

**EXPRESSIONS OF INTEREST
FOR
MULTIDAY-DURATION ENERGY STORAGE
SERVICES**

ISLANDS OF O'AHU, MAUI, HAWAI'I

April 1, 2022



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1) INTRODUCTION

As a part of a 100% renewable energy future by 2045, Hawaiian Electric Company, Inc., Maui Electric Company, Limited, and Hawaii Electric Light Company, Inc. (collectively, "Hawaiian Electric" or "Company"), as part of our planning efforts, has identified the need for a wide variety of generation and storage projects to meet our long-term needs. The Company is exploring the opportunities available and current state of technology for multiday energy storage. Responses to this Expressions of Interest ("EOI") will guide Hawaiian Electric's future resource planning and procurement to complement the future resource mix, including the possibility of expanding the scope of the Company's upcoming O'ahu firm request for proposals to be a request for firm renewable generation and multiday energy storage. Hawaiian Electric is requesting expressions of interest from energy storage developers that are capable of developing grid scale multiday-duration energy storage facilities on the islands of O'ahu, Maui, and Hawai'i Island.

Energy storage developers are encouraged to submit comprehensive responses to this request. The information obtained from responses may assist in the development of the Company's long term resource plans and the development and issuance of upcoming Request for Proposals ("RFP")¹ to meet multiday energy and capacity needs on the Islands of O'ahu, Maui, and Hawai'i Island under the State of Hawaii Public Utilities Commission ("Commission") Framework for Competitive Bidding,² the issuance of another RFP, or the issuance of an alternative means of procurement, subject to approval by the Commission. However, there is no assurance or certainty that Hawaiian Electric will issue an RFP or an

¹ See letters from State of Hawaii Public Utilities Commission to Company filed on April 20, 2021 ("Development of Stage 3 RFP for Hawaii Island") and March 23, 2022 ("Further Guidance for Development of Stage 3 Renewable and Dispatchable Generation Request for Proposals on Oahu and Maui") in Docket No. 2017-0352.

² Decision and Order No. 23121 in Docket No. 03-0372, issued on December 8, 2006, "Instituting a Proceeding to Investigate Competitive Bidding for New Generating Capacity in Hawaii."



alternative means of procurement, and the decision to do so shall be in the sole discretion of Hawaiian Electric. While Hawaiian Electric may collectively summarize the results of the EOI, individual responses will be held in confidence and will not be published, including in any future RFP issued by the Hawaiian Electric, without first receiving prior permission to do so from the respondent.

2) PURPOSE

- The objective of this EOI is to identify interested parties who are able to develop cost competitive multiday-duration energy storage projects on O‘ahu, Maui and Hawai‘i Island.
- Determine the current state of advancement of multiday-duration storage, including available durations that have been commercially tested.

Interested parties are encouraged to provide the following information in the form provided by May 12, 2022.

Development Questions:

- Technology
 - Size of the storage (MW/MWh)
 - Duration (hours)
 - Type of technology
 - General response characteristics (e.g., inverter, synchronous, etc.)
 - Expected losses including but not limited to, round trip efficiency, KWh in to KWh out, due to long-term storage of energy, etc.
- Previous or planned commercial application examples
 - Size of the storage (MW / MWh)
 - Duration (hours)
- Description of the operations of the storage technology (i.e., how the technology stores and releases energy, any charge/discharge rates, depth of discharge of the stored energy, frequency of cycling, mechanical system operations, etc.)
- Approximate square footage required or if a potential host site exists
- Expected timeline needed to reach commercial operations
- Timing or other constraints
- Project development activities
- Additional information the respondent deems relevant



3) RELATIONSHIP OF THIS EOI TO HAWAIIAN ELECTRIC'S INTEGRATED GRID PLANNING

Hawaiian Electric is expecting to need multiday energy and capacity resources to provide reliability services and is seeking to assess whether other technologies could potentially fulfill these needs in addition to firm generation resources. Responses to this EOI will assist Hawaiian Electric in developing long-range renewable energy plans and informing future and upcoming competitive procurements.

4) INSTRUCTIONS TO INTERESTED PARTIES

Interested parties are asked to follow the instructions below in submitting the requested information:

- a) Submit Requested Information. Complete the Project Questionnaire (see Appendix A) and submit the information using one of the following methods. Hawaiian Electric welcomes all information that respondents are comfortable sharing. None of the fields in the questionnaire should be considered as required.

Email (preferred): With pdf file attachment(s) to
renewableacquisition@hawaiianelectric.com

U.S. Mail*: Manager, Energy Procurement (mail code AL12-IU)
 Renewable Acquisition
 Hawaiian Electric Company, Inc.
 P.O. Box 2750
 Honolulu, Hawaii 96840-0001

- b) Due Date. Please submit all information **by May 12, 2022**.
- c) Confidentiality. Clearly and specifically mark any information that the respondent requests be treated as confidential and not be disclosed outside of Hawaiian Electric and its employees, consultants, and representatives involved with the review of information received in response to this EOI. By responding to this EOI, the respondent agrees that Hawaiian Electric shall have the right to disclose information submitted as part of the EOI process or other related regulated process to the Commission and the State of Hawaii Department of Commerce and Consumer Affairs, Division of Consumer Advocacy ("Consumer Advocate") and their respective staff and consultants, including information designated as confidential by the respondent, provided that such disclosure is made under a protective order entered in the docket or proceeding with respect to which the disclosure will be made or any general protective order entered by the Commission. Any statement of condition in any information that attempts to restrict Hawaiian Electric's rights under this section shall be void.



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- d) Not a Request for Proposals. This EOI is being issued to inform the future inclusion of multiday-duration energy storage for any current or future potential RFPs for renewable energy and storage projects on the Islands of O‘ahu, Maui, and Hawai‘i Island. This EOI is not an RFP related to a specific project or solicitation of development for a single project proposal. Neither this EOI nor the disclosure of the confidential information shall result in any obligation on the part of either Hawaiian Electric or respondents to this EOI to enter into any further agreement with the other with respect to the subject matter hereof, to purchase any products or services from the other, or to require Hawaiian Electric to disclose any particular information to any respondent. Nothing in this RFI shall imply any partnership or joint venture between Hawaiian Electric and any respondent or be construed as making either the agent of the other.
- e) Questions from Interested Parties. If an interested party needs additional information or clarification regarding any part of this EOI, or the EOI process described in this document, it may submit questions in writing to renewableacquisition@hawaiianelectric.com.

5) SUMMARY OF KEY DATES

- April 1, 2022 Hawaiian Electric issues EOI via website
- May 12, 2022 Project Questionnaire due from Respondents

Hawaiian Electric looks forward to receiving informative responses.



APPENDIX A

Project Questionnaire

Request for Information: Multiday-Duration Energy Storage Services for the Islands of O‘ahu, Maui, and Hawai‘i.

Project Description

Storage Technology:

Enter information regarding the multiday-duration storage technology, special conditions, etc.

Previous Commercial Application Examples:

Please identify any previous commercial applications of the storage technology (size (MW/MWh), duration/timing constraints (alternative plans) with developing a multiday-duration storage project on the island of O‘ahu, Maui, or Hawai‘i.

Project Siting:

Please detail the approximate square footage required for the project, including its interconnection facilities, or whether a potential host site for the project has been identified on the island of O‘ahu, Maui, or Hawai‘i.

Timeline for Completion:

Please detail an expected timeline needed to develop such a project on the island of O‘ahu, Maui, or Hawai‘i.

Timing or other constraints:

Please identify any other constraints or conditions that would affect the development of a multiday-duration storage project

Project development activities:

Describe any project development activities, if any.

Additional information:

Please provide any additional relevant information regarding development of a multiday-duration storage project on the island of O‘ahu, Maui, or Hawai‘i.

Contact information:

Enter any available contact information (Name, Phone Number, Email, Fax, Mailing Address)



Please send this completed questionnaire and any supporting documentation to one of the following by May 12, 2022.

Email (preferred): With pdf file attachment(s) to

renewableacquisition@hawaiianelectric.com

U.S. Mail*: Manager, Energy Procurement (mail code AL12-IU)

Renewable Acquisition

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