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PUBLIC UTILITIES
COMMISSION

Edward L. Reinhardt
President

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

Dear Commissioners:

Subject: Adequacy of Supply
Maui Electric Company, Limited ("MECO")

In accordance with paragraph 5.3a of General Order No. 7, the following information is respectfully submitted.[1]

This Report will show that MECO has sufficient capacity to meet the forecasted loads on the islands of Maui, Lanai and Molokai. Although, at times, MECO may not have sufficient capacity on the Maui system to cover for the loss of the largest unit, MECO will implement appropriate mitigation measures to overcome the insufficient reserve capacity situation.

1.0 Maui Division

1.1 Peak Demand and System Capability in 2005

Maui's 2005 system peak occurred on August 8, 2005, and was 202,100 kW (net) or 206,500 kW (gross). The total system capability of Maui had a reserve margin of approximately 21% over the 2005 system peak, as shown in Attachment 1.

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[1] MECO's Adequacy of Supply ("AOS") Report is due within 30 days after the end of the year. On January 30, 2006, MECO requested an extension to no later than February 28, 2006, to file its Report to allow it to better assess and incorporate the impact of its most recent generation availability experience (for the calendar year 2005) on the Company's reserve capacity outlook for the 2006 – 2008 period to be covered by the 2006 AOS. On February 1, 2006, the Commission issued a letter granting MECO's request. Subsequently, MECO determined that its AOS will contain certain information which, if filed with the Commission on February 28, 2006 (in advance of the filing of Hawaiian Electric Industries, Inc./Hawaiian Electric Company, Inc.'s ["HEI/HECO"] Securities and Exchange Commission ["SEC"] Form 10K financial report), could trigger disclosure requirements under the rules and guidelines of the SEC and/or the New York Stock Exchange. HEI/HECO anticipated that it would file its Form 10K financial report on or about March 7, 2006, but no later than March 15, 2006. As a result, on February 28, 2006, MECO requested a further extension to no later than March 15, 2006 to file its 2006 AOS.

1.2 Maui Division Capacity Planning Criteria

The following capacity planning criterion is used to determine the timing of an additional generating unit for the Maui Division:

New generation will be added to prevent the violation of the rule listed below where "units" mean all units and firm capacity suppliers physically connected to the system, and "available unit" means an operable unit not on scheduled maintenance.

The sum of the reserve ratings of all units minus the reserve rating of the largest available unit minus the reserve ratings of any units on maintenance must be equal to or greater than the system peak load to be supplied.

In addition, consideration will be given to maintaining a reserve margin of approximately 20 percent based on Reserve Ratings.

1.3 Projected Peak Demand

MECO's 2005 system peak of 206.5 MW (gross) or 202.1 MW (net) occurred on August 8, 2005. The 2005 annual peak was 4.4 MW lower than the 2004 system recorded peak of 210.9 MW (gross) or 206.5 MW (net) set on October 11, 2004.

MECO's lower system peak in 2005 compared to 2004 is probably due to a combination of factors. Weather was a large contributor to the lower peak since 2005 was less humid than 2004 and slightly cooler, which may have resulted in lower air conditioning loads. There appears to be some anecdotal evidence that consumers are generally more conscious of the electricity consumption because of generally higher electricity prices in 2005, and they have had to make more careful choices among their purchases, particularly since higher gasoline and housing prices are constantly in the news. In conversations with customers, MECO is starting to hear about voluntary, non-DSM program conservation measures such as turning off air conditioning and lights in response to higher electricity prices. In addition to the impacts from weather and higher consumer prices in 2005, MECO lost two commercial customers (Kahului Shopping Center and Ooka's Supermarket) and several relatively large commercial customers underwent renovations which resulted in some of the system peak load decrease (e.g., Maui Marriott, and Wailea Marriott).

While the 2005 peak did not achieve the level of 2004's record peak, peaks are expected to continue growing during the forecast horizon with the robust local economy, and as new construction projects are completed and loads are added such as the expansion of Maui Memorial

Hospital, Maui Land and Pineapple Company's new cannery and multi-client complex, and several residential subdivisions in Central, South and West Maui.

The lower peak in 2005 appears to be an unusual occurrence, given that peaks have increased in every year within the period 1997 to 2004. As shown in Table 1 in Attachment 1, peak demand is forecast to continue to increase.

Recorded System Peak Demand

Year	Recorded System Peak, MW-Net
1997	170.9
1998	172.3
1999	176.3
2000	181.2
2001	187.0
2002	189.8
2003	197.7
2004	206.5
2005	202.1

1.4 MECO's Portfolio Approach to Capacity Planning

Capacity planning in Hawaii has increased in complexity in recent years because of the myriad of resources that may be available to meet consumer energy needs in an efficient and reliable manner at the lowest reasonable cost. Electric utilities must consider all feasible demand-side and supply-side resources in integrated resource planning under the Hawaii Public Utilities Commission's Integrated Resource Planning Framework.

In accordance with MECO's preferred plan developed in IRP-2 and its modified preferred plan developed in its IRP-2 evaluation reports prepared in 2004 and 2005, MECO will rely upon a portfolio of demand-side and supply-side resources to meet the growing demand for electricity. This portfolio will consist of energy efficiency and load management demand-side management resources, renewable resources, distributed generation resources, including combined heat and power, existing and future utility firm capacity generation, existing firm capacity non-utility generation, and potential firm capacity non-utility generation.

A portfolio approach to capacity planning is necessary because of the uncertainties associated with each type of resource. For example, the economic attractiveness of energy efficiency DSM measures is a function of actual fuel prices and tax credits, which are dependent

upon state legislation to extend the "sunset date", the date at which the tax credits will no longer be available. For load management DSM programs, there is uncertainty as to when regulatory approval will be received and the rate at which customers will choose to participate in the programs. The actual impacts of CHP will be dependent upon actual and projected fuel prices and actual customer acceptance of the technology. Central station generation, whether utility or non-utility, are subject to the uncertainties of the permitting process. Even renewable energy projects are subject to the uncertainty of community acceptance, as demonstrated by HECO's experience in attempting to implement a wind energy project above Kahe on Oahu. Therefore, by pursuing an array of demand-side and supply-side resources with a portfolio approach, some of the uncertainty can be mitigated because the successes of some resources can offset the lower productivity of other resources.

1.5 HC&S Power Purchase Agreement ("PPA")

MECO filed a letter with the Commission in Docket No. 6616 (Hawaiian Commercial & Sugar Company ["HC&S"]), on July 27, 2005, which informed the Commission that MECO and HC&S agreed on June 28, 2005 not to issue a notice of termination of the PPA resulting in termination of the PPA prior to the end of the day on December 31, 2011. This agreement was reached so that HC&S will have more certainty as to the future revenue sources supporting its sugar business, MECO will be able to rely on the continued availability of power from HC&S (a firm, non-fossil fuel power producer) beyond the end of 2007 in planning MECO's generating system and in meeting its Renewable Portfolio Standards, and both parties will have additional time in which to consider HC&S' future plans before negotiating a new, long-term PPA. For planning purposes, MECO assumes the HC&S PPA will expire at the end of 2011.

1.6 Maalaea Unit M18 Status

Maalaea Unit 18, a nominal 17,100 kW (net) steam turbine generator (Phase III of a nominal 58,700 kW (net) dual train combined-cycle unit), is scheduled to be placed in commercial operation in September 2006.[2] Construction on Maalaea 18 commenced in October 2005. All major equipment has been ordered and is being installed as it is delivered. Testing and start-up of Maalaea 18 is scheduled for August, with commercial operation in September 2006.

1.7 Kaheawa Wind Power ("KWP")

A proposed 30 MW independent power producer ("IPP") wind farm resource is projected to be added to the Maui system in the second quarter of 2006. MECO and KWP executed a PPA on December 3, 2004. MECO submitted an application to the Commission on December 16,

[2] Commission approval for the purchase and installation of Maalaea 18 was received in Decision & Order No. 13730, filed January 11, 1995, in Docket No. 7744.

2004, which among other things, requested approval of the PPA. On March 18, 2005, the Commission issued Decision & Order No. 21701, approving the PPA. Although the installation of this wind resource will provide the Maui system with up to 30 MW of additional energy production, the Maui system capability will not be affected because the wind resource is an as-available resource, which is not dispatchable and cannot provide given amounts of power at scheduled times.

1.8 Maalaea Unit 13 Unplanned Outage

On December 9, 2005, Maalaea Unit 13, a 12.34 MW (net) Mitsubishi diesel engine generator, suffered equipment failure causing extensive damage to the engine crankshaft, frame, and cylinder blocks. The current repair schedule estimates that it will take approximately seventeen months to manufacture the necessary parts, assemble and test the parts at the manufacturing plant, disassemble and ship the parts to Maui, and finally reassemble and test the parts at Maalaea. Consequently, MECO projects M13 will be unavailable for service to the electrical system until approximately June 2007.

The impact of the unavailable capacity from M13 is shown in Table 1 of Attachment 1 and in the system capability chart on page 1 of Attachment 2. Maui will experience a significant shortfall of reserve capacity during the period that M13 is unavailable and before M18 is placed into commercial operation in September 2006. MECO plans to implement one or more of the mitigation measures identified in Section 1.14 below during this period in order to mitigate the potential impact the reserve capacity shortfall may have on its system reliability.

1.9 Maui Distributed Generation and Combined Heat and Power ("CHP")

On October 10, 2003, MECO (along with HECO and HELCO, collectively, the "Companies") filed an application for approval of a proposed utility-owned Combined Heat and Power Program in Docket No. 03-0366. On March 2, 2004, by Order No. 20831, the Commission suspended the Companies' CHP Program application, indicating that its Distributed Generation ("DG") Investigative Docket No. 03-0371 was intended to "form the basis for rules and regulations deemed necessary to govern participation into Hawaii's electricity market through distributed generation." Final briefings for the DG Docket were completed in March 2005.

There is a significant degree of uncertainty in forecasting the CHP market, whether the forecast is for MECO-owned CHP projects or non-utility CHP projects. On a macro-scale, the economic viability of CHP is highly sensitive to fuel and electricity prices. The energy efficiency benefits of a CHP system may not translate to overall cost savings for a customer if the CHP fuel cost (for diesel fuel oil, propane or synthetic natural gas) is significantly higher than the cost of fuel used to generate grid electricity. Furthermore, prospective CHP projects are subject to

customer desire and support, which can be extremely variable. Also site-specific factors add uncertainty, as they may affect the feasibility of moving forward with a project even when the desire for CHP is strong.

In addition, MECO's proposals to implement utility-owned CHP projects were delayed by the suspension of the CHP program application pending resolution of the Commission's DG investigation. The 2005 AOS assumed that MECO's ability to install customer-sited CHP as a utility service would be delayed pending resolution of the Commission's DG investigation initiated in October 2003, but that such installations would commence in 2006.

On January 27, 2006, the Commission issued Decision and Order No. 22248 ("D&O 22248") in its DG Investigative Docket. D&O 22248 affirmed the ability of electric utilities to procure and operate DG for utility purposes at utility sites. The Commission also indicated its desire to promote the development of a competitive market for customer-sited DG. In weighing the general advantages and disadvantages of allowing a utility to provide DG services on a customer's site, the PUC found that the "disadvantages outweigh the advantages." However, the PUC also found that the utility "is the most informed potential provider for DG" and it would not be in the public interest to exclude the HECO Utilities from providing DG services at this early stage of DG market development. The D&O allows utilities to provide DG services on a customer-owned site as a regulated service when (1) the DG resolves a legitimate system need; (2) the DG is the least cost alternative to meet that need; and (3) it can be shown that in an open and competitive process acceptable to the PUC, the customer operator was unable to find another entity ready and able to supply the proposed DG service at a price and quality comparable to the utility's offering. D&O 22248 allows the Companies to pursue approval of a CHP program and/or projects, with approval subject to whether these three criteria can be met.

The D&O allows MECO to pursue its CHP Program application submitted in October 2003 in Docket No. 03-0366, but requires that the application be amended to provide facts relevant to the three conditions. As a practical matter, however, the conditions may limit the Companies' ability to provide CHP systems on a programmatic or regulated basis, depending on how the conditions are applied. On March 1, 2006, the electric utilities filed a Motion for Clarification and/or Partial Reconsideration requesting clarification as to how these conditions will be applied.

As a result of the change in the economic outlook for CHP projects on Maui, and uncertainties as to the ability of MECO to provide CHP projects on a regulated utility basis, the updated CHP forecast used for the 2006 AOS projects that the peak reduction impacts of both utility and non-utility CHP installations will be significantly lower than the impacts projected for the 2005 AOS.

D&O 22248 also directed the utility to establish new standards and procedures for DG interconnection, reliability, and safety. The utility must also establish new cost-based standby rates for customer-generators who want access to utility systems for standby services and backup power.

Depending on the outcome of the Companies' request for clarification and/or reconsideration in the DG Investigative Docket, and on other factors impacting the viability of CHP on Maui, MECO's ability to install CHP systems at customer sites may be limited.

Therefore, based on the above events and uncertainties, a revised 20 year forecast for CHP was developed that reflects that CHP will be more limited compared to previous forecasts. The forecasted impacts for the years 2006-2008, are shown in the table below. No new CHP systems were commissioned on Maui in 2005; however, approximately 0.4 MW of CHP was added to the Maui system in 2004. These forecasted impacts of the proposed CHP Program on future system peaks are also indicated in Attachment 1[3].

Year	Forecasted Impacts of Small CHP Market (MW Net)
2006	0.4
2007	1.4
2008	3.0

1.10 Maui Load Management DSM Program

In MECO's previous AOS, filed with the Commission on March 15, 2005, MECO assumed that their proposed load management DSM program applications would be filed in 2005, approved in 2006, with full-scale impacts realized in 2007. While MECO expects to file these program applications shortly for its residential and commercial and industrial direct load control programs (RDLC and CIDLC respectively), the current assumption is that approval will now occur in 2007, with full-scale impacts realized in 2008.

MECO's load control programs will be similar in design to HECO's programs. Although HECO's RDLC and CIDLC programs were approved in October 2004, HECO is considering proposing modifications in the first quarter of 2006 to both programs in order to allow for greater

[3] For purposes of this report, CHP systems are reflected in the System Peak numbers (based on the net equivalent capacity of the CHP system, taking into account the electrical capacity supplied to a customer, the reduction of the customer's electrical load through waste heat application for the system, and a reduction in line losses). The load reduction impacts of CHP systems and/or DG owned by third parties are also reflected in the System Peak numbers.

flexibility and garner increased participation. MECO decided it would be prudent to assess HECO's program successes and challenges before filing its own applications and will be incorporating the proposed modifications in its load management programs.

Year	Forecasted Impacts of Load Management DSM (MW Net)
2006	0.0
2007	0.0
2008	3.1

1.11 Potential Maui Load Service Capability Shortfalls and Reserve Margin Shortfalls

A Load Service Capability ("LSC") margin shortfall is an indication that there is a reserve margin shortfall. Reserve margin shortfall is defined as not having enough reserve margin from firm capacity resources on the system to cover for the loss of the largest unit (with a unit on planned maintenance). The calculation of reserve margin shortfalls does not take into account the availability of as-available resources, such as the Kaheawa Wind Farm that is scheduled to be in operation in the second quarter of 2006. Reserve margin shortfalls do not equate to rolling blackouts. Other factors must be considered when making an assessment of the possibility that available generation will be insufficient to serve the system load (i.e., that rolling blackouts will have to be implemented). These factors include the availability of non-firm resources (such as the wind farm), differences between actual and forecast peaks (which are impacted by factors such as weather), differences between monthly peaks, and normal weekday and weekend peaks, differences between actual and normal unit capabilities (due to such factors as temporary unit deratings, ambient conditions in the case of Maalaea Units 14, 16, 17 and 19, and the overall condition of the units), differences between actual and planned maintenance schedules (maintenance outages may be extended or shortened, depending on circumstances), and the risk of multiple unit outages.

For planning purposes, *projections* are used to forecast the timing of future resource additions. The following factors affect reserve margin projections:

- System Capability – Long-term projections of unit capabilities based on normal top load ratings are required in addition to the committed capacity of firm power producers with existing Power Purchase Agreements.

- Monthly Peak Forecast – The base load forecast is used.

- Planned Maintenance Schedule – MECO's normal maintenance scheduling practices are used. Maintenance scheduling is performed by the MECO Power Supply Department. Scheduling involves many different operational factors. Maintenance scheduling can be expected to be adjusted several times over the year due to changing operational factors. In the event planned capacity is delayed, rearranging maintenance schedules should be considered as a measure to mitigate the effects of delays in installing generation or acquiring the peak reduction benefits of energy efficiency DSM, load management DSM or CHP.

- Loss of Largest Unit – The basis for providing sufficient reserve margin to cover this unit while another unit is on planned maintenance.

1.11.1 LSC Shortfalls and RM Shortfalls for the 2006 - 2008 Timeframe

Load Service Capability shortfalls and Reserve Margin shortfalls for the years 2006 and 2007 are primarily the result of the extended M13 unplanned outage until approximately June 2007 and the period prior to the installation of Maalaea Unit 18 in September 2006. No LSC margin shortfalls or Reserve Margin shortfalls are expected to occur in 2008.

On Maui, in 2006, prior to the installation of M18, a nominal 17,100 kW (net) steam turbine generator, and without the benefit of M13's 12,340 kW for the entire year, and in 2007 without the benefit of M13 until June 2007, the Maui system could potentially experience LSC margin shortfalls, as shown in Attachment 2, pages 1 and 2, unless the mitigation measures identified Section 1.14 of this report are taken to lessen the impacts to the system. Reserve margin is the difference between system generating capability and peak demand. The term "load service capability" is a measure of MECO's ability to meet system load requirements, accounting for both planned maintenance and the loss of its largest unit. LSC margin shortfalls (which are indicated by values less than zero) are used as a planning tool to identify potential conditions of generating reserve capacity shortfalls and do not equate to either service interruptions or rolling blackouts. During periods when LSC margin values are less than zero, there is a possibility that a service interruption could occur if the largest unit is lost from service during the peak period.

In 2006, without mitigation measures, LSC margin shortfalls could occur in each month from now (March) through December with the exception of September, as shown in Attachment 2, page 1. In March and April, LSC margin shortfalls of 9.5 MW and 5.4 MW, respectively, could occur when Maalaea Unit 11 (approximately 12 MW) is taken out of service for planned maintenance. In May, a LSC margin shortfall of 5.2 MW could occur when Kahului Unit 4 (approximately 12 MW) is taken out of service for planned maintenance. In June, a LSC margin shortfall of 3.3 MW could occur when Maalaea Unit 15 (approximately 17 MW) is taken out of service for planned maintenance. In July and August, LSC margin shortfalls of 8.4 MW and 13.9 MW, respectively, could occur when Maalaea Unit 9 (approximately 5 MW) is taken out of service

for planned maintenance. In October, a LSC margin shortfall of 4.8 MW could occur when Kahului Unit 3 (approximately 12 MW) is taken out of service for planned maintenance. In November and December, LSC margin shortfalls of 1.8 MW and 3.7 MW, respectively, could occur when Maalaea Unit 10 (approximately 12 MW) is taken out of service for planned maintenance.

In 2007, without mitigation measures, LSC margin shortfalls could occur in January, and March before M13 is returned to service in approximately June, as shown in Attachment 2, page 2. In January, a LSC margin shortfall of 0.9 MW could occur during the period when HC&S is unavailable (12 MW) to deliver electrical power to the Maui grid during HC&S's annual maintenance outage period. In March, a LSC margin shortfall of 4.8 MW could occur when both Maalaea Unit 12 (approximately 12 MW) and Kahului 1 (approximately 6 MW) are taken out of service for planned maintenance.

1.12 Generation Shortfall

Generation shortfall is defined as not having sufficient capacity on the system to meet the expected load. Rolling blackouts may occur with generation shortfalls, but other factors need to be considered before any assessment of rolling blackouts can be made. Factors that affect whether or not there is adequate generation to meet the load are more complex than those that affect reserve margin shortfalls. These factors include the following:

- Actual vs. Forecasted Peak and Actual DSM Penetration – Actual or expected daily peaks are affected by factors such as time of year and weather variables such as rainfall, cloud cover, humidity and temperature. Actual DSM penetration is affected by many other factors; for example, whether or not a compact fluorescent light bulb in a home is actually on during the actual MECO system day peak. These factors are very difficult to quantify, let alone forecast.

- Condition and Reliability of Existing Units – Even with timely and prudent maintenance practices, all generating units are subject to forced outages. There is also a risk of multiple forced outages on a given day. Statistical or stochastic analysis may be appropriate for longer-term analyses; however, on a day-to-day basis, forecasting whether or not forced outages are likely to occur is very difficult to quantify.

Availability of Non-Dispatchable As-Available Resources – Resources in this category include run-of-river hydro units and wind turbines. A key characteristic of non-dispatchable as-available resources is their unpredictable variability. Because each of these resources depends either directly or indirectly on the weather, the amount of capacity they will provide at a given time cannot be quantified. As-available resources do provide a system

benefit (fuel savings) when they are able to provide energy; however, the amount they can provide at a given moment cannot be quantified

1.13 Reliability Issues

Based on the above discussion, quantifying the risk of rolling blackouts is difficult. Many factors cannot be quantified. A qualitative analysis can be performed, but in the end, only assessments can be made of what can and cannot be done.

MECO has sufficient capacity on its system to meet the forecasted load. MECO may not, at times, have sufficient capacity to cover for the loss of the largest unit. Several mitigation measures have been identified to mitigate the effects.

The implementation of mitigation measures does not provide the same level of reliability as a large increment of firm capacity. It is, however, a necessary alternative.

1.14 Mitigation Measures

MECO plans to mitigate potential LSC and Reserve Margin shortfalls in 2006 and 2007 through one or more of the mitigation measures identified below, depending on the particular circumstances. These mitigation measures are as follows:

1.14.1 Optimize Unit Overhaul Schedule:

MECO will optimize its unit overhaul schedule to minimize any LSC margin shortfall by matching a unit's outage with the available reserve capacity at that time.

1.14.2 Deviation from Standard Maintenance Practices

Combined-Cycle Unit Overhaul - MECO will modify its combined-cycle unit overhaul procedure to minimize the outage capacity for that unit. The exhaust bypass option of MECO's Maalaea DTCC No. 1 (units M14, M16, and M15) will be used to allow for the possible operation of the combustion turbine ("CT") (if needed) in simple-cycle mode while certain planned maintenance is being performed on the heat recovery steam generators and steam turbine generator (M15). While not the ideal outage method, this modified maintenance procedure will allow, if the situation warrants, the possible use of an additional 20 MW from the CT.

1.14.3 Hana Standby Generators

MECO's two, 1,000 kW standby diesel engine generators located at Hana Substation No. 41 will be considered in emergency conditions as a capacity source, if required.

1.14.4 Coordination with HC&S

MECO will coordinate closely with HC&S for the delivery of supplemental power, if needed, as described in the Purchase Power Agreement under Section II D.

1.14.5 Public Communications Campaign

MECO may request voluntary customer curtailment of demand during LSC margin shortfall conditions.

1.15 Sensitivity Analysis

There is uncertainty as to the future peak demands and the actual peak reduction benefits of energy efficiency DSM, load management DSM and CHP, especially over the longer term. Therefore, a sensitivity analysis was performed, covering the period up to 2011, when Waena Unit 1 is estimated to be installed. The sensitivity analysis is provided in Attachment 4.

2.0 Lanai Division

2.1 Peak Demand and System Capability in 2005 - 2008

Lanai's 2005 system peak occurred on December 27, 2005 and was 5,150 kW (gross). . Lanai had a 2005 reserve margin of approximately 102%. Attachment 1, Table 2, also shows the expected reserve margins over the next three years, based on the MECO 2005-2026 Sales and Peak Forecast dated July 21, 2005.

2.2 Lanai Division Capacity Planning Criteria

The following criterion is used to determine the timing of an additional generating unit for the Lanai Division and the Molokai Division:

New generation will be added to prevent the violation of any one of the rules listed below where "units" mean all units and firm capacity suppliers physically connected to the system, and "available unit" means an operable unit not on scheduled maintenance.

1. *The sum of the normal top load ratings of all units must be equal to or greater than the system peak load to be supplied.*

2. *With no unit on maintenance, the sum of the reserve ratings of all units minus the reserve rating of the largest available unit must be equal to or greater than the system peak to be supplied.*

3. *With a unit on maintenance:*

   a) *The sum of the reserve ratings of all units minus the reserve rating of the largest available unit must be equal to or greater than the daytime peak load to be supplied.*

   b) *The sum of the reserve ratings of all units must be equal to or greater than the evening peak load to be supplied.*

2.3 Lanai Combined Heat and Power Project

MECO is in final negotiations with Castle & Cooke Resorts for the installation of an 844 kW (net including electric chiller offset and auxiliary loads) CHP system at the Manele Bay Hotel in the later half of 2007. MECO's CHP development efforts with Castle & Cooke Resorts were initiated within the context of MECO's existing service contract ("Service Contract") with Castle & Cooke Resorts, filed with the Commission in Docket No. 03-0261. MECO has reviewed the Commission's ("D&O") No. 22248 in Docket No. 03-0371, issued on January 27, 2006, and is continuing to pursue this CHP project based on its interpretation of the D&O and the justifications to pursue CHP that were presented in Docket No. 03-0261. Upon execution of a CHP Agreement by MECO and Castle & Cooke Resorts, which is anticipated to occur sometime in the first quarter of 2006, MECO will file the Agreement for Commission approval in accordance with Rule 4 of its rules of service.

The Service Contract contemplated the addition of a CHP system at the Manele Bay Hotel, whether installed by MECO or a non-utility vendor, at a date closer to the projected need date for additional firm capacity on Lanai. The need date for additional firm capacity is projected to be September 2008, under the base planning scenario for Lanai. In this base planning scenario, the aggregate capacity of Miki Basin EMD units 1-6 will be reduced from 6,000 kW to 5,000 kW on December 31, 2006, because a condition assessment performed by an outside consultant indicated that it would be appropriate, for capacity planning purposes, to rely on less than their full rated capacity based on the ages and condition of the units. (See Attachment 1, Table 2, Note VI.) With the addition of the CHP system at Manele Bay in late 2007, MECO will be able to meet electric load requirements on Lanai, satisfy the energy cost savings objectives of its Service Contract with Castle & Cooke Resorts, and be able to meet a need for additional capacity in September 2008.

3.0 Molokai Division

3.1 Peak Demand and System Capability in 2005 - 2008

Molokai's 2005 system peak occurred on January 20, 2005 and was 6,350 kW (gross). Molokai had a 2005 reserve margin of approximately 89%. Attachment 1, Table 2, also shows the expected reserve margins over the next three years, based on the MECO 2005-2026 Sales and Peak Forecast dated July 21, 2005.

3.2 Molokai Division Capacity Planning Criteria

Molokai Division's capacity planning criteria are identical to those of the Lanai Division. See Section 2.2 above, Lanai Division Capacity Planning Criteria.

4.0 Conclusion

In consideration of the above, MECO has sufficient capacity to meet the forecasted loads on the islands of Maui, Lanai and Molokai for the next three years. Although, MECO may not, at times, have sufficient capacity on the Maui system to cover for the loss of the largest unit, MECO will implement appropriate mitigation measures to overcome the insufficient reserve capacity situation.

Very truly yours,

Edward L. Reinhardt

Attachments

cc: Division of Consumer Advocacy

Table 1
Maui Adequacy of Supply

	With Small CHP Market[I]				
		Without Future DSM (Includes Acquired DSM)[II]		With Future DSM (Includes Acquired DSM)[III]	
Year	System Capability at Annual Peak Load[IV] (kW) [A]	System Peak[V] (kW) [B]	Reserve Margin (%) [[A-B] / B]	System Peak[V] (kW) [C]	Reserve Margin (%) [[A-C] / C]
Maui Division (Net Generation)					
Recorded					
2005	245,200 [VI]	202,100 [VII]	21%	N/A	N/A
Future					
2006	249,900 [VIII]	214,000	17%	213,000	17.3%
2007	262,300 [IX]	219,500	19%	217,500	20.6%
2008	262,300	223,200	18%	217,200 [X]	20.8%
Maui Division (Gross Generation)[XI]					
Recorded					
2005	250,100	206,500 [VII]	21%	N/A	N/A
Future					
2006	255,600	218,600	17%	217,600	17.5%
2007	268,100	224,700	19%	222,700	20.4%
2008	268,100	228,500	17%	222,400 [X]	20.5%

Notes – Table 1:

(I) With Small CHP Market: Forecasted system peaks include reductions for both forecasted utility CHP system level impacts[4] and third-party CHP impacts. The CHP Program economic analysis prepared by MECO in Docket No. 03-0366 evaluated a Large CHP Market and a Small CHP Market. Given the uncertainties identified in Section 1.9 in the body of the report above, the Small CHP Market is used in this analysis.

(II) System Peaks (Without Future Peak Reduction Benefits of DSM Programs): Implementation of full-scale energy efficiency DSM programs began in the second half of 1996 following Commission approval of the programs. The forecasted system peak values for the years 2006-2008 include the actual peak reduction benefits acquired in

[4] CHP impacts are from a CHP forecast dated October 26, 2005. These impacts are at system level based on a T&D loss factor of 6.04%. For capacity planning analysis, an availability factor is also included to account for periods when the utility CHP is unavailable due to forced outage and maintenance.

1996-2004 and also include the estimated peak reduction benefits acquired in 2005, as well as peak reduction benefits of Rider M and T customer contracts, utility CHP impacts and third party CHP impacts.

(III) System Peaks (With Future Peak Reduction Benefits of DSM Programs).
The forecasted System Peaks for 2006-2008 include the peak reduction benefits of energy efficiency DSM programs (acquired and future) and peak reduction benefits of Rider M and T customer contracts, utility CHP impacts and third party CHP impacts.

(IV) The net reserve ratings of the units are used in the determination of the Maui system capability. In addition, the Maui Division system capability includes 16,000 kW (which includes 4,000 kW of system protection capacity) HC&S. When the system capability at the time of the system peak differs from the year-end system capability, an applicable note will indicate the year-end system capability.

(V) The 2006 - 2008 annual forecasted system peaks are based on MECO's January 2006 IRP-3 2005-2026 Sales and Peaks Forecast and includes reductions for both forecasted utility CHP system level impacts and third-party CHP impacts. The Maui annual forecasted system peak is expected to occur in the month of October.

(VI) Maalaea Unit 13, a Mitsubishi 12.34 MW (net) diesel engine generator, suffered equipment failure on December 9, 2005. MECO projects M13 will be unavailable for service to the system until approximately June 2007, while corrective maintenance measures are being performed to repair the unit. The year-end system capability was 232,860 kW.

(VII) The actual 2005 recorded system peak was 206,500 MW (gross) which is equivalent to 202,100 MW (net).

(VIII) As indicated in Note VI above, Maalaea Unit 13 is projected to be unavailable for service to the system during 2006.

A proposed 30 MW independent power producer (IPP) wind farm resource is projected to be added to the Maui system in the second quarter of 2006. MECO and Kaheawa Wind Power (KWP) executed a new purchase power agreement (PPA) on December 3, 2004. MECO submitted an Application on December 16, 2004 for approval of the PPA. On March 18, 2005, the Commission issued D&O No. 21701 approving the PPA. The installation of this wind resource will not affect the system capability, because the wind resource is an as available resource, which is not dispatchable and cannot provide given amounts of power at scheduled times.

Maalaea Unit 18, a nominal 17,100 kW (net) steam turbine generator (Phase III of a nominal 58,700 kW (net) dual train combined-cycle unit), is scheduled to be placed in service in September 2006.

(IX) Maalaea Unit 13, a12.34 MW (net) diesel engine generator, is projected to be available for service in approximately June 2007 and should be available during the 2007 annual system peak which is forecasted to occur in October.

MECO filed a letter with the Commission in Docket No. 6616 (HC&S), on July 27, 2005, which informed the Commission that MECO and HC&S agreed on June 28, 2005 not to issue a notice of termination of the PPA resulting in termination of the PPA prior to the end of the day on December 31, 2011[5].

(X) Includes a reduction in system peak load due to the implementation of planned Commercial and Industrial Direct Load Control (CIDLC) and Residential Direct Load Control (RDLC) Load Management DSM Programs developed in MECO's IRP-2 Report. Full-scale Load Management DSM Program benefits are forecasted to start in 2008.

(XI) The Maui Division Gross Generation data is provided here for comparative purposes.

[5] Previously, in a letter dated June 11, 2002, MECO and HC&S had agreed that neither company would give written notice of termination resulting in a termination of the PPA prior to the end of the day on December 31, 2007. MECO filed the June 11, 2002 letter with the Commission on June 27, 2002 in Docket No. 6616.

Table 2
Lanai and Molokai Adequacy of Supply

	With CHP[I]				
		Without Future DSM (Includes Acquired DSM)[II]		With Future DSM (Includes Acquired DSM)[III]	
Year	System Capability at Annual Peak Load[IV] (kW) [A]	System Peak[V] (kW) [B]	Reserve Margin (%) [[A-B] / B]	System Peak[V] (kW) [C]	Reserve Margin (%) [[A-C] / C]
Lanai Division (Gross Generation)					
Recorded					
2005	10,400	5,150	102%	N/A	N/A
Future					
2006	10,400	5,360	94%	N/A	N/A
2007	10,244 [VI]	5,660	81%	N/A	N/A
2008	10,244	5,750	78%	N/A	N/A
Molokai Division (Gross Generation)					
Recorded					
2005	12,010 [VII]	6,350	89%	N/A	N/A
Future					
2006	12,010	6,900	74%	N/A	N/A
2007	12,010	6,930	73%	N/A	N/A
2008	12,010	6,950	73%	N/A	N/A

Notes – Table 2:

(I) With CHP: For Lanai see Note VI below. No CHP is forecasted for the years 2006-2008 for Molokai.

(II) System Peaks (Without Future Peak Reduction Benefits of DSM Programs): Implementation of full-scale DSM programs began in the second half of 1996 following Commission approval of the programs. The forecasted system peak values for the years 2006-2008 include the actual peak reduction benefits acquired in 1996-2004 and also include the estimated peak reduction benefits acquired in 2005.

(III) System Peaks (With Future Peak Reduction Benefits of DSM Programs): Currently no future DSM impacts are forecasted for Lanai or Molokai.

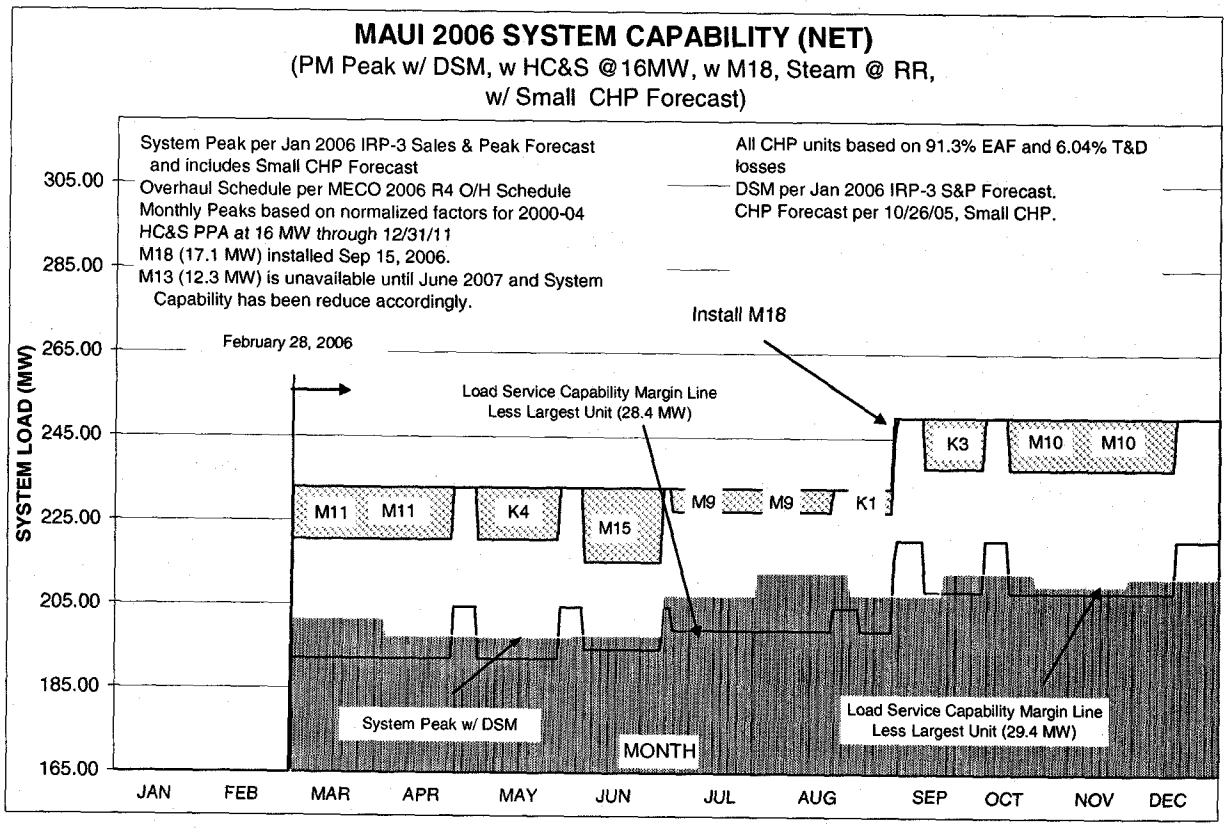
(IV) The gross reserve ratings of the units are used in the determination of the Lanai and Molokai system capabilities. All unit projected retirement dates are planned for December 31 of the designated year unless otherwise specified. When the system capability at the time of the system peak differs from the year-end system capability, an applicable note will indicate the year-end system capability.

(V) The 2006 - 2008 annual forecasted system peaks are based on MECO's 2005-2026 Sales and Peaks Forecast dated July 21, 2005. The Lanai and Molokai annual forecasted system peaks are expected to occur in the months of November and December, respectively.

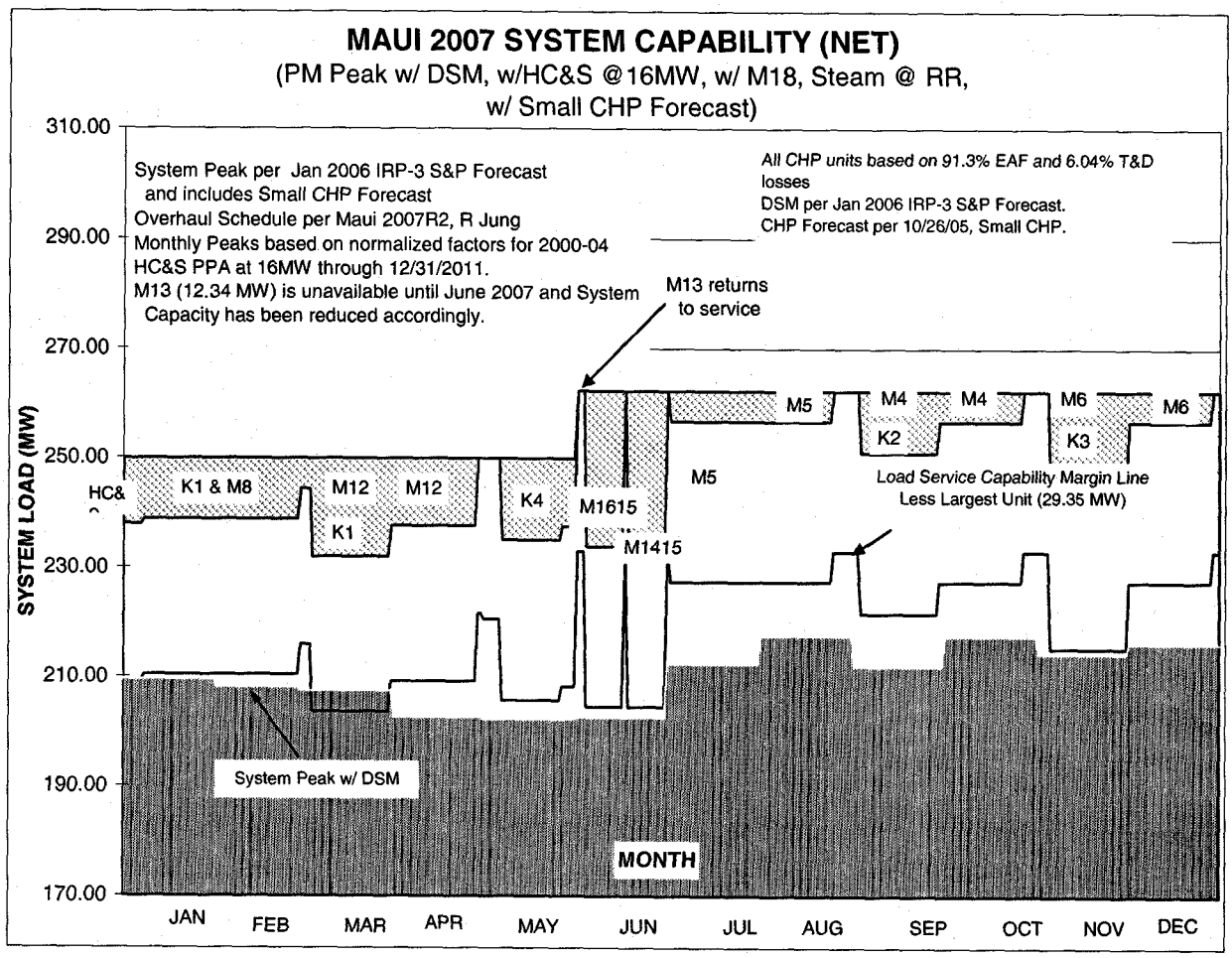
(VI) Miki Basin Units LL-1 to LL-6 (six,1,000 kW diesel engine-generator units totaling 6,000 kW) are assumed to be converted to peaking status at the end of 2006, and as such, can be relied on for 5,000 kW of capacity to the Lanai system at that time. In its March 15, 2005 MECO AOS Report, MECO assumed that the units, once converted to peaking status, would contribute only 4,000 kW. However, based on a technical evaluation of the six units that showed their condition to be more favorable, they can be relied on for 5,000 kW.

MECO is in final negotiations with Castle & Cooke Resorts for the installation of an 844 kW (net including electric chiller offset and auxiliary loads) CHP system at the Manele Bay Hotel in the later half of 2007. Refer to Section 2.3 for further details.

(VII) Palaau Units 1 and 2 (two 1,250 kW Caterpillar units), and Palaau Units 3, 4, 5 and 6 (four 970 kW Cummins units) operate in peaking service. Because of the age and operating history of these units, MECO includes one Caterpillar unit and two Cummins units (1,250 + 970 + 970 = 3,190 kW) towards firm capacity for the Molokai system.



Month (1)	System Peak w/ DSM w/ Riders w/ 3rd Party CHP (MW) (2)	System Cap w/ Utility CHP (MW) (3)	Maint (MW) (4)	Reserve (MW) (5)=(3)-(4)-(2)	% Reserve (Less Maint) (5) / (2)	Lrgst Avail (MW) (7)	LSC Diff (MW) (8) = (5) - (7)	LSC Diff + LM (impact) (MW) (8) +0 MW
JAN								
FEB								
MAR	201.6	232.8	12.3	18.9	9%	28.4	-9.5	-9.5
APR	197.5	232.8	12.3	23.0	12%	28.4	-5.4	-5.4
MAY	197.2	232.8	12.4	23.2	12%	28.4	-5.2	-5.2
JUN	197.7	232.8	17.6	17.5	9%	20.8	-3.3	-3.3
JUL	207.3	232.8	5.5	20.0	10%	28.4	-8.4	-8.4
AUG	212.9	232.8	5.5	14.5	7%	28.4	-13.9	-13.9
SEP	207.6	249.9	12.2	30.2	15%	29.4	0.8	0.8
OCT	213.0	249.9	12.3	24.6	12%	29.4	-4.8	-4.8
NOV	210.0	249.9	12.3	27.5	13%	29.4	-1.8	-1.8
DEC	211.9	249.9	12.3	25.7	12%	29.4	-3.7	-3.7



Month (1)	System Peak w/ DSM w/ Riders w/ 3rd Party CHP (MW) (2)	System Cap w/ Utility CHP (MW) (3)	Maint (MW) (4)	Reserve (MW) (5)=(3)-(4)-(2)	% Reserve (Less Maint) (5) / (2)	Lrgst Avail (MW) (7)	LSC Diff (MW) (8) = (5) - (7)	LSC Diff + LM (impact) (MW) (8) + 0 MW
JAN	209.5	249.9	12.0	28.4	14%	29.35	-0.9	-0.9
FEB	208.1	249.9	11.1	30.8	15%	29.35	1.4	1.4
MAR	207.4	249.9	18.0	24.5	12%	29.35	-4.8	-4.8
APR	202.6	249.9	12.3	35.0	17%	29.35	5.6	5.6
MAY	202.3	249.9	14.9	32.8	16%	29.35	3.4	3.4
JUN	202.6	262.3	28.4	31.3	15%	29.35	1.9	1.9
JUL	212.5	262.3	5.5	44.3	21%	29.35	14.9	14.9
AUG	217.6	262.3	5.5	39.2	18%	29.35	9.8	9.8
SEP	212.1	262.3	11.3	38.9	18%	29.35	9.6	9.6
OCT	217.5	262.3	5.5	39.2	18%	29.35	9.9	9.9
NOV	214.4	262.3	17.7	30.2	14%	29.35	0.9	0.9
DEC	216.2	262.3	5.5	40.6	19%	29.35	11.2	11.2

Maui Unit Ratings

As of March 6, 2006

Units	Gross (MW)		Net (MW)	
	Reserve	NTL[(I)]	Reserve	NTL[(I)]
M1	2.50	2.50	2.50	2.50
M2	2.50	2.50	2.50	2.50
M3	2.50	2.50	2.50	2.50
X1	2.50	2.50	2.50	2.50
X2	2.50	2.50	2.50	2.50
M4	5.60	5.60	5.51	5.51
M5	5.60	5.60	5.51	5.51
M6	5.60	5.60	5.51	5.51
M7	5.60	5.60	5.51	5.51
M8	5.60	5.60	5.48	5.48
M9	5.60	5.60	5.48	5.48
M10	12.50	12.50	12.34	12.34
M11	12.50	12.50	12.34	12.34
M12	12.50	12.50	12.34	12.34
M13[(II)]	0.00	0.00	0.00	0.00
M14/15/16	58.00	58.00	56.78	56.78
M17	21.20	21.20	20.80	20.80
M19	21.20	21.20	20.80	20.80
Maalaea GS	184.00	184.00	180.90	180.90
K1	5.90	5.00	5.62	4.71
K2	6.00	5.00	5.77	4.76
K3	12.70	11.50	12.15	10.98
K4	13.00	12.50	12.38	11.88
Kahului GS	37.60	34.00	35.92	32.33
HC&S[(III)]	16.00	12.00	16.00	12.00
Maui System	237.60	230.00	232.82	225.23
Hana 1[(IV)]	1.00	1.00	1.00	1.00
Hana 2[(IV)]	1.00	1.00	1.00	1.00

Notes:

(I) NTL = Normal Top Load

(II) Maalaea Unit 13, a Mitsubishi 12.34 MW (net) diesel engine generator, suffered a catastrophic equipment failure on December 9, 2005. MECO projects that M13 will be unavailable for service to the system until approximately June 2007, while corrective measures are being accomplished to restore the unit.

(III) All values for HC&S are net to the system. The reserve ratings include an additional 4.0 MWs of system protection capacity.

(IV) Unit located at Hana Substation No. 41. Unit is operated in standby mode, and therefore, not counted toward system capability. Unit used primarily to provide electrical power to the Hana community during planned maintenance or unplanned power outages of the transmission line that services Hana.

Lanai Unit Ratings

As of March 6, 2006

Units	Gross (kW)	
	Reserve	NTL(I)
LL-1	1,000	1,000
LL-2	1,000	1,000
LL-3	1,000	1,000
LL-4	1,000	1,000
LL-5	1,000	1,000
LL-6	1,000	1,000
LL-7	2,200	2,200
LL-8	2,200	2,200
Miki Basin GS	10,400	10,400

Molokai Unit Ratings

As of March 6, 2006

Units	Gross (kW)	
	Reserve	NTL(I)
P-1(V)	1,250	1,250
P-2(V)	1,250	1,250
P-3(V)	970	970
P-4(V)	970	970
P-5(V)	970	970
P-6(V)	970	970
Solar CT	2,220	2,220
P-7	2,200	2,200
P-8	2,200	2,200
P-9	2,200	2,200
Palaau GS	12,010	12,010

(V) Palaau Units 1 and 2 (two 1,250 kW Caterpillar units), and Palaau Units 3, 4, 5 and 6 (four 970 kW Cummins units) operate in peaking service. Because of the age and operating history of these units, MECO includes one Caterpillar unit and two Cummins units (1,250 + 970 + 970 = 3,190 kW) towards firm capacity for the Molokai system.

SENSITIVITY ANALYSIS

There is uncertainty as to the future peak demands and the actual peak reduction benefits of energy efficiency DSM, load management DSM and CHP, especially over the longer term. Therefore, a sensitivity analysis was performed, covering the period up to 2011, when Waena Unit 1 is estimated to be installed.

In this sensitivity analysis, a higher peak demand was considered. The higher peak demand could be the result of intrinsic load growth that is higher than projected in the sales and peak forecast or lower than forecast peak reduction benefits of energy efficiency DSM, load management DSM and CHP[6] or some combination thereof. The result is a higher net load that must be served by central station generation.

A comparison of the peak demand forecasts for the base and sensitivity scenarios is shown in the following table.

Year	Forecasted System Peak, MW (net) Base	Forecasted System Peak, MW (net) Sensitivity
2006	213.0	213.0
2007	217.6	217.6
2008	217.4	218.9
2009	219.5	221.7
2010	222.3	225.5
2011	226.1	229.8

The impact of this higher load sensitivity on potential reserve capacity shortfalls is described in Section 4.0 below. As expected, potential reserve capacity shortfalls are amplified under the higher load sensitivity.

Over the coming year, MECO will continue to monitor demand growth and the progress of its energy efficiency DSM program, submit an application to the Commission for approval to implement its load management DSM programs, and continue to evaluate the CHP market. MECO will provide an updated assessment of its capacity situation in its next Adequacy of Supply filing early next year.

1.0 MECO Integrated Resource Planning

MECO submitted its second major Integrated Resource Plan evaluation ("IRP-2") on May 31, 2000. On April 30, 2004, MECO submitted its first IRP-2 Evaluation Report, and on April 29, 2005, MECO submitted its second IRP-2 Evaluation Report ("April 2005 Evaluation Report").

[6] For the purpose of this analysis, CHP impacts are considered an offset to peak demand.

In its April 2005 Evaluation Report, MECO's modified preferred plan indicated that an increment of firm capacity would need to be installed in 2009 to satisfy its capacity planning criteria. This was based on an assumption that the HC&S PPA would expire at the end of 2007, as well as on other then-current forecasts for peak demand, energy efficiency DSM impacts, load management DSM impacts and CHP impacts. Integration analyses performed as part of the integrated resource planning process (major and annual evaluations) indicated that an LM2500 simple cycle combustion turbine would be the preferred supply-side resources to provide the additional increment of firm capacity.

MECO initiated its third major Integrated Resource Plan evaluation ("IRP-3") in January 2005. As noted in Section 1.5 (HC&S Power Purchase Agreement), MECO and HC&S agreed on June 28, 2005 not to issue a notice of termination of the PPA resulting in termination of the PPA prior to the end of the day on December 31, 2011. With this extension of the PPA, the need date for new firm capacity was deferred from 2009 to 2011 based on forecasts for peak demand, energy efficiency DSM impacts, load management DSM impacts and CHP impacts in effect at that time.

The "integration phase" of IRP-3 began in earnest only recently because new assumptions needed to be established before the integration analyses could proceed. In particular, a new CHP impact forecast needed to be developed. (See Section 1.9 – Maui Distributed Generation and Combined Heat and Power.) The updated assumptions being used to prepare this Adequacy of Supply Report will be utilized in the IRP-3 effort.

2.0 Status of Waena Unit 1

Consistent with the conclusions of MECO's IRP-2 process, MECO is currently pursuing the installation of a simple cycle combustion turbine at the Waena Generating Station. The property designated for the future Waena Generating Station is located in central Maui and was purchased by MECO from Alexander & Baldwin on November 26, 1996. On July 7, 2000, the Maui County Council approved MECO's Change in Zoning application (to change the zoning from Agricultural to Heavy Industrial) for the Waena Generating Station and the bill was subsequently approved by the Mayor on July 13, 2000.

As noted above (MECO Integrated Resource Planning), MECO's April 2005 Evaluation Report indicated that additional firm capacity would be needed in 2009, and that need for capacity would best be met by installing a simple cycle combustion turbine.

Because of the long lead time needed to install a new generating unit, air permitting activities were initiated in 2000 in order to be able to meet a commercial operation date in 2009. (Air permitting activities are the first critical path components in the schedule to install a generating unit.) A Prevention of Significant Deterioration/Covered Source ("PSD/CS") permit application (i.e., air permit application), was submitted to the State of Hawaii Department of Health ("DOH") on December 5, 2002.

As noted in Section 1.5 (HC&S Power Purchase Agreement), MECO and HC&S agreed on June 28, 2005 not to issue a notice of termination of the PPA resulting in termination of the PPA

prior to the end of the day on December 31, 2011. With this extension of the PPA, the need date for new firm capacity was deferred from 2009 to 2011, based on forecasts for peak demand, energy efficiency DSM impacts, load management DSM impacts and CHP impacts in effect at that time.

DOH requested that MECO resubmit its air permit application with updates included in the Maalaea 18 PSD/CS permit, which was approved on September 8, 2004. In compliance with this request, MECO resubmitted its air permit application in December 2005. On January 30, 2006, the DOH declared MECO's air permit application "complete," meaning that all information needed by DOH to review the application was contained within the application.

Although the analyses provided in Sections 3.0 and 4.0 below indicate that there may be reserve capacity shortfalls prior to 2011 when Waena Unit 1 is currently expected to be installed, MECO does not plan to accelerate the installation of the unit at this time. This is because (1) there appear to be more cost-effective means to address the reserve capacity shortfall and (2) there is considerable uncertainty as to whether or not installation of the unit can be accelerated because the permitting time, which comprises the lengthiest part of the schedule, is beyond the control of MECO.

3.0 LSC Shortfalls and RM Shortfalls for the 2009 to 2011 Timeframe (Base Case)

On Maui, in the 2009 to 2011 time period, prior to the installation of Maui's next firm capacity resource (currently projected to occur in November 2011), the Maui system could potentially experience load service capability (LSC) margin reserve margin shortfalls, unless the mitigation measures identified later in this report are taken to lessen the impacts to the system.

In 2009, without mitigation measures, small LSC margin shortfalls of 0.9 MW and 0.2 MW, respectively, could occur in May and June during the periods when one-half of the dual train combined cycles (approximately 28 MW) are taken out of service for planned maintenance. In addition, the Reserve Margin for 2009 drops below the 20 percent planning guideline to 19.7% percent (approximately equal to being short 1.2 MW).

In 2010, without mitigation measures, LSC margin shortfalls could occur in January, May, June, and August. The largest of the LSC margin shortfalls occur in May and June during the periods when one-half of the dual train combined cycle units (approximately 28 MW) are taken out of service for planned maintenance. The potential LSC margin shortfalls in May and June are -2.9 and -2.0 MW, respectively. Also, the Reserve Margin for 2010 drops below the 20 percent planning guideline to 18.3 percent (approximately equal to being short 4.6 MW).

In 2011, without mitigation measures, LSC margin shortfalls could occur in January, May, June, August, November, and December. The largest of the LSC margin shortfalls occur in May and June during the periods when one-half of the dual train combined cycles (approximately 28 MW) are taken out of service for planned maintenance. The potential LSC margin shortfalls in May and June are -6.4 and -5.5 MW, respectively. Also, the Reserve Margin for 2011 drops below the 20 percent planning guideline to 16.4 percent (approximately equal to being short 9.1 MW).

A summary of the Base Case results is shown in the following table.

Base Case			
Year	Rule 1 LSC Shortfall (MW)	Reserve Margin Shortfall (%)	(MW)
2008	None		
2009	-0.9	19.47	-1.2
2010	-2.9	17.96	-4.6
2011	-6.4	16.01	-9.1

4.0 Sensitivity Analysis – Higher than Expected Load Scenario

As indicated previously, planning uncertainty exists about the timing and magnitude of the combined peak reduction benefits from MECO's proposed CHP Program (and/or individual CHP agreements), the proposed load management DSM programs, and energy efficiency DSM programs. Therefore, a Higher than Expected Load Scenario was analyzed where the impacts are assumed lower than currently estimated for the 2009 – 2011 timeframe. This scenario is also useful in examining the consequences of intrinsic load growth that is higher than that the projected sales and peak forecast.

A summary of the sensitivity analysis results is shown in the following table.

Higher Load Scenario			
Year	Rule 1 LSC Shortfall (MW)	Reserve Margin Shortfall (%)	(MW)
2008	None	19.81	-0.5
2009	-3.1	18.28	-3.8
2010	-6.1	16.29	-8.4
2011	-10.1	14.14	-13.5

5.0 Mitigation Measures

MECO plans to mitigate potential LSC and Reserve Margin shortfalls in 2008 - 2011 timeframe through both the mitigation measures mention earlier in Section 1.13 of the Report, and the following additional mitigation measures:

5.1 More Aggressive DSM Measures

MECO would consider requesting Commission approval of modifications to its existing commercial and industrial energy efficiency DSM programs and approval of a new interim residential efficient lighting DSM program. These changes would be similar to HECO's request to the Commission filed on December 5, 2005 for approval of "Interim DSM Proposals" in its Energy Efficiency Docket No. 05-0069.

The MECO proposals would include: 1) increasing the customer incentives for prescriptive measures for the existing Commercial and Industrial Energy Efficiency ("CIEE"), Docket No. 95-0140 and Commercial and Industrial New Construction ("CINC") , Docket No.95-0141, Programs; 2) eliminating the 2-year payback minimum requirement for energy efficiency projects evaluated under the Commercial and Industrial Customized Rebate ("CICR") Program, Docket No. 95-0142; and 3) distributing compact fluorescent lamps ("CFLs") to residential customers through a new interim DSM program. These proposals would be expected to provide MECO with additional peak demand savings.

5.2 Expand Peak-Shifting Strategies

While actual generation shortfall incidents are not restricted to peak load conditions, reducing the system peak by shifting a portion of the load will generally improve system reliability, everything else being equal. MECO currently offers three optional rate riders (Rider M, Rider T, and Schedule U) to commercial demand service customers who can reduce their bills by shifting load out of priority peak and on-peak hours. There are 40 customers currently served under these rate riders on Maui. In addition, depending on the success of HECO's Residential Time-of-Use Pilot Program, MECO may consider offering a similar pilot program.

5.3 Installation of Distributed Generators at MECO Sub-Stations

MECO performed a review in 2000 - 2001 of all Maui substation sites for its potential to have DG units installed at the site. This review looked at various criteria, including but not limited to, proximity to a community, land ownership, required land space, proximity to infrastructure, etc. The review identified one preferred site suitable for DG installation. Moving forward, MECO may review the previous study and reevaluate the other finalist substation sites again for its feasibility to install DG.

Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

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February 28, 2006

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2006 FEB 28 P 4:02
PUBLIC UTILITIES COMMISSION

Edward L. Reinhardt
President

The Honorable Chairman 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
Adequacy of Supply – Request for Extension

Maui Electric Company, Limited ("MECO" or "Company") respectfully requests the Commission to extend the filing date of its 2006 Adequacy of Supply Report ("AOS") from February 28, 2006 to no later than March 15, 2006.[1]

On January 30, 2006, MECO requested an extension to no later than February 28, 2006 to file its AOS to allow it to better assess and incorporate the impact of its most recent generation availability experience (for the calendar year 2005) on the Company's reserve capacity outlook for the 2006–2008 period to be covered by the 2006 AOS. On February 1, 2006, the Commission issued a letter granting MECO's request. Since then, MECO has determined that its AOS will contain certain information which, if filed with the Commission on February 28, 2006 (in advance of the filing of Hawaiian Electric Industries, Inc./Hawaiian Electric Company, Inc.'s ("HEI/HECO") Securities and Exchange Commission ("SEC") Form 10K financial report), could trigger disclosure requirements under the rules and guidelines of the SEC and/or the New York Stock Exchange. HEI/HECO anticipates that it will file its Form 10K financial report on or about March 7, 2006, but no later than March 15, 2006. Thus, MECO respectfully requests an extension to no later than March 15, 2006 to file its 2006 AOS.

The Consumer Advocate does not object to this request.

MECO sincerely apologizes for any inconvenience to the Commission or its staff caused by this request.

Very truly yours,

Edward L. Reinhardt

cc: Division of Consumer Advocacy

[1] MECO filed its 2005 AOS on March 10, 2005.

Maui Electric Company, Ltd. • West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461

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January 30, 2006

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2006 JAN 30 P 4:07
PUBLIC UTILITIES COMMISSION

Edward L. Reinhardt
President

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

Dear Commissioners:

Subject: Adequacy of Supply
Maui Electric Company, Limited

In accordance with paragraph 5.3a of General Order No. 7, MECO's Adequacy of Supply Report ("AOS") is due within 30 days after the end of the year. MECO respectfully requests an extension to no later than February 28, 2006 to submit its report.[1]

In general, the AOS assesses the adequacy of central station generation (including firm purchased power from independent power producers, or "IPPs") to serve forecasted loads, as those loads are reduced due to the projected impacts of energy efficiency demand-side management ("DSM") programs, load management programs, and customer-sited combined heat and power systems ("CHP"), during the next three years.

Extension of the filing date for the 2006 report will allow MECO to better assess and incorporate the impact of its most recent generation availability experience (for the calendar year 2005) on the Company's reserve capacity outlook for the 2006 – 2008 period to be covered by the 2006 AOS.[2]

The Consumer Advocate does not object to this request.

Very truly yours,

Edward L. Reinhardt

cc: Division of Consumer Advocacy

[1] MECO filed its 2005 AOS on March 10, 2005.
[2] This assessment will include the impact of the repair required on the 12.5 MW Maalaea Unit M13, which experienced an unplanned outage in December 2005.