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President

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PUBLIC UTILITIES COMMISSION

The Honorable Chair and Members of the Hawaii
Public Utilities Commission
465 South King Street
Kekuanaoa Building, 1st Floor
Honolulu, Hawaii 96813

Dear Commissioners:

Subject: Maui Electric Company, Limited
Updated Adequacy of Supply Analysis for Maui

Maui Electric Company, Limited ("MECO") respectfully informs the Commission that it has updated its Adequacy of Supply analysis to reflect a more recent economic outlook, which forecasts slower growth of peak demand. As a result of this slower growth, MECO plans to seek up to 30 megawatts ("MW") of firm capacity in one increment (instead of 50 MW in two increments) in its upcoming Request for Proposals in Docket No. 2011-0038, and the need date for the next increment of additional firm generating capacity on the island of Maui has been revised from 2015 to 2019. The new forecast of peak demand and the consequences of the deferral in the need for capacity are discussed herein.

MECO notes that if peaks are higher than forecast, the need date for the next increment of additional firm generation capacity could be sooner than 2019. Conversely, if peaks are lower than forecast or if compliance with the National Ambient Air Quality Standards ("NAAQS") is attained without unexpected delays, the need date for the next increment of additional firm generation capacity could be beyond 2019. A discussion of the advanced need scenarios is provided herein.

1.0 Background

On March 9, 2012, MECO filed its annual Adequacy of Supply ("2012 AOS") letter in accordance with paragraph 5.3a of General Order No. 7.[1] In the 2012 AOS letter, MECO indicated that additional firm generating capacity would be needed in 2015 based on MECO's March 2011 sales and peak forecast and on other planning assumptions noted

[1] The 2012 AOS letter was due on January 30, 2012. On January 26, 2012, MECO requested an extension of time, to no later than March 9, 2012 to file its 2012 AOS.

therein.[2] MECO also indicated that it planned to solicit proposals, within the requirements of the Commission's Competitive Bidding Framework, for new generating capacity in the 2015 timeframe via a competitive bidding process.[3] On January 31, 2011, MECO submitted to the Commission a Request to Open New Docket and Approval of Independent Observer Contract. On February 24, 2011, the Commission opened Docket No. 2011-0038 (Instituting a Proceeding Related to a Competitive Bidding Process for Firm Generating Capacity on Maui).[4]

2.0 June 2012 Peak Forecast for Maui Division

On June 7, 2012, MECO adopted a new sales forecast and a new peak forecast ("June 2012 Peak Forecast"). Under this new forecast, the forecasted peak for 2012 is 190.3 MW (net), which is 2.2 MW higher than the recorded year-to-date peak, as of August 1, 2012. The year-to-date recorded peak of 188.1 MW occurred on January 4, 2012.

A comparison of the recorded peaks for 2005 through August 1, 2012, the estimated peaks from the March 2011 forecast, and the estimated peaks from the current June 2012 forecast are shown in Table 2.0.

[2] See Section 1.7.1 of the 2012 AOS letter.
[3] Ibid., Section 1.8.
[4] Ibid, Section 1.8.5.

Table 2.0
Comparison of Forecast Peaks

Year	Peak (MW-net) Reduced by Energy Efficiency DSM			
	Recorded[5]	March 2011 Forecast (Base Case)	June 2012 Forecast (Base Case)	Difference (June 2012 minus March 2011)
2005	202.1			
2006	206.4			
2007	204.4			
2008	194.4			
2009	199.9			
2010	199.4			
2011	189.9	202.1		
2012	188.1 (YTD)	203.5	190.3	-13.2
2013		206.0	192.9	-13.1
2014		207.5	195.8	-11.7
2015		209.9	196.9	-13.1
2016		212.3	198.2	-14.1
2017		214.4	199.8	-14.6
2018		216.4	202.7	-13.7

As the table indicates, forecasting Maui's uncertain recovery from the longest recession in the post-World War II era has been extremely challenging. The sales forecast adopted in March 2011 ("March 2011 Forecast") incorporated a Maui County economic forecast update prepared by the University of Hawaii Economic Research Organization ("UHERO") in January 2011 and recognized recorded 2010 sales and peak demand. Based on the March 2011 Forecast, peak load was forecasted to return to positive growth beginning in 2011.

The June 2012 Peak Forecast was developed based on the June 2012 Sales Forecast. The sales and peak forecasts incorporated UHERO's Maui County economic forecast published in May 2012 and recognized 2011 recorded sales and peak demand, which included a significant decline in peak load despite strong recovery in the visitor industry. Additionally, the energy efficiency projections included in the June 2012 forecast incorporated Hawaii Energy's most recent program year[6] results and was increased in

[5] Record net peak of 206.5 MW occurred in August 2004.
[6] Hawaii Energy, Hawaii Public Benefits Fee Administrator ("PBFA"), Program Year 2010

recognition of the 30% of electric sales goal set in the Energy Efficiency Portfolio Standards ("EEPS") Framework that was approved by the Commission in Decision and Order No. 30089, issued January 3, 2012 in Docket No. 2010-0037. Adjustments to the long-term projection will be made as forward looking projections become available from the third party administrator. Peak load continued to decline in year-to-date 2012 despite moderate economic recovery, anchored again by strong performance in the visitor industry.

The June 2012 Sales and Peak Forecasts also recognized a few large commercial projects, such as the Courtyard by Marriott, Andaz Wailea (formerly Renaissance Wailea Beach Resort), Hyatt Timeshare, Advanced Technology Solar ("ATS") Telescope, and the Grand Wailea's room expansion project that are forecasted to contribute to the load growth over the next six to seven years. The increased demand from future economic growth and these large projects is forecasted to be substantially offset by customers' energy conservation and efficiency efforts and installations of renewable energy generation such as photovoltaic ("PV") systems. The net result is forecasted to be slow positive growth in peak demand.

MECO also needs to continue to evaluate and plan for the implementation of several different resource options that could serve as contingencies in the short- and long-term. These contingencies are mentioned in more detail in Section 6.0 of this letter.

3.0 Demand-Side and Supply-Side Resources

3.1 Maui Load Management DSM Program

Based on the MECO March 2011 sales and peak forecast, MECO had intended to pursue load management DSM programs for the island of Maui.[7] However, due to forecasted lower peaks in the June 2012 Peak Forecast, the need for additional firm capacity has been deferred and is expected to occur in 2019. Therefore, MECO has decided to delay the submission of the load management applications and will re-evaluate when it would be more appropriate to implement the programs.

3.2 Distributed Generation ("DG")

MECO will continue to evaluate its options for DG resources as discussed in the 2012 AOS.[8]

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[7] Ibid, Section 1.4.2.
[8] Ibid, Section 1.4.4.

4.0 Impact of New Forecast on Need for Additional Firm Generating Capacity

The timing of the need for additional firm generating capacity was determined through the application of Maui Division's capacity planning criteria[9] and with consideration given to other factors, as described below. Two of the key inputs in the application of the capacity planning criteria are the forecasted peaks and the total system capacity. An analysis showed that with the June 2012 Peak Forecast, capacity planning criteria violations will occur in 2019.

4.1 System Capacity

As reported in MECO's 2012 AOS letter, the current total system capacity on Maui is 262.3 MW. The Maui Division's total system capacity would be reduced by 16 MW if Hawaiian Commercial & Sugar ("HC&S") does not continue its operations beyond December 31, 2014, the assumed termination date of the existing power purchase agreement ("PPA").

4.2 Load Service Capability

Based on the June 2012 forecast provided in Section 2.0 above (including the peak reduction benefits of energy efficiency DSM), the assumption that the HC&S PPA will terminate at the end of 2014, the total existing firm capacity on the MECO system, Maui Division's planned maintenance schedule as of July 2012, and the application of MECO's capacity planning criteria, there are projected reserve capacity shortfalls starting in 2019, as shown in the tables below, with the assumption that no new firm capacity is added to the system.

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[9] Ibid, Section 1.2.1

Table 4.2-1: Projected Reserve Margins

Year	Forecast Peak Demand (MW-Net)	Total Firm Capacity on MECO System (MW-Net)	Forecast Impacts of Load Management DSM (MW-Net)	Reserve Margin (%)
	[A]	[B]	[C]	[B-(A-C)]/(A-C)
2012	190.3	262.3	0.0	38%
2013	192.9	262.3	0.0	36%
2014	195.8	262.3	0.0	34%
2015	196.9	246.3	0.0	25%
2016	198.2	246.3	0.0	24%
2017	199.8	246.3	0.0	23%
2018	202.7	246.3	0.0	22%
2019	204.9	246.3	0.0	20%

Table 4.2-2: Load Service Capability Margin Shortfall and Reserve Capacity Deficit Based on 20% Reserve Margin

Year	Forecast Peak Demand (MW-Net)	Total Firm Capacity on MECO System (MW-Net)	Largest Load Service Capability Margin Shortfall (Rule 1) (MW-Net)	Largest Reserve Capacity Deficit by 20% Minimum Reserve Margin (MW-Net)
2012	190.3	262.3	0.0	0.0
2013	192.9	262.3	0.0	0.0
2014	195.8	262.3	0.0	0.0
2015	196.9	246.3	0.0	0.0
2016	198.2	246.3	0.0	0.0
2017	199.8	246.3	0.0	0.0
2018	202.7	246.3	0.0	0.0
2019	204.9	246.3	-1.4	0.0

Based on this analysis, MECO expects to have an adequate amount of firm capacity to meet all reasonably expected demands for service and provide

reasonable reserves for emergencies for the period 2012 to 2018. MECO anticipates needing additional firm capacity in the 2019 timeframe.[10]

5.0 Acquisition of Additional Firm Generating Capacity

As stated in Section 4.2, MECO will need additional firm capacity in the 2019 timeframe. MECO will seek to acquire the additional firm capacity through a competitive bidding process. The Competitive Bidding Framework and process is explained in Section 1.8 of MECO's 2012 AOS.

5.1 Size (in MW) of Request For Proposal ("RFP")

MECO currently plans to seek up to 30 MW of firm capacity to accommodate anticipated load growth, maintain generating system reliability in the event the HC&S PPA does not extend past the end of 2014, and to allow MECO to possibly replace existing oil-fired generating capacity. The RFP will be prepared in such a manner as to allow bidders to participate in bidding options aligned with the firm capacity needs for MECO.

5.2 Timing of Firm Capacity Needs

Based on the load service capability described in Section 4.2 above, capacity will need to be in service by 2019 to accommodate the potential loss of HC&S capacity and anticipated load growth.

5.3 Attributes of New Generation

The attributes for new generation were described in the MECO 2012 AOS in Section 1.8.4.3. The attributes will be refined as the draft RFP is prepared and as the final RFP is developed.

6.0 Contingency Planning

As Table 2.0 illustrates, forecasted peaks can change dramatically from one forecast to the next for various reasons. While forecasted peaks showed a marked decrease from the March 2011 peak forecast to the June 2012 peak forecast, a continued decrease or dramatic increase in forecasted peaks can also occur from one forecast to the next, as MECO has experienced in the past.

Higher demand could advance the need for additional firm capacity by one year or more. Should MECO need additional firm capacity before 2019, MECO could implement one or more of the following mitigation measures (but would not be limited to these):

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[10] MECO noted in Section 1.7.1 of its 2012 AOS letter that MECO will need to comply with various new air emission regulations. MECO expects to attain compliance by the required dates.

pursuing utility-owned or customer-owned and utility dispatched firm distributed generation, re-scheduling unit overhaul schedules, increase utilization of existing units (i.e. run the units longer and/or up to their maximum capacities), coordinating with HC&S for the delivery of supplemental power (pending possible contract extension), pursuing load management programs, or requesting voluntary customer curtailment of demand during load service capability shortfall periods.

With the unit addition need date for firm capacity forecasted for 2019, MECO will continue to explore and evaluate appropriate supply-side and demand-side resources for the Maui Division system.

7.0 Conclusion

MECO expects to have an adequate amount of firm capacity for Maui island to meet all reasonably expected demands for service and provide reasonable reserves for emergencies for the period 2012 to 2018 under the June 2012 Peak Forecast. MECO anticipates needing additional firm capacity in the 2019 timeframe. MECO's activities, such as those related to an RFP and any parallel or contingency plans, will be based on that need date. MECO will give consideration to mitigation measures should future forecasts project higher than currently forecasted peak demand.

Very truly yours,

Sharon M. Suzuki
President

c: Division of Consumer Advocacy