



October 20, 2017

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PUBLIC UTILITIES
COMMISSION

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

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 September 2017 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 Companies are 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@hawaiianelectric.com to request a copy.

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

Sincerely,

Daniel G. Brown
Manager
Regulatory Non-Rate Proceedings

Enclosure

c: Service List

¹ Hawaiian Electric Company, Inc., Hawai'i 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
(Docket No. 2011-0206)

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SERVICE LIST
(Docket No. 2011-0206)

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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 September 30, 2017):

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, Maui Electric (Maui Division) and Hawai'i Electric Light 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, Maui Electric (Maui Division) and Hawai'i Electric Light 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 September 30, 2017):

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

Hawaiian Electric's contingency reserve activations are provided in Attachment 3. Maui Electric and Hawai'i Electric Light 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:

Hawaiian Electric, Hawai'i Electric Light, and Maui Electric did not have any under frequency load shed activations for the month of September. Therefore, Attachment 4 is not being provided for this reporting period.

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. Hawai'i Electric Light currently does not have a demand response program. Maui Electric has implemented the Fast Demand Response pilot program on a limited basis. Hawai'i Electric Light plans to use the findings of Maui Electric's pilot program to help in the evaluation and development of future demand response programs. Maui Electric executes a weekly testing protocol which measures customer participation. This program is not currently used in response to actual system events.

- (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 September 30, 2017):

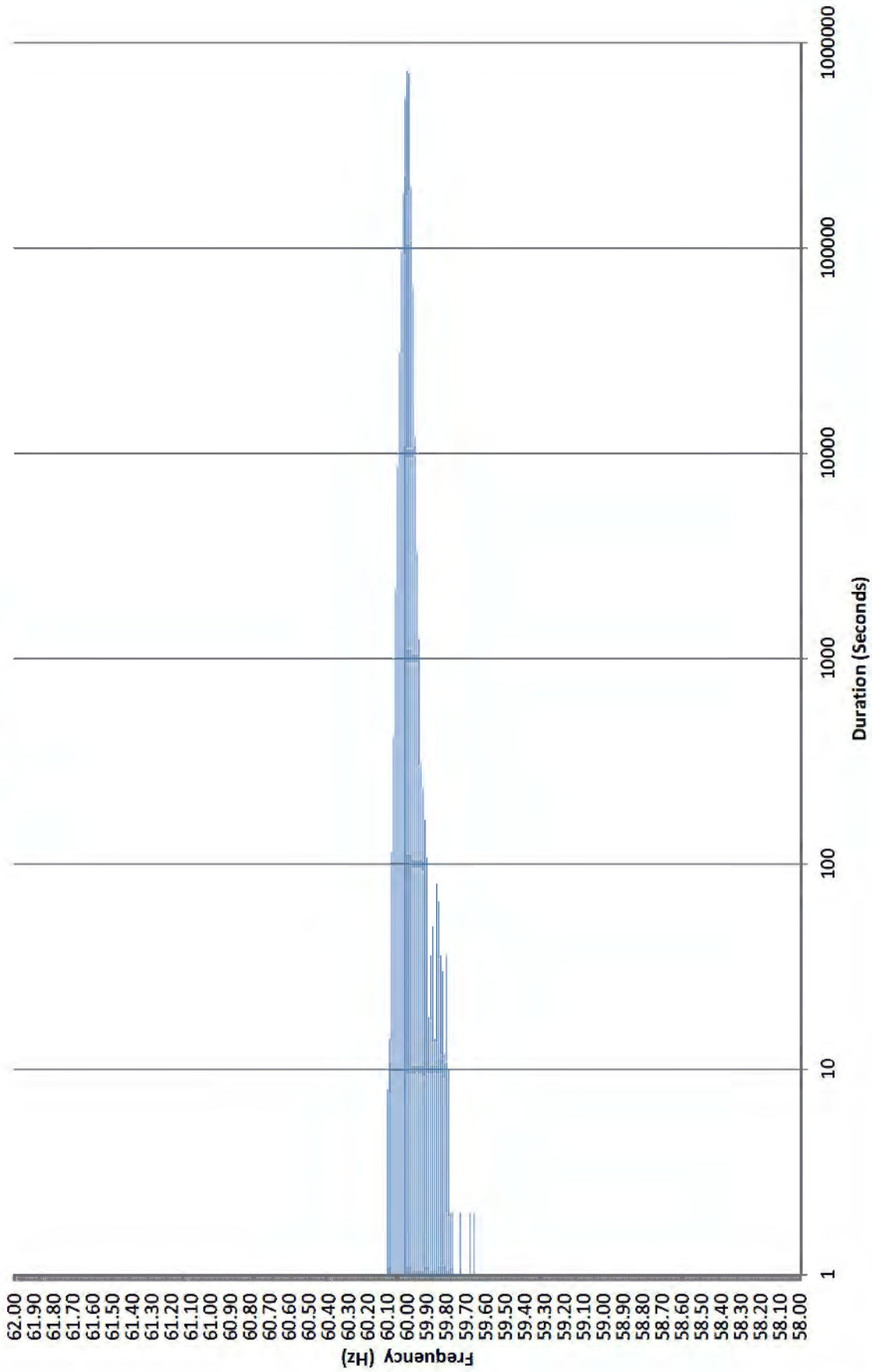
3a) Tabulation of each curtailment event for each resource including the starting date and time, duration, megawatt hours curtailed, peak MW curtailed, and reason for curtailment:

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

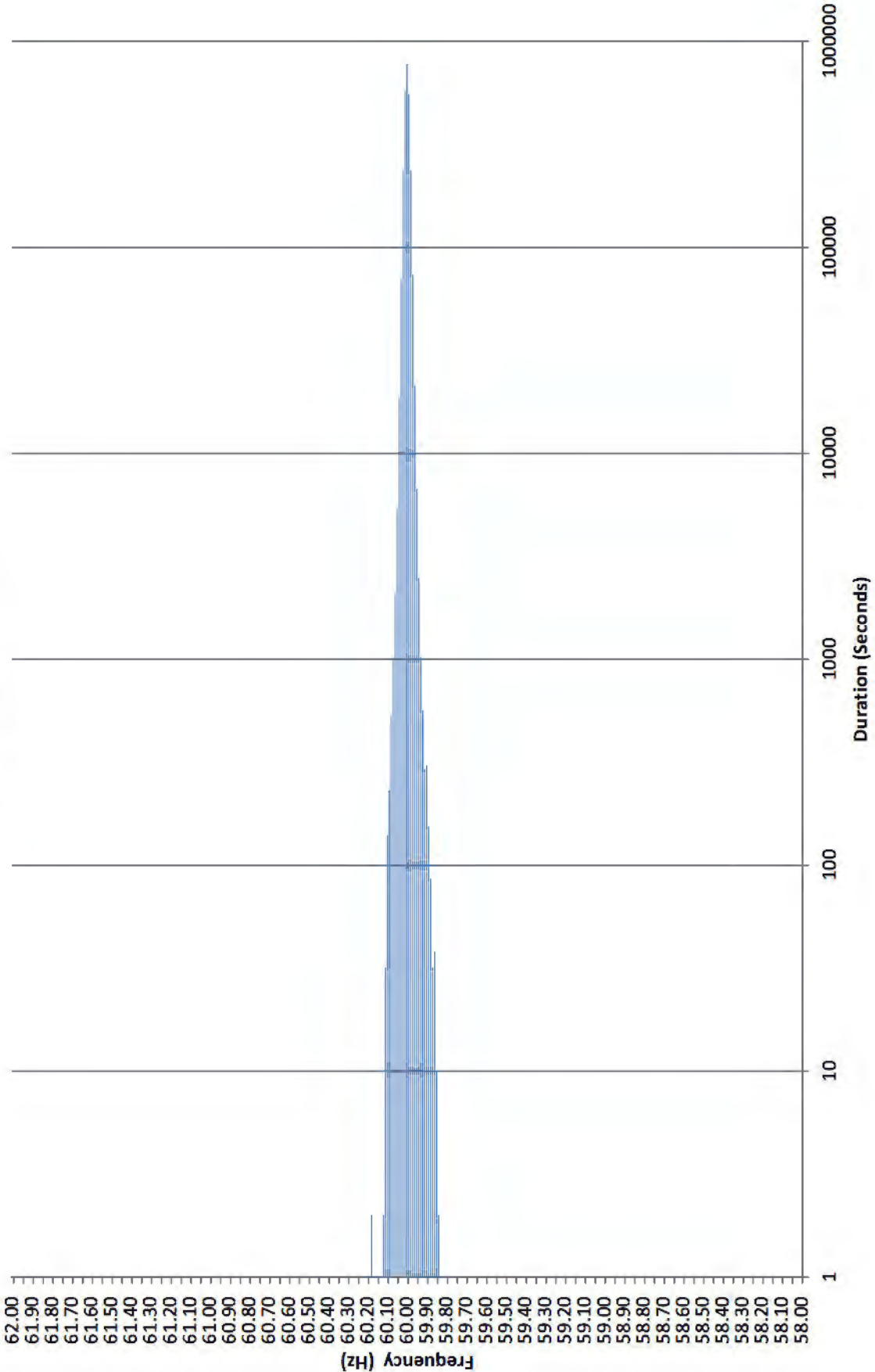
3b) Total MWh of non-dispatchable renewable resources curtailed for the month:

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. 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.

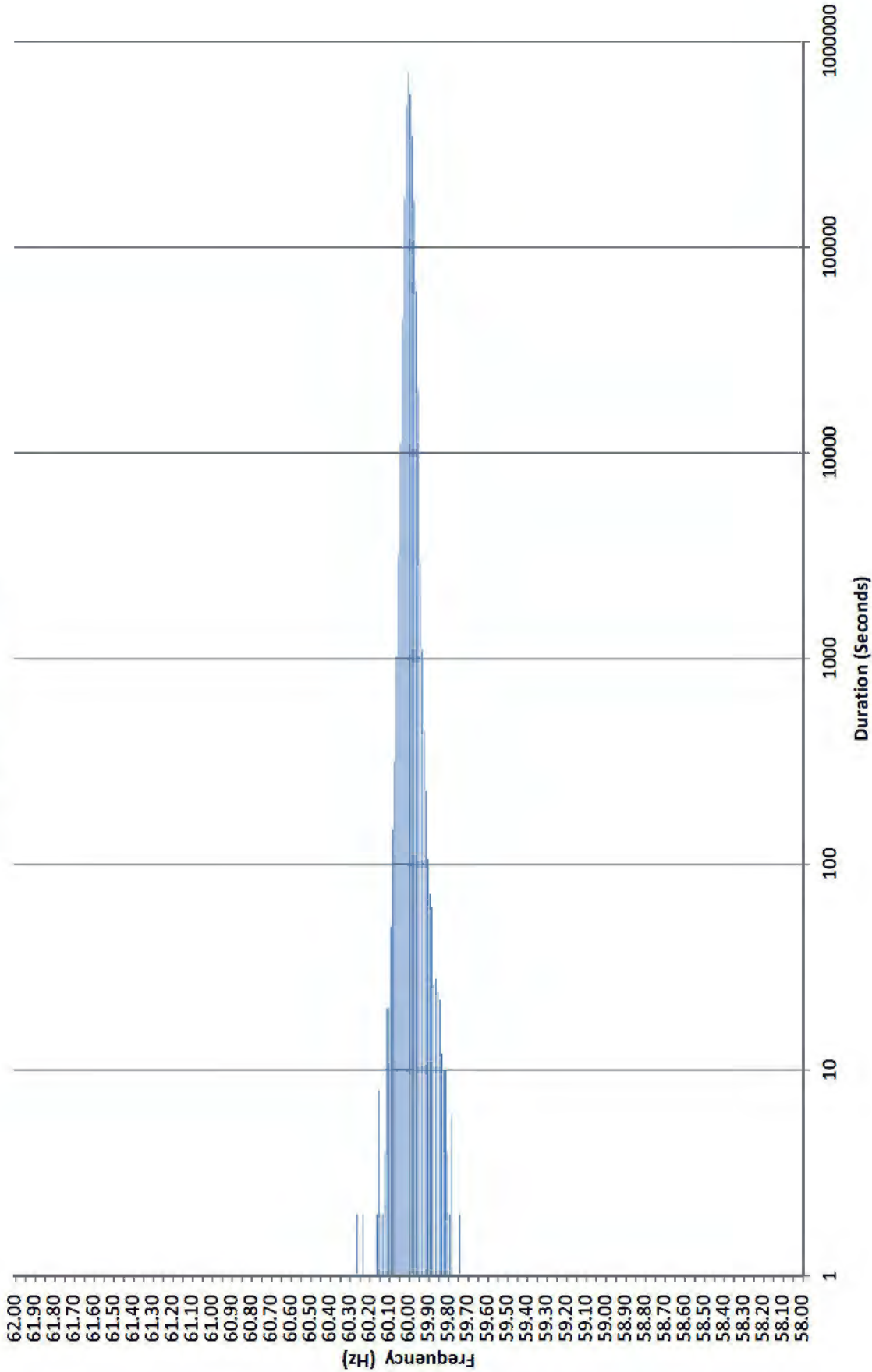
Frequency Distribution Plot - Hawaiian Electric Sept 2017



**Frequency Distribution Plot - Maui Electric
September 2017**



**Frequency Distribution Plot - Hawai'i Electric Light
September 2017**



Hawaiian Electric Frequency Excursion Statistics Sept 2017		
Data Rounded to the nearest	<59.95 Hz	>60.05 Hz
Number of Excursions	331	922
Maximum Duration (sec)	446	154
Maximum Deviation (Hz)	59.66	60.105
Total Duration of Excursions (sec)	3592	5348

Maui Electric Frequency Excursion Statistics September 2017		
	<59.95 Hz	>60.05 Hz
Number of Excursions	1518	1018
Maximum Duration (sec)	212	140
Maximum Deviation (Hz)	59.838	60.178
Total Duration of Excursions (sec)	7328	5992

Hawai'i Electric Light Frequency Excursion Statistics September 2017		
	<59.95 Hz	>60.05 Hz
Number of Excursions	2281	504
Maximum Duration (sec)	130	40
Maximum Deviation (Hz)	59.740	60.263
Total Duration of Excursions (sec)	14010	2762

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Hawaiian Electric Curtailment Report September 2017

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
09/01/17 05:11	0.0	0.00	09/01/17 05:18	0	*	Aloha1	System constraints
09/01/17 05:13	0.0	0.00	09/01/17 14:32	0	*	Waianae	System constraints
09/01/17 12:48	0.0	1.30	09/01/17 14:34	0	*	Aloha1	System constraints
09/02/17 05:37	0.0	0.00	09/02/17 06:05	0	*	KLS2	System constraints
09/02/17 15:55	0.0	0.80	09/02/17 16:23	0	*	KLS2	System constraints
09/03/17 07:45	0.0	3.20	09/03/17 08:03	0	*	KLS2	System constraints
09/03/17 15:50	0.0	4.50	09/03/17 16:09	0	*	KLS2	System constraints
09/05/17 08:17	0.0	22.40	09/05/17 09:04	0	*	Waianae	System constraints
09/05/17 08:19	0.0	2.10	09/05/17 09:05	0	*	Aloha1	System constraints
09/05/17 10:25	0.0	27.60	09/05/17 11:58	0	*	Waianae	System constraints
09/05/17 10:30	0.0	3.80	09/05/17 12:00	0	*	Aloha1	System constraints
09/06/17 04:40	0.0	0.00	09/06/17 05:22	0	*	KWF	System constraints
09/06/17 04:42	0.0	0.00	09/06/17 05:20	0	*	Makai	System constraints
09/06/17 06:13	0.0	0.00	09/06/17 09:42	0	*	KREP	System constraints
09/06/17 17:56	0.0	2.30	09/06/17 18:09	0	*	KWF	System constraints
09/06/17 17:49	0.0	0.60	09/06/17 18:07	0	*	Makai	System constraints
09/09/17 05:47	0.0	0.00	09/09/17 06:23	0	*	KLS2	System constraints
09/09/17 17:07	0.0	3.00	09/09/17 17:31	0	*	KLS2	System constraints
09/10/17 05:42	0.0	0.00	09/10/17 06:07	0	*	KLS2	System constraints
09/10/17 14:54	0.0	1.00	09/10/17 15:19	0	*	KLS2	System constraints
09/11/17 06:44	0.0	0.00	09/11/17 07:50	0	*	KWF	System constraints
09/11/17 06:49	0.0	0.00	09/11/17 16:29	0	*	Mauka	System constraints
09/11/17 06:49	0.0	0.00	09/11/17 07:54	0	*	Makai	System constraints
09/11/17 15:34	0.0	0.90	09/11/17 16:27	0	*	KWF	System constraints
09/11/17 15:34	0.0	0.90	09/11/17 16:28	0	*	Makai	System constraints
09/12/17 06:53	0.0	0.00	09/12/17 07:35	0	*	KWF	System constraints
09/12/17 06:55	0.0	0.00	09/12/17 15:56	0	*	Mauka	System constraints
09/12/17 06:55	0.0	0.00	09/12/17 07:39	0	*	Makai	System constraints
09/12/17 15:20	0.0	0.00	09/12/17 15:54	0	*	KWF	System constraints
09/12/17 15:22	0.0	0.60	09/12/17 15:56	0	*	Makai	System constraints
09/13/17 06:27	0.0	0.00	09/13/17 07:48	0	*	Waianae	System constraints
09/13/17 06:29	0.0	0.00	09/13/17 07:44	0	*	Aloha1	System constraints
09/13/17 16:15	0.0	27.50	09/13/17 16:17	0	*	Waianae	System constraints
09/13/17 16:42	0.0	3.10	09/13/17 17:59	0	*	Aloha1	System constraints
09/19/17 14:40	0.0	14.00	09/19/17 15:30	0	*	KWF	System constraints
09/19/17 14:48	0.0	12.00	09/19/17 15:34	0	*	Makai	System constraints
09/19/17 20:31	0.0	18.30	09/19/17 21:11	0	*	KWF	System constraints
09/19/17 20:34	0.0	1.80	09/19/17 21:13	0	*	Makai	System constraints
09/21/17 07:24	0.0	6.60	09/21/17 16:09	0	*	Waianae	System constraints
09/21/17 07:31	0.0	0.50	09/21/17 07:54	0	*	Aloha1	System constraints
09/21/17 15:11	0.0	3.70	09/21/17 16:12	0	*	Aloha1	System constraints
09/23/17 05:58	0.0	0.00	09/23/17 06:25	0	*	KLS2	System constraints
09/23/17 14:00	0.0	4.30	09/23/17 17:48	0	*	KREP	System constraints
09/23/17 16:52	0.0	2.80	09/23/17 17:11	0	*	KLS2	System constraints
09/24/17 15:21	0.0	4.50	09/24/17 15:46	0	*	KLS2	System constraints
09/25/17 07:00	0.0	0.20	09/26/17 07:18	0	*	KREP	System constraints
09/25/17 07:15	0.0	0.00	09/25/17 17:33	0	*	North	System constraints
09/25/17 07:16	0.0	0.00	09/25/17 17:21	0	*	South	System constraints
09/26/17 05:54	0.0	0.00	09/26/17 16:34	0	*	North	System constraints
09/26/17 05:55	0.0	0.00	09/26/17 16:34	0	*	South	System constraints
09/26/17 06:04	0.0	0.00	09/26/17 08:21	0	*	KWF	System constraints
09/26/17 06:06	0.0	0.00	09/26/17 08:23	0	*	Makai	System constraints
09/26/17 14:55	0.0	7.00	09/26/17 15:26	0	*	KWF	System constraints
09/26/17 14:54	0.0	3.00	09/26/17 15:27	0	*	Makai	System constraints
09/27/17 06:38	0.0	0.00	09/27/17 17:23	0	*	North	System constraints
09/27/17 06:39	0.0	0.00	09/27/17 17:24	0	*	South	System constraints
09/27/17 07:09	0.0	10.60	09/27/17 09:31	0	*	KWF	System constraints
09/27/17 07:16	0.0	1.80	09/27/17 09:34	0	*	Makai	System constraints
09/27/17 07:17	0.0	12.70	09/27/17 09:35	0	*	Mauka	System constraints
09/28/17 05:00	0.0	0.30	09/28/17 05:50	0	*	Waianae	System constraints
09/28/17 05:18	0.0	0.00	09/28/17 05:47	0	*	Aloha1	System constraints
09/28/17 04:48	0.0	0.00	09/28/17 17:42	0	*	North	System constraints

Hawaiian Electric Curtailment Report September 2017

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
09/28/17 04:48	0.0	0.00	09/28/17 17:42	0	*	South	System constraints
09/28/17 08:15	0.0	19.40	09/28/17 17:54	0	*	KWF	System constraints
09/28/17 08:17	0.0	5.10	09/28/17 08:56	0	*	Mauka	System constraints
09/28/17 08:18	0.0	4.50	09/28/17 08:56	0	*	Makai	System constraints
09/28/17 15:12	0.0	32.00	09/28/17 17:47	0	*	Mauka	System constraints
09/28/17 15:11	0.0	15.00	09/28/17 17:47	0	*	Makai	System constraints
09/28/17 18:05	0.0	0.30	09/28/17 19:44	0	*	Waianae	System constraints
09/28/17 18:10	0.0	5.00	09/28/17 19:49	0	*	Aloha1	System constraints
09/29/17 05:44	0.0	0.00	09/29/17 06:50	0	*	Waianae	System constraints
09/29/17 05:44	0.0	0.00	09/29/17 06:50	0	*	Waianae	System constraints
09/29/17 05:46	0.0	0.00	09/29/17 06:49	0	*	Aloha1	System constraints
09/29/17 07:15	0.0	0.00	09/29/17 19:28	0	*	North	System constraints
09/29/17 07:16	0.0	0.00	09/29/17 19:28	0	*	South	System constraints
09/29/17 09:23	0.0	6.30	09/29/17 16:53	0	*	KWF	System constraints
09/29/17 09:27	0.0	1.00	09/29/17 09:58	0	*	Mauka	System constraints
09/29/17 09:26	0.0	3.10	09/29/17 09:58	0	*	Makai	System constraints
09/29/17 15:50	0.0	16.40	09/29/17 16:57	0	*	Mauka	System constraints
09/29/17 15:50	0.0	2.00	09/29/17 16:57	0	*	Makai	System constraints
09/29/17 17:04	0.0	12.10	09/29/17 18:47	0	*	Waianae	System constraints
09/29/17 17:06	0.0	0.40	09/29/17 18:49	0	*	Aloha1	System constraints
09/30/17 05:16	0.0	0.00	09/30/17 06:48	0	*	KREP	System constraints
09/30/17 06:55	0.0	0.10	09/30/17 07:14	0	*	KLS2	System constraints
09/30/17 16:45	0.0	2.00	09/30/17 17:07	0	*	KLS2	System constraints
09/30/17 17:10	0.0	1.00	09/30/17 17:40	0	*	KREP	System constraints

Aloha1 = Aloha Solar 1 PV Farm

KLS2 = Kalaeloa Solar 2 PV Farm

KREP = Kalaeloa Renewable Energy Park

KWF = Kahuku Wind Farm

Makai = Kawaihoa Makai Wind Farm

Mauka = Kawaihoa Mauka Wind Farm

North = Waihonu North PV Farm

South = Waihonu South PV Farm

Waianae = Waianae Solar PV 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.



Maui Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
9/3/2017 11:09	0:01	KWPPI	0.000	0.018	System constraint
9/4/2017 15:05	0:01	KWPPI	0.001	0.071	System constraint
9/5/2017 11:40	0:01	KWPPI	0.001	0.048	System constraint
9/9/2017 7:41	0:01	AWE	0.003	0.200	System constraint
9/9/2017 9:37	0:01	KWPPI	0.000	14.572	System constraint
9/9/2017 19:57	0:01	KWPPI	0.000	0.001	System constraint
9/7/2017 8:55	0:01	BS290	Data is not available	Data is not available	System constraint
9/7/2017 8:55	0:01	ESB	Data is not available	Data is not available	System constraint
9/7/2017 8:55	0:01	ESA	Data is not available	Data is not available	System constraint
9/9/2017 3:35	0:01	KWPPI	0.004	19.327	System constraint
9/9/2017 5:48	0:02	KWPPI	0.014	20.609	System constraint
9/15/2017 11:36	0:01	KWPPI	0.006	0.340	System constraint
9/18/2017 5:15	0:01	KWPPI	0.002	5.123	System constraint
9/19/2017 5:56	0:01	KWPPI	0.014	6.765	System constraint
9/18/2017 6:06	0:01	KWPPI	0.072	12.744	System constraint
9/19/2017 6:10	0:01	BS290	Data is not available	Data is not available	System constraint
9/19/2017 6:10	0:01	ESB	Data is not available	Data is not available	System constraint
9/19/2017 6:10	0:01	ESA	Data is not available	Data is not available	System constraint
9/18/2017 6:10	0:01	KWPPI	0.108	16.136	System constraint
9/18/2017 6:49	0:09	BS290	Data is not available	Data is not available	System constraint
9/18/2017 6:49	0:09	ESB	Data is not available	Data is not available	System constraint
9/18/2017 6:49	0:09	ESA	Data is not available	Data is not available	System constraint
9/18/2017 6:50	0:48	KWPPI	7.724	20.707	System constraint
9/19/2017 6:59	0:13	AWE	0.388	17.400	System constraint
9/18/2017 8:09	0:01	KWPPI	0.002	20.673	System constraint
9/18/2017 8:23	2:33	KWPPI	24.929	20.708	System constraint
9/16/2017 10:57	2:04	KWPPI	40.583	20.657	System constraint
9/16/2017 11:03	0:03	AWE	0.072	20.500	System constraint
9/16/2017 11:08	1:36	AWE	6.188	20.700	System constraint
9/16/2017 13:03	2:35	KWPPI	24.011	19.211	System constraint
9/16/2017 21:27	0:01	KWPPI	0.001	20.708	System constraint
9/16/2017 21:32	0:01	KWPPI	0.006	20.708	System constraint
9/16/2017 21:34	0:31	KWPPI	1.292	20.708	System constraint
9/16/2017 22:56	0:01	KWPPI	0.005	20.705	System constraint
9/16/2017 23:01	0:09	KWPPI	0.476	20.708	System constraint
9/16/2017 23:26	6:49	BS290	Data is not available	Data is not available	System constraint
9/16/2017 23:26	6:49	ESB	Data is not available	Data is not available	System constraint
9/16/2017 23:26	6:49	ESA	Data is not available	Data is not available	System constraint
9/16/2017 23:29	6:48	KWPPI	51.249	20.708	System constraint
9/17/2017 6:16	0:08	BS290	Data is not available	Data is not available	System constraint
9/17/2017 6:16	0:08	ESB	Data is not available	Data is not available	System constraint
9/17/2017 6:16	0:08	ESA	Data is not available	Data is not available	System constraint
9/17/2017 6:16	0:02	KWPPI	0.015	20.708	System constraint
9/17/2017 6:19	0:06	KWPPI	0.098	20.708	System constraint
9/17/2017 6:26	0:14	BS290	Data is not available	Data is not available	System constraint
9/17/2017 6:26	0:14	ESB	Data is not available	Data is not available	System constraint
9/17/2017 6:26	0:14	ESA	Data is not available	Data is not available	System constraint
9/17/2017 6:27	0:17	KWPPI	0.495	20.708	System constraint
9/17/2017 6:42	0:02	BS290	Data is not available	Data is not available	System constraint
9/17/2017 6:42	0:02	ESB	Data is not available	Data is not available	System constraint
9/17/2017 6:42	0:02	ESA	Data is not available	Data is not available	System constraint
9/17/2017 6:49	0:11	BS290	Data is not available	Data is not available	System constraint
9/17/2017 6:49	0:11	ESB	Data is not available	Data is not available	System constraint
9/17/2017 6:49	0:11	ESA	Data is not available	Data is not available	System constraint
9/17/2017 6:50	0:11	KWPPI	0.308	20.708	System constraint
9/17/2017 7:01	0:01	BS290	Data is not available	Data is not available	System constraint
9/17/2017 7:01	0:01	ESB	Data is not available	Data is not available	System constraint
9/17/2017 7:01	0:01	ESA	Data is not available	Data is not available	System constraint
9/17/2017 7:16	5:25	BS290	Data is not available	Data is not available	System constraint
9/17/2017 7:16	5:25	ESB	Data is not available	Data is not available	System constraint
9/17/2017 7:16	5:25	ESA	Data is not available	Data is not available	System constraint
9/17/2017 7:17	5:24	KWPPI	71.837	20.708	System constraint
9/17/2017 10:23	1:31	AWE	6.174	21.000	System constraint
9/17/2017 12:00	0:04	AWE	0.059	20.800	System constraint
9/17/2017 12:08	0:07	AWE	0.164	20.500	System constraint
9/17/2017 12:21	0:07	AWE	0.093	20.800	System constraint
9/17/2017 12:29	0:01	AWE	0.000	20.400	System constraint
9/17/2017 12:31	0:02	AWE	0.015	20.600	System constraint
9/17/2017 12:43	0:27	BS290	Data is not available	Data is not available	System constraint
9/17/2017 12:43	0:27	ESB	Data is not available	Data is not available	System constraint
9/17/2017 12:43	0:27	ESA	Data is not available	Data is not available	System constraint
9/17/2017 12:44	2:25	KWPPI	28.283	20.708	System constraint
9/17/2017 13:11	0:01	BS290	Data is not available	Data is not available	System constraint
9/17/2017 13:11	0:01	ESB	Data is not available	Data is not available	System constraint
9/17/2017 13:11	0:01	ESA	Data is not available	Data is not available	System constraint
9/17/2017 13:13	0:04	AWE	0.113	20.700	System constraint
9/17/2017 13:18	1:44	BS290	Data is not available	Data is not available	System constraint
9/17/2017 13:18	1:44	ESB	Data is not available	Data is not available	System constraint
9/17/2017 13:18	1:44	ESA	Data is not available	Data is not available	System constraint
9/17/2017 13:29	0:02	AWE	0.016	20.600	System constraint
9/17/2017 15:03	0:05	BS290	Data is not available	Data is not available	System constraint
9/17/2017 15:03	0:05	ESB	Data is not available	Data is not available	System constraint
9/17/2017 15:03	0:05	ESA	Data is not available	Data is not available	System constraint
9/17/2017 15:13	0:02	BS290	Data is not available	Data is not available	System constraint
9/17/2017 15:13	0:02	ESB	Data is not available	Data is not available	System constraint
9/17/2017 15:13	0:02	ESA	Data is not available	Data is not available	System constraint
9/17/2017 15:16	0:18	BS290	Data is not available	Data is not available	System constraint
9/17/2017 15:16	0:18	ESB	Data is not available	Data is not available	System constraint
9/17/2017 15:16	0:18	ESA	Data is not available	Data is not available	System constraint
9/17/2017 15:16	0:19	KWPPI	0.383	20.708	System constraint
9/17/2017 22:25	0:01	KWPPI	0.003	20.708	System constraint
9/17/2017 22:27	0:02	KWPPI	0.012	20.708	System constraint
9/17/2017 22:34	0:08	KWPPI	0.183	20.708	System constraint
9/17/2017 23:36	0:22	KWPPI	0.315	20.708	System constraint
9/18/2017 0:07	5:22	KWPPI	52.122	20.708	System constraint
9/18/2017 7:19	0:15	BS290	Data is not available	Data is not available	System constraint
9/18/2017 7:19	0:15	ESB	Data is not available	Data is not available	System constraint
9/18/2017 7:19	0:15	ESA	Data is not available	Data is not available	System constraint
9/18/2017 7:20	0:14	KWPPI	0.415	20.708	System constraint
9/18/2017 7:35	0:02	BS290	Data is not available	Data is not available	System constraint
9/18/2017 7:35	0:02	ESB	Data is not available	Data is not available	System constraint
9/18/2017 7:35	0:02	ESA	Data is not available	Data is not available	System constraint
9/18/2017 7:35	0:02	KWPPI	0.011	20.708	System constraint
9/18/2017 7:38	0:01	KWPPI	0.000	20.708	System constraint
9/18/2017 7:41	0:01	BS290	Data is not available	Data is not available	System constraint



Maui Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
9/18/2017 7:41	0:01	ESB	Data is not available	Data is not available	System constraint
9/18/2017 7:41	0:01	ESA	Data is not available	Data is not available	System constraint
9/18/2017 8:04	0:31	BS250	Data is not available	Data is not available	System constraint
9/18/2017 8:04	0:31	ESB	Data is not available	Data is not available	System constraint
9/18/2017 8:04	0:31	ESA	Data is not available	Data is not available	System constraint
9/18/2017 8:06	0:29	KWP11	1.279	20.706	System constraint
9/18/2017 8:37	0:01	BS250	Data is not available	Data is not available	System constraint
9/18/2017 8:37	0:01	ESB	Data is not available	Data is not available	System constraint
9/18/2017 8:37	0:01	ESA	Data is not available	Data is not available	System constraint
9/18/2017 8:41	6:51	BS250	Data is not available	Data is not available	System constraint
9/18/2017 8:41	6:51	ESB	Data is not available	Data is not available	System constraint
9/18/2017 8:41	6:51	ESA	Data is not available	Data is not available	System constraint
9/18/2017 8:41	6:52	KWP11	110.357	20.708	System constraint
9/18/2017 9:19	0:01	AWE	0.005	20.400	System constraint
9/18/2017 9:22	0:01	AWE	0.011	20.600	System constraint
9/18/2017 10:23	0:01	AWE	0.004	20.800	System constraint
9/18/2017 10:26	1:04	AWE	3.691	20.800	System constraint
9/18/2017 11:31	0:10	AWE	0.123	20.800	System constraint
9/18/2017 11:44	1:56	AWE	12.123	20.700	System constraint
9/18/2017 15:38	0:01	BS250	Data is not available	Data is not available	System constraint
9/18/2017 15:38	0:01	ESB	Data is not available	Data is not available	System constraint
9/18/2017 15:38	0:01	ESA	Data is not available	Data is not available	System constraint
9/18/2017 15:40	0:01	BS250	Data is not available	Data is not available	System constraint
9/18/2017 15:40	0:01	ESB	Data is not available	Data is not available	System constraint
9/18/2017 15:40	0:01	ESA	Data is not available	Data is not available	System constraint
9/18/2017 22:02	0:22	KWP11	0.834	20.708	System constraint
9/18/2017 23:05	0:11	KWP11	0.235	20.691	System constraint
9/18/2017 23:21	0:06	KWP11	0.053	20.623	System constraint
9/18/2017 23:29	4:35	KWP11	31.128	20.703	System constraint
9/19/2017 1:20	0:02	AWE	0.015	20.800	System constraint
9/19/2017 4:33	0:27	KWP11	1.238	11.681	System constraint
9/19/2017 5:16	0:01	KWP11	0.028	16.471	System constraint
9/19/2017 5:23	0:01	KWP11	0.055	18.932	System constraint
9/19/2017 5:30	0:01	KWP11	0.046	15.998	System constraint
9/19/2017 5:34	0:09	KWP11	0.474	18.022	System constraint
9/19/2017 7:00	0:05	KWP11	0.072	17.712	System constraint
9/19/2017 7:02	0:09	BS250	Data is not available	Data is not available	System constraint
9/19/2017 7:02	0:09	ESB	Data is not available	Data is not available	System constraint
9/19/2017 7:02	0:09	ESA	Data is not available	Data is not available	System constraint
9/19/2017 7:09	0:03	KWP11	0.024	17.558	System constraint
9/19/2017 7:12	0:01	BS250	Data is not available	Data is not available	System constraint
9/19/2017 7:12	0:01	ESB	Data is not available	Data is not available	System constraint
9/19/2017 7:12	0:01	ESA	Data is not available	Data is not available	System constraint
9/19/2017 7:19	0:54	BS250	Data is not available	Data is not available	System constraint
9/19/2017 7:19	0:54	ESB	Data is not available	Data is not available	System constraint
9/19/2017 7:19	0:54	ESA	Data is not available	Data is not available	System constraint
9/19/2017 7:24	0:01	KWP11	0.005	17.614	System constraint
9/19/2017 7:28	0:09	KWP11	0.079	17.714	System constraint
9/19/2017 7:40	0:04	KWP11	0.026	17.393	System constraint
9/19/2017 7:45	0:03	KWP11	0.014	17.179	System constraint
9/19/2017 7:49	0:03	KWP11	0.032	17.251	System constraint
9/19/2017 7:53	3:24	KWP11	26.873	19.211	System constraint
9/19/2017 8:49	2:27	BS250	Data is not available	Data is not available	System constraint
9/19/2017 8:49	2:27	ESB	Data is not available	Data is not available	System constraint
9/19/2017 8:49	2:27	ESA	Data is not available	Data is not available	System constraint
9/19/2017 11:18	0:02	KWP11	0.105	15.598	System constraint
9/19/2017 11:21	0:31	KWP11	2.744	17.497	System constraint
9/19/2017 11:35	0:17	BS250	Data is not available	Data is not available	System constraint
9/19/2017 11:35	0:17	ESB	Data is not available	Data is not available	System constraint
9/19/2017 11:35	0:17	ESA	Data is not available	Data is not available	System constraint
9/19/2017 22:36	0:02	KWP11	0.034	17.913	System constraint
9/20/2017 0:37	0:38	KWP11	4.873	17.096	System constraint
9/20/2017 1:17	0:41	KWP11	1.595	16.941	System constraint
9/20/2017 2:16	1:13	KWP11	8.061	17.798	System constraint
9/20/2017 3:16	0:09	AWE	0.286	19.300	System constraint
9/20/2017 3:31	1:19	KWP11	19.877	17.497	System constraint
9/20/2017 3:35	0:38	AWE	2.901	20.200	System constraint
9/20/2017 4:18	0:16	AWE	1.116	20.200	System constraint
9/20/2017 4:35	0:11	AWE	0.519	19.600	System constraint
9/20/2017 4:52	1:31	KWP11	8.942	19.210	System constraint
9/20/2017 6:10	0:13	BS250	Data is not available	Data is not available	System constraint
9/20/2017 6:10	0:13	ESB	Data is not available	Data is not available	System constraint
9/20/2017 6:10	0:13	ESA	Data is not available	Data is not available	System constraint
9/20/2017 7:19	0:02	BS250	Data is not available	Data is not available	System constraint
9/20/2017 7:19	0:02	ESB	Data is not available	Data is not available	System constraint
9/20/2017 7:19	0:02	ESA	Data is not available	Data is not available	System constraint
9/20/2017 7:26	0:02	BS250	Data is not available	Data is not available	System constraint



Maui Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
9/20/2017 7:26	0:02	ESB	Data is not available	Data is not available	System constraint
9/20/2017 7:26	0:02	ESA	Data is not available	Data is not available	System constraint
9/20/2017 7:50	3:36	BS250	Data is not available	Data is not available	System constraint
9/20/2017 7:50	3:36	ESB	Data is not available	Data is not available	System constraint
9/20/2017 7:50	3:36	ESA	Data is not available	Data is not available	System constraint
9/20/2017 7:52	3:34	KWPPI	49.833	19.211	System constraint
9/20/2017 9:01	0:01	AWE	0.001	20.800	System constraint
9/20/2017 10:42	0:09	AWE	0.177	19.900	System constraint
9/20/2017 10:52	0:13	AWE	0.621	20.500	System constraint
9/20/2017 11:07	0:03	AWE	0.031	19.500	System constraint
9/20/2017 11:11	0:11	AWE	0.403	20.800	System constraint
9/20/2017 11:28	1:53	BS250	Data is not available	Data is not available	System constraint
9/20/2017 11:28	1:53	ESB	Data is not available	Data is not available	System constraint
9/20/2017 11:28	1:53	ESA	Data is not available	Data is not available	System constraint
9/20/2017 11:28	2:03	KWPPI	14.379	19.108	System constraint
9/20/2017 13:23	0:08	BS250	Data is not available	Data is not available	System constraint
9/20/2017 13:23	0:08	ESB	Data is not available	Data is not available	System constraint
9/20/2017 13:23	0:08	ESA	Data is not available	Data is not available	System constraint
9/20/2017 13:32	0:04	BS250	Data is not available	Data is not available	System constraint
9/20/2017 13:32	0:04	ESB	Data is not available	Data is not available	System constraint
9/20/2017 13:32	0:04	ESA	Data is not available	Data is not available	System constraint
9/20/2017 13:32	0:06	KWPPI	0.057	19.162	System constraint
9/20/2017 13:39	0:01	BS250	Data is not available	Data is not available	System constraint
9/20/2017 13:39	0:01	ESB	Data is not available	Data is not available	System constraint
9/20/2017 13:39	0:01	ESA	Data is not available	Data is not available	System constraint
9/20/2017 13:39	0:01	KWPPI	0.000	18.900	System constraint
9/20/2017 13:42	0:05	BS250	Data is not available	Data is not available	System constraint
9/20/2017 13:42	0:05	ESB	Data is not available	Data is not available	System constraint
9/20/2017 13:42	0:05	ESA	Data is not available	Data is not available	System constraint
9/20/2017 13:42	0:06	KWPPI	0.134	19.053	System constraint
9/20/2017 14:16	0:01	BS250	Data is not available	Data is not available	System constraint
9/20/2017 14:16	0:01	ESB	Data is not available	Data is not available	System constraint
9/20/2017 14:16	0:01	ESA	Data is not available	Data is not available	System constraint
9/20/2017 14:17	0:02	KWPPI	0.018	18.533	System constraint
9/20/2017 15:58	0:03	BS250	Data is not available	Data is not available	System constraint
9/20/2017 15:58	0:03	ESB	Data is not available	Data is not available	System constraint
9/20/2017 15:58	0:03	ESA	Data is not available	Data is not available	System constraint
9/20/2017 15:59	0:02	KWPPI	0.012	19.128	System constraint
9/20/2017 23:37	0:01	KWPPI	0.001	18.879	System constraint
9/20/2017 23:53	0:19	KWPPI	0.336	19.120	System constraint
9/21/2017 0:19	3:40	KWPPI	24.100	19.211	System constraint
9/21/2017 8:45	0:01	BS250	Data is not available	Data is not available	System constraint
9/21/2017 8:45	0:01	ESB	Data is not available	Data is not available	System constraint
9/21/2017 8:45	0:01	ESA	Data is not available	Data is not available	System constraint
9/21/2017 8:51	6:23	BS250	Data is not available	Data is not available	System constraint
9/21/2017 8:51	6:23	ESB	Data is not available	Data is not available	System constraint
9/21/2017 8:51	6:23	ESA	Data is not available	Data is not available	System constraint
9/21/2017 8:53	6:19	KWPPI	69.277	19.211	System constraint
9/21/2017 11:28	0:03	AWE	0.010	20.800	System constraint
9/21/2017 11:32	0:02	AWE	0.007	20.200	System constraint
9/21/2017 15:13	0:01	KWPPI	0.012	19.211	System constraint
9/21/2017 15:15	0:01	BS250	Data is not available	Data is not available	System constraint
9/21/2017 15:15	0:01	ESB	Data is not available	Data is not available	System constraint
9/21/2017 15:15	0:01	ESA	Data is not available	Data is not available	System constraint
9/21/2017 15:15	0:01	KWPPI	0.002	19.211	System constraint
9/22/2017 0:58	0:21	KWPPI	1.249	19.211	System constraint
9/22/2017 1:31	0:06	KWPPI	0.027	19.211	System constraint
9/22/2017 1:47	0:59	KWPPI	4.191	19.207	System constraint
9/22/2017 3:00	0:06	KWPPI	0.113	19.211	System constraint
9/22/2017 8:56	0:02	BS250	Data is not available	Data is not available	System constraint
9/22/2017 8:56	0:02	ESB	Data is not available	Data is not available	System constraint
9/22/2017 8:56	0:02	ESA	Data is not available	Data is not available	System constraint
9/22/2017 9:01	1:27	BS250	Data is not available	Data is not available	System constraint
9/22/2017 9:01	1:27	ESB	Data is not available	Data is not available	System constraint
9/22/2017 9:01	1:27	ESA	Data is not available	Data is not available	System constraint
9/22/2017 9:04	1:23	KWPPI	5.156	19.211	System constraint
9/22/2017 10:32	0:01	BS250	Data is not available	Data is not available	System constraint
9/22/2017 10:32	0:01	ESB	Data is not available	Data is not available	System constraint
9/22/2017 10:32	0:01	ESA	Data is not available	Data is not available	System constraint
9/22/2017 10:32	0:02	KWPPI	0.028	19.062	System constraint
9/22/2017 10:35	0:05	BS250	Data is not available	Data is not available	System constraint
9/22/2017 10:35	0:05	ESB	Data is not available	Data is not available	System constraint
9/22/2017 10:35	0:05	ESA	Data is not available	Data is not available	System constraint
9/22/2017 10:35	0:06	KWPPI	0.085	18.943	System constraint
9/22/2017 10:43	0:16	BS250	Data is not available	Data is not available	System constraint
9/22/2017 10:43	0:16	ESB	Data is not available	Data is not available	System constraint



Maui Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
9/22/2017 10:43	0:16	ESA	Data is not available	Data is not available	System constraint
9/22/2017 10:44	0:17	KWPPI	0.391	19.163	System constraint
9/22/2017 11:00	0:03	BS250	Data is not available	Data is not available	System constraint
9/22/2017 11:00	0:03	ESB	Data is not available	Data is not available	System constraint
9/22/2017 11:00	0:03	ESA	Data is not available	Data is not available	System constraint
9/22/2017 11:06	0:30	BS250	Data is not available	Data is not available	System constraint
9/22/2017 11:06	0:30	ESB	Data is not available	Data is not available	System constraint
9/22/2017 11:06	0:30	ESA	Data is not available	Data is not available	System constraint
9/22/2017 11:06	0:31	KWPPI	1.506	19.127	System constraint
9/22/2017 11:43	0:01	BS250	Data is not available	Data is not available	System constraint
9/22/2017 11:43	0:01	ESB	Data is not available	Data is not available	System constraint
9/22/2017 11:43	0:01	ESA	Data is not available	Data is not available	System constraint
9/22/2017 11:44	0:01	KWPPI	0.007	19.148	System constraint
9/22/2017 23:55	0:01	KWPPI	0.018	17.406	System constraint
9/23/2017 0:34	0:04	KWPPI	0.053	17.448	System constraint
9/23/2017 8:55	0:02	BS250	Data is not available	Data is not available	System constraint
9/23/2017 8:55	0:02	ESB	Data is not available	Data is not available	System constraint
9/23/2017 8:55	0:02	ESA	Data is not available	Data is not available	System constraint
9/23/2017 8:56	0:02	KWPPI	0.036	14.943	System constraint
9/23/2017 9:05	0:06	BS250	Data is not available	Data is not available	System constraint
9/23/2017 9:05	0:06	ESB	Data is not available	Data is not available	System constraint
9/23/2017 9:05	0:06	ESA	Data is not available	Data is not available	System constraint
9/23/2017 9:06	0:06	KWPPI	0.086	15.219	System constraint
9/23/2017 9:12	4:38	BS250	Data is not available	Data is not available	System constraint
9/23/2017 9:12	4:38	ESB	Data is not available	Data is not available	System constraint
9/23/2017 9:12	4:38	ESA	Data is not available	Data is not available	System constraint
9/23/2017 9:14	4:36	KWPPI	41.196	18.323	System constraint
9/23/2017 11:04	0:02	AWE	0.040	13.600	System constraint
9/23/2017 11:33	0:01	AWE	0.000	12.500	System constraint
9/23/2017 12:46	0:01	AWE	0.014	15.000	System constraint
9/23/2017 12:50	0:01	AWE	0.002	16.400	System constraint
9/23/2017 12:59	0:03	AWE	0.031	15.700	System constraint
9/23/2017 13:51	0:03	BS250	Data is not available	Data is not available	System constraint
9/23/2017 13:51	0:03	ESB	Data is not available	Data is not available	System constraint
9/23/2017 13:51	0:03	ESA	Data is not available	Data is not available	System constraint
9/23/2017 13:51	0:02	KWPPI	0.028	13.206	System constraint
9/24/2017 2:51	0:06	KWPPI	0.142	15.880	System constraint
9/25/2017 9:25	0:01	KWPPI	0.001	0.034	Oversupply
9/25/2017 10:00	0:01	AWE	0.002	0.100	Oversupply
9/25/2017 11:58	0:01	KWPPI	0.000	0.020	Oversupply
9/26/2017 23:02	0:01	KWPPI	0.000	0.006	System constraint
9/27/2017 8:00	0:14	BS250	Data is not available	Data is not available	System constraint
9/27/2017 8:00	0:14	ESB	Data is not available	Data is not available	System constraint
9/27/2017 8:00	0:14	ESA	Data is not available	Data is not available	System constraint
9/27/2017 8:01	0:13	KWPPI	0.561	17.190	System constraint
9/27/2017 9:10	0:04	BS250	Data is not available	Data is not available	System constraint
9/27/2017 9:10	0:04	ESB	Data is not available	Data is not available	System constraint
9/27/2017 9:10	0:04	ESA	Data is not available	Data is not available	System constraint
9/27/2017 9:10	0:01	KWPPI	0.002	17.673	System constraint
9/27/2017 9:12	0:01	KWPPI	0.001	17.572	System constraint
9/27/2017 9:15	0:28	BS250	Data is not available	Data is not available	System constraint
9/27/2017 9:15	0:28	ESB	Data is not available	Data is not available	System constraint
9/27/2017 9:15	0:28	ESA	Data is not available	Data is not available	System constraint
9/27/2017 9:16	0:28	KWPPI	1.632	17.666	System constraint
9/27/2017 9:50	0:02	BS250	Data is not available	Data is not available	System constraint
9/27/2017 9:50	0:02	ESB	Data is not available	Data is not available	System constraint
9/27/2017 9:50	0:02	ESA	Data is not available	Data is not available	System constraint
9/27/2017 9:51	0:01	KWPPI	0.001	17.487	System constraint
9/27/2017 10:02	1:19	BS250	Data is not available	Data is not available	System constraint
9/27/2017 10:02	1:19	ESB	Data is not available	Data is not available	System constraint
9/27/2017 10:02	1:19	ESA	Data is not available	Data is not available	System constraint
9/27/2017 10:02	1:19	KWPPI	11.695	17.706	System constraint
9/28/2017 0:04	0:10	KWPPI	0.292	17.603	System constraint
9/28/2017 1:23	0:01	KWPPI	0.002	17.620	System constraint
9/28/2017 1:25	0:01	KWPPI	0.002	17.553	System constraint
9/28/2017 2:26	0:03	KWPPI	0.031	17.688	System constraint
9/28/2017 7:53	0:01	BS250	Data is not available	Data is not available	System constraint
9/28/2017 7:53	0:01	ESB	Data is not available	Data is not available	System constraint
9/28/2017 7:53	0:01	ESA	Data is not available	Data is not available	System constraint
9/28/2017 10:11	0:10	BS250	Data is not available	Data is not available	System constraint
9/28/2017 10:11	0:10	ESB	Data is not available	Data is not available	System constraint
9/28/2017 10:11	0:10	ESA	Data is not available	Data is not available	System constraint
9/28/2017 10:14	0:02	KWPPI	0.024	16.217	System constraint
9/28/2017 10:17	0:01	KWPPI	0.011	16.217	System constraint
9/28/2017 10:19	0:02	KWPPI	0.006	16.217	System constraint
9/28/2017 10:22	0:01	BS250	Data is not available	Data is not available	System constraint



Maui Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
9/28/2017 10:22	0:01	ESB	Data is not available	Data is not available	System constraint
9/28/2017 10:22	0:01	ESA	Data is not available	Data is not available	System constraint
9/28/2017 11:10	3:05	BS250	Data is not available	Data is not available	System constraint
9/28/2017 11:10	3:05	ESB	Data is not available	Data is not available	System constraint
9/28/2017 11:10	3:05	ESA	Data is not available	Data is not available	System constraint
9/28/2017 11:12	3:03	KWP11	25.474	17.714	System constraint
9/28/2017 23:33	0:01	KWP11	0.012	11.414	System constraint
9/28/2017 23:39	0:14	KWP11	0.420	16.117	System constraint
9/28/2017 23:57	0:05	KWP11	0.114	15.247	System constraint
9/29/2017 0:03	0:05	KWP11	0.099	14.972	System constraint
9/29/2017 0:23	0:18	KWP11	0.830	16.033	System constraint
9/29/2017 0:42	0:01	KWP11	0.001	15.976	System constraint
9/29/2017 16:12	0:01	KWP11	0.001	0.052	System constraint
9/30/2017 19:42	0:01	AWE	0.003	0.200	System constraint

Notes:

- Curtailment for Kaheawa Wind Power ("KWP"), Makila Hydroelectric ("MH"), AAAAA Rent-A-Space Maui LTD ("SA"), Bioreal Solar, LLC ("BS"), Auwahi Wind Energy ("AWE"), Kaheawa Wind Power II ("KWP11") Bioreal Solar 250, LLC ("BS250"), Extra Spaces A ("ESA"), and Extra Spaces B ("ESB") may now be controlled by Maui Electric's Automatic Generation Control System ("AGC") or a Maui Electric operator-entered curtailment limit. The AGC curtailment control automatically calculates the amount of Maximum Allowable Variable Generation ("MAVG") that Maui Electric can accept into the Maui system, based on the system current available variable generation ("CAVG"), regulating reserve down requirement ("RRDR"), and available regulating reserve down ("ARRD"). Thus, the AGC MAVG - calculated is equal to CAVG less (RRDR less ARRD). Additionally, the AGC curtailment control allows the Maui Electric operator to enter an AGC MAVG value. The AGC curtailment control will employ the lesser of the AGC MAVG - calculated and AGC MAVG - entered values in the control logic.

- The Estimated Curtailed MWH and Peak MW Curtailed are calculated with information provided by AWE, KWP, and KWP11. Maui Electric does not make any representation as to its accuracy.

- The data to calculate the Estimated Curtailed MWH and Peak MW Curtailed is not provided by SA, BS, BS 250, ESA, ESB, or MH.

- Curtailment signals sent to SA, BS, BS250, ESA, or ESB during nighttime hours are not recorded as curtailment events because no energy generation is possible during that time.

- The curtailment reasons have been modified to oversupply, system constraints, and facility requested, to provide continuity with HPUC Docket No. 2013-0141 Decoupling for HECCO companies metrics.



Lanai Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
9/2/2017 8:44	0:02	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 8:59	0:02	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 9:42	0:06	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 9:50	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 9:56	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 9:58	0:02	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 10:11	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 10:24	0:02	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 10:46	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 10:53	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 10:55	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 11:00	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 11:05	0:03	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 12:17	0:01	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 15:11	0:02	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 15:25	0:05	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 15:31	0:15	LSR	Data is not available	Data is not available	Oversupply
9/2/2017 15:53	0:08	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 8:50	0:05	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 9:01	0:01	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 9:10	0:05	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 9:19	0:02	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 9:29	0:17	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 10:03	0:04	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 10:10	0:04	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 10:32	0:03	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 10:39	0:11	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 10:51	0:02	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 10:54	0:01	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 10:57	0:02	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 11:07	0:02	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 11:10	0:02	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 11:17	0:01	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 11:21	0:02	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 11:24	0:17	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 11:46	0:05	LSR	Data is not available	Data is not available	Oversupply
9/3/2017 12:12	0:11	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 10:13	1:25	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 11:39	0:13	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 13:02	1:21	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 14:24	0:50	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 15:27	0:01	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 15:36	0:01	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 15:38	0:03	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 15:48	0:02	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 15:53	0:02	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 15:57	0:04	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 16:07	0:01	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 16:11	0:02	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 16:15	0:01	LSR	Data is not available	Data is not available	Oversupply
9/5/2017 16:28	0:10	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 7:47	0:14	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 9:19	0:08	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 9:31	0:02	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 9:42	0:02	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 10:06	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 10:12	0:02	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 10:17	0:09	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 10:31	0:06	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 10:40	0:08	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 10:49	0:07	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 11:02	0:06	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 11:12	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 11:15	0:03	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 12:34	0:02	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 12:42	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 13:44	0:02	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 13:50	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 13:57	0:06	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 14:04	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 14:06	1:26	LSR	Data is not available	Data is not available	Oversupply



Lanai Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
9/6/2017 15:33	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 15:35	0:02	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 15:39	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 15:53	0:01	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 15:55	0:11	LSR	Data is not available	Data is not available	Oversupply
9/6/2017 16:12	0:23	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 8:41	5:49	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 14:41	0:01	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 14:44	0:01	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 15:08	0:10	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 15:21	0:02	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 15:24	0:01	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 15:33	0:03	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 15:39	0:01	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 15:45	0:01	LSR	Data is not available	Data is not available	Oversupply
9/7/2017 15:52	0:02	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 8:51	0:16	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 9:13	0:07	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 9:24	0:18	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 10:26	0:05	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 11:30	0:01	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 11:32	0:02	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 11:37	0:16	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 12:01	0:03	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 14:04	0:04	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 15:08	0:02	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 15:58	0:09	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 16:08	0:16	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 16:28	0:04	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 16:41	0:04	LSR	Data is not available	Data is not available	Oversupply
9/9/2017 16:57	0:02	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 7:20	1:05	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 8:27	0:22	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 8:59	0:02	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 9:08	0:02	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 9:20	0:02	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 9:23	0:06	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 9:35	0:15	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 9:52	0:11	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 10:07	0:02	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 10:23	0:11	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 10:57	0:03	LSR	Data is not available	Data is not available	Oversupply
9/10/2017 11:19	0:01	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 8:46	0:01	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 9:02	0:02	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 9:06	1:12	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 10:22	0:41	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 11:07	0:07	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 11:15	0:10	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 11:27	0:05	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 11:35	0:28	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 12:06	0:11	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 12:26	0:02	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 12:34	0:03	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 12:52	0:02	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 12:55	0:01	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 12:59	0:04	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 13:10	0:02	LSR	Data is not available	Data is not available	Oversupply
9/11/2017 16:11	0:02	LSR	Data is not available	Data is not available	Oversupply
9/12/2017 7:29	0:28	LSR	Data is not available	Data is not available	Oversupply
9/13/2017 11:00	0:32	LSR	Data is not available	Data is not available	Oversupply
9/13/2017 12:47	0:40	LSR	Data is not available	Data is not available	Oversupply
9/13/2017 14:57	0:05	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 7:07	0:28	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 7:42	0:02	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 7:46	0:14	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 8:42	0:23	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 9:07	0:28	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 9:37	1:06	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 10:46	0:06	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 10:53	0:02	LSR	Data is not available	Data is not available	Oversupply



Lanai Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
9/14/2017 10:56	2:02	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 13:01	0:35	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 13:39	0:03	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 13:46	0:02	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 14:08	0:05	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 14:15	0:06	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 15:10	0:04	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 15:53	0:02	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 16:02	0:01	LSR	Data is not available	Data is not available	Oversupply
9/14/2017 16:40	0:01	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 7:44	0:31	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 8:22	0:01	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 8:25	0:29	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 8:59	0:34	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 9:50	0:02	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 9:54	0:16	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 10:11	0:17	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 10:32	3:01	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 13:38	0:08	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 13:50	0:08	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 14:01	0:11	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 14:15	0:02	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 15:30	0:02	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 16:27	0:02	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 16:35	0:01	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 16:43	0:01	LSR	Data is not available	Data is not available	Oversupply
9/15/2017 16:55	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 7:03	0:07	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 7:12	0:48	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 8:10	0:08	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 8:21	0:10	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 8:32	0:11	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 8:45	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 8:48	0:08	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 9:01	0:09	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 9:11	0:03	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 9:22	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 9:25	0:05	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 10:13	0:03	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 10:27	0:06	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 10:37	0:02	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 10:42	0:04	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 11:13	0:09	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 11:23	0:02	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 11:29	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 11:31	0:05	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 12:04	0:04	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 12:11	0:27	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 12:45	0:10	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 13:03	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 13:06	0:03	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:06	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:09	0:05	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:16	0:03	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:20	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:24	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:29	0:06	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:38	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 15:42	0:29	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 16:35	0:01	LSR	Data is not available	Data is not available	Oversupply
9/16/2017 16:42	0:13	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 7:07	1:20	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 8:28	1:38	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 10:21	0:02	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 10:49	0:01	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 11:41	0:01	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 12:18	0:01	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 12:20	0:01	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 12:22	0:01	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 12:26	0:08	LSR	Data is not available	Data is not available	Oversupply
9/17/2017 16:25	0:26	LSR	Data is not available	Data is not available	Oversupply



Lanai Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
9/18/2017 7:49	0:10	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 8:06	0:17	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 8:24	0:17	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 8:44	0:02	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 9:19	0:01	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 9:23	0:02	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 9:26	0:13	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 9:48	0:01	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 9:53	0:03	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 10:01	0:12	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 11:04	0:09	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 11:16	0:20	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 12:02	0:01	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 12:04	0:06	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 12:13	0:05	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 12:20	0:01	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 12:23	0:02	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 12:27	0:02	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 12:40	0:36	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 13:18	0:01	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 13:20	0:08	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 13:52	0:08	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 14:06	0:02	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 14:15	0:09	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 14:25	0:47	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 15:13	0:01	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 15:20	0:03	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 16:01	0:01	LSR	Data is not available	Data is not available	Oversupply
9/18/2017 16:04	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 7:29	1:16	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 8:48	0:41	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 9:38	0:15	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 10:07	0:02	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 10:16	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 10:22	0:02	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 10:26	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 10:32	0:05	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 10:38	0:03	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 10:49	0:48	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 11:41	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 11:44	0:02	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 11:59	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 12:01	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 12:07	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 12:10	0:07	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 12:22	0:07	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 12:31	0:02	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 12:54	0:03	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 13:13	0:12	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 13:29	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 13:34	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 14:09	0:04	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 14:16	0:03	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 14:31	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 14:40	0:16	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 14:58	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 15:00	0:06	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 15:12	0:01	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 15:18	0:03	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 15:24	0:02	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 16:56	0:05	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 17:06	0:02	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 17:18	0:05	LSR	Data is not available	Data is not available	Oversupply
9/19/2017 17:29	0:02	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 7:07	1:00	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 8:35	0:04	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 8:40	0:07	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 8:48	0:09	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 9:08	0:02	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 10:19	0:03	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 10:34	0:13	LSR	Data is not available	Data is not available	Oversupply



Lanai Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
9/20/2017 10:50	0:01	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 10:53	0:05	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 11:03	0:05	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 11:12	0:04	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 11:19	0:05	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 11:26	0:04	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 11:35	0:05	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 11:52	0:05	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 11:58	0:04	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 12:06	0:05	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 12:17	0:01	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 12:19	0:01	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 12:28	0:04	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 12:35	0:02	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 12:50	0:01	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 13:34	0:03	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 13:48	0:34	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 14:24	0:03	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 14:33	0:06	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 14:41	0:04	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 14:46	0:22	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 15:12	1:05	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 16:47	0:03	LSR	Data is not available	Data is not available	Oversupply
9/20/2017 16:54	0:17	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 7:31	1:18	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 9:15	0:02	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 9:23	0:05	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 9:49	0:08	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 9:58	0:04	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 10:08	0:04	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 10:18	0:02	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 10:26	0:22	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 10:52	0:02	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 10:55	0:01	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 10:57	0:12	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 11:10	0:01	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 11:12	0:18	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 11:31	0:06	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 11:42	0:15	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 12:00	0:01	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 12:08	0:01	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 12:15	0:06	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 12:40	0:02	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 13:02	0:06	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 13:15	0:12	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 15:14	0:10	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 15:29	0:05	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 16:19	0:01	LSR	Data is not available	Data is not available	Oversupply
9/21/2017 16:21	0:07	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 7:00	6:23	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 13:24	0:07	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 14:15	0:08	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 14:35	0:03	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 15:31	0:04	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 15:40	0:06	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 15:48	0:01	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 15:55	0:01	LSR	Data is not available	Data is not available	Oversupply
9/23/2017 16:13	0:02	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 7:05	0:14	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 7:21	0:10	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 7:33	0:23	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 8:01	0:01	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 8:17	0:02	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 8:36	0:01	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 8:41	0:01	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 8:45	0:17	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 9:04	0:21	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 9:26	0:05	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 9:33	0:03	LSR	Data is not available	Data is not available	Oversupply
9/24/2017 11:31	0:05	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 8:08	0:01	LSR	Data is not available	Data is not available	Oversupply



Lanai Curtailment Report

September 2017

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
9/25/2017 8:11	0:03	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 8:20	0:03	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 8:26	0:07	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 8:40	0:54	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 9:37	0:10	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 9:57	0:01	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 10:15	0:06	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 10:30	0:01	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 10:32	0:03	LSR	Data is not available	Data is not available	Oversupply
9/25/2017 10:37	0:44	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 7:07	0:13	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 7:49	0:23	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 8:17	0:17	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 8:44	0:07	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 8:53	0:05	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 9:01	0:02	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 9:04	0:06	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 9:12	0:04	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 9:20	0:23	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 9:45	0:02	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 9:49	0:09	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 10:00	0:03	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 10:05	0:01	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 11:18	0:02	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 11:31	0:01	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 11:36	0:02	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 11:39	0:01	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 13:04	0:01	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 13:08	0:03	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 13:19	0:05	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 13:28	0:03	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 13:33	0:05	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 13:49	0:16	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 14:07	0:11	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 14:21	0:04	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 14:29	0:02	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 15:08	0:01	LSR	Data is not available	Data is not available	Oversupply
9/26/2017 15:11	1:19	LSR	Data is not available	Data is not available	Oversupply
9/27/2017 14:30	0:02	LSR	Data is not available	Data is not available	Oversupply
9/30/2017 7:45	0:20	LSR	Data is not available	Data is not available	Oversupply

Notes:

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

LSR possible output data is not available. Therefore, Maui Electric assumes LSR is curtailed if the LSR curtailment set point is less than 1,200 kW and LSR's output is within 50 kW of the curtailment set point.

The curtailment reasons have been modified to oversupply, system constraints, and facility requested, to provide continuity with HPUC Docket No. 2013-0141 Decoupling for HECO companies metrics.

Hawai'i Electric Light Company Curtailment Report September 2017

Start Date/Time	MW Output Prior to Start of Curtailment	End Date/Time	MW Output After Curtailment Released ¹	IPP	Reason for Curtailment
08/29/17 15:15	0.0 MW	09/06/17 09:34	0.0 MW	Tawhiri	Facility requested
09/06/17 16:59	0.0 MW	09/08/17 07:52	0.0 MW	Tawhiri	Facility requested
09/13/17 12:54	0.0 MW	--	--	Tawhiri	Facility requested
09/21/17 19:09	6.2 MW	09/22/17 08:31	4.4 MW	HRD	System constraint
09/22/17 09:06	6.3 MW	09/22/17 18:39	3.8 MW	HRD	System constraint
09/23/17 09:40	4.7 MW	09/23/17 17:39	2.8 MW	HRD	System constraint
09/26/17 07:52	4.8 MW	09/26/17 17:07	3.4 MW	HRD	System constraint
09/27/17 08:29	5.2 MW	09/27/17 18:18	2.9 MW	HRD	System constraint
09/28/17 02:00	5.4 MW	09/29/17 21:20	0.7 MW	HRD	System constraint

¹ The MW output values are taken soon after curtailment is released by Hawai'i Electric Light and may not reflect their full output depending on ramp rate for the facility. The wind farms generally return immediately to full available levels, whereas PGV and Wailuku may take longer to return to scheduled or full available output levels.