PC-30

DANNY A. MATEO
County Clerk

JOSIAH K. NISHITA
Deputy County Clerk

OFFICE OF THE COUNTY CLERK

COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.mauicounty.gov/county/clerk

August 7, 2015

RECEIVED
2015 AUG -7 PM 3:15
OFFICE OF THE
COUNTY COUNCIL

Honorable Don Couch, Chair
Planning Committee
Council of the County of Maui
Wailuku, Hawaii 96793

Dear Chair Couch:

Respectfully transmitted is a copy of GENERAL COMMUNICATION NO. 15-8, from Sharon M. Suzuki, Maui Electric, that was referred to your Committee by the Council of the County of Maui at its meeting of August 7, 2015.

Respectfully,

Danny A. Mateo

DANNY A. MATEO
County Clerk

/lks

Enclosure

cc: Director of Council Services

PC-30

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2015 JUL 23 PM 2:08
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COUNTY CLERK

SCANNED

RECEIVED JUL 22 2015

July 14, 2015

Mr. Mike White
Chair, Maui County Council
200 South High Street
Wailuku, Hawaii 96793

Dear Chair White:

Re: Ordinance No. 2879 (Bill No. 60) to Change Zoning from Agricultural District to M-2 Heavy Industrial District (Conditional Zoning) For Property Situated at Pulehu Nui, Wailuku, Maui, Hawaii, LOT A-1, New Central Maui Generation Site Subdivision

Enclosed is a copy of Maui Electric Company, Limited's Fifteenth Annual Status Report on developing the power generating needs of the Island of Maui, required by Condition #6 of Exhibit "B" of the subject Change in Zoning Ordinance for our Waena Generating Plant.

Thank you for your consideration and assistance in this matter.

Sincerely yours,

Sharon M. Suzuki

Enclosure

xc: Alan M. Arakawa (Mayor, Maui County)
William Spence (Director, Maui Planning Department)
Keone Ball (Chair, Maui Planning Commission)

GENERAL COMMUNICATION NO. 15-8

FIFTEENTH ANNUAL STATUS REPORT
DEVELOPING THE POWER GENERATING NEEDS FOR THE ISLAND OF MAUI
(July 1, 2014 - June 30, 2015)

WAENA GENERATING STATION

On January 31, 2011, Maui Electric Company, Limited ("Maui Electric") submitted a letter request to the Hawaii Public Utilities Commission ("Commission") to open a new docket for the purposes of receiving filings, reviewing approval requests, and resolving disputes, related to Maui Electric's plan to proceed with a competitive bidding process, including a request for proposal ("RFP") to obtain up to 50 megawatts of renewable firm capacity generation resources on the island of Maui. On February 24, 2011, the Commission opened Docket No. 2011-0038, pursuant to its Framework for Competitive Bidding, to proceed with the competitive bidding process.

On July 11, 2013 the Commission ordered that the above described proceeding (Docket No. 2011-0038) be closed. On page 7 of Order No. 31357, the Commission states:

> *"Given MECO's AOS (Jan. 30, 2013) and IRP Report (June 28, 2013), which detail the utility's planning process for determining need for firm capacity, it appears that this RFP and proceeding governing such RFP process are premature. Accordingly, the commission determines that this proceeding shall be closed. The commission will consider future requests by MECO to open another proceeding to conduct an RFP for generation upon a demonstration of need and a plan focused on customer needs."*

To date, Maui Electric has been able to defer the addition of firm generation on Maui and subsequently has leased all but approximately 1.5 acres of the Waena property back to Hawaiian Commercial & Sugar Company ("HC&S") on an interim basis, at no rent, for sugarcane cultivation.

MAALAEA GENERATING STATION:

No new power generation developments.

KAHULUI GENERATING STATION:

Units K1 and K2 were deactivated in February 2014 and December 2013, respectively. "Keep Warm" systems were installed on each unit to allow reactivation within one day.

FEASIBILITY OF ALTERNATE ENERGY SOURCES:

1. Kaheawa Wind Power ("KWP"):
    a. This 30 MW wind farm ("KWP-I") is on-line and has been supplying electric power to Maui Electric since 2006.

    b. This 21 MW expansion of KWP-I ("KWP-II") is on-line and has been supplying electric power to Maui Electric since July 2012.

2. Makila Hydro:
    a. This 500 KW hydroelectric plant came on line in September 2006, but has operated intermittently at times due to operational challenges.

3. Auwahi:
    a. This 21 MW wind farm on Ulupalakua Ranch is on-line and has been supplying electric power to Maui Electric since December 2012.

4. Biomass and Biofuels:
    a. Maui Electric and Hawaiian Electric continue to monitor potential use of biofuels in Maui Electric's generating units. In 2007 an initial short-term biodiesel test was successfully completed on several internal combustion engines and a combustion turbine at Ma'alaea Generation Station ("MGS"). In 2011 Maui Electric completed a long-term biodiesel demonstration on its diesel engine generating unit M12, which demonstrated successful utility-scale long-term operation using 100% biodiesel. A project report was submitted to the Commission in January 2012. Maui Electric continues to use biodiesel during start-up and shut-down operations in two of its largest diesel generating units at MGS.

5. Hydroelectric/Pumped Storage Hydroelectric ("PSH"):
    a. In June 2012 a decision was made to cease work on the feasibility assessment of a utility-scale pumped storage hydroelectric system on the island of Maui. Three separate economic analyses were performed and all three concluded that pumped storage hydro is not cost-effective at the present time. In its Power Supply Improvement Plan ("PSIP") filed with the Commission on August 26, 2014 as part of Docket No. 2011-0092, Maui Electric addressed PSH considerations in section J titled "Energy Storage for Grid Applications". PSH was not included in the PSIP's Maui Preferred Plan for the 2015-2030 timeframe. Maui Electric remains open to the development of cost-effective PSH that would benefit its customers.

6. Grid Integration:
    a. Based on a proposal submitted to the United States Department of Energy ("USDOE") in August 2007, the USDOE awarded $7 million to a team led by the Hawaii Natural Energy Institute (" HNEI") to develop and install a distribution-level automation solution that deploys and aggregates distributed generation ("DG") including renewable energy, energy storage, and demand response technologies within a distribution system to achieve both distribution and transmission level benefits. Additional cost share funding was contributed by the various team partners including Hawaiian Electric, Maui Electric, and SRA International. The project was deployed in the Maui Meadows area and the Wailea Substation on Maui. The installation of field equipment, smart meters, the distribution management system ("DMS"), and a 1 MW/1 MWH battery energy storage system ("BESS") in the Wailea Substation was completed in 2013. Subsequently the project was extended to allow for additional data collection and analysis, and concluded in October 2014.

    b. JUMP Smart Maui is collaboration between the Japanese Government, the State of Hawaii and various stakeholders. The project is looking to develop tools to reduce curtailment of excess wind energy through management of electric vehicles. Additionally, the management of load control devices and smart photovoltaic ("PV") systems will be tested to determine the feasibility of improving local power quality within circuits subject to high penetration of PV generation. The project was launched in the second half of 2013 and was initially scheduled to run through spring 2015. Subsequently the project was extended one year to March 2016. During this extended period the primary focus will be project demonstration.

c. Demand Response ("DR") refers to mechanisms designed to manage customer consumption of electricity to support the reliable operation of the grid. Maui Electric plans to utilize DR to meet capacity and other grid service requirements. Maui Electric has proceeded with efforts to expedite the procurement of DR capacity on Maui. In particular, the Companies are initiating a potential study to assess the feasibility and potential capacity of a customer generator program. It is anticipated that this request along with expansion of the FastDR program would be part of the DR Application formally filed later this year for Maui. Additionally, efforts are underway to expand Grid Interactive Water Heater ("GIWH") deployments on Maui to provide both capacity and additional grid services.

d. In partnership with HNEI, Maui Electric is participating in the Maui Advanced Solar Initiative ("MASI") project. The primary objective of the project is to study the use of smart inverter functionality over a smart grid network to manage the impact of a high penetration of distributed residential scale PV systems on the electric grid.

e. In partnership with HNEI, Maui Electric is installing a 2MW/397kWh battery on Molokai which is planned to be operational in early 2016. This battery is to explore how energy storage may be used to address high PV penetration impacts on the system.

7. Photovoltaic:
   a. As part of the Sun Power for Schools program, Maui Electric, along with Hawaiian Electric and Hawaii Electric Light continue to install photovoltaic systems on public schools under their partnership with the State of Hawaii Department of Education.

   b. Net Energy Metering and Feed-in Tariff programs have enabled significant quantities of photovoltaic energy to be integrated into the grid. Maui Electric has consistently ranked within the top ten utilities in the nation for solar installed by the Solar Electric Power Association.

8. Ocean energy:
   a. In February 2008, Oceanlinx Limited, an Australian-based high-tech company, announced plans to provide electricity to Maui Electric. The project would be located offshore of Pauwela Point on the north coast of central Maui. Oceanlinx approached Maui Electric again in 2013, but the economics of the project are not in the best interest of the Maui customers.

9. Central Maui Landfill – Waste to Fuel:
   a. The County of Maui has selected Anaergia Inc. to convert waste streams from the Central Maui Landfill into natural gas and refuse derived fuel.

10. Central Maui Landfill - Wind Turbines:
    a. Maui Electric supported the County's installation of a 26.7 KW wind turbine project at the Central Maui Landfill and approved the application for interconnection on April 11, 2014. Although the turbines are currently installed, the County is waiting on additional equipment to complete its installation and begin producing power.

11. Maui Resource Recovery Facility (*previously known as the Mahinahina Project*):

a. The Maui Resource Recovery Facility is a proposed agricultural energy project to be located adjacent to the County of Maui's Lahaina Wastewater Reclamation Facility ("LWRF"). The project plan is to grow sorghum as an energy crop using reclaimed water produced at the LWRF. The crops are to be harvested and converted into a methane-rich gas. Maui Electric continues to be interested in working with the County of Maui and developer towards a project that is in the best interest of Maui Electric's customers.