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Jay M. Ignacio, P.E.
President

January 30, 2009

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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. ("HELCO")

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

HELCO's 2008 total system capability was 271,850 kW net (276,250 kW gross) and included firm capacity power purchases of 30,000 kW from Puna Geothermal Venture ("PGV") and 60,000 kW from Hamakua Energy Partners, L.P. ("HEP"). HELCO's system peak of 198,200 kW net (202,360 kW gross) occurred on February 5, 2008¹, at approximately 6:35 p.m. The 2008 reserve margin was approximately 37% over the system peak.

Load Management/DSM

At the time of the system peak, HELCO had in place 25 load management contracts totaling 6,177 kW under Rider M and Schedule U, which reduced the evening peak by approximately 5,519 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 8,236 net kW (net of free riders). Without the load management and DSM impacts, the system peak would have been approximately 211,955 kW net, with an approximately 28% reserve margin.

On February 13, 2007, the Commission issued Decision and Order No. 23258 in the Energy Efficiency proceeding (Docket No. 05-0069). The Commission ordered that the energy efficiency programs transition to a non-utility administrator by January 2009. The impact of the

¹ HELCO's system peak has occurred in the month of December from 1997 to 2007. For the purposes of this report, it is assumed that HELCO's system peak will continue to occur in December.

transition is unknown at this time and there are uncertainties associated with obtaining the peak reduction impacts from a new, yet to be defined market structure. Should customer participation in the DSM programs be lower than estimated or delayed, the actual peak demand may exceed the peak forecast used in this AOS filing.

On September 27, 2007, the Commission opened Docket No. 2007-0323, which will examine the selection of the non-utility administrator and refine the details of the new market structure. On September 18, 2008, the Commission issued a Request for Proposal ("RFP") for the non-utility administrator. In the RFP, the Commission established a schedule for the selection and contracting of the non-utility administrator. The projected start date for the non-utility administrator is February 25, 2009.

Distributed Generation ("DG") and Combined Heat and Power ("CHP")

Firm DG resources can provide generating capacity if dispatchable by the utility, or can reduce peak loads if operated by customers. HELCO has been including forecasted firm DG resources, namely CHP, in its Adequacy of Supply ("AOS") evaluations for the past several years. As reported in last year's AOS², the CHP forecast (dated April 10, 2008) was used for this 2009 AOS report due to the continuation of the following: (1) new rules issued by the U.S. Environmental Protection Agency ("EPA") which will require more stringent emission controls for stationary diesel engines in the near future, (2) Commission criteria required to be met by HELCO in order to provide customer-sited DG projects on a regulated utility basis, and (3) other uncertainties concerning customer-sited DG.

Reserve Margins

Attachment 1 shows the expected reserve margin over the next three years, based on the HELCO Budget Revenue Forecast of Annual Net System Peak, dated October 2, 2008, 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 details the gross and net ratings of HELCO units and Independent Power Producer ("IPP") units. HELCO has entered into a Power Purchase Agreement ("PPA") with Tradewinds Forest Products, LLC ("Tradewinds") in which HELCO will purchase from Tradewinds approximately 13,220 MWh per year on a scheduled basis.³ The Tradewinds facility is estimated to be in service by late 2010 to early 2011. An application for Commission approval of the Tradewinds PPA is expected to be filed later this year, after PPA Amendment No. 1, which will

² In this 2009 AOS report, the peak reduction impact of CHP in the years 2009 and 2010 are forecasted to be one MW and two MW, respectively.

³ Under the terms of the PPA, Tradewinds will have the opportunity to increase the amount of energy supplied to HELCO to 14,000 MWh per year.



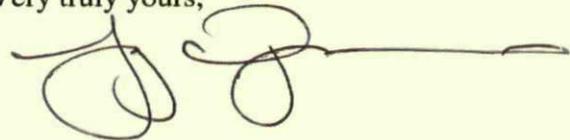
incorporate items from the Tradewinds Interconnection Requirements Study, is completed and executed.

The following capacity planning criterion 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 supplied.

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,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Attachments

c: Division of Consumer Advocacy (with Attachments)



Table 1
Adequacy of Supply

Year	System Capability at Annual Peak Load (net kW) [A] ^(II)	Notes	Without Future DSM (Includes Acquired DSM) ^(I)		With Future DSM (Includes Acquired DSM) ^(III)	
			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>						
2008	271,900	(V)	198,200	37.2%	N/A	N/A
<i>Future</i>						
2009	288,200	(VI)	201,300	43.1%	200,000	44.1%
2010	288,200	(VII)	204,300	41.0%	201,400	43.1%
2011	288,200	(VIII)	209,000	37.9%	204,500	40.9%

Notes:

- (I) 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 2009-2011 include the actual peak reduction benefits acquired in 1996-2007 and the estimated peak reduction benefits acquired in 2008, as well as the benefits of the Rider M and Schedule U contracts, and third party CHP impacts.
- (II) System Peaks (With Future Peak Reduction Benefits of DSM Programs):
- The forecasted system peaks for 2009-2011 include the peak reduction benefits of the DSM programs (acquired and future) and the Rider M and Schedule U contracts, and third party CHP impacts.
- (III) On October 20, 2008, the Governor of the State of Hawaii, the State Department of Business, Economic Development & Tourism, the State Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs, and the Hawaiian Electric Companies executed the Hawaii Clean Energy Initiative Agreement ("Energy

Agreement”), which documents a course of action to move the State away from its dependence on imported fossil fuels for electricity and ground transportation, and toward “indigenously produced renewable energy and an ethic of energy efficiency.” A product of the Hawaii Clean Energy Initiative, the Energy Agreement is a commitment on the part of the State of Hawaii and the Hawaiian Electric Companies to accelerate the addition of new, clean resources on all islands. The impact of these potential resources on the HELCO system is not reflected in this Adequacy of Supply.

(IV) The 2009-2011 annual forecasted system peaks are based on:

- The HELCO Budget Revenue Forecast of Annual Net System Peak, dated October 2, 2008. The HELCO annual forecasted system peak is expected to occur in the month of December.
- Forecasted system peaks include reduction for forecasted system level third party CHP impacts.¹

(V) 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).

(VI) System Capability for 2009 includes:

- HELCO units at a total of 198,200 kW net (204,600 kW gross). This includes the anticipated installation of Keahole ST-7, a nominal 16,300 kW (net) steam turbine generator (Phase III of a nominal 60,300 kW (net) dual train combined-cycle unit). Construction is currently underway for ST-7, which is scheduled for commercial operation in July 2009.
- Firm power purchase contracts with a combined net total of 90,000 kW from PGV (30,000 kW) and HEP (60,000 kW).

¹ 3rd Party CHP impacts are from a CHP forecast dated April 10, 2008. 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 3rd Party CHP is unavailable due to forced outage and maintenance.

(VII) System Capability for 2010 includes:

- HELCO units at a total of 198,200 kW net (204,600 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 2011 includes:

- HELCO units at a total of 198,200 kW net (204,600 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 2009-2011 assume that HEP and PGV are at full ratings.

**HELCO Adequacy of Supply
 2008 Unit Ratings (Firm Capacity at Actual System Peak in February 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 CT-1	11.50	11.50	11.50	11.50
Keahole CT-2	13.00	13.00	13.00	13.00
Puna CT-3	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	30.00	30.00	30.00
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:

HELCO Adequacy of Supply
2009-2011 Unit Ratings (Firm Capacity at Forecasted System Peak in December 2009-2011)

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 CT-1	11.50	11.50	11.50	11.50
Keahole CT-2	13.00	13.00	13.00	13.00
Puna CT-3	20.80	20.80	20.40	20.40
Keahole CT-4	- (I)	- (I)	- (I)	- (I)
Keahole CT-5	- (I)	- (I)	- (I)	- (I)
Keahole DTCC	62.36 (I)	62.36 (I)	60.30 (I)	60.30 (I)
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	204.61	202.36	198.15	195.90
PGV	30.00	30.00	30.00	30.00
HEP	60.00	60.00	60.00	60.00
IPP Total	90.00	90.00	90.00	90.00
System Total	294.61	292.36	288.15	285.90

Notes:

- (I) Conversion of Keahole CT-4 and CT-5 to dual train combined cycle (DTCC) with the addition of Keahole ST-7.