Maui Electric

HNEI Hawai'i Natural Energy Institute University of Hawai'i at Mānoa

NEWS RELEASE

FOR IMMEDIATE RELEASE

Partnership enables more rooftop solar capacity on Moloka'i

MOLOKA'I, July 19, 2019 – Maui Electric Company and the Hawai'i Natural Energy Institute (HNEI) at the University of Hawai'i at Mānoa have partnered to demonstrate a cost-effective solution that supports more rooftop photovoltaic (PV) systems to be added to Moloka'i's small, standalone electrical grid.

With funding from the U.S. Office of Naval Research, a 750-kilowatt (kW) dynamic load bank was connected to the island's electrical grid at Maui Electric's Pala'au Baseyard at the end of 2018. The load bank acts as a "safety valve" designed to rapidly absorb excess energy that might occur during periods of high solar generation relative to the island's low power demand during the day or unplanned system disruptions, such as a sudden loss of load on the grid.

Since 2015, the high amount of PV penetration on Moloka'i's grid has raised reliability issues. Set up to be operated both autonomously or by a Maui Electric operator, the load bank provides the ability for the utility to accept up to an additional 725 kW of rooftop PV.

"As more intermittent renewable energy, like PV, comes on to the Moloka'i system, less and less generation is needed from the traditional generators that must run at minimum operating levels to maintain reliable electrical service to the island," said Chris Reynolds, director of operational technology at Maui Electric. "The load bank helps to prevent the generators from going below these minimum must-run levels and keeps them running in a stable manner."

Added Rick Rocheleau, HNEI director, "A small island power system like Moloka'i is very dynamic, and the high PV penetration adds another level of complexity to managing those dynamics. This makes Moloka'i an ideal location for implementation of advanced battery storage solutions."

The load bank complements the two-megawatt Battery Energy Storage System that Maui Electric and HNEI commissioned at the company's Pala'au facility in 2016.

Both projects, along with pilot solar programs that enabled additional Moloka'i customers to move forward with PV installations, are helping Maui Electric improve reliable operations and prepare the grid to integrate more renewable energy.

These ongoing efforts are part of a multi-pronged approach Maui Electric is taking to power Moloka'i with 100 percent renewable energy. The approach includes continuous outreach and discussions with the community; alternative financing possibilities through available tax credits and third-party grants or partnerships; innovative utility-sited solutions and new customer options to prepare the Moloka'i grid to take on more renewable energy.

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The views and conclusions in this release are not be interpreted as representing the opinions or policies of the U.S. government or of any other parties involved in this project. Mention of trade names or commercial products does not constitute an endorsement by the U.S. government.

About The Hawai‘i Natural Energy Institute
The Hawai‘i Natural Energy Institute (HNEI) is a research unit in the School of Ocean and Earth Science and Technology (SOEST) of the University of Hawai‘i at Mānoa. HNEI began operations in 1974 and was formally established in statute by the Hawai‘i State Legislature in 2006 under Act 235 with a mandate that includes development of renewable sources of energy for power generation and transportation, and to demonstrate and deploy efficient energy end-use technologies including those that address peak electric demand issues for Hawaii’s electrical power grids. HNEI coordinates its work closely with the State Energy Resources Coordinator in support of the Hawai‘i Clean Energy Initiative (HCEI). Current research includes the areas of hydrogen and fuel cells, ocean resources and energy systems, fuels and high value products derived from locally-produced biomass and engineered microbial systems, photovoltaics, and batteries and electric vehicles. HNEI also conducts research and manages public-private partnership projects funded by the U.S. Department of Energy and the Office of Naval Research to identify, model, and validate technology solutions that enable increased penetration of renewable energy and maintain resilient operation of the islanded electrical grids in Hawai‘i and abroad, thus helping to reduce fossil fuel importation and increase Hawaii’s energy security.

About Maui Electric
Providing power to more than 70,000 customers on Maui, Moloka‘i and Lāna‘i, Maui Electric continues to support Maui Nui’s evolving and growing energy landscape since 1921. Today, Maui Electric, along with the Hawaiian Electric and Hawai‘i Electric Light family of companies, is working to provide more reliable, clean and affordable energy to power the islands.