



Dean K. Matsuura
Manager
Regulatory Affairs

April 15, 2013

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

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PUBLIC UTILITIES
COMMISSION

Dear Commissioners:

Subject: Docket No. 2011-0206
Reliability Standards Working Group
Monthly Report

Pursuant to Ordering Paragraph 3 of the Commission's Order No. 30371, filed on May 4, 2012, in the above subject proceeding, enclosed as Exhibit A is the Hawaiian Electric Companies'¹ monthly report for March 2013 on (1) system frequency control performance during month; (2) significant system events during month; and (3) curtailment of non-dispatchable renewable resources.

In addition, an electronic copy of each report is also included with this filing. These files are voluminous, and therefore, the Company is providing a compact disc ("CD") containing the electronic files to both the Commission and the Consumer Advocate. Copies of the CD will be available to any Party to this proceeding. Interested Parties should email Marisa Chun at marisa.chun@heco.com to request a copy.

If you have any questions on this matter, please contact Marisa Chun at (808) 543-4723.

Very truly yours,

Enclosure

cc: Service List

¹ Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company, Limited are collectively referred to as the "Hawaiian Electric Companies" or "Companies".

SERVICE LIST
(Docket No. 2011-0206)

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SERVICE LIST
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The Commission's Order No. 30371 (Docket No 2011-0206 – Relating To Various Matters in RSWG Process), filed May 4, 2012, ordered the following information for each island grid:

- (1) System frequency control performance during month:
 - a) Frequency duration plot based on the highest resolution SCADA data available for the month detailing how many seconds each power system operated at frequencies above 60 hertz and at frequencies below 60 Hz.
 - b) Tabulation of the number, magnitude and duration of frequency excursions (high and low) outside normal frequency control range (59.95 to 60.05 Hz).

The following provides information with respect to items 1a) through 1b) – (all statements are current as of the month ending March 31, 2013):

1a) Frequency duration plot based on the highest resolution SCADA data available for the month detailing how many seconds each power system operated at frequencies above 60 hertz and at frequencies below 60 Hz:

The frequency duration plots for Hawaiian Electric, MECO (Maui Division) and HELCO based on two-second data are provided in Attachment 1, and the enclosed Excel files. Refer to the electronic files for the individual data points because the information is voluminous and does not translate well to a hard copy.

1b) Tabulation of the number, magnitude and duration of frequency excursions (high and low) outside normal frequency control range (59.95 to 60.05 Hz):

Tabulation of the number, magnitude and duration of frequency excursions outside of the frequency range of 59.95 Hz to 60.05 Hz for Hawaiian Electric, MECO (Maui Division) and HELCO are provided in Attachment 2, and the enclosed Excel files. Refer to the electronic files for the individual data points because the information is voluminous and does not translate well to a hard copy.

- (2) Significant system events during month:
 - a) Tabulation of contingency reserve activations including date and time, MW magnitude, duration, and triggering event.
 - b) Tabulation of under frequency load shed activations including date and time, triggering frequency, MW magnitude, duration, and triggering event.
 - c) Tabulation of demand response activations for system events, including date and time, MW magnitude, duration, and triggering event, (excluding demand response utilization for unit commitment deferral or system operations economics.)

The following provides information with respect to items 2a) through 2c) – (all statements are current as of the month ending March 31, 2013):

2a) Tabulation of contingency reserve activations including date and time, MW magnitude, duration, and triggering event:

Hawaiian Electric's contingency reserve actions are provided in Attachment 3. MECO and HELCO do not operate with contingency reserve requirements.

2b) Tabulation of under frequency load shed activations including date and time, triggering frequency, MW magnitude, duration, and triggering event:

The tabulation of under frequency load shed events is provided in Attachment 4. Hawaiian Electric and MECO did not have any under frequency load shed events for the month of March.

2c) Tabulation of demand response activations for system events, including date and time, MW magnitude, duration, and triggering event, (excluding demand response utilization for unit commitment deferral or system operations economics.)

Hawaiian Electric did not have any demand response activations for system events for the month of March. MECO and HELCO currently do not have demand response programs. Therefore, Attachment 5 is not being provided for this reporting period.

- (3) Curtailment of non-dispatchable renewable resources:
- (a) Tabulation of each curtailment event for each resource including the starting date and time, duration, megawatt hours curtailed, peak MW curtailed, and reason for curtailment.
 - (b) Total MWh of non-dispatchable renewable resources curtailed for the month.

The following provides information with respect to items 3a) through 3b) – (all statements are current as of the month ending March 31, 2013):

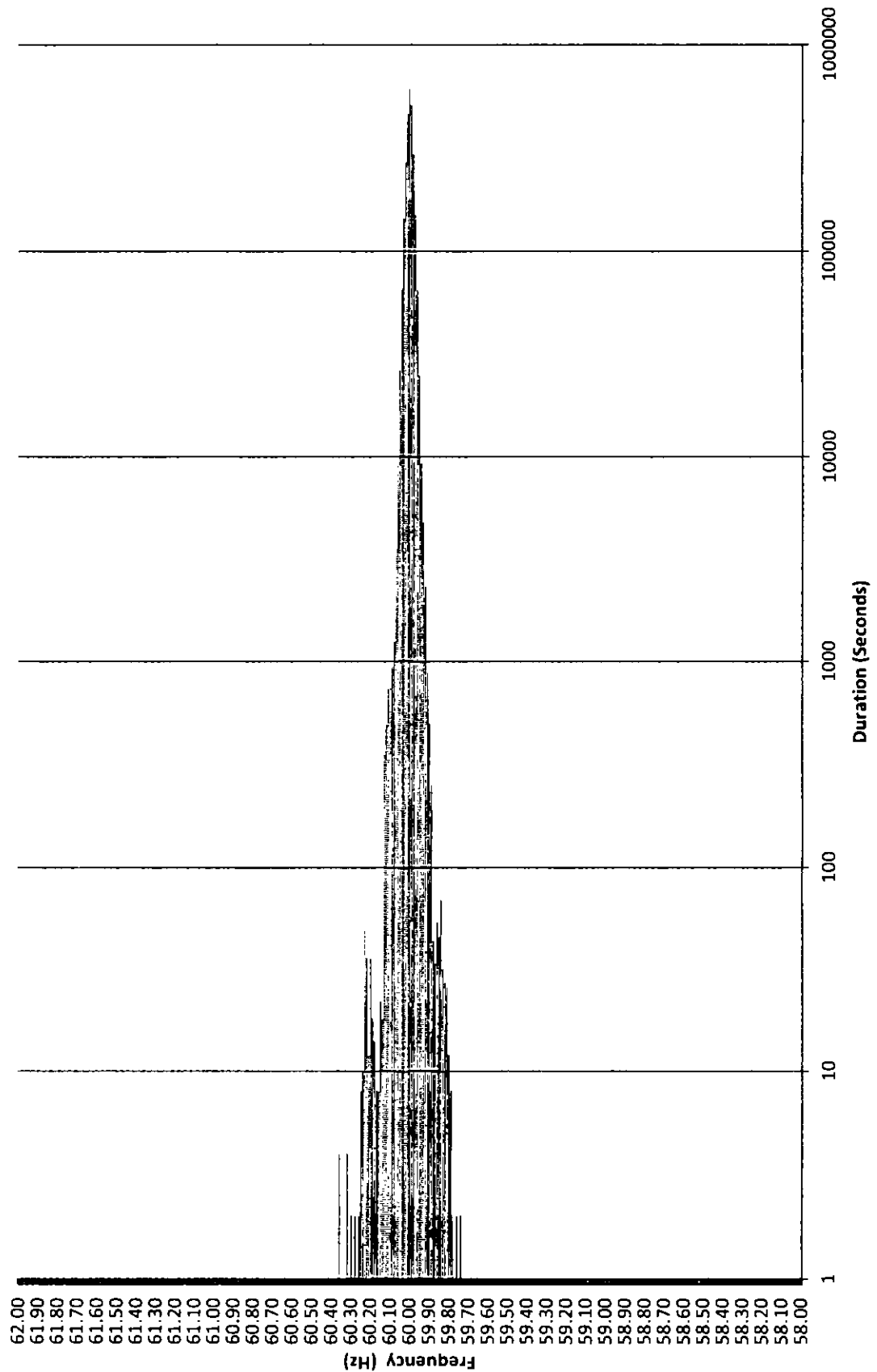
3a) Tabulation of each curtailment event for each resource including the starting date and time, duration, megawatt hours curtailed, peak MW curtailed, and reason for curtailment:

The tabulation of each curtailment event for each resource is provided in Attachment 6.

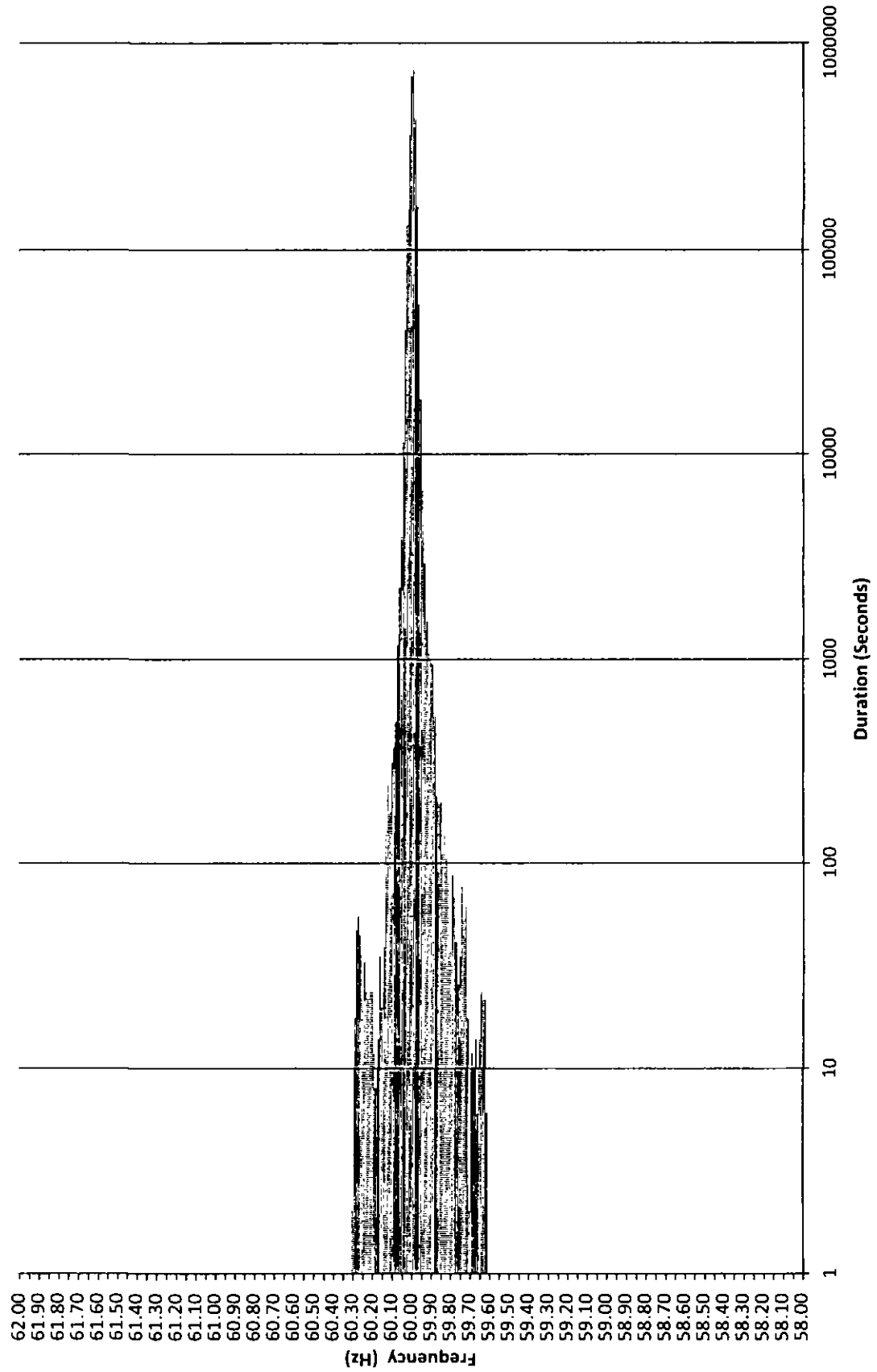
3b) Total MWh of non-dispatchable renewable resources curtailed for the month:

Curtailed MWh from non-dispatchable resources are difficult to determine due to the variability of the resource during curtailment periods. In some cases, the curtailed MWh estimates were provided by the IPPs under curtailment. HELCO is not providing an estimate of curtailed MWh, as this information is not provided to HELCO from the IPP. The Hawaiian Electric Companies do not make any representations as to the accuracy of the curtailed MWh. The estimated MWh of non-dispatchable resources curtailed for the month are provided in Attachment 6, corresponding to each curtailment event.

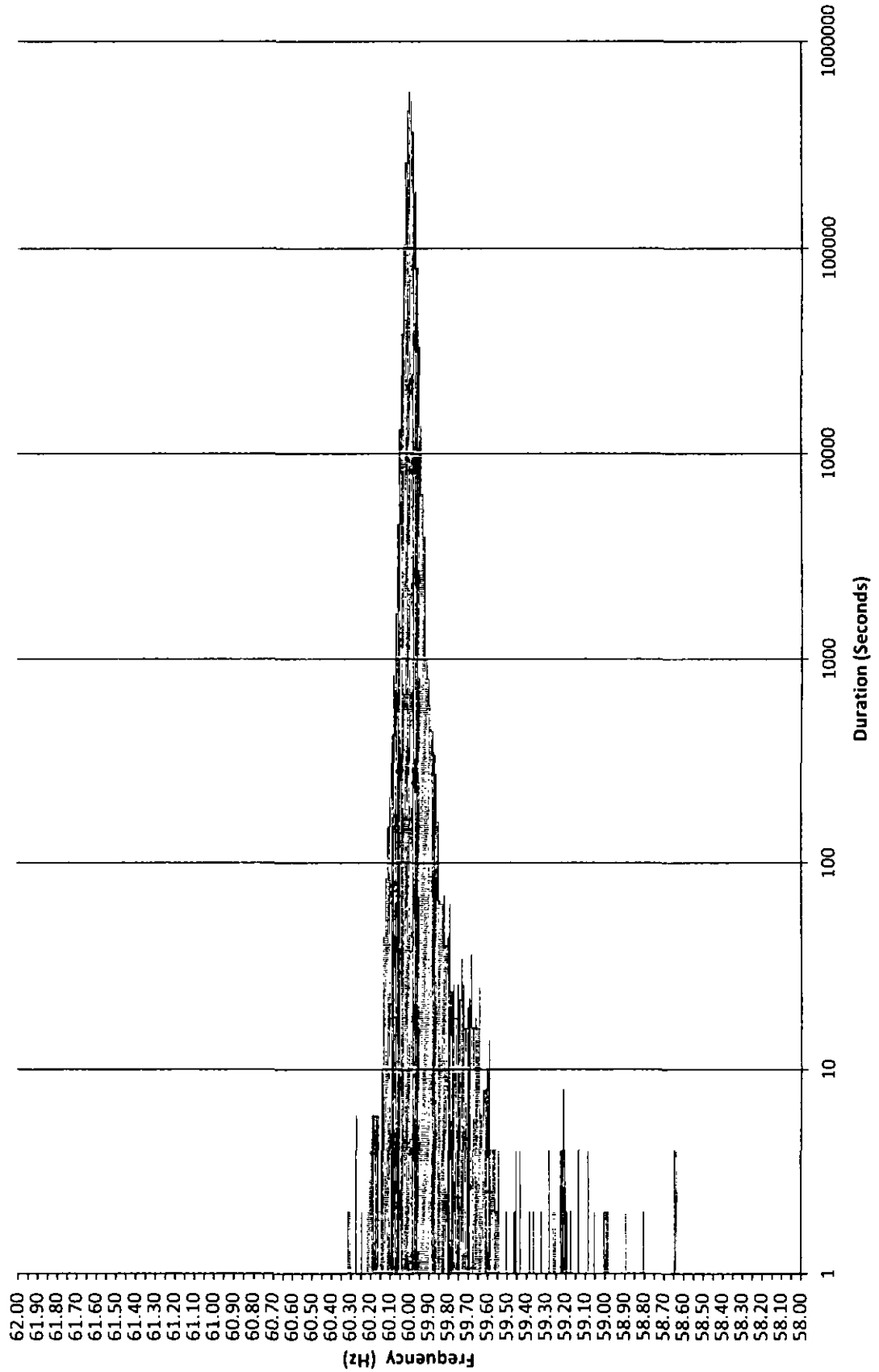
Frequency Distribution Plot - HECO March 2013



MECO Frequency Distribution Plot - Maui March 2013



Frequency Distribution Plot - HELCO March 2013



HECO Frequency Excursion Statistics March 2013		
Data Rounded to the nearest	<59.95 Hz	>60.05 Hz
Number of Excursions	989	919
Maximum Duration (sec)	1692	1452
Maximum Deviation (Hz)	59.736	60.362
Total Duration of Excursions (sec)	27358	27626

MECO Frequency Excursion Statistics March 2013		
	<59.95 Hz	>60.05 Hz
Number of Excursions	3881	364
Maximum Duration (sec)	710	530
Maximum Deviation (Hz)	59.60645	60.29688
Total Duration of Excursions (sec)	35022	5648

HELCO Frequency Excursion Statistics March 2013		
	<59.95 Hz	>60.05 Hz
Number of Excursions	5134	2422
Maximum Duration (sec)	1494	108
Maximum Deviation (Hz)	58.62598	60.31055
Total Duration of Excursions (sec)	41946	13036

HAWAIIAN ELECTRIC COMPANY, INC.
 CONTINGENCY RESERVE ACTIVATION EVENTS
 MARCH 2013

Event #	Date & Time	Frequency (Hz)			Spinning Reserve Shortfall (MW)	Duration (HH:MM)	Description
		Prior to Event	Nadir	Trigger			
1	03/01/13 08:27	59.985	59.942	N/A	-9.00	0:14	I1POWER Boiler 2 tripped offline while generating -38 MW. W10 called online for spinning reserve.
2	03/06/13 06:40	60.021	59.811	N/A	-25.00	0:14	I18 tripped offline while generating -25 MW. W10 called online for spinning reserve.
3	03/21/13 16:42	60.006	59.988	N/A	-32.00	0:35	K6 blocked at 77 MW. CIP called online for spinning reserve.

HAWAII ELECTRIC LIGHT COMPANY, INC.
UNDERFREQUENCY LOAD SHEDDING EVENTS
March 2013

Event #	Date & Time	Frequency (Hz)			Load Shed (MW)	Duration (HH:MM)	Description
		Prior to Event	Nadir	Level UFLS Occurred			
1	3/2/2013	59.924	58.400	58.50	23.86	0:18	Keahole CT4 and ST-7 tripped offline while generating a total of 23.6MW.
2	3/3/2013	60.000	59.186	59.30	7.08	0:06	Hamakua Energy Partners (HEP) Control Operator inadvertently left controls in a state that prevented AGC from utilizing HEP's reserve up capability, and caused System frequency to drag.
3	3/13/2013	59.750	58.570	58.80	20.77	0:10	Both transmission lines connecting to Puna Geothermal Ventures (PGV) opened unexpectedly and isolated PGV while they were generating over 38-MW.
4	3/17/2013	59.985	58.790	58.80	10.71	0:05	Hamakua Energy Partners (HEP) CT and ST tripped offline while generating 19.0MW.

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HECO Curtailment Report March 2013

Start Date/Time	Curtailment Set Point	MW output prior to start of curtailment	End Date/Time	MW output after curtailment released	Estimated MWh of curtailed energy during event (1)	IPP	Reason for Curtailment
03/04/13 06:15	0.0	1.10	03/04/13 06:40	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
03/04/13 15:50	0.0	7.80	03/04/13 16:33	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
03/11/13 17:04	0.0	0.00	03/11/13 18:16	0	*	KL52	Structure replacement on Kahe-Standard Oil 2 46kV line
03/12/13 06:35	0.0	1.00	03/12/13 07:40	0	*	Makai	Conductor replacement on Koolau-Kahuku 46kV line
03/12/13 15:49	0.0	1.00	03/12/13 16:04	0	*	Makai	Conductor replacement on Koolau-Kahuku 46kV line
03/12/13 09:15	0.0	0.00	03/12/13 19:16	0	*	Mauka	Wahiawa-Walailua 1 circuit breaker opened, 46kV insulator replacement
03/15/13 10:16	0.0	2.10	03/15/13 15:24	0	*	Makai	Communication equipment repairs
03/15/13 10:16	0.0	6.00	03/15/13 15:26	0	*	Mauka	Communication equipment repairs
03/19/13 01:55	0.0	3.70	03/19/13 04:17	0	*	Mauka	Curtailed for excess energy
03/19/13 02:24	0.0	1.80	03/19/13 04:17	0	*	Makai	Curtailed for excess energy
03/21/13 06:59	0.0	1.30	03/21/13 08:47	0	*	Makai	Pole replacement on Kahpa-Kahuku 46kV line
03/24/13 07:19	0.0	0.00	03/24/13 16:34	0	*	KL52	Shield wire replacement at Koolau substation
03/24/13 07:22	0.0	0.00	03/24/13 16:31	0	*	Makai	Shield wire replacement at Koolau substation
03/24/13 07:23	0.0	0.00	03/24/13 16:31	0	*	Mauka	Shield wire replacement at Koolau substation
03/28/13 07:22	0.0	1.20	03/28/13 09:10	0	*	Makai	Conductor replacement on Koolau-Kahuku 46kV line
03/28/13 15:39	0.0	11.50	03/28/13 15:58	0	*	Makai	Conductor replacement on Koolau-Kahuku 46kV line

KL52 = Kalaheo Solar 2 PV Farm
 KWF = Kahuku Wind Farm
 Makai = Kawaihoa Makai Wind Farm
 Mauka = Kawaihoa Mauka Wind Farm

(1) The estimated MWh of energy curtailed during the event is supplied by Kahuku Wind Farm and/or Kawaihoa Wind Farm, and HECO does not make any representations as to its accuracy
 * Data has not been provided by IPP.

MECO-Lanai Curtailment Report March 2013

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
3/14/13 9:01	3/14/13 9:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/14/13 10:00	3/14/13 10:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/14/13 11:02	3/14/13 11:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/14/13 12:01	3/14/13 12:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/14/13 13:01	3/14/13 13:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/14/13 14:00	3/14/13 14:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/14/13 15:00	3/14/13 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
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3/15/13 9:00	3/15/13 9:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/15/13 10:00	3/15/13 10:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
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3/20/13 9:02	3/20/13 9:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/20/13 10:00	3/20/13 10:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
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MECO-Lanai Curtailment Report March 2013

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
3/21/13 15:02	3/21/13 15:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/21/13 16:00	3/21/13 16:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/21/13 17:00	3/21/13 17:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 9:01	3/22/13 9:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 10:01	3/22/13 10:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 11:02	3/22/13 11:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 12:02	3/22/13 12:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 13:00	3/22/13 13:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 14:01	3/22/13 14:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 15:00	3/22/13 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 16:00	3/22/13 16:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/22/13 17:01	3/22/13 17:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 9:00	3/23/13 9:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 10:00	3/23/13 10:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 11:01	3/23/13 11:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 12:01	3/23/13 12:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 13:02	3/23/13 13:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 14:00	3/23/13 14:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 15:00	3/23/13 15:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 16:02	3/23/13 16:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/23/13 17:00	3/23/13 17:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 9:00	3/24/13 9:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 10:00	3/24/13 10:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 11:01	3/24/13 11:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 12:00	3/24/13 12:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 13:00	3/24/13 13:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 14:02	3/24/13 14:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 15:02	3/24/13 15:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 16:00	3/24/13 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/24/13 17:00	3/24/13 17:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 9:01	3/25/13 9:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 10:00	3/25/13 10:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 11:02	3/25/13 11:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 12:01	3/25/13 12:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 13:00	3/25/13 13:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 14:00	3/25/13 14:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 15:00	3/25/13 15:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 16:02	3/25/13 16:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/25/13 17:01	3/25/13 17:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 9:00	3/26/13 9:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 10:01	3/26/13 10:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 11:01	3/26/13 11:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 12:02	3/26/13 12:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 13:02	3/26/13 13:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 14:00	3/26/13 14:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 15:00	3/26/13 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 16:01	3/26/13 16:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/26/13 17:01	3/26/13 17:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 9:00	3/27/13 9:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 10:02	3/27/13 10:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 11:01	3/27/13 11:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 12:02	3/27/13 12:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 13:02	3/27/13 13:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 14:00	3/27/13 14:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 15:02	3/27/13 15:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 16:02	3/27/13 16:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/27/13 17:02	3/27/13 17:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 9:02	3/28/13 9:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 10:02	3/28/13 10:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 11:01	3/28/13 11:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 12:02	3/28/13 12:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 13:02	3/28/13 13:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 14:00	3/28/13 14:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 15:01	3/28/13 15:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 16:02	3/28/13 16:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/28/13 17:01	3/28/13 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 9:00	3/29/13 9:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 10:02	3/29/13 10:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 11:02	3/29/13 11:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation

MECO-Lanai Curtailment Report March 2013

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
3/29/13 12:01	3/29/13 12:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 13:01	3/29/13 13:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 14:01	3/29/13 14:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 15:00	3/29/13 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 16:02	3/29/13 16:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/29/13 17:01	3/29/13 17:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 9:00	3/30/13 9:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 10:01	3/30/13 10:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 11:02	3/30/13 11:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 12:00	3/30/13 12:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 13:01	3/30/13 13:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 14:02	3/30/13 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 15:01	3/30/13 15:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 16:01	3/30/13 16:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/30/13 17:02	3/30/13 17:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 9:01	3/31/13 9:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 10:00	3/31/13 10:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 11:00	3/31/13 11:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 12:00	3/31/13 12:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 13:01	3/31/13 13:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 14:00	3/31/13 14:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 15:01	3/31/13 15:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 16:02	3/31/13 16:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
3/31/13 17:01	3/31/13 17:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation

Note: On June 27, 2012, MECO notified LSR that although LSR has not operated in compliance with the revised ramp rate of 360 kW/minute, MECO would conditionally allow LSR to operate at the allowed capacity of 1.2 MW while the MECO-Lanai Diesel Operator was in the control room.

HELCO Curtailment Report March 2013				
Start Date/Time	MW output prior to start of curtailment	End Date/Time	MW output after curtailment released	Reason for Curtailment
03/01/13 00:40	16.6 MW	03/01/13 04:48	16.7 MW	Tawhiri Group B curtailed for excess energy.
03/02/13 01:14	18.9 MW	03/02/13 05:02	16.5 MW	Tawhiri Group B curtailed for excess energy.
03/02/13 12:11	19.5 MW	03/02/13 20:36	15.5 MW	Tawhiri - High wind curtailment at Tawhiri request.
03/03/13 00:47	19.6 MW	03/03/13 05:24	18.3 MW	Tawhiri Group B curtailed for excess energy.
03/03/13 05:50	19.7 MW	03/03/13 11:13	17.9 MW	Tawhiri - High wind curtailment at Tawhiri request.
03/04/13 03:50	17.8 MW	03/04/13 04:39	11.7 MW	Tawhiri Group B curtailed for excess energy.
03/05/13 01:02	19.6 MW	03/05/13 04:30	19.0 MW	Tawhiri Group B curtailed for excess energy.
03/14/13 01:55	19.0 MW	03/14/13 03:56	19.1 MW	Tawhiri Group B curtailed for excess energy.