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February 3, 2006

Warren H. W. Lee, P.E.
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
Hawaii Electric Light Company, Inc.

2006 FEB - 3 P 4: 23
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In accordance with paragraph 5.3a of General Order No. 7, the following information is respectfully submitted.

HELCO's 2005 total system capability was 271,900 kW net (276,300 kW gross) and included firm capacity power purchases of 30,000 kW from Puna Geothermal Venture ("PGV")¹ and 60,000 kW from Hamakua Energy Partners, L.P. ("HEP"). HELCO's system peak of 197,000 kW net (201,300 kW gross) occurred on December 19, 2005, at approximately 6:33 p.m. The 2005 reserve margin was 38.0% over the system peak.

Load Management/DSM

At the time of the system peak, HELCO had in place 27 load management contracts totaling 6,486 kW under Rider M and Schedule U, which reduced the evening peak by approximately 6,000 kW. In addition, HELCO has had residential and commercial & industrial demand side management ("DSM") programs in place since 1996, which reduced the system peak by an estimated 7,160 net kW (net of free riders). Without the load management and DSM impacts, the system peak would have been approximately 210,160 kW net, with a 29.4% reserve margin.

¹ PGV's normal rating is 30,000 kW and it generally exported to HELCO between 25,000 kW and 30,000 kW in 2005. In 2005, PGV drilled a new production well and a new injection well. As a result, PGV can export 30,000 kW to HELCO with all wells in service and all ten of the Ormat Energy Converters (OEC) in service.

CHP

On October 10, 2003, HELCO (along with HECO and MECO, collectively, the "Companies") filed a PUC Application for approval of a proposed utility-owned Combined Heat and Power ("CHP") 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 is intended to "form the basis for rules and regulations deemed necessary to govern participation into Hawaii's electricity market through distributed generation."

On January 21, 2005, the Commission issued Order No. 21554 in Docket No. 04-0366, suspending HELCO's application requesting approval of a combined heat and power agreement with Koa Hotel, LLC until resolution of Docket No. 03-0371.

On January 27, 2006, the Commission issued Decision and Order ("D&O") No. 22248 in the DG Docket. The D&O stated on page 47, Item 7, "The HECO Utilities shall be allowed to pursue their CHP application in Docket No. 03-0366 and HELCO shall be allowed to pursue its CHP application in Docket No. 04-0366. The HECO Utilities and HELCO, respectively, shall amend their applications to provide facts relevant to ordering paragraph number 2 above."

Because HELCO prepared the reserve margin analysis summarized in the attached Table 1 prior to receipt of D&O No. 22248, it does not reflect the impact of that order. The CHP projection in this report assumes that no utility CHP would be installed in 2006 and that the earliest that utility CHP would be installed would be in 2007. The impacts of the proposed CHP Program on future system peaks are indicated in Attachment 1.²

HELCO is in the process of reviewing D&O No. 22248 and is assessing the impacts to HELCO's CHP forecast. The Company may supplement this report if the impacts are material.

Reserve Margins

Attachment 1 shows the expected reserve margin over the next three years, based on HELCO's 2005-2010 Sales and Peak Forecast, dated June 1, 2005, HELCO's latest estimate of forecasted DSM impacts, and HELCO latest estimate of forecasted CHP impacts. (Attachment 1 also shows the estimated reserve margins without future DSM.) Attachment 2

² For purposes of this report, utility-owned 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.



The Honorable Chairman and Members of the
Hawaii Public Utilities Commission
February 3, 2006
Page 3

details the gross and net ratings of HELCO units and IPP units.

The following capacity planning criteria is used to determine the need for additional generation:

The sum of the reserve ratings of all available 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 supplied³.

HELCO's generation capacity for the Big Island for the next three years is sufficiently large to meet all reasonably expected demands for service and provide reasonable reserves for emergencies.

Very truly yours,



Attachments

cc: Division of Consumer Advocacy

³ HELCO is evaluating whether and to what extent reserve margins higher than those produced by application of the capacity planning criteria should be targeted based on factors (such as unit availabilities) not explicitly considered by the criteria.



Table 1
Adequacy of Supply

With Utility CHP (Includes 3 rd Party CHP) ^(I)						
		Without Future DSM (Includes Acquired DSM) ^(II)		With Future DSM (Includes Acquired DSM) ^(III)		
Year	System Capability at Annual Peak Load (net kW) [A]	Notes	System Peak (net kW) [B] ^(IV)	Reserve Margin (%) $[[A-B]/B]$ ^(IX)	System Peak (net kW) [C] ^(IV)	Reserve Margin (%) $[[A-C]/C]$ ^(IX)
<i>Recorded</i>						
2005	271,900	(V)	197,000	38.0%	N/A	N/A
<i>Future</i>						
2006	271,900	(VI)	206,600	31.6%	205,200	32.5%
2007	271,900	(VII)	212,200	28.1%	209,400	29.8%
2008	271,900	(VIII)	214,900	26.5%	210,200	29.3%

Notes:

- (I) With Utility CHP:
- Forecasted system peaks include reduction for forecasted system level utility and third party CHP impacts.¹
- (II) System Peaks (Without Future Peak Reduction Benefits of DSM Programs):
- Implementation of full-scale DSM programs began in the first quarter 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 the estimated peak reduction benefits acquired in 2005, as well as the benefits of the Rider M and Schedule U contracts, utility CHP (where applicable), and third party CHP impacts.

¹ Utility CHP impacts are from a CHP forecast dated February 7, 2005. These impacts are included in the system peak. The impacts are at system level based on a loss factor of 8.39% and include an availability factor to account for periods when the utility CHP is unavailable due to forced outage and maintenance. On January 27, 2006, the Commission issued D&O No. 22248 in the DG Docket No. 03-0371. HELCO is in the process of reviewing the D&O and is assessing the impacts to HELCO's CHP forecast.

- (III) System Peaks (With Future Peak Reduction Benefits of DSM Programs):
- The forecasted system peaks for 2006-2008 include the peak reduction benefits of the DSM programs (acquired and future) and the Rider M and Schedule U contracts, utility CHP (where applicable), and third party CHP impacts.
- (IV) The 2006-2008 annual forecasted system peaks are based on
- HELCO's 2005-2010 Sales and Peak Forecast, dated June 1, 2005. The HELCO annual forecasted system peak is expected to occur in the month of December.
- (V) System Capability for 2005 includes:
- HELCO units at a total of 181,900 kW net (186,300 kW gross).
 - Firm power purchase contracts with a combined net total of 90,000 kW from PGV (30,000 kW)² and HEP (60,000 kW).
- (VI) System Capability for 2006 includes
- HELCO units at a total of 181,900 kW net (186,300 kW gross).
 - Firm power purchase contracts with a combined net total of 90,000 kW from PGV (30,000 kW) and HEP (60,000 kW).
- (VII) System Capability for 2007 includes:
- HELCO units at a total of 181,900 kW net (186,300 kW gross).
 - Firm power purchase contracts with a combined net total of 90,000 kW from PGV (30,000 kW) and HEP (60,000 kW).
- (VIII) System Capability for 2008 includes:
- HELCO units at a total of 181,900 kW net (186,300 kW gross).
 - Firm power purchase contracts with a combined net total of 90,000 kW from PGV (30,000 kW) and HEP (60,000 kW).
- (IX) Reserve Margin
- The reserve margins shown for 2006-2008 assume that HEP and PGV are at full ratings.

² PGV's normal rating is 30,000 kW and it generally exported to HELCO between 25,000 kW and 30,000 kW in 2005. In 2005, PGV drilled a new production well and a new injection well. These activities allowed PGV to return to 30,000 kW by the end of 2005 and it exported 30,000 kW during the system peak.

**HELCO Adequacy of Supply
2005 Unit Ratings (Firm Capacity at Actual System Peak in December 2005)**

Unit	(Gross MW)		(Net MW)	
	Reserve Rating (MW)	NTL Rating (MW)	Reserve Rating (MW)	NTL Rating (MW)
Shipman 3	7.50 (I)	7.50 (I)	7.10 (I)	7.10 (I)
Shipman 4	7.70 (I)	7.70 (I)	7.30 (I)	7.30 (I)
Hill 5	14.10	14.10	13.50	13.50
Hill 6	21.40	21.40	20.20	20.20
Puna	15.50	15.50	14.10	14.10
Kanoelehua D11	2.00	2.00	2.00	2.00
Waimea D12	2.75	2.50	2.75	2.50
Waimea D13	2.75	2.50	2.75	2.50
Waimea D14	2.75	2.50	2.75	2.50
Kanoelehua D15	2.75	2.50	2.75	2.50
Kanoelehua D16	2.75	2.50	2.75	2.50
Kanoelehua D17	2.75	2.50	2.75	2.50
Keahole D21	2.75	2.50	2.75	2.50
Keahole D22	2.75	2.50	2.75	2.50
Keahole D23	2.75	2.50	2.75	2.50
Kanoelehua CT1	11.50	11.50	11.50	11.50
Keahole CT2	13.00	13.00	13.00	13.00
Puna CT3	20.80	20.80	20.40	20.40
Keahole CT-4	22	22	22	22
Keahole CT-5	22	22	22	22
Panaewa D24	1.00	1.00	1.00	1.00
Ouli D25	1.00	1.00	1.00	1.00
Punaluu D26	1.00	1.00	1.00	1.00
Kapua D27	1.00	1.00	1.00	1.00
HELCO Total	186.25	184.00	181.85	179.60
PGV	30.00 (II)	30.00 (II)	30.00 (II)	30.00 (II)
HEP	60.00	60.00	60.00	60.00
IPP Total	90.00	90.00	90.00	90.00
System Total	276.25	274.40	271.85	269.60

Notes:

- (I) HELCO is temporarily restricting the outputs of Shipman 3 and 4 to 6.8 MW and 6.7 MW, respectively.
- (II) PGV's normal rating is 30,000 kW and it generally exported to HELCO between 25,000 kW and 30,000 kW in 2005. In 2005, PGV drilled a new production well and a new injection well. These activities allowed PGV to return to 30,000 kW by the end of 2005 and it exported 30,000 kW during the system peak.

HELCO Adequacy of Supply
2006-2008 Unit Ratings (Firm Capacity at Forecasted System Peak in December
2006-2008)

Unit	(Gross MW)		(Net MW)	
	Reserve Rating (MW)	NTL Rating (MW)	Reserve Rating (MW)	NTL Rating (MW)
Shipman 3	7.50	7.50	7.10	7.10
Shipman 4	7.70	7.70	7.30	7.30
Hill 5	14.10	14.10	13.50	13.50
Hill 6	21.40	21.40	20.20	20.20
Puna	15.50	15.50	14.10	14.10
Kanoelehua D11	2.00	2.00	2.00	2.00
Waimea D12	2.75	2.50	2.75	2.50
Waimea D13	2.75	2.50	2.75	2.50
Waimea D14	2.75	2.50	2.75	2.50
Kanoelehua D15	2.75	2.50	2.75	2.50
Kanoelehua D16	2.75	2.50	2.75	2.50
Kanoelehua D17	2.75	2.50	2.75	2.50
Keahole D21	2.75	2.50	2.75	2.50
Keahole D22	2.75	2.50	2.75	2.50
Keahole D23	2.75	2.50	2.75	2.50
Kanoelehua CT1	11.50	11.50	11.50	11.50
Keahole CT2	13.00	13.00	13.00	13.00
Puna CT3	20.80	20.80	20.40	20.40
Keahole CT-4	22	22	22	22
Keahole CT-5	22	22	22	22
Panaewa D24	1.00	1.00	1.00	1.00
Ouli D25	1.00	1.00	1.00	1.00
Punaluu D26	1.00	1.00	1.00	1.00
Kapua D27	1.00	1.00	1.00	1.00
HELCO Total	186.25	184.00	181.85	179.60
PGV	30.00 (1)	30.00 (1)	30.00 (1)	30.00 (1)
HEP	60.00	60.00	60.00	60.00
IPP Total	90.00	90.00	90.00	90.00
System Total	276.25	274.00	271.85	269.60

Notes:

(1) In 2005, PGV drilled a new production well and a new injection well. These activities allowed PGV to return to 30,000 kW by the end of 2005. Therefore, PGV's capacity is assumed to be 30 MW for years 2006-2008.

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Warren H. W. Lee, P.E.
President

January 31, 2006

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PUBLIC UTILITIES
COMMISSION

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
Hawaii Electric Light Company, Inc.

In accordance with paragraph 5.3a of General Order No. 7, HELCO's Adequacy of Supply Report ("AOS") is due within 30 days after the end of the year. Due to the need to incorporate in its AOS, the impacts of the Commission's recent decision and order in the Distributed Generation proceeding (Docket No. 03-0371), HELCO 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 HELCO to better assess and incorporate the impact of Decision and Order No. 22248, filed January 27, 2006, in Docket No. 03-0371 on the Company's reserve capacity outlook for the 2006 – 2008 period to be covered by the 2006 AOS.

The Consumer Advocate does not object to this request.

Very truly yours,

cc: Division of Consumer Advocacy

¹ HELCO filed its 2005 AOS on March 10, 2005.