



December 21, 2012

Dean K. Matsuura
Manager
Regulatory Affairs

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

PUBLIC UTILITIES
COMMISSION

2012 DEC 21 P 3:57

FILED

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 November 2012 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)

JEFFREY T. ONO EXECUTIVE DIRECTOR DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS DIVISION OF CONSUMER ADVOCACY P.O. Box 541 Honolulu, HI 96809	2 Copies Via Hand Delivery
GREGG J. KINKLEY, ESQ. DEPARTMENT OF THE ATTORNEY GENERAL 425 Queen Street Honolulu, Hawaii 96813 Counsel for DBEDT	1 Copy Electronically Transmitted
DANIEL W.S. LAWRENCE, ESQ. DEPARTMENT OF THE CORPORATION COUNSEL CITY AND COUNTY OF HONOLULU 530 S. King Street, Room 110 Honolulu, HI 96813 Counsel for the CITY AND COUNTY OF HONOLULU	1 Copy Electronically Transmitted
LINCOLN S.T. ASHIDA, ESQ. WILLIAM V. BRILHANTE, JR., ESQ. MICHAEL J. UDOVIC, ESQ. DEPARTMENT OF THE CORPORATION COUNSEL COUNTY OF HAWAII 101 Aupuni Street, Suite 325 Hilo, HI 96720 Counsel for the COUNTY OF HAWAII	1 Copy Electronically Transmitted
HENRY Q CURTIS KAT BRADY LIFE OF THE LAND 76 North King Street, Suite 203 Honolulu, HI 96817	1 Copy Electronically Transmitted
WARREN S. BOLLMEIER II PRESIDENT HAWAII RENEWABLE ENERGY ALLIANCE 46-040 Konane Place, #3816 Kaneohe, HI 96744	1 Copy Electronically Transmitted

SERVICE LIST
(Docket No. 2011-0206)

DOUGLAS A. CODIGA, ESQ.
SCHLACK ITO LLLC
Topa Financial Center
745 Fort Street, Suite 1500
Honolulu, HI 96813
Counsel for BLUE PLANET FOUNDATION

1 Copy
Electronically Transmitted

ISAAC MORIWAKE, ESQ.
DAVID HENKIN, ESQ.
EARTHJUSTICE
223 South King Street, Ste. 400
Honolulu, HI 96813-4501
Counsel for HAWAII SOLAR ENERGY ASSOCIATION

1 Copy
Electronically Transmitted

KENT D. MORIHARA, ESQ.
KRIS N. NAKAGAWA, ESQ.
LAUREN M. IMADA-LEE, ESQ.
Mori-hara Lau & Fong LLP
841 Bishop Street, Suite 400
Honolulu, Hawaii 96813
Counsel for KAUAI ISLAND UTILITY COOPERATIVE

1 Copy
Electronically Transmitted

ERIK W. KVAM
CHIEF EXECUTIVE OFFICER
ZERO EMISSIONS LEASING LLC
1110 University Avenue, Suite 402
Honolulu, HI 96826

1 Copy
Electronically Transmitted

SANDRA-ANN Y.H. WONG, ESQ.
ATTORNEY AT LAW, A LAW CORPORATION
1050 Bishop Street, #514
Honolulu, HI 96813
Counsel for TAWHIRI POWER LLC

1 Copy
Electronically Transmitted

RILEY SAITO
73-1294 Awakea Street
Kailua-Kona, HI 96740
For SOLAR ENERGY INDUSTRIES ASSOCIATION

1 Copy
Electronically Transmitted

SERVICE LIST
(Docket No. 2011-0206)

DEAN T. YAMAMOTO, ESQ.
DUKE T. OISHI, ESQ,
YAMAMOTO & SETTLE
700 Bishop Street, Suite 200
Honolulu, HI 96813
Counsel for CASTLE & COOKE HOMES HAWAII, INC.,
CASTLE & COOKE RESORTS, LLC and
LANAI SUSTAINABILITY RESEARCH, LLC

1 Copy
Electronically Transmitted

MICHAEL J. HOPPER, ESQ.
DEPUTY CORPORATION COUNSEL
DEPARTMENT OF THE CORPORATION COUNSEL
COUNTY OF MAUI
200 S. High Street
Wailuku, HI 96793
Counsel for the COUNTY OF MAUI

1 Copy
Electronically Transmitted

MONA W. CLARK, ESQ.
OFFICE OF THE COUNTY ATTORNEY
COUNTY OF KAUAI
4444 Rice Street, Suite 200
Lihue, HI 96766-1300

1 Copy
Electronically Transmitted

THOMAS C., GORAK, ESQ.
GORAK & BAY, L.L.C.
1161 Ikena Circle
Honolulu, HI 96821
Counsel for SUN EDISON LLC

1 Copy
Electronically Transmitted

BRADLEY ALBERT
PRESIDENT
HAWAII PV COALITION
P.O. Box 81501
Haiku, HI 96708

1 Copy
Electronically Transmitted

HILTON H. UNEMORI
ECM, INC.
130 N. Market Street
Wailuku, HI 96793-1716
For SOUTH MAUI RENEWABLE RESOURCES, LLC

1 Copy
Electronically Transmitted

SERVICE LIST
(Docket No. 2011-0206)

KEVIN T. FOX
KEYES & FOX, LLP
436 14th Street, Suite 1305
Oakland, CA 94612
For the INTERSTATE RENEWABLE ENERGY COUNCIL

1 Copy
Electronically Transmitted

HUGH D. BAKER, JR.
HDBAKER & COMPANY HAWAII LLC
78-7000 Kewalo Street
Kailua-Kona, HI 96740

1 Copy
Electronically Transmitted

PETE COOPER
SOLARCITY CORPORATION
REGIONAL DIRECTOR, HAWAII
599 Kahelu Street
Mililani, HI 96789

1 Copy
Electronically Transmitted

STANLEY ALLEN GRAY, SENIOR DEVELOPER
Pier 1, Bay 3
San Francisco, CA 94111
For MOLOKAI RENEWABLES LLC

1 Copy
Electronically Transmitted

ALISON SILVERSTEIN
19213 Luedtke Lane
Pflugerville, TX 78660

1 Copy
Electronically Transmitted

BRENDAN KIRBY
12011 SW Pineapple Court
Palm City, FL 34990

1 Copy
Electronically Transmitted

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 November 30, 2012):

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 November 30, 2012):

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

Hawaiian Electric did not have any contingency reserve actions for the month of November. MECO and HELCO do not operate with contingency reserve requirements. Therefore, Attachment 3 is not being provided for this reporting period.

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 HELCO did not have any under frequency load shed events for the month of September.

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's demand response activations for system events are provided in Attachment 5. MECO and HELCO currently do not have demand response programs.

- (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 November 30, 2012):

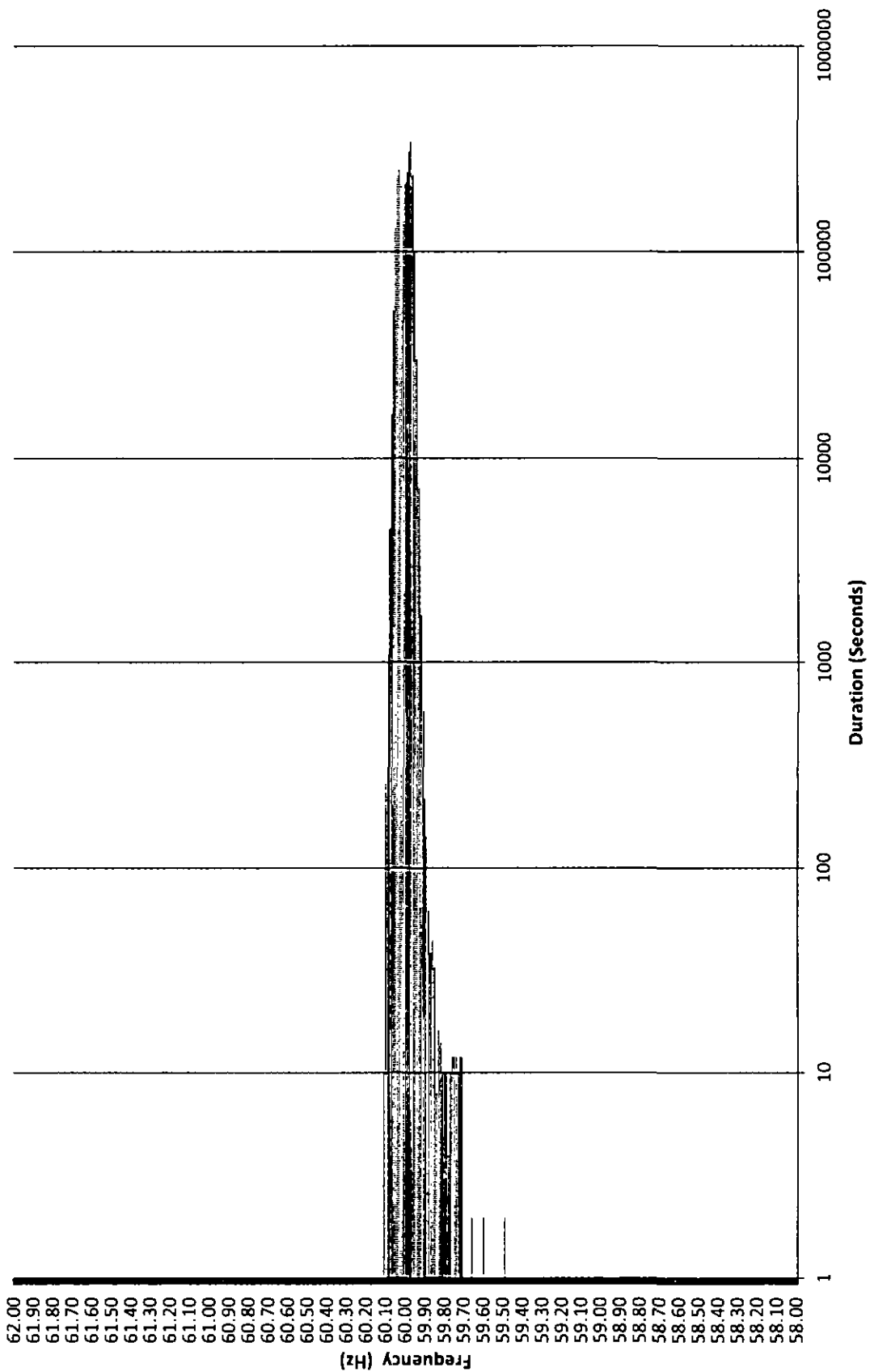
3a) Tabulation of each curtailment event for each resource including the starting date and time, duration, megawatt hours curtailed, peak MW curtailed, and reason for curtailment:

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

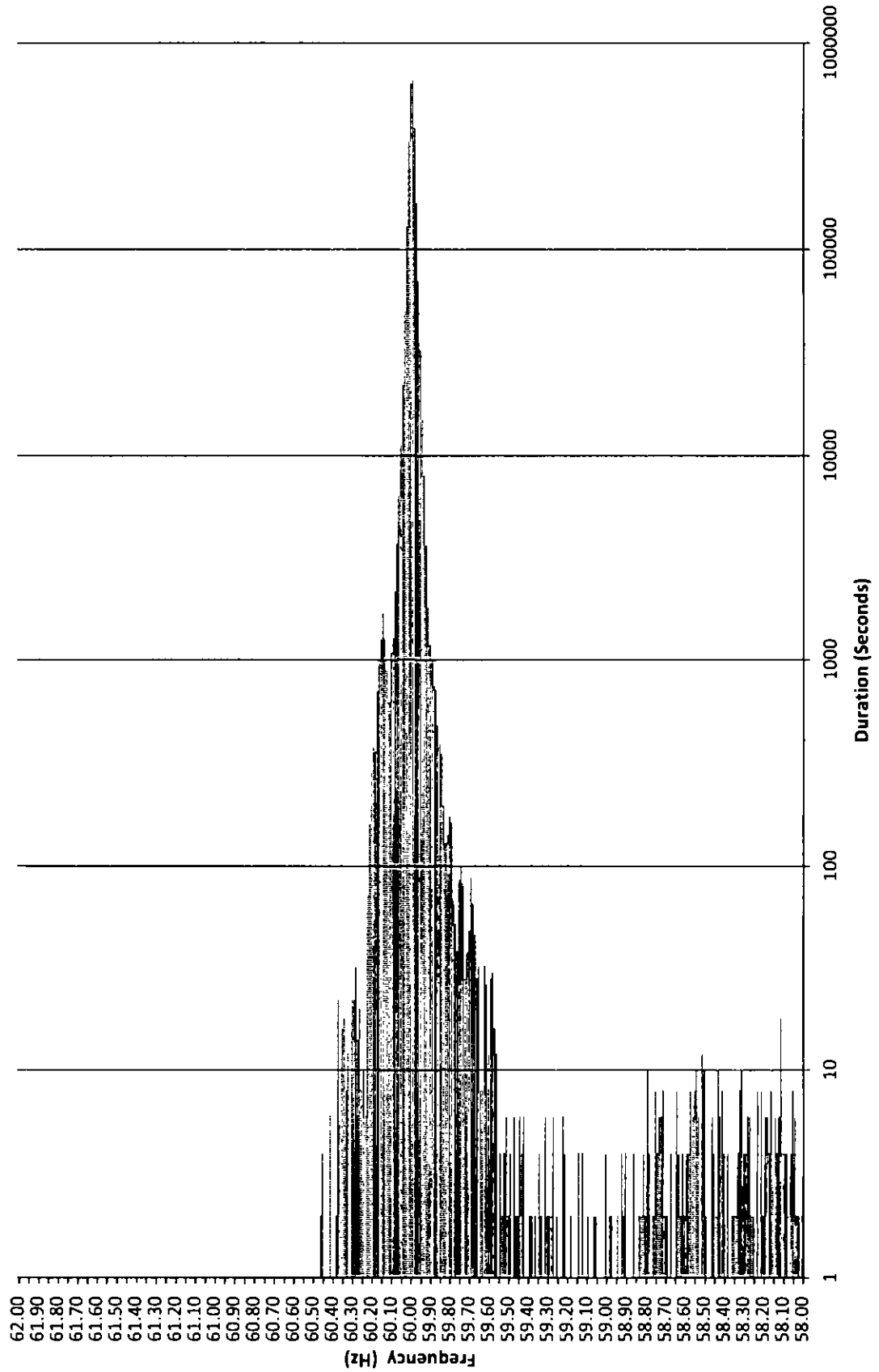
3b) Total MWh of non-dispatchable renewable resources curtailed for the month:

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.

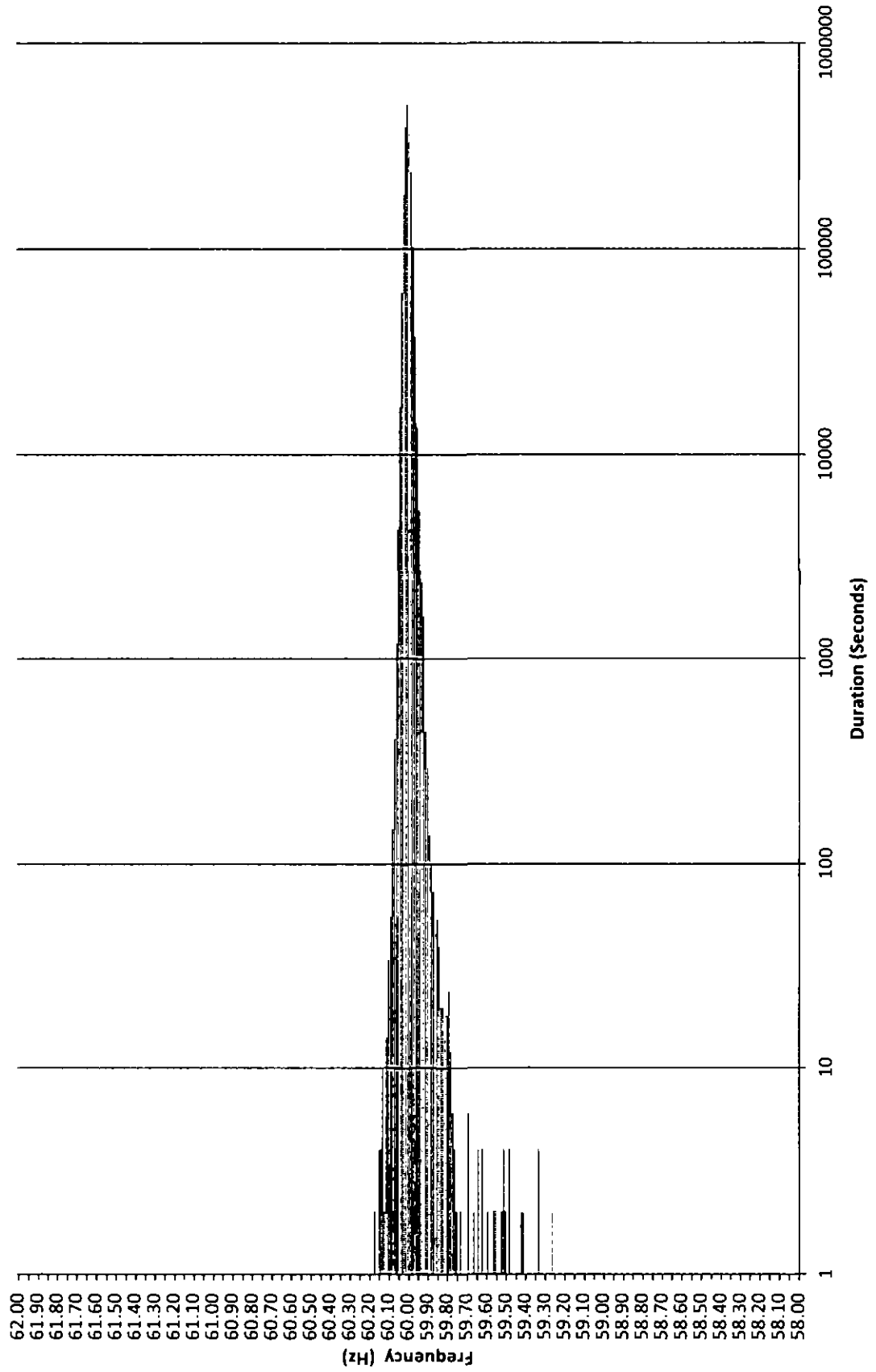
Frequency Distribution Plot - HECO November 2012



MECO Frequency Distribution Plot - Maui November 2012



Frequency Distribution Plot - HELCO November 2012



HECO Frequency Excursion Statistics November 2012		
Data Rounded to the nearest	<59.95 Hz	>60.05 Hz
Number of Excursions	4639	5824
Maximum Duration (sec)	496	438
Maximum Deviation (Hz)	59.486	60.113
Total Duration of Excursions (sec)	77294	125330

MECO Frequency Excursion Statistics November 2012		
	<59.95 Hz	>60.05 Hz
Number of Excursions	5773	1001
Maximum Duration (sec)	1744	5128
Maximum Deviation (Hz)	57.99707	60.45703
Total Duration of Excursions (sec)	68474	23738

HELCO Frequency Excursion Statistics November 2012		
	<59.95 Hz	>60.05 Hz
Number of Excursions	2058	654
Maximum Duration (sec)	208	40
Maximum Deviation (Hz)	59.26074	60.2666
Total Duration of Excursions (sec)	16300	3340

This page intentionally left blank.

MAUI ELECTRIC COMPANY, LIMITED
UNDERFREQUENCY LOADSHEDDING EVENTS
November 2012

Event #	IR #	Island	Date & Time	Frequency (Hz)			Load Shed (MW)	Duration (HH:MM)	Description
				Prior to Event	Nadir	Levels UFLS Occurred			
1	739	Maui	11/6/2012 0004hrs	59.936	58.00	58.7, 58.5, 58.0	16.28	0:51	A system frequency depression of 58.0 Hz occurred due to a flash over across all three phases on the Maalaea-Puunene 69KV line causing M16 and M18 at MPP to trip off line
2	748	Lanai	11/8/2012 1024hrs	60.027	58.30	58.7, 58.4	0.40	0:13	A system frequency depression of 58.3 Hz occurred due to loss of generator LL1 tripping off line due to main bearing temperature
3	751	Lanai	11/9/2012 1513hrs	60.007	57.60	58.7, 58.4, 58.0	0.90	0:35	A system frequency depression of 57.6 Hz occurred due to loss of generator LL4 tripping off line due to main bearing temperature
4	756	Lanai	11/12/2012 0939hrs	59.907	58.40	58.7, 58.4	0.40	0:13	A system frequency depression of 58.4 Hz occurred due to loss of generator LL1
5	757	Lanai	11/13/2012 0830hrs	59.977	58.00	58.7, 58.4	0.40	0:26	A system frequency depression of 58.0 Hz occurred due to loss of generator LL3
6	758	Lanai	11/13/2012 2052hrs	60.020	56.86	58.7, 58.4, 58.0	1.40	0:32	A system frequency depression of 56.86 Hz occurred due to loss of generator LL7
7	767	Lanai	11/16/2012 0121hrs	60.017	35.90	58.7, 58.4, 58.0	1.80	0:48	A system frequency depression of 35.90 Hz occurred due to loss of generator LL7
8	771	Lanai	11/16/2012 1624hrs	59.957	58.60	58.70	0.20	0:23	A system frequency depression of 55.60 Hz occurred due to loss of generator LL1
9	772	Lanai	11/16/2012 1627hrs	59.957	58.50	58.70	0.20	0:20	A system frequency depression of 58.50 Hz occurred due to loss of generator LL1
10	782	Lanai	11/21/2012 1124hrs	59.977	58.18	58.70	0.40	0:03	A system frequency depression of 58.18 Hz occurred due to loss of the CHP unit at Manele

HECO Curtailment Report November 2012

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
11/09/12 06:52	0.0	4.30	11/09/12 07:53	0		Makai	Pole replacement on Koolau-Kahuku 46kV line
11/09/12 06:58	0.0	0.00	11/09/12 13:44	0		Mauka	Wahiawa-Waiialua 46kV line outage
11/09/12 18:52	0.0	0.00	11/09/12 19:47	0		Makai	Pole replacement on Koolau-Kahuku 46kV line
11/27/12 14:42	0.0	7.69	11/27/12 15:42	0		Makai	Pole replacement on Koolau-Kahuku 46kV line
11/27/12 15:14	0.0	21.62	11/27/12 15:42	0		Mauka	Pole replacement on Koolau-Kahuku 46kV line
11/29/12 07:44	0.0	8.00	11/29/12 16:57	0		Mauka	Pole upgrade on Wahiawa-Waiialua 1 46kV line
11/30/12 05:55	0.0	0.00	11/30/12 16:51	0		Mauka	Pole upgrade on Wahiawa-Waiialua 1 46kV line

KWF = Kahuku Wind Farm
 Makai = Kawaiiloa Makai Wind Farm
 Mauka = Kawaiiloa Mauka Wind Farm

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

MECO-Maui Curtailment Report November 2012

Start Date/Time	Stop Date/Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for curtailment
11/7/12 2:08	11/7/2012 2:37	0:28:54	KWP/II	1.440	8.607	Excess Energy and maintain Regulating Reserve
11/5/12 5:01	11/5/2012 6:47	1:46:00	KWP/II	0.122	12.423	Maintain Regulating Reserve
11/5/12 16:09	11/7/2012 7:49	39:40:00	KWP/II	352.773	20.957	Excess Energy, maintain Regulating Reserve, and operating condition on Company's System
11/7/12 1:03	11/7/2012 7:09	6:06:00	Makila Hydro	No data available	No data available	Excess Energy and maintain Regulating Reserve
11/7/12 1:05	11/7/2012 5:28	4:23:00	5A	No data available	No data available	Excess Energy and maintain Regulating Reserve
11/7/12 1:06	11/7/2012 5:25	4:19:00	KWP	42.221	27.615	Excess Energy and maintain Regulating Reserve
11/7/12 21:03	11/8/2012 11:54	14:31:00	KWP/II	155.268	20.223	Excess Energy, maintain Regulating Reserve, and testing
11/8/12 0:54	11/8/2012 4:51	3:57:00	5A	No data available	No data available	Excess Energy
11/8/12 0:55	11/8/2012 7:14	6:19:00	Makila Hydro	No data available	No data available	Excess Energy
11/8/12 0:56	11/8/2012 4:48	3:52:00	KWP	31.458	23.701	Excess Energy
11/8/12 14:20	11/11/2012 12:06	69:46:00	KWP/II	23.392	20.933	Excess Energy and maintain Regulating Reserve
11/8/12 23:57	11/9/2012 5:24	5:27:00	5A	No data available	No data available	Excess Energy
11/9/12 0:01	11/9/2012 7:17	7:16:00	Makila Hydro	No data available	No data available	Excess Energy
11/9/12 0:02	11/9/2012 5:21	5:19:00	KWP	55.806	30.049	Excess Energy
11/10/12 0:07	11/10/2012 5:32	5:25:00	5A	No data available	No data available	Excess Energy and maintain Regulating Reserve
11/10/12 0:13	11/10/2012 11:32	11:19:00	Makila Hydro	No data available	No data available	Excess Energy and maintain Regulating Reserve
11/10/12 0:24	11/10/2012 5:29	5:05:00	KWP	37.620	30.043	Excess Energy and maintain Regulating Reserve
11/11/12 0:13	11/11/2012 6:01	5:48:00	5A	No data available	No data available	Maintain Regulating Reserve
11/11/12 0:15	11/11/2012 9:30	9:15:00	Makila Hydro	No data available	No data available	Maintain Regulating Reserve
11/11/12 0:16	11/11/2012 5:59	5:43:00	KWP	60.777	28.471	Maintain Regulating Reserve
11/11/12 12:20	11/12/2012 11:53	23:33:00	KWP/II	260.202	20.957	Maintain Regulating Reserve
11/12/12 0:13	11/12/2012 5:31	5:18:00	5A	No data available	No data available	Maintain Regulating Reserve
11/12/12 0:18	11/12/2012 7:17	6:59:00	Makila Hydro	No data available	No data available	Maintain Regulating Reserve
11/12/12 0:19	11/12/2012 5:28	5:09:00	KWP	48.118	27.089	Maintain Regulating Reserve
11/12/12 12:30	11/12/2012 15:32	3:02:00	KWP/II	3.066	20.948	Maintain Regulating Reserve and testing
11/12/12 15:48	11/12/2012 17:58	2:10:00	KWP/II	5.319	20.957	Maintain Regulating Reserve
11/12/12 19:54	11/13/2012 18:34	22:40:00	KWP/II	242.874	20.957	Excess Energy and maintain Regulating Reserve
11/13/12 1:09	11/13/2012 8:18	7:09:00	Makila Hydro	No data available	No data available	Excess Energy
11/13/12 1:11	11/13/2012 4:54	3:43:00	KWP	29.148	28.368	Excess Energy
11/13/12 19:39	11/17/2012 6:50	83:11:00	KWP/II	277.934	20.957	Maintain Regulating Reserve and testing and operating conditions on Company's System
11/14/12 0:10	11/14/2012 4:12	4:02:00	5A	No data available	No data available	Maintain Regulating Reserve
11/14/12 0:12	11/14/2012 7:12	4:00:00	Makila Hydro	No data available	No data available	Maintain Regulating Reserve
11/14/12 6:03	11/14/2012 9:28	3:23:00	KWP	No data available	No data available	Self curtailment due to high wind gusts
11/16/12 2:15	11/16/2012 5:46	3:31:00	5A	No data available	No data available	Maintain Regulating Reserve
11/16/12 2:19	11/16/2012 7:52	5:33:00	Makila Hydro	No data available	No data available	Maintain Regulating Reserve
11/16/12 2:24	11/16/2012 4:10	1:46:00	KWP	3.188	29.952	Maintain Regulating Reserve
11/16/12 21:59	11/19/2012 10:57	60:58	5A	No data available	No data available	Operating conditions on Company's System
11/16/12 22:00	11/17/2012 9:57	11:57:00	Makila Hydro	No data available	No data available	Testing
11/17/12 19:25	11/17/2012 21:09	1:44:00	KWP/II	8.096	20.957	Testing
11/17/12 21:31	11/18/2012 11:00	13:29:00	KWP/II	171.091	20.957	Maintain Regulating Reserve and testing
11/18/12 0:15	11/18/2012 10:57	10:42:00	Makila Hydro	No data available	No data available	Maintain Regulating Reserve and testing
11/18/12 0:30	11/18/2012 1:00	0:30:00	KWP	4.676	23.632	Testing
11/18/12 2:00	11/18/2012 6:14	4:14:00	KWP	26.139	27.308	Testing
11/18/12 11:02	11/18/2012 11:05	0:03:00	KWP/II	0.046	16.491	Maintain Regulating Reserve
11/18/12 16:00	11/18/2012 16:01	0:01:00	KWP/II	0.006	0.034	Maintain Regulating Reserve
11/19/12 3:55	11/19/2012 4:32	0:37:00	KWP	0.268	3.836	Maintain Regulating Reserve and testing and operating conditions on Company's System
11/19/12 6:26	11/19/2012 7:57	1:31:00	KWP/II	2.181	16.166	Maintain Regulating Reserve

MECO-Maui Curtailment Report November 2012

Start Date/Time	Stop Date/Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for curtailment
11/19/12 8:08	11/19/2012 8:13	0:05:00	KWP/II	0.037	11.186	Maintain Regulating Reserve
11/19/12 16:22	11/19/2012 16:26	0:04:00	KWP/II	0.011	0.018	Maintain Regulating Reserve
11/19/12 16:55	11/19/2012 16:57	0:02:00	KWP/II	85.109	20.931	Maintain Regulating Reserve
11/20/12 0:43	11/20/2012 0:44	0:01:00	KWP/II	0.002	2.899	Maintain Regulating Reserve
11/20/12 6:03	11/20/2012 11:28	5:25:00	KWP/II	44.194	20.931	Maintain Regulating Reserve
11/20/12 11:33	11/20/2012 11:38	0:05:00	KWP/II	0.093	20.931	Maintain Regulating Reserve
11/20/12 11:41	11/20/2012 11:42	0:01:00	KWP/II	0.000	14.630	Maintain Regulating Reserve
11/21/12 8:19	11/21/2012 8:20	0:01:00	KWP/II	0.002	0.017	Maintain Regulating Reserve
11/21/12 16:22	11/21/2012 16:23	0:01:00	KWP/II	0.004	0.012	Maintain Regulating Reserve
11/22/12 11:00	11/22/2012 11:02	0:02:00	KWP/II	0.006	0.135	Maintain Regulating Reserve
11/23/12 6:43	11/23/2012 6:51	0:08:00	KWP/II	0.013	4.478	Maintain Regulating Reserve
11/24/12 2:42	11/24/2012 3:05	0:23:00	KWP/II	0.367	14.151	Maintain Regulating Reserve
11/24/12 7:23	11/24/2012 8:13	0:50:00	KWP/II	1.231	17.798	Maintain Regulating Reserve
11/24/12 8:47	11/24/2012 9:02	0:15:00	KWP/II	0.133	18.270	Maintain Regulating Reserve
11/24/12 11:44	11/24/2012 13:23	1:39:00	KWP/II	4.519	17.647	Maintain Regulating Reserve
11/24/12 16:34	11/24/2012 16:37	0:03:00	KWP/II	133.000	21.000	Maintain Regulating Reserve
11/24/12 16:41	11/24/2012 16:44	0:03:00	KWP/II	0.018	17.319	Maintain Regulating Reserve
11/24/12 17:13	11/24/2012 20:25	3:12:00	KWP/II	38.719	20.903	Maintain Regulating Reserve
11/24/12 21:24	11/24/2012 23:17	1:53:00	KWP/II	8.486	20.411	Maintain Regulating Reserve
11/24/12 23:25	11/25/2012 2:53	3:28:00	KWP/II	20.624	20.011	Excess Energy and maintain Regulating Reserve
11/25/12 0:15	11/25/2012 1:06	0:51:00	5A	No data available	No data available	Excess Energy
11/25/12 0:16	11/25/2012 11:03	10:47:00	Makila Hydro	No data available	No data available	Excess Energy
11/25/12 0:28	11/25/2012 1:05	0:37:00	KWP	0.00	26.35	Excess Energy
11/25/12 4:53	11/25/2012 5:05	0:12:00	KWP/II	0.107	7.928	Maintain Regulating Reserve
11/25/12 5:37	11/25/2012 7:12	1:35:00	KWP/II	5.580	16.656	Maintain Regulating Reserve
11/25/12 10:42	11/25/2012 11:09	0:27:00	KWP/II	0.315	19.257	Maintain Regulating Reserve
11/25/12 11:16	11/25/2012 11:22	0:06:00	KWP/II	0.055	19.690	Maintain Regulating Reserve
11/25/12 11:26	11/25/2012 11:31	0:05:00	KWP/II	0.006	19.361	Maintain Regulating Reserve
11/25/12 11:36	11/25/2012 11:39	0:03:00	KWP/II	0.071	19.360	Maintain Regulating Reserve
11/25/12 11:44	11/25/2012 11:47	0:03:00	KWP/II	0.014	18.878	Maintain Regulating Reserve
11/25/12 11:53	11/25/2012 11:54	0:01:00	KWP/II	0.011	19.778	Maintain Regulating Reserve
11/25/12 14:41	11/28/2012 6:33	63:52:00	KWP/II	664.247	20.957	Excess Energy and maintain Regulating Reserve
11/25/12 23:57	11/26/2012 4:15	4:18:00	5A	No data available	No data available	Excess Energy
11/25/12 23:58	11/26/2012 7:12	7:14:00	Makila Hydro	No data available	No data available	Excess Energy
11/26/12 0:05	11/26/2012 4:06	4:01:00	KWP	22.030	26.048	Excess Energy
11/26/12 23:32	11/27/2012 5:57	6:25:00	5A	No data available	No data available	Excess Energy
11/26/12 23:32	11/27/2012 7:13	7:41:00	Makila Hydro	No data available	No data available	Excess Energy
11/26/12 23:33	11/27/2012 5:57	6:24:00	KWP	37.014	28.829	Excess Energy
11/27/12 23:54	11/28/2012 0:45	0:51:00	5A	No data available	No data available	Excess Energy and maintain Regulating Reserve
11/27/12 23:55	11/28/2012 7:00	7:05:00	Makila Hydro	No data available	No data available	Excess Energy and maintain Regulating Reserve
11/28/12 0:00	11/28/2012 0:45	0:45:00	KWP	No data available	No data available	Excess Energy
11/28/12 0:48	11/28/2012 5:12	4:24:00	5A	No data available	No data available	Excess Energy
11/28/12 0:49	11/28/2012 5:00	4:11:00	KWP	15.944	22.714	Excess Energy

Notes:

- During curtailment events the set point for Kaheawa Wind Power ("KWP") and Kaheawa Wind Power II ("KWP/II") are adjusted to ensure maximum energy contribution. KWP "Estimated curtailed energy during event" and "Peak MW curtailed" information is provided by First Wind, and MECO does not make any representation as to its accuracy.
- The Makila Hydro curtailment period end time is usually controlled by the facility. MECO can usually accept Makila Hydro generation at the same time that 5A is uncurtailed, which is before the facility commits its generator.
- Estimated curtailed MWH during curtailment events for Kaheawa Wind Power II, LLC is based on information provided by Kaheawa Wind Power II, LLC. Maui Electric Company, Limited does not make any representation as to its accuracy.
- Estimated curtailed MWH during curtailment events is not available for Makila Hydro, or AAAAA Rent-A-Space Maui LTD.
- Curtailed peak energy during curtailment events is not available for Makila Hydro or AAAAA Rent-A-Space Maui LTD.

MECO-Lanai Curtailment Report November 2012

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
11/1/12 9:00	11/1/12 9:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 10:00	11/1/12 10:11	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 11:01	11/1/12 11:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 12:00	11/1/12 12:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 13:04	11/1/12 13:15	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 14:02	11/1/12 14:13	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 15:00	11/1/12 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 16:03	11/1/12 16:16	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/1/12 17:00	11/1/12 17:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 9:01	11/2/12 9:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 10:03	11/2/12 10:14	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 11:01	11/2/12 11:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 12:01	11/2/12 12:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 13:00	11/2/12 13:10	0:10	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 14:02	11/2/12 14:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 15:02	11/2/12 15:13	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 16:00	11/2/12 16:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/2/12 17:01	11/2/12 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 9:00	11/3/12 9:10	0:10	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 10:00	11/3/12 10:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 11:01	11/3/12 11:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 12:01	11/3/12 12:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 13:00	11/3/12 13:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 14:00	11/3/12 14:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 15:00	11/3/12 15:11	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 16:00	11/3/12 16:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/3/12 17:01	11/3/12 17:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 9:00	11/4/12 9:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 10:00	11/4/12 10:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 11:01	11/4/12 11:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 12:01	11/4/12 12:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 13:00	11/4/12 13:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 14:00	11/4/12 14:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 15:00	11/4/12 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 16:00	11/4/12 16:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/4/12 17:01	11/4/12 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 9:00	11/5/12 9:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 10:00	11/5/12 10:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation

MECO-Lanai Curtailment Report November 2012

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
11/5/12 11:00	11/5/12 11:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 12:00	11/5/12 12:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 13:00	11/5/12 13:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 14:00	11/5/12 14:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 15:00	11/5/12 15:11	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 16:00	11/5/12 16:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/5/12 17:01	11/5/12 17:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 9:00	11/6/12 9:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 10:00	11/6/12 10:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 11:00	11/6/12 11:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 12:01	11/6/12 12:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 13:01	11/6/12 13:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 14:00	11/6/12 14:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 15:00	11/6/12 15:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 16:00	11/6/12 16:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/6/12 17:01	11/6/12 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 9:00	11/7/12 9:11	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 10:00	11/7/12 10:11	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 11:01	11/7/12 11:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 12:01	11/7/12 12:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 13:01	11/7/12 13:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 14:01	11/7/12 14:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 15:00	11/7/12 15:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 16:00	11/7/12 16:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/7/12 17:01	11/7/12 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 9:00	11/8/12 9:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 10:02	11/8/12 10:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 11:00	11/8/12 11:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 12:00	11/8/12 12:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 13:01	11/8/12 13:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 14:02	11/8/12 14:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 15:00	11/8/12 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 16:00	11/8/12 16:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/8/12 17:01	11/8/12 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 9:00	11/9/12 9:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 10:01	11/9/12 10:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 11:00	11/9/12 11:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 12:00	11/9/12 12:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation

MECO-Lanai Curtailment Report November 2012

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
11/9/12 13:01	11/9/12 13:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 14:02	11/9/12 14:13	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 15:00	11/9/12 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 16:00	11/9/12 16:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/9/12 17:01	11/9/12 17:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 9:00	11/10/12 9:11	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 10:01	11/10/12 10:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 11:00	11/10/12 11:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 12:00	11/10/12 12:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 13:01	11/10/12 13:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 14:02	11/10/12 14:13	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 15:00	11/10/12 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 16:00	11/10/12 16:11	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/10/12 17:01	11/10/12 17:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 9:00	11/11/12 9:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 10:00	11/11/12 10:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 11:01	11/11/12 11:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 12:00	11/11/12 12:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 13:04	11/11/12 13:16	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 14:02	11/11/12 14:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 15:00	11/11/12 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 16:03	11/11/12 16:15	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/11/12 17:00	11/11/12 17:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 9:01	11/12/12 9:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 10:03	11/12/12 10:15	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 11:01	11/12/12 11:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 12:01	11/12/12 12:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 13:00	11/12/12 13:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 14:02	11/12/12 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 15:02	11/12/12 15:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 16:00	11/12/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/12/12 17:01	11/12/12 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/13/12 9:00	11/13/12 9:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/13/12 10:00	11/13/12 10:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/13/12 11:01	11/13/12 11:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/13/12 12:01	11/13/12 12:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/13/12 13:00	11/13/12 13:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/13/12 14:00	11/13/12 14:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation

MECO-Lanai Curtailment Report November 2012

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

MECO-Lanai Curtailment Report November 2012

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
11/18/12 11:00	11/18/12 11:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/18/12 12:00	11/18/12 12:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/18/12 13:01	11/18/12 13:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/18/12 14:02	11/18/12 14:13	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/18/12 15:00	11/18/12 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/18/12 16:00	11/18/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/18/12 17:01	11/18/12 17:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 9:00	11/19/12 9:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 10:01	11/19/12 10:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 11:00	11/19/12 11:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 12:00	11/19/12 12:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 13:01	11/19/12 13:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 14:02	11/19/12 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 15:00	11/19/12 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/19/12 16:00	11/19/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 9:00	11/20/12 9:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 10:01	11/20/12 10:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 11:00	11/20/12 11:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 12:00	11/20/12 12:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 13:01	11/20/12 13:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 14:02	11/20/12 14:13	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 15:00	11/20/12 15:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/20/12 16:00	11/20/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/21/12 9:00	11/21/12 9:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/21/12 10:00	11/21/12 10:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/21/12 11:01	11/21/12 11:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/21/12 12:00	11/21/12 12:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/21/12 13:01	11/21/12 13:12	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/21/12 14:02	11/21/12 14:13	0:11	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/21/12 15:00	11/21/12 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 9:01	11/22/12 9:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 10:03	11/22/12 10:15	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 11:01	11/22/12 11:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 12:01	11/22/12 12:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 13:00	11/22/12 13:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 14:02	11/22/12 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 15:02	11/22/12 15:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/22/12 16:00	11/22/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation

MECO-Lanai Curtailment Report November 2012

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

MECO-Lanai Curtailment Report November 2012

Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
11/27/12 13:01	11/27/12 13:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/27/12 14:01	11/27/12 14:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/27/12 15:00	11/27/12 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/27/12 16:00	11/27/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/27/12 17:01	11/27/12 17:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 9:00	11/28/12 9:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 10:00	11/28/12 10:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 11:00	11/28/12 11:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 12:00	11/28/12 12:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 13:01	11/28/12 13:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 14:02	11/28/12 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 15:00	11/28/12 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 16:00	11/28/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/28/12 17:01	11/28/12 17:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 9:00	11/29/12 9:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 10:01	11/29/12 10:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 11:00	11/29/12 11:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 12:00	11/29/12 12:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 13:01	11/29/12 13:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 14:02	11/29/12 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 15:00	11/29/12 15:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 16:00	11/29/12 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/29/12 17:01	11/29/12 17:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 9:00	11/30/12 9:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 10:01	11/30/12 10:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 11:01	11/30/12 11:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 12:00	11/30/12 12:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 13:01	11/30/12 13:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 14:02	11/30/12 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 15:00	11/30/12 15:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 16:00	11/30/12 16:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
11/30/12 17:01	11/30/12 17:15	0:14	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 November 2012

Start Date/Time	MW output prior to start of curtailment	End Date/Time	MW output after curtailment released	Reason for Curtailment
11/01/12 08:23	7.6 MW	11/01/12 08:34	7.8 MW	Tawhiri curtailed - switching at Kealia Sw. Station.
11/01/12 17:43	4.6 MW	11/01/12 18:11	2.4 MW	Tawhiri curtailed - switching at Kealia Sw. Station.
11/05/12 11:32	18.7 MW	11/05/12 12:02	10.0 MW	Tawhiri curtailed - emergency switching on 9600 line.
11/07/12 09:02	5.0 MW	11/07/12 15:31	2.5 MW	HRD curtailed - relocate meter box & replace cable.
11/16/12 00:22	18.7 MW	11/16/12 04:33	14.4 MW	Tawhiri Group B curtailed for excess energy.
11/18/12 00:58	19.8 MW	11/18/12 05:22	18.2 MW	Tawhiri Group B curtailed for excess energy.
11/20/12 08:10	19.8 MW	11/20/12 09:06	19.6 MW	Tawhiri curtailed - switching at Kealia Sw. Station.
11/20/12 16:40	19.8 MW	11/20/12 17:10	9.9 MW	Tawhiri curtailed - switching at Kealia Sw. Station.
11/28/12 00:11	19.7 MW	11/28/12 04:59	17.2 MW	Tawhiri Group B curtailed for excess energy.
11/28/12 12:21	15.2 MW	11/28/12 12:56	14.1 MW	Tawhiri curtailed - switching at Kahaluu Sw. Station.
11/28/12 14:34	12.5 MW	11/28/12 15:01	10.0 MW	Tawhiri curtailed - switching at Kahaluu Sw. Station.
11/29/12 07:20	5.2 MW	11/29/12 07:26	4.4 MW	Tawhiri curtailed - switching at Kealia Sw. Station.
11/30/12 08:04	2.4 MW	11/30/12 08:10	3.1 MW	Tawhiri curtailed - switching at Kealia Sw. Station.