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PUBLIC UTILITIES COMMISSION

Jay M. Ignacio, P.E.
President

January 30, 2013

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: Adequacy of Supply
Hawaii Electric Light Company, Inc. ("HELCO")

The following information is respectfully submitted in accordance with paragraph 5.3a of General Order No. 7, which states:

> *The generation capacity of the utility's plant, supplemented by electric power regularly available from other sources, must be sufficiently large to meet all reasonably expectable demands for service and provide a reasonable reserve for emergencies. A Statement shall be filed annually with the Commission within 30 days after the close of the year indicating the adequacy of such capacity and the method used to determine the required reserve capacity which forms the basis for future requirements in generation, transmission, and distribution plant expansion programs required under Rule 2.3h.1.*

HELCO's 2012 total firm generation capability at its system peak was 287,100 kW net (293,250 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 189,300 kW (net) or 193,946 kW (gross) occurred on January 3, 2012[2], at approximately 6:39 p.m. The 2012 reserve margin at the time of the peak was approximately 52%.

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[1] At the time of the January 3, 2012 system peak, PGV's output was 30,000 kW. The PGV additional 8,000 kW facility was placed in-service on March 19, 2012. PGV's total capacity was increased from 30,000 kW to 34,600 kW based on completed acceptance testing. According to Article 5 of the PPA for the expansion, PGV has an opportunity to use commercially reasonable efforts to increase the facility's capacity level to the committed capacity of 38,000 kW within twelve (12) months of the corrective period. For the purposes of this report, PGV's capacity of 34,600 kW is assumed for the reserve margin calculation for 2013, 2014 and 2015.

[2] HELCO's system peak in 2012 occurred in the month of January. Typically, HELCO's system peaks have occurred in the month of December. For the purposes of this report, it is assumed that HELCO's future annual system peak will occur in December.

Load Management/DSM

By the end of 2012, HELCO had in place 33 load management contracts totaling 8,086 kW under Rider M and Schedule U, reducing evening peak by approximately 5,600 kW. In addition, residential and commercial & industrial demand side management ("DSM") programs, implemented by HELCO from 1996 through June 2009 and by Hawaii Energy since July 1, 2009, reduced the system peak by an estimated 15,294[3] net kW (net of free riders).

In its future planning processes, HELCO will explore the implications of the energy and demand impacts related to the Energy Efficiency Portfolio Standards ("EEPS").[4] The EEPS is designed to achieve 4,300 GWh of electricity use reductions statewide by 2030 or to achieve some other level of reduction as may be determined by the State of Hawaii Public Utilities Commission ("Commission").

Reserve Margins

Attachment 1 shows the expected reserve margin over the next three years, based on HELCO's January 2012 Sales and Peak Forecast Update, dated January 16, 2012, and HELCO's latest estimate of forecasted DSM impacts. Attachment 2 details the gross and net ratings of HELCO units and Independent Power Producer ("IPP") units.

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.

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[3] Energy efficiency program impacts for customers who participated in the programs prior to July 1, 2009 are based on HELCO records and total an estimated 9,334 net kW. Energy efficiency program impacts of 1,982 net kW,1,949 net kW, and 2,030 net kW for Hawaii Energy's first program year (July 1, 2009 to June 30, 2010), second program year (July 1, 2010 to June 30, 2011), and third program year (July 1,2011 to June 30, 2012), respectively, are also included in this estimate. Source: Hawaii Energy Annual Report for PY2009 (net level savings), Page 23, Hawaii Energy Annual Report for PY2010 (net level savings), Page 39, and Hawaii Energy Annual Report for PY2011 (net level savings) Page 35; www.hawaiienergy.com.

[4] On March 8, 2010, the Commission initiated an investigation to examine establishing energy efficiency portfolio standards for the State of Hawaii, pursuant to Act 155, Session Laws of Hawaii 2009 ("Act 155") and Hawaii Revised Statues §269-96. On January 3, 2012, the Framework for EEPS was adopted by the Commission in Decision and Order No. 30089 ("D&O 30089") in Docket No. 2010-0037. D&O 30089 set interim incremental reduction goals which may be revised through goal evaluations scheduled every five years or as the result of recommendations by an EEPS technical working group (TWG) for consideration by the Commission.

Acquisition of Additional Firm Generating Capacity

Competitive Bidding is the Required Acquisition Mechanism

On December 8, 2006, the Framework for Competitive Bidding ("CB Framework") was adopted by the Commission in Decision and Order No. 23121 ("D&O 23121") in Docket No. 03-0372, pursuant to HRS §§ 269-7 and 269-15, and Hawaii Administrative Rules § 6-61-71. The Commission's CB Framework states that "[c]ompetitive bidding, unless the Commission finds it to be unsuitable, is established as the required mechanism for acquiring a future generation resource or a block of generation resources, whether or not such resource has been identified in a utility's IRP."

Exemptions to the CB Framework

In D&O 23121, the Commission adopted "exemptions based on size" as proposed by the HECO Utilities. One exemption given in Section II.A.3.f. on page 5 of the CB Framework states in relevant part:

> This Framework also does not apply to: (i) generating units with a net output available to the utility of 1% or less of a utility's total firm capacity, including that of independent power producers, or with a net output of 5 MW or less, whichever is lower ....

HELCO's total firm capacity (net reserve MW) as of December 31, 2012 was 291.7 MW, and 1% of HELCO's total firm capacity is 2.917 MW. As a result, for HELCO, the CB Framework would not apply to proposed generating units with a net output available to the utility of 2.917 MW (i.e., the lower of 2.917 MW and 5 MW) or less.

Integrated Resource Planning ("IRP")

The Commission attached as an exhibit to the Order filed March 14, 2011 in Docket No. 2009-0108 (Instituting a Proceeding to Investigate Proposed Amendments to the Framework for Integrated Resource Planning), a revised IRP framework that governs energy resource planning by electric and gas utilities in the State of Hawaii ("Revised Framework"). On March 1, 2012, the Commission issued Order No. 30233 in Docket No. 2012-0036 initiating the IRP process for the Hawaiian Electric Companies. On June 29, 2012, the Commission issued Order No. 30513 that established the Advisory Group for the Hawaiian Electric Companies' IRP process. The Hawaiian Electric Companies have until June 29, 2013 to file their IRP Report and Action Plan. The procedural milestones for Docket No. 2012-0036 call for the Commission to render a decision on the Hawaiian Electric Companies' IRP Action Plan, to the extent possible, 180 days from the filing of the IRP Report and Action Plan. Currently, the IRP process is on-going.

Given the importance of the exploration and development of geothermal energy on the Big Island, as well as the objectives of the State of Hawaii to support clean energy,

meet Renewable Portfolio Standards, and lower costs for ratepayers, HELCO conducted a Geothermal Request for Information process in 2011, and filed a Letter Requesting to Open the Docket for the Geothermal Dispatchable Energy and Firm Capacity Request for Proposals (Geothermal RFP) with the Commission on March 16, 2012. As noted in Exhibit G of the March 16, 2012 filing, the Geothermal RFP process is consistent with HELCO's IRP-3 plan filed with the Commission on May 31, 2007. HELCO contends that the revised IRP Process can work in parallel with the Geothermal RFP to achieve common renewable energy goals.

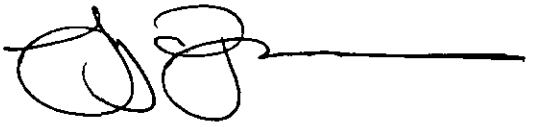
Geothermal Request For Proposals

On May 1, 2012, the Commission opened Docket No. 2012-0092 to allow HELCO to proceed with the competitive bidding process, in accordance with the Commission's December 8, 2006 Competitive Bidding Framework, to acquire up to 50 MW of dispatchable renewable geothermal firm capacity on the Island of Hawaii. HELCO filed the Draft Geothermal RFP with the Commission on November 9, 2012, and held the HELCO Geothermal RFP Technical Conference Webinar on December 5, 2012, after the Commission retained the Independent Observer, Boston Pacific, on December 4, 2012. HELCO filed the Proposed Final Geothermal RFP with the Commission on January 25, 2013. Updated Geothermal RFP information, including key filings and documents, may be found at http://GeothermalRFP.helcohi.com.

HELCO seeks bids for one or more geothermal plants, as noted above, that will lower overall system-wide costs to HELCO customers. HELCO desires firm, dispatchable geothermal power that meets stated performance characteristics to enable the utility to schedule and control the output from the facility. This may allow potential retirement of HELCO fossil units in the future.

At the same time, HELCO is planning to undertake technical studies on the integration of additional geothermal resources on the Big Island grid. These assessments will address the need for more transmission lines if the geothermal power is located on the east side of the island, and provide additional information related to the potential for placing into standby one or more existing fossil-fueled units when a new geothermal power facility is commercially operational.

Very truly yours,



Jay Ignacio
President

Attachments

c: Division of Consumer Advocacy (with Attachments)

Table 1
Adequacy of Supply

Year	System Capability at Annual Peak Load (net kW) [A]	Notes	With Future DSM (Includes Acquired DSM) [I] System Peak (net kW) [C] [III]	With Future DSM (Includes Acquired DSM) [I] Reserve Margin (%) [[A-C]/C] [VIII]
Recorded [II] 2012	287,100	[IV]	189,300	51.7%
Future 2013	291,700	[V]	189,500	53.9%
2014	291,700	[VI]	191,500	52.3%
2015	291,700	[VII]	193,500	50.7%

Notes:

(I) System Peaks (With 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. 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. Effective July 1, 2009, the administration of the company's energy efficiency DSM programs was transferred to the Hawaii Energy Efficiency Programs (HEEP) Administrator.

- The forecasted system peak values for the years 2013-2015 include the actual peak reduction benefits acquired in 1996-June 2009 implemented by HELCO and the estimated peak reduction benefits acquired through 2012 implemented by Hawaii Energy, as well as the benefits of the DSM programs (acquired and future), Rider M, and Schedule U contracts.

(II) System Peaks (Recorded):

- The recorded system peaks for 2012 includes the actual peak reduction benefits of the acquired DSM programs and the Rider M and Schedule U contracts.

(III) The 2013-2015 annual forecasted system peaks are based on:

- HELCO's January 2012 Sales and Peak Forecast Update, dated January 16, 2012. The HELCO annual forecasted system peak is expected to occur in the month of December.

(IV) System Capability for 2012 includes:

- HELCO units at a total of 197,100 kW net (203,300 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).

(V) System Capability for 2013 includes:

- HELCO units at a total of 197,100 kW net (203,300 kW gross).
- Firm power purchase contracts with a combined net total of 94,600 kW from PGV (34,600 kW) and HEP (60,000 kW).

(VI) System Capability for 2014 includes:

- HELCO units at a total of 197,100 kW net (203,300 kW gross).
- Firm power purchase contracts with a combined net total of 94,600 kW from PGV (34,600 kW) and HEP (60,000 kW).

(VII) System Capability for 2015 includes:

- HELCO units at a total of 197,100 kW net (203,300 kW gross).
- Firm power purchase contracts with a combined net total of 94,600 kW from PGV (34,600 kW) and HEP (60,000 kW).

(VIII) Reserve Margin

- The reserve margins shown for 2013-2015 assume that HEP is at full rating and PGV's rating is at 34.6 MW.

  In 2009, HELCO negotiated and reached agreement in principle to purchase additional firm, dispatchable energy from Hu Honua Bioenergy, LLC, ("Hu Honua"). In accordance with the term sheet signed on March 13, 2009, Hu Honua is anticipated to produce and deliver approximately 21.5 MW of firm, dispatchable energy to HELCO. On August 30, 2012, HELCO submitted an

application to the Commission in Docket No. 2012-0212 for the approval of a Power Purchase Agreement ("PPA"), dated May 3, 2012, between HELCO and Hu Honua. The PPA is currently pending Commission approval. For the purposes of this report, Hu Honua's capacity is not included in the reserve margin calculations. It is projected that after Hu Honua achieves its contract capacity rating and demonstrates satisfactory operation for one year, Shipman unit 3 and Shipman unit 4 will be considered candidates for retirement.

HELCO Adequacy of Supply
2012 Unit Ratings (Firm Capacity at Actual System Peak in January 2012)

	(Gross MW)		(Net MW)	
Unit	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	17.00	17.00	15.70	15.70
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	13.80	13.80	13.80	13.80
Puna CT-3	21.00	21.00	21.00	21.00
Keahole CT-4/CT-5/ST-7	58.50	58.50	56.25	56.25
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	203.25	201.00	197.10	194.85
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	293.25	291.00	287.10	284.85

HELCO Adequacy of Supply
2013-2015 Unit Ratings (Firm Capacity at Forecasted System Peak in December 2013-2015)

	(Gross MW)		(Net MW)	
Unit	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	17.00	17.00	15.70	15.70
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	13.80	13.80	13.80	13.80
Puna CT-3	21.00	21.00	21.00	21.00
Keahole CT-4/CT-5/ST-7	58.50	58.50	56.25	56.25
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	203.25	201.00	197.10	194.85
PGV	34.60 (I)	34.60 (I)	34.60 (I)	34.60 (I)
HEP	60.00	60.00	60.00	60.00
IPP Total	94.60	94.60	94.60	94.60
System Total	297.85	295.60	291.70	289.45

Notes:

(I) HELCO and PGV executed a power purchase agreement on February 7, 2011 for the 8 MW expansion of PGV's geothermal facility. The Commission issued D&O No. 30088 on December 30, 2011 in Docket No. 2011-0040, approving the contract. In March 2012, PGV increased its capacity to 34.6 MW based on acceptance testing. PGV's output is anticipated to increase to 38 MW in the near future.