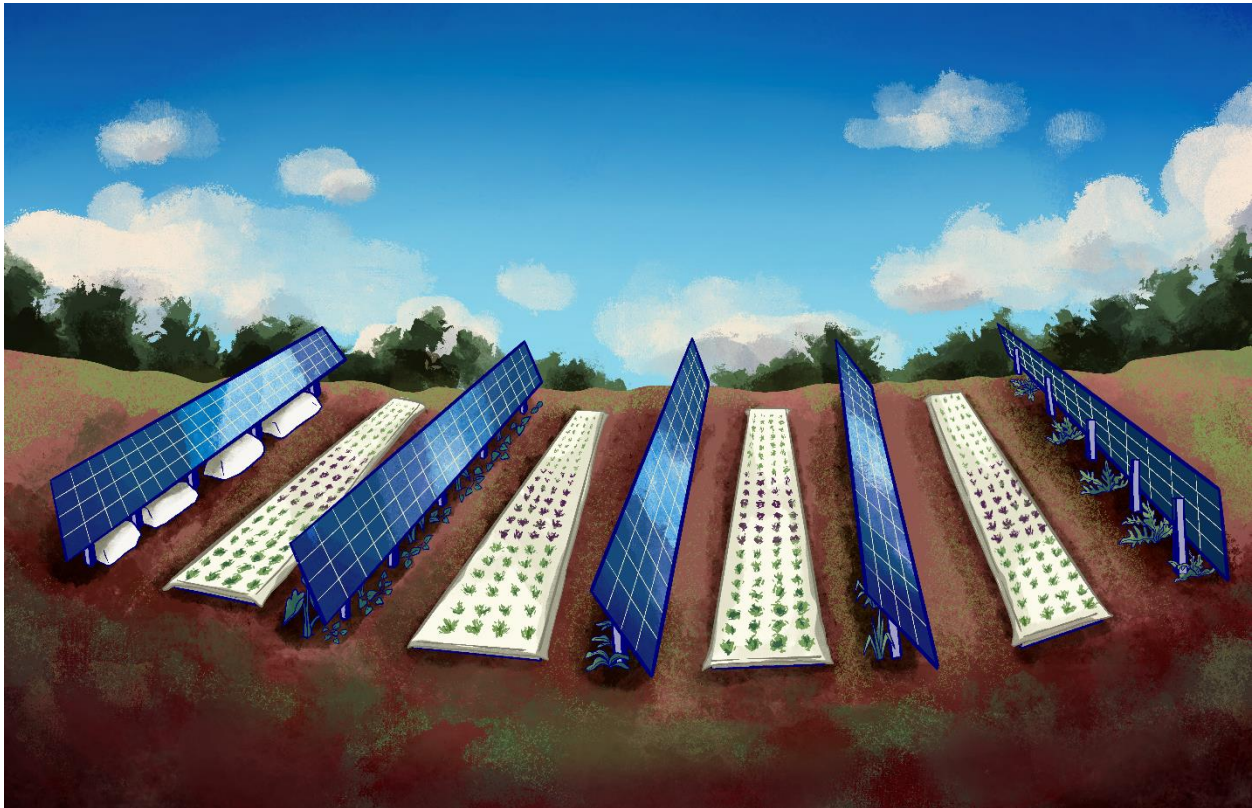
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APV Phase 2 Project Report

Juli Burden

September 8th, 2023



Executive Summary

- The Bright Lights Chard biomass experiment is complete, planting the second local pumpkin crop and bush beans for yield and economic data.
- Mana Ulu taro harvested with yield data.
- Kunia Country Farms lettuce blend trials in hydroponic troughs.
- Log mushroom and nursery crops update.
- Crop plan and calendar of events to be distributed.
- More vegetable crop screening at Mililani 2.

New Site at Mililani 1 and Control Plot at Mililani 2 Update

The first Chard biomass trial has concluded. The full data and economic analysis will be included in the next quarterly report. We have since removed the chard from the control plot as well as Mililani 1 and replanted with Provider Green Bush beans as well as a new variety called 88-11 an improved local squash on August 23rd. We will be putting together a planting calendar and schedule to share with everyone in the following weeks as to better plan tours, when to take promotional videos and photos, and when future quarterly reports are to be expected.

Mililani 2 Site (Demonstration Site) Update

Hydroponic Lettuce Update

The hydroponic trough was planted with a specific blend of lettuce from Kunia Country Farms. The lettuce was harvested, and a second trough was reseeded using the same seed source. Unfortunately, germination was very low for the second trough (576 plants of 2000) so the second round of data will be much lower, but we are hoping to continue to see a trend of improved establishment, quality and biomass in the new temporary trough in Mililani 1 as compared to the original trough in Mililani 2. The next trough will be planted once again by the original 5 variety (Casey, Cherokee, Red Butter, Magenta, Fusion) blocks. We will begin germination next week and they should be ready to transplant close to the harvest date of this current smaller trough grow-out.

In the next couple of months, we also plan to hire an electrician to help get the hydroponic circulating again. We will likely need to purchase new batteries, controllers, and an inverter to power the water pump and sterilizer continuously off-grid for 24 hours. The panels we will use were loaned to us by Clearway and we can hopefully get something put together by the end of the year.

Mana Ulu Taro Planting and Harvest

The primary crop of this system is taro (*Colocasia esculenta*), known in Hawaiian as kalo, an incredibly important crop to Native Hawaiian people. Hawaiian taro varieties are tremendously diverse. In Indigenous Systems, taro is typically planted using Ha'ilima spacing, described as the length from a person's fingertips to their elbows, approximately 2 ft x 2ft. A typical growing season for upland taro is about 9 months to 12 months.

We planted a single line directly under the center of the panels in July 2022 with a spacing of 1.5 ft between clones (huli in Hawaiian). This area has the lowest light available for plant growth but the highest amount of space in terms of height for crops because mature Mana ulu taro can grow up to 4-5 feet tall. The bed space was calculated at 3ft x 150 ft (0.006 acres) with 102 individual plants. Taro as a crop in Hawai'i is both economic and cultural. Yields are

sometimes less relevant for economic purposes since cultivating taro is an essential indigenous practice in Hawai'i. However, these corm yields are low and if farmers are going to grow taro in



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this low light space, the best use might be for leaf (lau) production vs corm production. There are several other compounding factors that could have contributed to low yields including soil nutrients (high potassium) or harvesting timing. We replanted the same variety (Mana ulu) in the same transect and will continue to record yield data for a second time to better understand if it is a continuing trend.

Log Mushroom and Nursery Crops Update

So far one species has been collected (*Albizia*) and inoculated with the four mushroom strains. We have been collecting the additional invasive species cut log pieces from our site in Maunawili. We have increased the number of species to inoculate to include Gunpowder tree, African Tulip, Koa (*Acacia koa*), Java Plum, Silk Oak, and Octopus Tree. We plan on finishing collectin on August 26th and will be planning an education event with UH Grad students to assist in inoculating all remaining 120 logs on September 23rd. To test nursery crops under the panels, we have started by moving some of our coffee seedling from our Kunia site under the panels. We will also be adding additional fruit trees and native plants in the coming months.

Vegetable Crop Screening Blocks

To accommodate more tours the panel space dedicated to additional crop screening will be replanted slowly with some new crops and new varieties that we could test at commercial scale in the coming months depending on their performance. We plan to plant amaranth, two new varieties of broccoli, 2 varieties of tomato, collards, radish, daikon, beans, beets, fennel, borage (for pollination) and sorrel. We also have received a recommendation on two watermelon varieties to try: Georgia Rattlesnake and Crimson Sweet. We plan to test those out in the spring of 2024 at commercial scale in the control plot and Mililani 1 site.

Tours and Site Visits

Over the last two months we have had an increase in tours at the site. The site guests have been enthusiastic about not just the work we have accomplished and are in the process of but also seem engaged in the idea of agrivoltaic systems. Nearly all guests have been served iced Mamaki tea grown from the site, and it has been a popular addition to the site visits. Guests over the last few months include representatives from Kamehameha Schools, AES staff, Public Utility Commission, HSEO staff, and Ulupono. Since the tours have been increasing in popularity, we are planning to start a shared google sheet to record the tours/dates/number of people for better record keeping.



Clockwise from left to right: Coffee seedlings on site under panels, Albizia logs inoculated and delivered to site, log collection in progress at Maunawili site, asparagus establishment (purple passion variety), Mana uli taro harvest corms, bottled iced mamaki tea served during tours.



Clockwise from left to right: new squash and bushbean planting, crowning Romanesco under panels, mamaki plants under panels, control plot chard, new site chard, Kunia Country Farms lettuce variety planting, mature Mana uli before harvest.