

MEMORANDUM OF UNDERSTANDING

between

**Natural Energy Laboratory of Hawaii Authority, County of Hawai`i, and
Hawaii Electric Light Company**

for

Cooperation Relating to the Testing and Validation of Pre-Commercial Energy Storage Devices

This Memorandum of Understanding (“MOU”) is entered into by and between Natural Energy Laboratory of Hawaii Authority (NELHA), County of Hawai`i (COH), and Hawaii Electric Light Company (HELCO). NELHA, COH and HELCO may be referred to herein individually as “Party” and collectively as the “Parties”.

WHEREAS, as the State of Hawaii presses towards the goals of the Clean Energy Initiative to achieve 40 percent of its electrical power from renewable energy by 2030, the potential for energy storage to help integrate clean energy and concurrently modernize the electric grid will be increasingly important;

WHEREAS, the rapidly growing market of microgrids for industrial/commercial/military customers requires varying degrees of reliability and power quality, sophisticated generation-load balancing and availability of renewable energy supply;

WHEREAS, energy storage is considered one of the most significant elements in the design and function of a clean energy microgrid;

WHEREAS, energy storage is an emerging technology that will be central to achieving the higher reliability and deployment of clean energy supply, as well as maintaining the power quality on distribution circuits;

WHEREAS, energy storage devices are a rapidly evolving market and offer significant potential for future growth that will enable many companies (worldwide) to pursue competing forms of grid-scale energy storage technologies;

WHEREAS, the Island of Hawai`i is uniquely suited for the testing of energy storage devices due to high-percentage of intermittent clean energy resources (40-50%) and the opportunity for more cost-effective solutions within an island-grid environment;

WHEREAS, the NELHA's Hawaii Ocean Science and Technology Park (HOST Park) has already developed the necessary infrastructure to allow for the standardized testing of energy storage devices;

NOW THEREFORE, the Parties agree to: 1) cooperate and share resources to facilitate the testing of renewable energy storage devices within HOST Park by other parties; 2) work together to bring in experts from various institutions to assist with this project; and 3) provide the following resources to implement this project;

- NELHA agrees to provide the following resources and services to facilitate the demonstration and testing of energy storage devices at HOST Park subject to an agreement with any party wishing to conduct such demonstration and testing;
 - Low-cost sites at its Research Campus and Hawaii Gateway Energy Center;
 - Up to 30kW of power at no additional cost for the testing program at its Research Campus;
 - Additional resources, such as power sensors, as necessary and as available, for the testing and monitoring of energy storage devices at no additional cost; and
 - Monitoring data at no additional cost;
- County of Hawai'i agrees to provide up to \$20,000 in funding for: 1) additional new equipment for expansion of the testing and monitoring program, and 2) organization of and participation in conferences, symposia, courses, workshops, exhibitions and other joint meetings of mutual interest regarding energy storage devices;
- HELCO agrees to provide support and technical advice for the implementation of this program regarding the selection of other storage devices; and
- HELCO agrees to use reasonable efforts to expedite the approval of new grid-connected clean energy production devices at HOST Park that will facilitate low-cost power for the testing of energy storage devices.

Nothing in this MOU shall be deemed to constitute any Party hereto as partner, agent or representative of the other Parties or to create any fiduciary relationship between the Parties;

This MOU shall be effective upon the signatures of all Parties and shall remain in force for a period of five (5) years, unless terminated earlier by any Party. Any Party may terminate this MOU for any reason upon ninety (90) days written notice to the other Parties;

Each Party shall be responsible for damages or injury that may be caused by its respective agents and representatives within the scope of their employment and performance under this MOU, to the extent that the liability for such damage or injury has been determined

by a court or otherwise agreed to by the Parties, and the responsible party shall pay for such damage and injury to the extent permitted by law;

This MOU may be executed and signatures transmitted electronically or by facsimile. This MOU 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 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.

IN WITNESS WHEREOF, the undersigned being duly authorized by the respective agencies and companies, have signed this Memorandum of Understanding.

COUNTY OF HAWAII

By: _____ signed _____ Date: 2-12-14

William P. Kenoi
Mayor

HAWAII ELECTRIC LIGHT COMPANY

By: _____ signed _____ Date: 2-13-14

Jay M. Ignacio
President

NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

By: _____ signed _____ Date: 2-13-14

Gregory P. Barbour
Executive Director