

EXHIBIT 1

Description of Development of draft North Kohala
Energy Storage RFP

Exhibit 1
**Description of Development of the Draft North Kohala Energy Storage Request
for Proposals**

This Exhibit 1 explains the Hawaiian Electric Companies’¹ process and rationale for developing the proposed competitive bidding process set forth in the Request for Proposals (“RFP”) for the North Kohala Energy Storage solicitation.

I. Background

The North Kohala area of Hawai‘i Island is served by a single 69 kV radial transmission line. Built in the 1950s, it spans approximately 24 miles between Waimea and Halaula/Hawi. There are approximately 2,000 customers served by this transmission line. The Company recognized the need to replace or rebuild the aging line to improve reliability and resilience and worked with the community to develop several options.

The first option was to install a second transmission line and substation, which would create a redundant, diverse path for power, and which would increase resilience and increase capacity for renewable generation in the area. Construction of this line could take place without taking outages on the existing transmission line and could allow more flexibility in the timeline and strategy for the rebuild.

The second option presented was to rebuild the existing transmission line and create a microgrid in the North Kohala area to provide power to customers while the line was out of service, supported by temporary diesel generators.

The third option, and the one that ultimately received the most support from stakeholders, was a variation of the second option, in that it also involves a rebuild of the existing transmission line and creating a microgrid in the North Kohala area. However, based on the desires expressed by the community, instead of supporting the microgrid by diesel generators, the third option contemplates the microgrid being supported by a battery energy storage system (“BESS”), allowing it to utilize as-available renewable energy. The microgrid would allow for the flexibility to perform the transmission line rebuild over multiple years. This option was the most well-received and as a result, the Company decided to pursue the microgrid with BESS for North Kohala. Consistent with the Commission’s general guidance to pursue resources through competitive bidding, the Company proposes issuing an RFP for the BESS, while maintaining operational control of the microgrid controller, to which the BESS will be required to interface.

Recognizing the uniqueness of the microgrid solution being sought for North Kohala, and the complexity of third-party ownership of the BESS, the Company engaged Entura, an Australia-based power consulting firm, to provide guidance on technical requirements and procurement and contracting mechanisms. The Companies selected Entura due to their expertise and proven experience with designing small island microgrid systems that incorporated high levels of variable renewable energy and energy storage.

¹ Hawaiian Electric Company, Inc., Maui Electric Company, Limited, and Hawai‘i Electric Light Company, Inc. are each referred to as a “Company” and collectively as the “Hawaiian Electric Companies” or “Companies.”

On August 18, 2021, the Company informed stakeholders that it intended to issue a RFP for an energy storage solution to integrate with a Company microgrid controller application for North Kohala on Hawai'i Island. In a virtual meeting on September 2, 2021, the Company provided stakeholders the opportunity to review the history and context for the procurement and to provide feedback for the development of the RFP. Entura provided a technical presentation at this meeting which outlined the reasoning behind the approach and operational requirements.

The Company released a draft of the RFP on September 23, 2021 and hosted a Technical Status Conference on September 30, 2021. Comments to the RFP were requested by October 7, 2021.

In addition, the draft North Kohala Energy Storage RFP was shaped by the Company's following guiding principles, which are used for of all the Company's RFPs developed pursuant to the Competitive Bidding Framework:

- 1. Transparency, predictability and streamlining lowers costs to customers and fosters trust in the process.** Although this RFP is unique in its purpose, the Company has worked hard to continue its efforts to learn from past procurements and to further streamline the process and make it more transparent and predictable for all stakeholders, including holding numerous discussions with the community and other stakeholders to seek their input on solutions to improve reliability and resilience in North Kohala.

The North Kohala community has played an important role in shaping this project. The outreach and engagement efforts were based on a collaborative approach which included many face-to-face meetings with a diverse group of stakeholders. The goal was to share information and gather feedback on the various options. Those conversations helped the Company understand the community's perspective. The options were modified to address their concerns and the changes were shared with the community. Government and community leaders were kept informed through focus groups, round table discussions, and regular briefings. Updates were also provided during town halls hosted by elected officials. Partnerships were formed with organizations that work to keep the community safe, healthy and connected. One of the partnerships was with Hawaii Energy, who the Company worked closely with to educate the community about rebate programs to help conserve energy and reduce load. The results of the extensive outreach were shared at the Resilience and Sustainability Forum which was hosted in partnership with the North Kohala CDP Action Committee in November 2019. Representatives from Hawai'i County Civil Defense, Hawai'i County Council, Hawai'i Institute of Pacific Agriculture, and Hawaiian Electric served as panelists. The forum also featured information booths from our partners at Hawai'i Energy, North Kohala Community Policing, North Kohala Community Emergency Response Team, and Hawai'i Wildlife Center. The Company found that the majority of the community expressed support for the microgrid with a battery storage option. This engagement model is based on collaboration and partnerships. It helps the Company learn about and address the needs of a community. It leads to solutions that are as fair, equitable and practical as possible.

2. **Community engagement is critical to near-term and long-term project success.** As the Company has noted in past procurements, like all businesses in Hawai‘i, developers have a critical role and responsibility to Hawai‘i’s communities, particularly those in which they operate. The Company expects the storage operator to operate in a manner that is consistent with the Company’s values, particularly aloha – taking care of our community, our Hawai‘i and its future, and integrity – being honest and ethical in our words and actions. With this RFP, the Company has committed to leading the community engagement as part of the overall microgrid outreach but is requiring the selected energy storage developer to participate in such engagement.
3. **Coordination and collaboration of all parties involved is necessary to achieve a successful and timely procurement.** As this is a first of its kind procurement, it is more important than ever that coordination and collaboration of all parties occur to ensure the success of the project and the microgrid as a whole. This RFP will require collaboration with and support of regulatory, state, and county agencies, in addition to developers, communities, non-profits and other industry stakeholders.
4. **There is no perfect answer; tradeoffs must be considered.** As the Company seeks to achieve many objectives, such as transparency, predictability, expediency, reliability, community engagement, alignment with grid needs and low cost, optimizing one objective may deteriorate another. The proposed North Kohala Energy Storage RFP is the result of years of engagement with the community and consideration of many options, including the inherent tradeoffs of such options. Depending on a particular party’s priorities and interests, different conclusions could be made for such tradeoffs, and there is no perfect answer. Through the process, the microgrid and BESS solution emerged as the clear preference of the community, and the Company developed this RFP accordingly. This experience is a good example of why the Company believes upfront understanding and input into the process is so important.

To provide more clarity to the RFP documents, the following sections explain some of the key components in the development of the North Kohala Energy Storage RFP.

II. Requests for Proposals

Procurement Targets and Scope

The RFP is seeking a standalone BESS with 5 megawatts (MW) / 22 megawatt hours (MWh) of energy storage capacity for integration with the microgrid controller system to serve the North Kohala area on the island of Hawai‘i. The BESS with microgrid controller capabilities is expected to seamlessly transition between grid-connected and island modes for planned transmission outages. While there will be short outage for unplanned outages of the transmission line, the restoration will be seamless. The microgrid BESS is expected to operate as a Grid Forming, black start resource capable of providing power to serve customers in the microgrid when islanded by a planned or unplanned outage of the 3300 line, and in the absence of any conventional synchronous generation. It is expected that the microgrid provide service consistent with utility-provided service (e.g., power quality and safety/protection) when in island mode operation. The Grid Forming function of the BESS microgrid resource inverters is expected to allow distributed PV to operate within the

microgrid when islanding under the same customer use profile as if grid connected. The microgrid is intended to be able to operate without any conventional synchronous generation resources and has been sized to be able to support islanded operation during average weekday loading conditions between the hours of 6 a.m. and 4 p.m., to facilitate 1-hour transitions to and from islanding mode at the beginning and conclusion of an 8-hour workday on the 3300 line.

Energy Storage Services Agreement

The Company intends to contract the energy storage resource using its Model Energy Storage Services Agreement (“ESSA”), which treats the energy storage resource as fully dispatchable. In general, the terms and conditions of the ESSA are similar to those incorporated in the Renewable Dispatchable Generation PPAs utilized in the Companies’ Stage 1 and Stage 2 RFPs and the Stage 2 Model Energy Storage Power Purchase Agreement. However, the technical and operational requirements of this procurement differ from those in the paired and standalone storage projects in the Companies’ Stage 1 and Stage 2 RFPs to meet the needs of this particular use case. The microgrid BESS resource sought for procurement in this RFP is expected to operate as the only Grid Forming resource in the microgrid boundary to provide acceptable power quality in the microgrid when islanded in the absence of any conventional synchronous generation. As such, this energy storage resource is the critical and essential element for provision of reliable energy to form an operable microgrid. This unique use case required the Company, with the guidance of its consultant, Entura, to make significant changes to certain provisions common to the Stage 1 and Stage 2 model contracts for this acquisition.

Community Outreach

The overall North Kohala microgrid project is unique in that the Company will contract for a third-party BESS while owning and operating the microgrid controller. As the Company will be managing the overall microgrid project, it will take the lead with regard to community engagement and cultural resource matters. Therefore, the Community Engagement evaluation criteria was removed from this RFP. However, the selected Proposer will still be required to fully cooperate with and assist the Company with these community outreach efforts.

Independent Observer

Consistent with the Framework for Competitive Bidding, the Company proposes that the RFP will be conducted under the oversight of an Independent Observer. The Company is prepared to hire an Independent Observer that would report to the Commission, similar to CBRE, or having one hired and appointed by the Commission, similar to the Companies Stage 1 and Stage 2 RFPs. The Company seeks further clarity on the Commission’s preference so that an Independent Observer could be brought on as quickly as possible and not cause any delays to the process.

Project Site

The Company will be offering a pre-determined Company-controlled project site, referred to as the Akoni Pule Site in Hawi Village, North Kohala, for the location of the BESS. It is approximately 1.207 acres and adjoins the existing Company-owned Hawi Substation, where the microgrid controller will be located. The Company is providing this site with the intent to reduce cost and

shorten development timelines of the project. The Company is currently leasing this site, but is in negotiations to purchase the site. The land rights and obligations of the selected Proposer are covered in Attachment X to the ESSA.

Procurement Timeline

The schedule included in Section 3 of the North Kohala Energy Storage RFP anticipates that the RFP will be issued in early February 2022, with proposals due in early April 2022. The RFP's establishment of the project site and scoping specifications will allow for an accelerated evaluation period and selections to be made in mid-July of 2022. This RFP has set a proposed guaranteed commercial operations date of November 22, 2024, to align with the projected in-service date of the microgrid controller. Both the BESS and microgrid controller components will need to be operational for the microgrid solution to be effective. Any changes that the Commission may elect to make in the schedule leading up to the issuance of the RFP may have an effect on the rest of the procurement timeline, including the commercial operations date.

Interconnection Cost

The Company has proposed that the Company-Owned Interconnection Facilities should be paid for by the Company as part of the overall microgrid project. As any proposal would have the same interconnection requirements and would be using the same site, such cost information is not unique to the project and therefore should not factor into the evaluation of proposals.

III. Next Steps

As noted in the proposed schedule shared at the September 30, 2021 Technical Conference and included as Exhibit 2 to this filing, the Company anticipates that it will file its proposed final draft RFP later this year, after the Commission has had the opportunity to review and provide comment. However, the Company recognizes the Commission may make modifications to the schedule proposed in Exhibit 2, which could, in turn, affect the schedule included in Section 3.1 of the RFP. The Company will review submitted comments and thoughtfully consider them, prior to preparing a proposed final North Kohala Energy Storage RFP to be filed on December 20, 2021.

The Company looks forward to continuing to work with the Commission, Consumer Advocate, and stakeholders to finalize the North Kohala Energy Storage RFP to begin the process of addressing the reliability issues for the customers in the North Kohala area.