July 26, 2016

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 June 2016 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@heco.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".

_____

Hawaiian Electric   PO BOX 2750 / HONOLULU, HI 96840-0001

JEFFREY T. ONO   2 Copies
EXECUTIVE DIRECTOR   Via Hand Delivery
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
DIVISION OF CONSUMER ADVOCACY
P.O. Box 541
Honolulu, HI 96809

GREGG J. KINKLEY, ESQ.   1 Copy
DEPARTMENT OF THE ATTORNEY GENERAL   Electronically Transmitted
425 Queen Street
Honolulu, Hawaii 96813
Counsel for DBEDT

DANIEL W.S. LAWRENCE, ESQ.   1 Copy
DEPARTMENT OF THE CORPORATION COUNSEL   Electronically Transmitted
CITY AND COUNTY OF HONOLULU
530 S. King Street, Room 110
Honolulu, HI 96813
Counsel for the CITY AND COUNTY OF HONOLULU

MOLLY A. STEBBINS, ESQ.   1 Copy
WILLIAM V. BRILHANTE, JR., ESQ.   Electronically Transmitted
DEPARTMENT OF THE CORPORATION COUNSEL
COUNTY OF HAWAII
101 Aupuni Street, Suite 325
Hilo, HI 96720
Counsel for the COUNTY OF HAWAII

HENRY Q CURTIS   1 Copy
VICE PRESIDENT FOR CONSUMER ISSUES   Electronically Transmitted
LIFE OF THE LAND
P.O. Box 37158
Honolulu, HI 96837-0158

WARREN S. BOLLMEIER II   1 Copy
PRESIDENT   Electronically Transmitted
HAWAII RENEWABLE ENERGY ALLIANCE
46-040 Konane Place, #3816
Kaneohe, HI 96744

DOUGLAS A. CODIGA, ESQ.   1 Copy
SCHLACK ITO LLLC   Electronically Transmitted
Topa Financial Center
745 Fort Street, Suite 1500
Honolulu, HI 96813
Counsel for BLUE PLANET FOUNDATION

ISAAC MORIWAKE, ESQ.   1 Copy
DAVID HENKIN, ESQ.   Electronically Transmitted
EARTHJUSTICE
850 Richards Street, Suite 400
Honolulu, HI 96813-4501
Counsel for HAWAII SOLAR ENERGY ASSOCIATION

RICK REED   1 Copy
DIRECTOR   Electronically Transmitted
HAWAII SOLAR ENERGY ASSOCIATION
761 Ahua Street
Honolulu, HI 96819

KENT D. MORIHARA, ESQ.   1 Copy
KRIS N. NAKAGAWA, ESQ.   Electronically Transmitted
LAUREN M. IMADA-LEE, ESQ.
TANYA M. FERNANDES, ESQ.
Morihara Lau & Fong LLP
841 Bishop Street, Suite 400
Honolulu, Hawaii 96813
Counsel for KAUAI ISLAND UTILITY COOPERATIVE

ERIK W. KVAM   1 Copy
CHIEF EXECUTIVE OFFICER   Electronically Transmitted
ZERO EMISSIONS LEASING LLC
4188-4 Keanu Street
Honolulu, HI 96816

SANDRA-ANN Y.H. WONG, ESQ.   1 Copy
ATTORNEY AT LAW, A LAW CORPORATION   Electronically Transmitted
1050 Bishop Street, #514
Honolulu, HI 96813
Counsel for TAWHIRI POWER LLC

RILEY SAITO   1 Copy
73-1294 Awakea Street   Electronically Transmitted
Kailua-Kona, HI 96740
For SOLAR ENERGY INDUSTRIES ASSOCIATION

DEAN T. YAMAMOTO, ESQ.   1 Copy
YAMAMOTO & SETTLE   Electronically Transmitted
700 Bishop Street, Suite 200
Honolulu, HI 96813
Counsel for CASTLE & COOKE HOMES HAWAII, INC.,
CASTLE & COOKE RESORTS, LLC and
LANAI SUSTAINABILITY RESEARCH, LLC

MICHAEL J. HOPPER, ESQ.   1 Copy
DEPUTY CORPORATION COUNSEL   Electronically Transmitted
DEPARTMENT OF THE CORPORATION COUNSEL
COUNTY OF MAUI
200 S. High Street
Wailuku, HI 96793
Counsel for the COUNTY OF MAUI

CURTIS SEYMOUR   1 Copy
SENIOR MANAGER, GOVERNMENT AFFAIRS   Electronically Transmitted
SUN EDISON LLC
600 Clipper Drive
Belmont, CA 94002

MONA W. CLARK, ESQ.   1 Copy
OFFICE OF THE COUNTY ATTORNEY   Electronically Transmitted
COUNTY OF KAUAI
4444 Rice Street, Suite 200
Lihue, HI 96766-1300

BRADLEY ALBERT   1 Copy
PRESIDENT   Electronically Transmitted
HAWAII PV COALITION
P.O. Box 81501
Haiku, HI 96708

HILTON H. UNEMORI   1 Copy
ECM, INC.   Electronically Transmitted
130 N. Market Street
Wailuku, HI 96793-1716
For SOUTH MAUI RENEWABLE RESOURCES, LLC

SKY STANFIELD
SHUTE, MIHALY & WEINBERGER LLP
396 Hayes Street
San Francisco, CA 94102
For the INTERSTATE RENEWABLE ENERGY COUNCIL

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 June 30, 2016):

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 June 30, 2016):

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 Hawaiʻi 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, Hawaiʻi Electric Light and Maui Electric did not have any under frequency load shed activations for the month of June. 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 is provided in Attachment 5. Hawaiʻi Electric Light currently does not have demand response program. Maui Electric has implemented the Fast Demand Response pilot program on a limited basis. Hawaiʻi 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 June 30, 2016):

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
June 2016
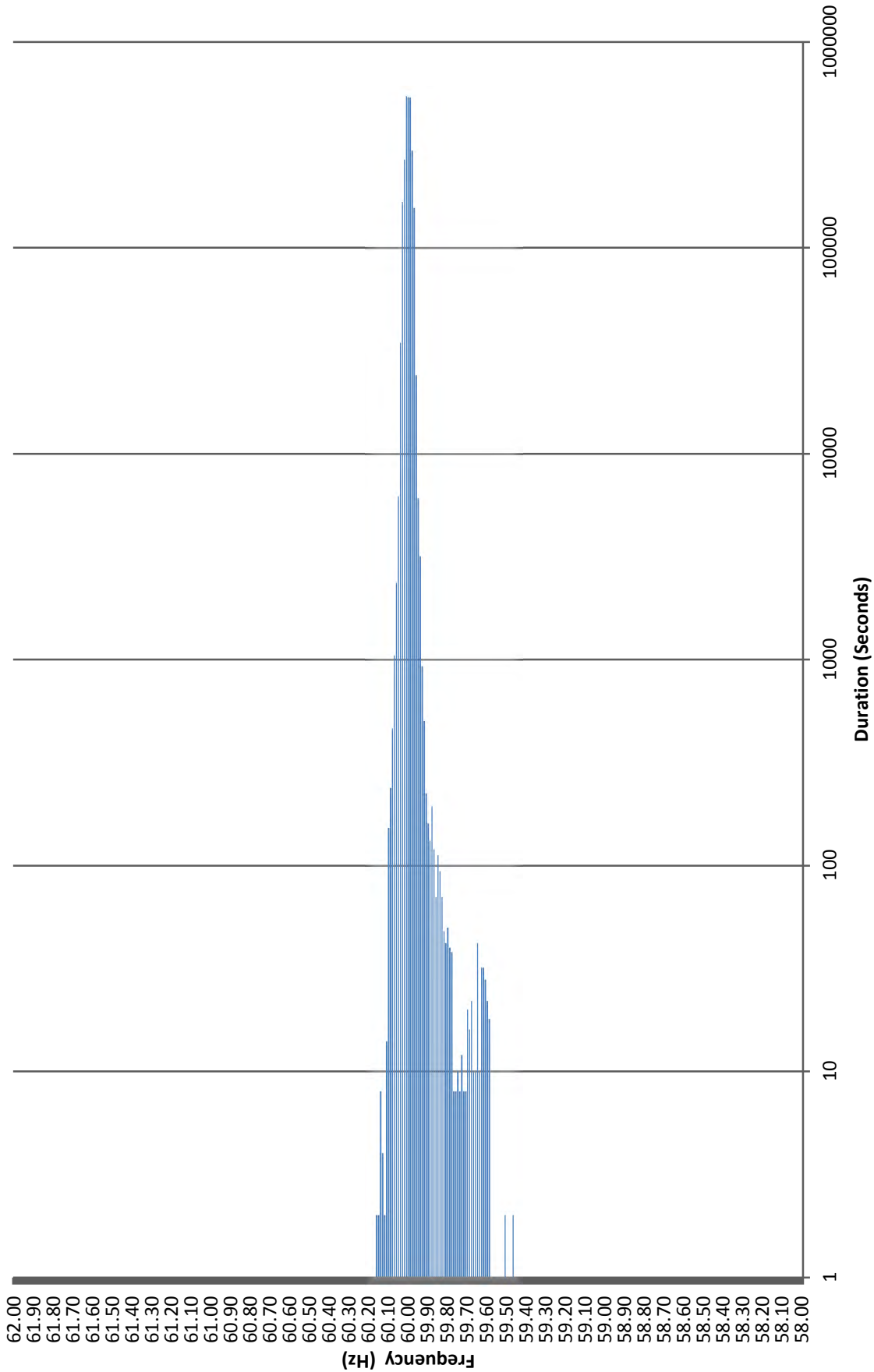
Maui Electric Frequency Distribution Plot - Maui
June 2016
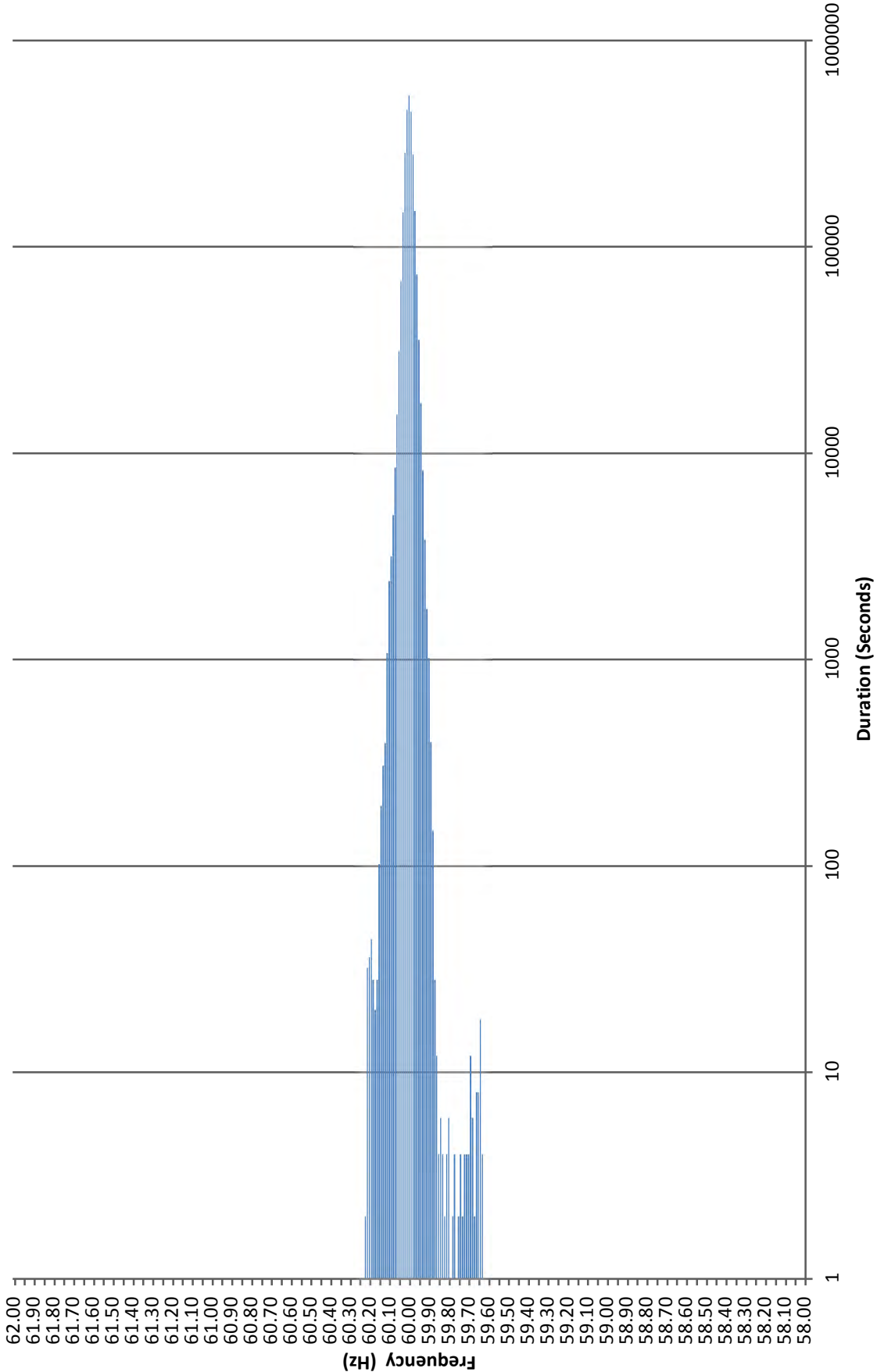
**Frequency Distribution Plot - Hawai'i Electric Light
June 2016**

Duration (Seconds)
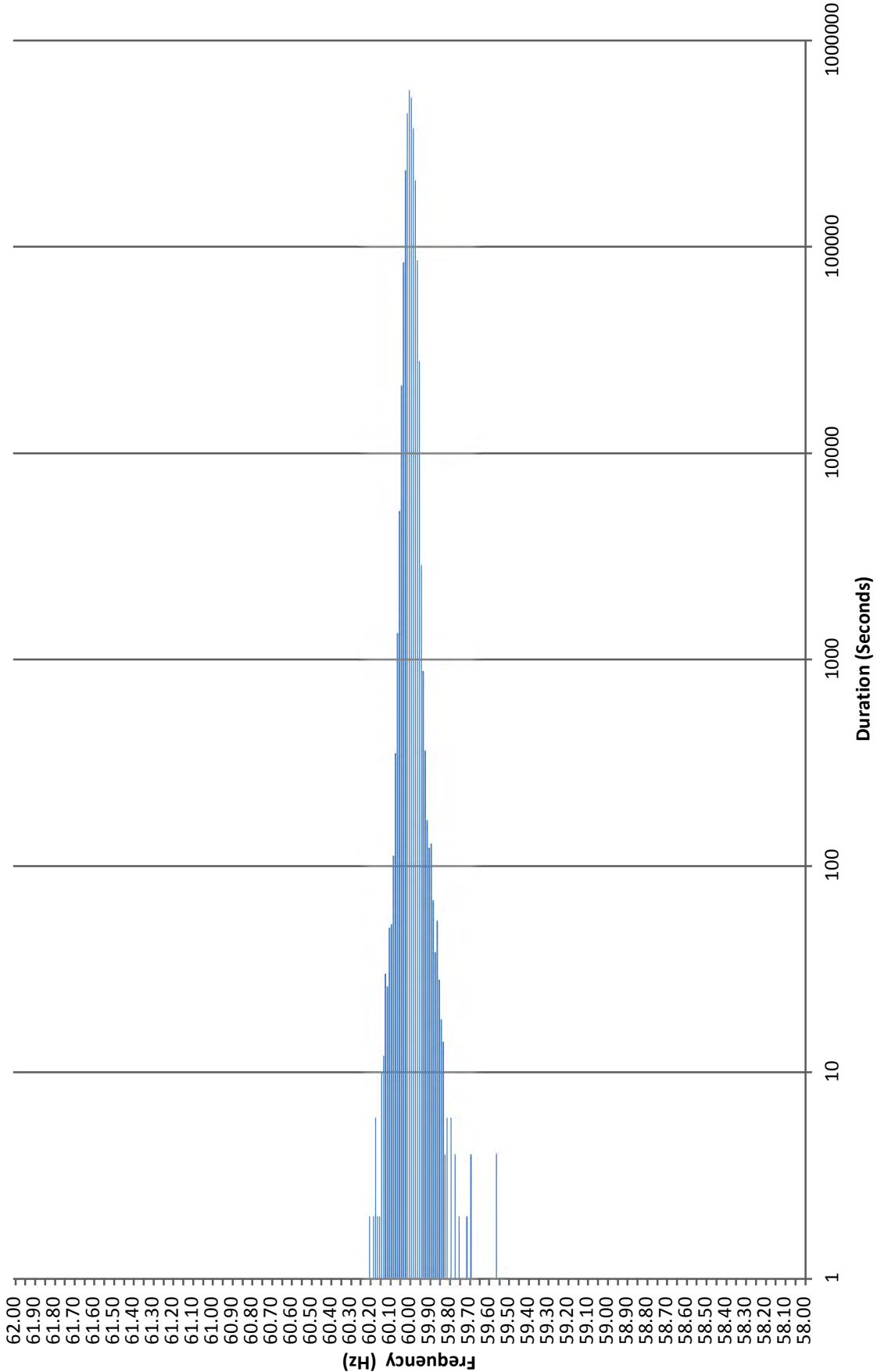
Frequency (Hz)

Hawaiian Electric Frequency Excursion Statistics June 2016		
Data Rounded to the nearest	<59.95 Hz	>60.05 Hz
Number of Excursions	510	495
Maximum Duration (sec)	858	314
Maximum Deviation (Hz)	59.466	60.162
Total Duration of Excursions (sec)	8422	6004

Maui Electric Frequency Excursion Statistics June 2016		
	<59.95 Hz	>60.05 Hz
Number of Excursions	9145	7153
Maximum Duration (sec)	482	764
Maximum Deviation (Hz)	59.629	60.2157
Total Duration of Excursions (sec)	47348	49174

Hawai'i Electric Light Frequency Excursion Statistics June 2016		
	<59.95 Hz	>60.05 Hz
Number of Excursions	3818	773
Maximum Duration (sec)	116	116
Maximum Deviation (Hz)	59.559	60.204
Total Duration of Excursions (sec)	16750	3750

HAWAIIAN ELECTRIC COMPANY, INC.
CONTINGENCY RESERVE ACTIVATION EVENTS
JUNE 2016

Event #	Date & Time	Frequency (Hz)			Spinning Reserve Shortfall (MW)	Duration (HH:MM)	Description
		Prior to Event	Nadir	Trigger			
1	06/01/16 10:45	59.99	59.91	NA	0.00	0:01	HPOWER TG2 tripped offline while generating ~9 MW.
2	06/06/16 03:56	59.86	59.80	NA	0.00	0:01	AES decreased output from ~156 MW and tripped offline.
3	06/07/16 08:24	59.92	59.88	NA	-1.00	0:01	W5 tripped offline while generating ~7 MW. W10 called online for spinning reserve.
4	06/08/16 08:25	59.89	59.88	NA	0.00	0:00	W5 tripped offline while generating ~2 MW. W9 called online as replacement Waiau PP base load unit.
5	06/09/16 02:16	60.00	59.77	NA	0.00	0:04	K2 tripped offline while generating ~34 MW.
6	06/13/16 05:29	59.95	59.93	NA	0.00	0:00	HPOWER TG2 tripped offline while generating ~4 MW.
7	06/25/16 18:50	60.00	60.00	NA	-1.00	0:00	W10 tripped offline while generating ~3 MW. W9 called online for spinning reserve.
8	06/26/16 00:55	60.00	59.96	NA	0.00	0:19	HPOWER TG1 tripped offline while generating ~5 MW.
9	06/28/16 08:27	60.02	59.84	NA	0.00	0:07	K4 tripped offline while generating ~32 MW.
10	06/29/16 20:27	60.00	59.95	NA	-2.00	0:01	W9 tripped offline while generating ~7.5 MW.
11	06/30/16 05:56	60.03	59.47	NA	-31.00	0:16	K4 tripped offline while generating ~72 MW. W10 called online for spinning reserve.
12	06/30/16 06:03	59.90	59.61	NA	-92.00	0:07	KL Steam turbine tripped offline while generating ~45 MW. CIP called online for spinning reserve.

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HAWAIIAN ELECTRIC COMPANY, INC.
DEMAND RESPONSE EVENTS
JUNE 2016

Event #	Date & Time	Frequency (Hz)			Load Shed (MW)	Duration (HH:MM)	Description
		Prior to Event	Nadir	Trigger			
1	06/30/16 05:56	60.03	59.47	59.7	NA	0:05	K4 tripped offline while generating ~72 MW. RDLC and CIDLC activated.
2	06/30/16 06:03	59.90	59.61	59.7	NA	0:05	KL Steam turbine tripped offline while generating ~45 MW. RDLC activated.

Hawaiian Electric Curtailment Report June 2016

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
06/14/16 06:47	0.0	22.40	06/14/16 18:49	0	*	KWF	System constraints
06/14/16 07:00	0.0	8.40	06/14/16 18:55	0	*	Makai	System constraints
06/14/16 07:01	0.0	21.70	06/14/16 08:37	0	*	Mauka	System constraints
06/14/16 16:51	0.0	30.00	06/14/16 18:56	0	*	Mauka	System constraints
06/19/16 17:41	0.0	19.00	06/19/16 18:12	0	*	Mauka	System constraints

KLS2 = Kalaeloa Solar 2 PV Farm

KREP = Kalaeloa Renewable Energy Park

KWF = Kahuku Wind Farm

Makai = Kawailoa Makai Wind Farm

Mauka = Kawailoa Mauka Wind Farm

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

* Data has not been provided by IPP.

Maui Curtailment Report

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
6/1/2016 6:32	0:21	KWPII	0.750	20.703	Oversupply
6/1/2016 7:31	0:20	AWE	0.224	1.133	Oversupply
6/1/2016 9:59	0:02	KWPII	0.027	19.183	Oversupply
6/1/2016 10:03	0:20	KWPII	0.811	19.206	Oversupply
6/1/2016 10:24	0:01	KWPII	0.000	19.008	Oversupply
6/1/2016 10:35	0:06	KWPII	0.104	19.195	Oversupply
6/1/2016 10:49	0:22	KWPII	1.091	19.210	Oversupply
6/1/2016 11:16	1:13	KWPII	8.438	19.209	Oversupply
6/1/2016 12:53	1:57	KWPII	13.848	19.197	Oversupply
6/1/2016 15:53	0:09	KWPII	0.324	20.618	Oversupply
6/2/2016 4:25	0:01	AWE	0.000	0.020	Oversupply
6/2/2016 12:24	0:26	KWPII	1.496	18.290	Oversupply
6/2/2016 18:13	0:02	KWPII	0.039	19.431	Oversupply
6/3/2016 10:49	0:03	KWPII	0.039	4.959	Oversupply
6/4/2016 9:40	0:01	AWE	0.000	0.007	Oversupply
6/4/2016 9:50	0:01	AWE	0.000	0.007	Oversupply
6/4/2016 9:57	0:01	AWE	0.000	0.007	Oversupply
6/5/2016 19:13	0:01	AWE	0.000	0.007	Oversupply
6/6/2016 2:25	0:01	KWPII	0.012	11.973	Oversupply
6/6/2016 2:27	0:02	KWPII	0.050	12.040	Oversupply
6/6/2016 2:33	0:01	KWPII	0.001	11.086	Oversupply
6/6/2016 2:40	0:01	KWPII	0.007	12.948	Oversupply
6/6/2016 5:19	0:22	KWPII	0.775	20.165	Oversupply
6/6/2016 5:42	0:20	KWPII	0.394	20.590	Oversupply
6/6/2016 6:39	0:14	KWPII	0.603	20.607	Oversupply
6/6/2016 8:24	0:02	KWPII	0.022	20.634	Oversupply
6/6/2016 8:47	0:04	KWPII	0.073	20.658	Oversupply
6/6/2016 9:15	0:41	KWPII	2.710	20.621	Oversupply
6/6/2016 9:58	0:14	KWPII	0.638	20.424	Oversupply
6/6/2016 10:19	0:12	KWPII	0.946	19.601	Oversupply
6/6/2016 10:34	0:08	KWPII	0.292	19.247	Oversupply
6/6/2016 10:44	0:03	KWPII	0.064	19.566	Oversupply
6/6/2016 10:48	0:31	KWPII	1.941	19.664	Oversupply
6/6/2016 11:20	2:00	KWPII	19.393	20.340	Oversupply
6/6/2016 12:19	0:01	AWE	0.024	16.003	Oversupply
6/6/2016 13:25	0:01	KWPII	0.004	19.091	Oversupply
6/6/2016 13:27	0:05	KWPII	0.160	19.316	Oversupply
6/6/2016 15:15	0:01	KWPII	0.004	17.067	Oversupply
6/6/2016 15:31	0:15	KWPII	0.680	20.162	Oversupply
6/6/2016 15:52	0:02	KWPII	0.019	18.632	Oversupply
6/6/2016 21:15	0:01	KWPII	0.003	20.671	Oversupply
6/7/2016 0:10	0:25	KWPII	0.450	20.644	Oversupply
6/7/2016 0:36	0:01	KWPII	0.001	20.625	Oversupply
6/7/2016 0:38	0:01	KWPII	0.004	20.659	Oversupply
6/7/2016 0:40	0:15	KWPII	0.269	20.615	Oversupply
6/7/2016 2:33	0:02	KWPII	0.018	20.620	Oversupply
6/7/2016 3:29	0:01	KWPII	0.002	20.429	Oversupply
6/7/2016 4:39	0:01	KWPII	0.003	20.216	Oversupply
6/7/2016 8:00	0:01	KWPII	0.006	18.051	Oversupply
6/7/2016 8:17	0:02	KWPII	0.019	20.011	Oversupply
6/7/2016 8:32	0:02	KWPII	0.012	19.222	Oversupply
6/7/2016 9:11	0:02	KWPII	0.012	20.085	Oversupply
6/7/2016 9:14	0:01	KWPII	0.005	20.157	Oversupply
6/7/2016 9:19	0:02	KWPII	0.009	20.092	Oversupply
6/7/2016 9:25	0:40	KWPII	1.945	20.468	Oversupply
6/7/2016 10:06	4:48	KWPII	81.200	20.594	Oversupply
6/7/2016 11:16	0:03	AWE	0.012	11.773	Oversupply
6/7/2016 11:22	0:25	AWE	1.310	17.280	Oversupply
6/7/2016 11:48	0:02	AWE	0.034	16.507	Oversupply
6/7/2016 11:53	0:26	AWE	2.079	21.000	Oversupply
6/7/2016 12:23	1:46	AWE	11.906	21.000	Oversupply
6/7/2016 14:11	0:05	AWE	0.160	20.123	Oversupply
6/7/2016 14:19	0:09	AWE	0.298	21.000	Oversupply
6/7/2016 14:29	0:02	AWE	0.018	19.317	Oversupply
6/7/2016 14:32	0:01	AWE	0.004	18.663	Oversupply
6/7/2016 14:39	0:01	AWE	0.003	21.000	Oversupply
6/7/2016 14:44	0:03	AWE	0.027	21.000	Oversupply
6/7/2016 14:57	2:05	KWPII	18.615	20.664	Oversupply
6/7/2016 18:44	0:03	KWPII	0.023	20.706	Oversupply
6/7/2016 19:38	0:01	KWPII	0.001	20.700	Oversupply
6/7/2016 23:22	0:01	KWPII	0.006	20.648	Oversupply
6/7/2016 23:38	0:05	KWPII	0.045	20.464	Oversupply
6/7/2016 23:56	0:09	KWPII	0.054	20.484	Oversupply
6/8/2016 0:09	0:05	KWPII	0.043	20.273	Oversupply
6/8/2016 0:15	0:58	KWPII	3.969	20.186	Oversupply
6/8/2016 1:15	0:03	KWPII	0.043	18.406	Oversupply
6/8/2016 1:19	0:07	KWPII	0.217	18.881	Oversupply
6/8/2016 1:27	0:10	KWPII	0.484	18.336	Oversupply
6/8/2016 1:39	2:10	KWPII	11.054	19.024	Oversupply
6/8/2016 3:51	0:19	KWPII	0.708	18.391	Oversupply
6/8/2016 4:18	0:02	KWPII	0.038	17.595	Oversupply
6/8/2016 4:37	0:13	KWPII	0.484	17.632	Oversupply
6/8/2016 6:37	0:04	KWPII	0.114	14.845	Oversupply
6/8/2016 8:42	0:01	KWPII	0.013	16.913	Oversupply
6/8/2016 8:49	0:03	KWPII	0.044	18.322	Oversupply
6/8/2016 8:53	0:02	KWPII	0.010	16.944	Oversupply
6/8/2016 8:56	0:02	KWPII	0.016	15.885	Oversupply
6/8/2016 9:53	0:16	KWPII	0.739	16.657	Oversupply
6/8/2016 10:18	0:02	KWPII	0.037	12.904	Oversupply
6/8/2016 10:25	0:03	KWPII	0.049	14.472	Oversupply
6/8/2016 10:32	0:03	KWPII	0.110	14.896	Oversupply
6/8/2016 10:44	0:02	KWPII	0.046	13.427	Oversupply
6/8/2016 12:04	0:04	KWPII	0.108	13.681	Oversupply
6/8/2016 12:32	0:01	KWPII	0.018	14.567	Oversupply
6/9/2016 0:22	0:01	KWPII	0.015	19.633	Oversupply
6/9/2016 0:24	2:55	KWPII	46.133	20.707	Oversupply
6/9/2016 2:06	0:11	AWE	0.244	10.133	Oversupply
6/9/2016 2:24	0:03	AWE	0.066	8.470	Oversupply
6/9/2016 2:28	0:07	AWE	0.149	9.263	Oversupply
6/9/2016 2:36	0:31	AWE	2.357	14.103	Oversupply
6/9/2016 3:08	0:02	AWE	0.025	9.247	Oversupply
6/9/2016 3:22	2:13	KWPII	22.127	20.572	Oversupply
6/9/2016 5:36	0:02	KWPII	0.001	20.157	Oversupply
6/9/2016 6:48	0:05	KWPII	0.064	20.490	Oversupply
6/9/2016 6:54	0:01	KWPII	0.010	20.572	Oversupply

Maui Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
6/9/2016 6:58	0:01	KWPII	0.003	20.471	Oversupply
6/9/2016 7:01	0:01	KWPII	0.005	20.592	Oversupply
6/9/2016 7:03	0:08	KWPII	0.114	20.599	Oversupply
6/9/2016 7:57	0:11	KWPII	0.543	20.404	Oversupply
6/9/2016 8:11	0:13	KWPII	0.493	19.495	Oversupply
6/9/2016 8:28	0:02	KWPII	0.028	19.589	Oversupply
6/9/2016 8:33	0:02	KWPII	0.004	19.607	Oversupply
6/9/2016 8:41	0:02	KWPII	0.033	20.310	Oversupply
6/9/2016 8:47	0:09	KWPII	0.334	20.417	Oversupply
6/9/2016 9:05	0:06	KWPII	0.144	20.212	Oversupply
6/9/2016 9:27	0:38	KWPII	5.424	20.695	Oversupply
6/9/2016 10:07	0:21	KWPII	0.400	20.697	Oversupply
6/9/2016 10:33	2:48	KWPII	36.938	20.708	Oversupply
6/9/2016 12:31	0:10	AWE	0.113	21.000	Oversupply
6/9/2016 12:44	0:28	AWE	0.333	21.000	Oversupply
6/9/2016 13:13	0:02	AWE	0.005	21.000	Oversupply
6/9/2016 13:16	0:01	AWE	0.002	21.000	Oversupply
6/9/2016 13:23	1:46	KWPII	18.345	20.688	Oversupply
6/9/2016 13:38	0:01	AWE	0.002	21.000	Oversupply
6/9/2016 15:10	0:05	KWPII	0.100	20.526	Oversupply
6/9/2016 15:18	0:04	KWPII	0.076	20.606	Oversupply
6/9/2016 15:26	0:55	KWPII	3.655	20.701	Oversupply
6/9/2016 16:28	0:02	KWPII	0.021	20.655	Oversupply
6/9/2016 23:51	1:52	KWPII	7.988	20.698	Oversupply
6/10/2016 1:44	1:21	KWPII	14.284	20.575	Oversupply
6/10/2016 2:40	0:05	AWE	0.323	15.627	Oversupply
6/10/2016 2:47	0:03	AWE	0.158	15.497	Oversupply
6/10/2016 2:52	0:06	AWE	0.117	14.380	Oversupply
6/10/2016 3:06	0:36	KWPII	11.265	20.686	Oversupply
6/10/2016 3:09	0:01	AWE	0.010	12.527	Oversupply
6/10/2016 3:11	0:15	AWE	1.079	16.683	Oversupply
6/10/2016 3:27	0:02	AWE	0.022	8.270	Oversupply
6/10/2016 3:43	2:35	KWPII	33.533	20.701	Oversupply
6/10/2016 4:45	0:02	AWE	0.064	12.953	Oversupply
6/10/2016 4:49	0:05	AWE	0.156	13.457	Oversupply
6/10/2016 6:26	1:06	KWPII	10.485	20.699	Oversupply
6/10/2016 7:46	0:03	KWPII	0.011	20.579	Oversupply
6/10/2016 8:21	0:49	KWPII	3.505	20.708	Oversupply
6/10/2016 9:13	2:26	KWPII	41.484	20.668	Oversupply
6/10/2016 9:30	0:01	AWE	0.003	20.837	Oversupply
6/10/2016 9:50	0:01	AWE	0.002	19.633	Oversupply
6/10/2016 9:52	0:13	AWE	0.249	20.930	Oversupply
6/10/2016 10:06	0:06	AWE	0.067	20.990	Oversupply
6/10/2016 10:13	0:02	AWE	0.047	20.990	Oversupply
6/10/2016 10:16	0:02	AWE	0.018	20.987	Oversupply
6/10/2016 10:20	0:12	AWE	0.269	21.000	Oversupply
6/10/2016 10:34	0:03	AWE	0.014	21.000	Oversupply
6/10/2016 10:38	0:44	AWE	1.794	21.000	Oversupply
6/10/2016 11:23	0:01	AWE	0.002	21.000	Oversupply
6/10/2016 11:26	0:06	AWE	0.064	21.000	Oversupply
6/10/2016 11:34	0:01	AWE	0.001	21.000	Oversupply
6/10/2016 11:39	0:03	AWE	0.017	21.000	Oversupply
6/10/2016 11:40	1:38	KWPII	13.690	18.820	Oversupply
6/10/2016 11:43	0:02	AWE	0.004	21.000	Oversupply
6/10/2016 11:46	0:04	AWE	0.016	21.000	Oversupply
6/10/2016 11:54	0:01	AWE	0.001	21.000	Oversupply
6/10/2016 11:58	0:01	AWE	0.001	21.000	Oversupply
6/10/2016 12:00	0:03	AWE	0.006	21.000	Oversupply
6/10/2016 12:05	0:01	AWE	0.001	21.000	Oversupply
6/10/2016 13:20	0:06	KWPII	0.126	17.204	Oversupply
6/10/2016 13:33	0:03	KWPII	0.081	14.674	Oversupply
6/10/2016 13:39	0:04	KWPII	0.109	17.451	Oversupply
6/10/2016 13:44	0:03	KWPII	0.058	17.396	Oversupply
6/10/2016 13:58	0:03	KWPII	0.046	15.727	Oversupply
6/10/2016 14:02	0:06	KWPII	0.165	17.039	Oversupply
6/10/2016 14:23	0:02	KWPII	0.056	16.780	Oversupply
6/10/2016 15:04	0:01	KWPII	0.024	15.620	Oversupply
6/10/2016 18:31	0:01	KWPII	0.001	17.228	Oversupply
6/11/2016 2:39	0:01	KWPII	0.024	9.193	Oversupply
6/11/2016 2:51	0:44	KWPII	5.855	16.319	Oversupply
6/11/2016 3:50	0:02	KWPII	0.011	4.342	Oversupply
6/11/2016 3:55	0:02	KWPII	0.029	4.856	Oversupply
6/11/2016 4:38	0:01	KWPII	0.004	7.461	Oversupply
6/11/2016 4:43	0:02	KWPII	0.021	8.753	Oversupply
6/11/2016 4:50	0:26	KWPII	2.067	16.739	Oversupply
6/11/2016 6:05	0:01	KWPII	0.010	18.146	Oversupply
6/11/2016 6:09	0:01	KWPII	0.006	18.079	Oversupply
6/11/2016 6:16	0:01	KWPII	0.020	18.508	Oversupply
6/11/2016 6:19	0:04	KWPII	0.029	19.063	Oversupply
6/11/2016 6:54	0:22	KWPII	0.896	18.271	Oversupply
6/11/2016 7:37	0:01	KWPII	0.004	16.620	Oversupply
6/11/2016 7:39	0:04	KWPII	0.100	16.421	Oversupply
6/11/2016 9:16	0:20	KWPII	0.816	17.556	Oversupply
6/11/2016 9:40	1:20	KWPII	8.056	18.708	Oversupply
6/11/2016 11:02	0:09	KWPII	0.186	13.504	Oversupply
6/11/2016 11:16	0:04	KWPII	0.141	14.240	Oversupply
6/11/2016 11:49	1:54	KWPII	28.391	18.768	Oversupply
6/11/2016 12:08	0:06	AWE	0.018	21.000	Oversupply
6/11/2016 12:16	0:30	AWE	1.260	21.000	Oversupply
6/11/2016 12:47	0:10	AWE	0.503	20.810	Oversupply
6/11/2016 12:58	0:05	AWE	0.077	20.893	Oversupply
6/11/2016 13:04	0:02	AWE	0.005	21.000	Oversupply
6/11/2016 13:10	0:04	AWE	0.019	21.000	Oversupply
6/11/2016 13:15	0:02	AWE	0.005	20.860	Oversupply
6/11/2016 13:20	0:05	AWE	0.039	21.000	Oversupply
6/11/2016 13:28	0:04	AWE	0.021	20.853	Oversupply
6/11/2016 13:45	1:34	KWPII	14.284	17.992	Oversupply
6/11/2016 15:22	0:04	KWPII	0.104	17.993	Oversupply
6/11/2016 15:27	0:01	KWPII	0.009	17.656	Oversupply
6/11/2016 15:34	0:12	KWPII	0.364	17.878	Oversupply
6/11/2016 15:47	0:33	KWPII	2.235	19.152	Oversupply
6/11/2016 16:30	0:01	KWPII	0.010	19.127	Oversupply
6/12/2016 10:10	0:01	KWP	0.000	0.003	Oversupply
6/12/2016 10:46	0:01	KWP	0.000	0.005	Oversupply
6/12/2016 18:28	0:04	KWPII	0.054	18.886	Oversupply

Maui Curtailment Report

Maui Electric

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
6/12/2016 22:09	0:06	KWPII	0.098	19.114	Oversupply
6/12/2016 22:21	0:40	KWPII	3.226	19.211	Oversupply
6/12/2016 23:10	0:12	KWPII	0.937	19.139	Oversupply
6/12/2016 23:36	0:06	KWPII	0.129	19.201	Oversupply
6/13/2016 0:30	1:00	KWPII	5.160	19.206	Oversupply
6/13/2016 1:34	0:24	KWPII	1.291	18.783	Oversupply
6/13/2016 1:59	4:06	KWPII	31.982	19.211	Oversupply
6/13/2016 9:34	0:04	KWPII	0.007	19.194	Oversupply
6/13/2016 10:25	0:06	KWPII	0.061	17.714	Oversupply
6/13/2016 10:32	0:01	KWPII	0.004	17.698	Oversupply
6/13/2016 10:40	0:03	KWPII	0.030	17.714	Oversupply
6/13/2016 10:49	0:02	KWPII	0.013	17.694	Oversupply
6/13/2016 10:52	0:01	KWPII	0.002	17.682	Oversupply
6/13/2016 11:15	0:02	KWPII	0.016	17.666	Oversupply
6/13/2016 11:44	1:01	KWPII	4.245	19.211	Oversupply
6/13/2016 12:47	0:09	KWPII	0.197	19.161	Oversupply
6/13/2016 12:57	0:01	KWPII	0.007	17.827	Oversupply
6/13/2016 13:00	0:02	KWPII	0.034	18.996	Oversupply
6/14/2016 0:04	0:29	KWPII	1.508	19.082	Oversupply
6/14/2016 0:41	0:47	KWPII	3.176	19.210	Oversupply
6/14/2016 1:29	0:01	KWPII	0.004	18.667	Oversupply
6/14/2016 1:46	3:47	KWPII	21.809	19.211	Oversupply
6/14/2016 5:36	0:39	KWPII	2.560	19.211	Oversupply
6/14/2016 6:24	0:01	KWPII	0.005	19.209	Oversupply
6/14/2016 6:26	0:02	KWPII	0.009	19.203	Oversupply
6/14/2016 6:29	0:02	KWPII	0.012	19.185	Oversupply
6/14/2016 6:37	0:01	KWPII	0.002	19.211	Oversupply
6/14/2016 6:39	0:04	KWPII	0.040	19.211	Oversupply
6/14/2016 9:04	0:03	KWPII	0.027	19.206	Oversupply
6/14/2016 9:15	0:02	KWPII	0.013	19.191	Oversupply
6/14/2016 14:46	0:08	KWPII	0.174	19.211	Oversupply
6/14/2016 22:45	0:10	KWPII	0.188	19.211	Oversupply
6/15/2016 0:19	0:19	KWPII	0.509	19.208	Oversupply
6/15/2016 0:56	0:15	KWPII	1.309	19.211	Oversupply
6/15/2016 1:13	4:47	KWPII	38.567	19.211	Oversupply
6/15/2016 9:52	0:07	KWPII	0.149	19.211	Oversupply
6/15/2016 10:23	1:42	KWPII	7.317	19.211	Oversupply
6/15/2016 12:32	0:06	KWPII	0.076	19.202	Oversupply
6/15/2016 12:39	0:02	KWPII	0.030	19.176	Oversupply
6/15/2016 13:08	0:01	KWPII	0.015	18.921	Oversupply
6/15/2016 13:35	0:05	KWPII	0.054	19.211	Oversupply
6/15/2016 13:44	0:03	KWPII	0.024	19.194	Oversupply
6/15/2016 13:52	0:01	KWPII	0.001	18.850	Oversupply
6/16/2016 0:10	0:17	KWPII	0.549	19.211	Oversupply
6/16/2016 0:45	5:07	KWPII	34.791	19.211	Oversupply
6/16/2016 5:53	0:01	KWPII	0.017	19.211	Oversupply
6/16/2016 8:47	0:16	KWPII	0.706	19.211	System constraint
6/16/2016 9:06	0:03	KWPII	0.011	19.207	System constraint
6/16/2016 9:10	0:17	KWPII	0.616	19.211	System constraint
6/16/2016 10:14	0:01	KWPII	0.001	19.174	Oversupply
6/16/2016 10:27	0:03	KWPII	0.035	19.211	Oversupply
6/16/2016 10:38	0:17	KWPII	0.803	19.211	Oversupply
6/16/2016 10:58	0:01	KWPII	0.013	19.211	Oversupply
6/16/2016 11:15	0:01	KWPII	0.010	19.211	Oversupply
6/16/2016 11:18	0:06	KWPII	0.135	19.211	Oversupply
6/16/2016 11:30	0:05	KWPII	0.166	19.211	Oversupply
6/16/2016 11:49	0:02	KWPII	0.021	19.211	Oversupply
6/16/2016 11:57	0:11	KWPII	0.593	19.208	Oversupply
6/16/2016 12:21	2:06	KWPII	10.333	19.211	Oversupply
6/17/2016 0:38	0:13	KWPII	0.818	19.211	Oversupply
6/17/2016 0:53	1:08	KWPII	8.127	19.211	Oversupply
6/17/2016 2:04	0:32	KWPII	1.876	19.211	Oversupply
6/17/2016 3:13	0:04	KWPII	0.022	19.211	Oversupply
6/17/2016 8:49	0:01	KWPII	0.006	19.211	Oversupply
6/17/2016 8:53	0:03	KWPII	0.036	19.211	Oversupply
6/17/2016 9:19	0:03	KWPII	0.031	19.211	Oversupply
6/17/2016 9:23	0:02	KWPII	0.015	19.211	Oversupply
6/17/2016 9:29	0:21	KWPII	0.962	19.211	Oversupply
6/17/2016 9:51	0:23	KWPII	0.793	19.211	Oversupply
6/17/2016 10:23	0:13	KWPII	0.403	19.211	Oversupply
6/17/2016 10:42	0:02	KWPII	0.016	19.211	Oversupply
6/17/2016 10:55	0:07	KWPII	0.219	19.211	Oversupply
6/17/2016 11:28	1:13	KWPII	7.240	19.211	Oversupply
6/17/2016 12:49	2:04	KWPII	18.451	19.211	Oversupply
6/17/2016 14:54	0:04	KWPII	0.059	19.202	Oversupply
6/17/2016 14:59	0:03	KWPII	0.029	19.206	Oversupply
6/17/2016 15:03	0:01	KWPII	0.009	19.210	Oversupply
6/17/2016 15:07	0:05	KWPII	0.028	19.206	Oversupply
6/17/2016 15:14	0:05	KWPII	0.035	19.172	Oversupply
6/17/2016 23:57	0:07	KWPII	0.146	19.211	Oversupply
6/18/2016 0:10	0:14	KWPII	0.865	19.211	Oversupply
6/18/2016 2:48	0:07	KWPII	0.281	19.207	Oversupply
6/18/2016 2:56	0:06	KWPII	0.211	19.211	Oversupply
6/18/2016 3:03	0:01	KWPII	0.002	19.211	Oversupply
6/18/2016 3:27	0:02	KWPII	0.017	19.211	Oversupply
6/18/2016 3:30	0:02	KWPII	0.015	19.211	Oversupply
6/18/2016 3:33	0:03	KWPII	0.023	19.211	Oversupply
6/18/2016 3:42	0:01	KWPII	0.004	19.211	Oversupply
6/18/2016 3:48	0:08	KWPII	0.051	19.211	Oversupply
6/18/2016 3:58	0:02	KWPII	0.010	19.211	Oversupply
6/18/2016 4:09	0:06	KWPII	0.120	19.211	Oversupply
6/18/2016 4:16	0:01	KWPII	0.004	19.211	Oversupply
6/18/2016 4:18	0:01	KWPII	0.003	19.211	Oversupply
6/18/2016 8:19	5:43	KWPII	79.136	19.211	Oversupply
6/18/2016 11:37	2:02	AWE	5.994	21.000	Oversupply
6/18/2016 13:40	0:15	AWE	0.087	21.000	Oversupply
6/18/2016 14:03	1:12	KWPII	12.063	19.211	Oversupply
6/18/2016 15:16	0:07	KWPII	0.146	19.046	Oversupply
6/18/2016 15:24	0:01	KWPII	0.016	18.991	Oversupply
6/18/2016 15:26	0:03	KWPII	0.012	19.118	Oversupply
6/18/2016 15:30	0:01	KWPII	0.005	19.077	Oversupply
6/18/2016 15:32	0:02	KWPII	0.011	19.034	Oversupply
6/18/2016 15:39	0:03	KWPII	0.037	18.823	Oversupply
6/18/2016 23:28	0:04	KWPII	0.063	19.141	Oversupply
6/19/2016 0:02	0:01	KWPII	0.002	19.203	Oversupply

Maui Electric

Maui Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
6/19/2016 0:06	0:29	KWPII	2.125	19.211	Oversupply
6/19/2016 0:54	4:56	KWPII	36.254	19.211	Oversupply
6/19/2016 5:57	0:02	KWPII	0.047	14.081	Oversupply
6/19/2016 6:24	0:07	KWPII	0.143	18.956	Oversupply
6/19/2016 6:54	0:01	KWPII	0.005	18.982	Oversupply
6/19/2016 6:57	0:01	KWPII	0.006	19.023	Oversupply
6/19/2016 7:05	0:02	KWPII	0.039	18.299	Oversupply
6/19/2016 7:39	0:07	KWPII	0.289	18.378	Oversupply
6/19/2016 9:31	0:01	KWPII	0.013	15.304	Oversupply
6/19/2016 9:35	0:02	KWPII	0.090	15.878	Oversupply
6/19/2016 9:38	1:51	KWPII	19.911	18.851	Oversupply
6/19/2016 10:54	0:01	AWE	0.002	21.000	Oversupply
6/19/2016 10:56	0:02	AWE	0.008	21.000	Oversupply
6/19/2016 11:00	0:02	AWE	0.007	21.000	Oversupply
6/19/2016 11:03	0:01	AWE	0.001	20.727	Oversupply
6/19/2016 11:05	0:07	AWE	0.044	21.000	Oversupply
6/19/2016 11:15	0:01	AWE	0.001	21.000	Oversupply
6/19/2016 11:20	0:01	AWE	0.000	21.000	Oversupply
6/19/2016 11:22	0:03	AWE	0.010	21.000	Oversupply
6/19/2016 11:31	0:36	KWPII	8.845	18.400	Oversupply
6/19/2016 11:33	0:02	AWE	0.006	21.000	Oversupply
6/19/2016 11:36	0:02	AWE	0.001	21.000	Oversupply
6/19/2016 11:39	0:21	AWE	0.309	21.000	Oversupply
6/19/2016 12:01	0:04	AWE	0.004	21.000	Oversupply
6/19/2016 12:09	1:11	KWPII	16.976	18.967	Oversupply
6/19/2016 12:11	0:01	AWE	0.002	21.000	Oversupply
6/19/2016 12:17	0:01	AWE	0.002	21.000	Oversupply
6/19/2016 12:36	0:01	AWE	0.001	21.000	Oversupply
6/19/2016 12:39	0:03	AWE	0.006	21.000	Oversupply
6/19/2016 12:43	0:17	AWE	0.479	21.000	Oversupply
6/19/2016 13:01	0:01	AWE	0.002	21.000	Oversupply
6/19/2016 13:03	0:06	AWE	0.098	21.000	Oversupply
6/19/2016 13:11	0:05	AWE	0.029	21.000	Oversupply
6/19/2016 13:22	2:01	KWPII	20.948	19.193	Oversupply
6/19/2016 13:26	0:01	AWE	0.001	21.000	Oversupply
6/19/2016 13:28	0:01	AWE	0.002	21.000	Oversupply
6/19/2016 23:06	0:04	KWPII	0.070	18.721	Oversupply
6/20/2016 3:38	0:30	AWE	2.523	20.583	Oversupply
6/20/2016 3:50	0:25	KWPII	1.269	9.528	Oversupply
6/20/2016 4:09	0:02	AWE	0.011	13.110	Oversupply
6/20/2016 4:18	0:58	KWPII	6.694	17.450	Oversupply
6/20/2016 5:26	0:02	KWPII	0.056	15.257	Oversupply
6/20/2016 5:31	0:04	KWPII	0.145	15.863	Oversupply
6/20/2016 7:44	0:03	KWPII	0.065	15.104	Oversupply
6/20/2016 9:51	0:01	KWPII	0.002	15.327	Oversupply
6/20/2016 10:01	0:01	KWPII	0.002	15.656	Oversupply
6/20/2016 10:19	0:10	KWPII	0.589	17.535	Oversupply
6/20/2016 10:36	0:10	KWPII	0.386	17.609	Oversupply
6/20/2016 10:47	0:29	KWPII	2.417	17.546	Oversupply
6/21/2016 23:03	0:05	KWPII	0.071	20.667	Oversupply
6/21/2016 23:42	0:06	KWPII	0.179	20.707	Oversupply
6/22/2016 0:32	0:11	KWPII	0.142	20.691	Oversupply
6/22/2016 0:50	1:09	KWPII	4.216	20.705	Oversupply
6/22/2016 2:49	0:21	KWPII	0.578	19.156	Oversupply
6/22/2016 3:11	0:06	KWPII	0.098	19.098	Oversupply
6/22/2016 3:19	0:01	KWPII	0.006	19.123	Oversupply
6/22/2016 5:46	0:08	KWPII	0.067	18.903	Oversupply
6/22/2016 8:57	0:08	KWPII	0.114	20.607	Oversupply
6/22/2016 9:09	0:03	KWPII	0.050	20.653	Oversupply
6/22/2016 9:16	0:02	KWPII	0.013	20.632	Oversupply
6/22/2016 10:22	0:01	KWPII	0.000	20.671	Oversupply
6/22/2016 10:25	2:03	KWPII	7.791	20.704	Oversupply
6/22/2016 12:30	0:57	KWPII	2.297	20.672	Oversupply
6/22/2016 13:28	0:01	KWPII	0.006	20.564	Oversupply
6/22/2016 13:43	0:01	KWPII	0.002	20.575	Oversupply
6/22/2016 23:46	0:04	KWPII	0.139	14.307	Oversupply
6/22/2016 23:58	0:31	KWPII	2.051	17.475	Oversupply
6/23/2016 0:30	0:12	KWPII	0.652	18.462	Oversupply
6/23/2016 0:44	0:13	KWPII	0.320	19.463	Oversupply
6/23/2016 1:00	0:01	KWPII	0.003	14.668	Oversupply
6/23/2016 1:02	0:01	KWPII	0.024	14.943	Oversupply
6/23/2016 1:04	0:02	KWPII	0.027	15.710	Oversupply
6/23/2016 1:12	0:46	KWPII	4.241	18.437	Oversupply
6/23/2016 2:20	0:13	KWPII	0.952	19.260	Oversupply
6/23/2016 2:35	0:42	KWPII	4.537	19.644	Oversupply
6/23/2016 3:18	0:01	KWPII	0.010	18.919	Oversupply
6/23/2016 3:20	0:16	KWPII	0.888	18.814	Oversupply
6/23/2016 3:38	0:01	KWPII	0.036	13.861	Oversupply
6/23/2016 3:40	0:06	KWPII	0.189	15.473	Oversupply
6/23/2016 4:21	1:30	KWPII	14.335	20.639	Oversupply
6/23/2016 7:04	0:03	KWPII	0.032	20.665	Oversupply
6/23/2016 9:08	0:12	KWPII	0.273	20.653	Oversupply
6/23/2016 9:21	0:03	KWPII	0.074	20.299	Oversupply
6/23/2016 9:27	0:02	KWPII	0.018	20.339	Oversupply
6/23/2016 9:39	0:12	KWPII	0.509	20.640	Oversupply
6/23/2016 9:52	0:01	KWPII	0.003	20.650	Oversupply
6/23/2016 9:54	0:01	KWPII	0.003	20.653	Oversupply
6/23/2016 10:08	0:01	KWPII	0.002	20.694	Oversupply
6/23/2016 10:13	0:01	KWPII	0.004	20.703	Oversupply
6/23/2016 10:22	0:11	KWPII	0.300	20.703	Oversupply
6/23/2016 10:40	0:13	KWPII	0.116	20.702	Oversupply
6/23/2016 10:55	0:05	KWPII	0.104	20.708	Oversupply
6/23/2016 11:16	0:09	KWPII	0.248	20.663	Oversupply
6/23/2016 13:01	0:01	KWPII	0.001	20.690	Oversupply
6/23/2016 13:03	0:01	KWPII	0.007	20.700	Oversupply
6/23/2016 13:45	0:06	KWPII	0.038	20.708	Oversupply
6/23/2016 13:54	0:22	KWPII	0.728	20.708	Oversupply
6/23/2016 14:26	0:05	KWPII	0.066	20.707	Oversupply
6/23/2016 14:35	0:02	KWPII	0.001	20.708	Oversupply
6/25/2016 0:03	0:01	KWP	0.004	20.708	Oversupply
6/25/2016 0:14	0:03	KWP	0.056	26.791	Facility requested
6/25/2016 0:23	4:44	KWPII	38.422	20.708	Oversupply
6/25/2016 0:45	0:03	AWE	0.032	21.000	Oversupply
6/25/2016 8:40	1:19	KWPII	4.670	19.211	Oversupply
6/25/2016 10:03	0:01	KWPII	0.003	18.928	Oversupply

Maui Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reasons for Curtailment
6/25/2016 10:16	0:01	KWPII	0.026	19.080	Oversupply
6/25/2016 10:27	0:20	KWPII	1.050	19.125	Oversupply
6/25/2016 10:49	0:04	KWPII	0.075	19.052	Oversupply
6/25/2016 10:55	0:02	KWPII	0.025	18.822	Oversupply
6/25/2016 10:58	0:27	KWPII	3.592	19.164	Oversupply
6/25/2016 11:26	0:11	KWPII	1.999	19.184	Oversupply
6/25/2016 11:38	1:02	KWPII	10.788	19.175	Oversupply
6/25/2016 12:41	0:10	KWPII	0.583	18.306	Oversupply
6/25/2016 12:56	0:04	KWPII	0.101	18.643	Oversupply
6/25/2016 13:23	0:09	KWPII	0.749	19.078	Oversupply
6/25/2016 13:33	0:55	KWPII	6.546	19.207	Oversupply
6/25/2016 15:04	0:03	KWPII	0.055	19.201	Oversupply
6/25/2016 22:50	0:36	KWPII	1.721	19.211	Oversupply
6/26/2016 1:56	0:01	AWE	0.000	0.007	Oversupply
6/26/2016 2:07	0:01	KWPII	0.010	19.183	Oversupply
6/26/2016 2:09	0:07	KWPII	0.142	19.198	Oversupply
6/26/2016 11:58	0:01	KWPII	0.015	16.272	Oversupply
6/26/2016 12:12	0:01	KWPII	0.025	17.428	Oversupply
6/26/2016 12:20	1:48	KWPII	9.539	18.901	Oversupply
6/26/2016 14:29	0:02	KWPII	0.004	19.088	Oversupply
6/26/2016 14:32	0:02	KWPII	0.033	19.056	Oversupply
6/26/2016 14:35	0:07	KWPII	0.163	18.697	Oversupply
6/26/2016 14:56	0:01	KWPII	0.010	18.813	Oversupply
6/26/2016 22:59	0:01	KWPII	0.006	19.210	Oversupply
6/27/2016 0:03	0:07	KWPII	0.236	19.175	Oversupply
6/27/2016 0:11	0:08	KWPII	0.387	19.162	Oversupply
6/27/2016 0:20	0:50	KWPII	3.937	19.171	Oversupply
6/27/2016 2:15	0:03	KWPII	0.034	18.711	Oversupply
6/27/2016 2:19	0:01	KWPII	0.012	18.678	Oversupply
6/27/2016 2:21	0:03	KWPII	0.038	18.860	Oversupply
6/27/2016 2:31	0:06	KWPII	0.115	18.524	Oversupply
6/27/2016 2:45	0:04	KWPII	0.051	18.461	Oversupply
6/27/2016 2:52	0:01	KWPII	0.003	18.900	Oversupply
6/27/2016 2:54	0:01	KWPII	0.006	18.307	Oversupply
6/27/2016 2:59	0:03	KWPII	0.095	18.628	Oversupply
6/27/2016 3:03	0:12	KWPII	0.341	19.079	Oversupply
6/27/2016 3:16	0:17	KWPII	0.829	18.947	Oversupply
6/27/2016 3:35	0:01	KWPII	0.016	18.507	Oversupply
6/27/2016 4:00	0:05	KWPII	0.166	18.189	Oversupply
6/27/2016 4:18	0:02	KWPII	0.021	18.992	Oversupply
6/27/2016 4:32	0:35	KWPII	3.177	19.169	Oversupply
6/27/2016 5:16	0:07	KWPII	0.227	18.928	Oversupply
6/27/2016 5:24	0:15	KWPII	0.494	19.200	Oversupply
6/27/2016 5:55	0:09	KWPII	0.283	19.185	Oversupply
6/27/2016 9:44	1:34	KWPII	10.973	20.698	Oversupply
6/27/2016 11:19	0:02	KWPII	0.051	20.573	Oversupply
6/27/2016 11:22	0:02	KWPII	0.053	20.306	Oversupply
6/27/2016 11:44	0:02	KWPII	0.032	20.543	Oversupply
6/27/2016 13:34	0:15	KWPII	0.915	19.184	Oversupply
6/27/2016 13:50	0:14	KWPII	0.531	19.140	Oversupply
6/27/2016 23:46	0:10	KWPII	0.148	20.564	Oversupply
6/27/2016 23:57	0:07	KWPII	0.169	20.434	Oversupply
6/28/2016 0:06	0:06	KWPII	0.103	20.232	Oversupply
6/28/2016 0:19	0:05	KWPII	0.061	20.697	Oversupply
6/28/2016 0:46	0:03	KWPII	0.026	20.363	Oversupply
6/28/2016 3:07	0:02	KWPII	0.003	20.672	Oversupply
6/28/2016 3:21	0:40	KWPII	2.437	20.691	Oversupply
6/28/2016 4:40	0:05	KWPII	0.125	20.601	Oversupply
6/28/2016 4:59	0:01	KWPII	0.001	20.669	Oversupply
6/28/2016 5:02	0:02	KWPII	0.007	20.673	Oversupply
6/28/2016 5:24	0:01	KWPII	0.000	19.660	Oversupply
6/28/2016 5:38	0:05	KWPII	0.120	20.690	Oversupply
6/28/2016 5:56	0:04	KWPII	0.066	20.707	Oversupply
6/28/2016 7:57	0:03	KWPII	0.018	20.684	Oversupply
6/28/2016 10:28	0:01	KWPII	0.005	17.475	Oversupply
6/29/2016 9:26	0:01	KWPII	0.008	16.932	Oversupply
6/29/2016 9:28	0:03	KWPII	0.080	17.162	Oversupply
6/29/2016 10:11	0:03	KWPII	0.094	12.510	Oversupply
6/29/2016 11:11	0:07	KWPII	0.411	16.837	Oversupply
6/29/2016 11:19	0:06	KWPII	0.264	16.500	Oversupply
6/29/2016 11:56	0:01	KWPII	0.010	15.183	Oversupply
6/29/2016 12:05	0:01	KWPII	0.039	14.208	Oversupply
6/30/2016 0:53	0:05	KWPII	0.423	17.869	Oversupply
6/30/2016 0:59	3:29	KWPII	32.133	19.197	Oversupply
6/30/2016 4:42	0:08	KWPII	0.237	18.961	Oversupply
6/30/2016 9:19	0:07	KWPII	0.095	19.139	Oversupply
6/30/2016 23:39	0:01	KWPII	0.080	17.000	Oversupply
6/30/2016 23:41	0:01	KWPII	0.140	18.972	Oversupply
6/30/2016 23:43	0:17	KWPII	1.659	20.708	Oversupply

Notes:

- Curtailment for Kaheawa Wind Power ("KWP"), Makila Hydroelectric ("MH"), AAAAA Rent-A-Space Maui LTD ("5A"), Bioreal Solar, LLC ("BS"), Auwahi Wind Energy ("AWE"), Kaheawa Wind Power II ("KWPII") Bioreal Solar 250, LLC ("BS250") 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 KWPII. 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 5A, BS, BS 250 or MH.
- Curtailment signals sent to 5A, BS, or BS250 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 HECO companies metrics.
- The Bioreal Solar 250, LLC circuit breaker failed on May 5, 2016. Bioreal Solar 250, LLC plan to replace the circuit breaker and resume production.

Lanai Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
6/1/2016 6:40	0:07	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 6:48	0:01	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 6:51	0:16	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 7:13	0:04	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 7:27	0:01	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 7:30	0:07	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 7:38	0:04	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 8:00	0:37	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 8:43	0:04	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 8:49	1:40	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 10:30	0:21	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 11:17	0:43	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 12:01	0:06	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 12:21	0:09	LSR	Data is not available	Data is not available	Oversupply .
6/1/2016 12:33	0:02	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 12:41	0:32	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 13:23	0:03	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 13:29	0:04	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 13:35	0:02	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 13:40	0:03	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 14:13	0:06	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 14:22	0:05	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 14:30	0:09	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 14:41	0:59	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 15:43	0:57	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 16:44	0:08	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 16:58	0:16	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 17:17	0:08	LSR	Data is not available	Data is not available	Oversupply
6/1/2016 17:59	0:05	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 7:33	0:16	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 8:42	0:01	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 8:45	0:19	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 9:07	0:01	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 9:11	0:01	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 9:18	0:01	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 9:20	0:36	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 9:57	0:44	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 10:42	0:35	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 11:27	2:09	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 13:38	0:20	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 13:59	0:01	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 14:06	0:04	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 16:08	0:04	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 16:13	0:17	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 16:51	0:25	LSR	Data is not available	Data is not available	Oversupply
6/2/2016 17:29	1:09	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 7:29	0:04	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 7:34	0:13	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 8:04	0:03	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 9:21	0:01	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 9:24	0:06	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 10:32	0:26	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 11:12	0:05	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 11:33	0:04	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 11:46	0:03	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 11:50	0:59	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 12:59	0:01	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 13:04	0:01	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 13:12	0:33	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 14:12	0:01	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 15:11	0:12	LSR	Data is not available	Data is not available	Oversupply
6/3/2016 15:30	0:03	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 8:03	0:03	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 8:15	0:40	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 9:01	0:10	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 10:22	0:02	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 10:27	0:01	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 11:11	0:23	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 12:00	0:02	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 12:06	0:10	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 12:17	0:02	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 15:05	0:01	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 15:20	0:03	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 15:28	0:11	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 15:48	0:01	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 16:00	0:01	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 16:27	0:01	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 17:10	1:15	LSR	Data is not available	Data is not available	Oversupply
6/4/2016 18:27	0:03	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 6:41	2:01	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 8:59	0:19	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 9:27	0:02	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 9:40	0:11	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 10:20	0:04	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 10:27	0:16	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 10:49	0:20	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 11:11	0:09	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 11:24	1:03	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 12:54	0:06	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 17:18	0:06	LSR	Data is not available	Data is not available	Oversupply
6/5/2016 17:25	0:03	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 8:39	0:01	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 8:42	0:03	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 9:03	0:56	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 10:20	0:02	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 10:24	0:04	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 10:29	0:04	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 10:35	0:34	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 11:13	0:04	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 11:20	0:01	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 11:38	0:01	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 13:47	0:04	LSR	Data is not available	Data is not available	Oversupply

Maui Electric

Lanai Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
6/6/2016 13:53	1:16	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 15:15	0:05	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 15:27	0:07	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 15:40	0:17	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 16:17	0:03	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 16:21	0:59	LSR	Data is not available	Data is not available	Oversupply
6/6/2016 17:22	0:51	LSR	Data is not available	Data is not available	Oversupply
6/7/2016 6:45	6:23	LSR	Data is not available	Data is not available	Oversupply
6/7/2016 13:10	5:12	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 6:47	2:10	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 9:15	1:39	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 10:55	0:04	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 11:03	0:01	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 11:10	0:01	LSR	Data is not available	Data is not available	Oversupply .
6/8/2016 11:25	0:03	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 11:42	0:03	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 11:50	0:01	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 11:57	0:10	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 13:57	0:14	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 14:16	0:03	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 14:20	0:05	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 14:26	0:23	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 14:52	0:02	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 15:12	2:37	LSR	Data is not available	Data is not available	Oversupply
6/8/2016 18:08	0:03	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 6:40	0:15	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 6:56	0:12	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 7:11	0:19	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 8:33	0:03	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 8:37	0:12	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 9:34	0:01	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 12:01	0:36	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 13:22	0:01	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 13:27	0:01	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 13:30	0:04	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 14:40	0:09	LSR	Data is not available	Data is not available	Oversupply
6/9/2016 16:18	2:05	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 6:18	2:51	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 9:16	0:13	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 9:31	0:39	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 10:22	0:01	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 10:29	0:02	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 11:02	0:02	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 11:20	0:08	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 11:32	0:01	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 11:34	0:29	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 12:08	0:02	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 12:11	0:01	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 12:36	0:03	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 14:27	0:10	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 14:39	0:26	LSR	Data is not available	Data is not available	Oversupply
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6/10/2016 15:43	0:05	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 15:50	0:05	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 15:58	0:05	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 16:05	0:06	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 16:13	1:41	LSR	Data is not available	Data is not available	Oversupply
6/10/2016 18:04	0:11	LSR	Data is not available	Data is not available	Oversupply
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6/11/2016 9:40	0:08	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 9:52	0:01	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 10:03	0:03	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 10:39	0:04	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 10:48	0:36	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 11:27	2:12	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 13:40	0:01	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 13:46	0:07	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 13:54	0:01	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 13:58	0:01	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 14:01	0:15	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 14:18	1:00	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 15:20	0:14	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 15:35	0:04	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 15:43	0:08	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 15:52	0:18	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 16:14	0:10	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 16:26	0:03	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 17:00	0:08	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 17:10	0:06	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 17:28	0:34	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 18:05	0:07	LSR	Data is not available	Data is not available	Oversupply
6/11/2016 18:14	0:06	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 6:39	0:15	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 7:01	0:07	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 7:16	0:04	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 8:00	0:12	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 9:11	0:05	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 9:22	0:39	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 10:02	0:14	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 10:18	0:02	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 10:21	0:01	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 10:25	0:30	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 11:02	0:13	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 11:16	0:10	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 11:41	0:03	LSR	Data is not available	Data is not available	Oversupply
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6/12/2016 12:14	0:19	LSR	Data is not available	Data is not available	Oversupply
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6/12/2016 12:49	0:04	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 12:55	0:01	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 13:02	0:01	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 13:06	0:09	LSR	Data is not available	Data is not available	Oversupply

Maui Electric

Lanai Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
6/12/2016 13:17	0:08	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 13:28	0:03	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 13:32	1:41	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 15:15	0:01	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 15:17	0:12	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 15:38	0:13	LSR	Data is not available	Data is not available	Oversupply
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6/12/2016 16:40	0:01	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 16:46	0:05	LSR	Data is not available	Data is not available	Oversupply
6/12/2016 17:39	0:22	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 6:40	0:44	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 7:29	1:13	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 8:50	0:07	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 9:03	0:02	LSR	Data is not available	Data is not available	Oversupply .
6/13/2016 9:45	0:01	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 9:49	0:05	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 9:55	0:07	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 10:49	0:01	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 10:57	0:01	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 11:00	0:02	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 11:05	0:06	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 11:12	0:01	LSR	Data is not available	Data is not available	Oversupply
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6/13/2016 12:20	0:01	LSR	Data is not available	Data is not available	Oversupply
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6/13/2016 13:39	0:02	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 14:41	0:02	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 14:53	0:03	LSR	Data is not available	Data is not available	Oversupply
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6/13/2016 15:11	0:01	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 15:20	0:55	LSR	Data is not available	Data is not available	Oversupply
6/13/2016 16:46	0:20	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 7:01	0:04	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 7:07	0:56	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 8:13	0:04	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 9:45	0:10	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 10:00	0:16	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 10:22	0:11	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 10:34	0:13	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 10:50	0:01	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 10:57	0:06	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 11:27	0:31	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 12:07	0:03	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 12:34	0:03	LSR	Data is not available	Data is not available	Oversupply
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6/14/2016 13:52	0:04	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 13:59	0:02	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 14:02	0:01	LSR	Data is not available	Data is not available	Oversupply
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6/14/2016 14:18	0:02	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 14:22	0:03	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 14:35	0:37	LSR	Data is not available	Data is not available	Oversupply
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6/14/2016 16:11	0:01	LSR	Data is not available	Data is not available	Oversupply
6/14/2016 17:28	0:03	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 6:39	0:04	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 6:46	0:05	LSR	Data is not available	Data is not available	Oversupply
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6/15/2016 7:16	0:31	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 7:49	0:01	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 7:51	0:12	LSR	Data is not available	Data is not available	Oversupply
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6/15/2016 9:44	0:16	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 10:35	0:02	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 10:40	0:05	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 11:33	0:20	LSR	Data is not available	Data is not available	Oversupply
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6/15/2016 12:22	0:06	LSR	Data is not available	Data is not available	Oversupply
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6/15/2016 16:04	0:07	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 16:17	0:07	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 16:27	0:02	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 16:32	0:01	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 17:11	0:03	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 17:20	0:10	LSR	Data is not available	Data is not available	Oversupply
6/15/2016 17:32	0:06	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 7:19	0:01	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 7:22	0:04	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 7:27	0:08	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 7:42	0:03	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 7:53	0:08	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 8:02	0:29	LSR	Data is not available	Data is not available	Oversupply
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6/16/2016 8:39	0:05	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 8:48	0:01	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 8:50	0:03	LSR	Data is not available	Data is not available	Oversupply

Maui Electric

Lanai Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
6/16/2016 8:55	0:23	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 9:23	0:01	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 9:27	0:05	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 9:46	0:01	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 9:48	0:18	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 10:08	0:02	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 10:49	0:01	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 10:53	0:04	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 10:58	0:03	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 11:02	0:25	LSR	Data is not available	Data is not available	Oversupply
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6/16/2016 12:03	0:07	LSR	Data is not available	Data is not available	Oversupply .
6/16/2016 12:11	0:18	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 12:30	0:02	LSR	Data is not available	Data is not available	Oversupply
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6/16/2016 16:45	0:01	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 16:50	0:09	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 17:08	0:07	LSR	Data is not available	Data is not available	Oversupply
6/16/2016 17:16	0:35	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 8:03	0:01	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 8:13	0:18	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 8:36	0:47	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 9:25	0:16	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 9:43	0:03	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 9:49	0:02	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 9:55	0:03	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 9:59	5:42	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 15:42	0:45	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 16:28	1:30	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 17:59	0:01	LSR	Data is not available	Data is not available	Oversupply
6/17/2016 18:05	0:07	LSR	Data is not available	Data is not available	Oversupply
6/18/2016 6:32	1:37	LSR	Data is not available	Data is not available	Oversupply
6/18/2016 12:11	1:31	LSR	Data is not available	Data is not available	Oversupply
6/18/2016 13:47	2:00	LSR	Data is not available	Data is not available	Oversupply
6/18/2016 15:49	0:04	LSR	Data is not available	Data is not available	Oversupply
6/18/2016 16:04	0:06	LSR	Data is not available	Data is not available	Oversupply
6/18/2016 16:14	1:02	LSR	Data is not available	Data is not available	Oversupply
6/19/2016 17:40	0:03	LSR	Data is not available	Data is not available	Oversupply
6/19/2016 17:47	0:01	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 10:40	0:03	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 10:48	0:01	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 10:53	0:04	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 11:22	0:46	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 12:10	1:00	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 13:44	0:03	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 14:50	0:02	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 16:32	0:06	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 16:42	0:04	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 16:50	0:04	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 16:56	0:13	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 17:13	0:08	LSR	Data is not available	Data is not available	Oversupply
6/20/2016 18:15	0:02	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 6:05	0:04	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 6:35	1:28	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 8:08	0:30	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 8:39	0:07	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 8:58	0:09	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 9:09	0:04	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 9:23	0:01	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 9:40	0:01	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 9:44	0:05	LSR	Data is not available	Data is not available	Oversupply
6/21/2016 9:58	0:11	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 8:55	0:03	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 9:03	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 9:11	0:21	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 9:33	0:04	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 9:38	0:36	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 10:15	0:56	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 11:57	0:03	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 12:14	0:02	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 12:17	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 12:20	0:21	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 12:43	0:04	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 13:03	0:10	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 13:16	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 13:24	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 13:28	0:02	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 13:45	0:02	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 13:51	0:03	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 13:57	0:04	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 14:22	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 14:27	0:03	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 14:34	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 15:16	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 15:24	0:02	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 15:27	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 15:48	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 15:52	0:03	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 15:58	0:03	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 16:02	0:37	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 16:48	0:01	LSR	Data is not available	Data is not available	Oversupply
6/22/2016 16:59	0:07	LSR	Data is not available	Data is not available	Oversupply

Maui Electric

Lanai Curtailment Report

June 2016

Start Date and Time	Duration	IPP Curtailed	Estimated MWh Curtailed	Peak MW Curtailed	Reasons for Curtailment
6/22/2016 17:10	0:05	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 8:31	0:03	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 8:53	0:18	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 9:13	0:34	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 9:52	0:06	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 10:00	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 10:03	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 10:05	0:04	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 10:13	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 10:17	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 11:08	0:04	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 11:53	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 11:56	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 11:58	0:09	LSR	Data is not available	Data is not available	Oversupply .
6/23/2016 12:08	0:04	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 12:18	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 12:20	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 12:24	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 12:30	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 12:39	0:06	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 12:49	0:03	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 12:54	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:19	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:21	0:03	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:31	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:39	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:42	0:04	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:51	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:55	0:01	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 14:59	0:02	LSR	Data is not available	Data is not available	Oversupply
6/23/2016 15:14	0:01	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 7:27	0:02	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 7:32	0:39	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 8:13	0:02	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 9:07	0:16	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 9:28	0:06	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 9:39	0:02	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 9:44	0:06	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 9:51	2:02	LSR	Data is not available	Data is not available	Oversupply
6/25/2016 11:54	6:14	LSR	Data is not available	Data is not available	Oversupply
6/26/2016 12:36	0:05	LSR	Data is not available	Data is not available	Oversupply
6/26/2016 12:42	0:02	LSR	Data is not available	Data is not available	Oversupply
6/26/2016 12:45	2:04	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 8:49	0:02	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 8:54	0:46	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 9:41	0:03	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 9:53	0:01	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 10:03	0:01	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 10:05	0:03	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 10:13	0:24	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 10:40	0:02	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 10:43	0:04	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 10:50	0:03	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 10:54	0:13	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 11:12	0:01	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 11:14	0:02	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 11:52	0:02	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 11:55	0:01	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 12:03	0:01	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 12:27	0:04	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 12:32	0:04	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 12:39	0:06	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 12:47	0:40	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 14:31	0:01	LSR	Data is not available	Data is not available	Oversupply
6/27/2016 15:52	0:01	LSR	Data is not available	Data is not available	Oversupply
6/29/2016 14:49	0:01	LSR	Data is not available	Data is not available	Oversupply
6/29/2016 14:51	0:01	LSR	Data is not available	Data is not available	Oversupply
6/29/2016 14:59	0:01	LSR	Data is not available	Data is not available	Oversupply
6/29/2016 15:20	0:02	LSR	Data is not available	Data is not available	Oversupply
6/29/2016 17:45	0:07	LSR	Data is not available	Data is not available	Oversupply
6/29/2016 18:08	0:04	LSR	Data is not available	Data is not available	Oversupply
6/29/2016 18:16	0:02	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 8:36	0:39	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 9:19	0:05	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 9:25	0:01	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 9:34	0:08	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 10:26	0:02	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 10:57	0:02	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 11:05	0:04	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 11:10	0:11	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 11:23	0:52	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 12:47	0:02	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 12:55	0:01	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 13:27	0:05	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 13:33	0:01	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 17:31	0:01	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 17:35	0:03	LSR	Data is not available	Data is not available	Oversupply
6/30/2016 17:48	0:02	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 June 2016

Start Date/Time	MW output prior to start of curtailment	End Date/Time	MW output after curtailment released[1]	IPP	Reason for Curtailment
06/01/16 09:49	6.0 MW	06/01/16 11:42	0.0 MW	HRD	Facility requested
06/12/16 11:36	1.1 MW	06/12/16 12:47	0.0 MW	TGUHI1	Oversupply
06/12/16 12:00	17.7 MW	06/12/16 12:45	12.8 MW	Tawhiri	Oversupply
06/13/16 12:49	0.1 MW	06/13/16 12:50	0.0 MW	WHCC	System constraint - controls test
06/16/16 16:05	0.1 MW	06/16/16 17:00	0.0 MW	TGUHI1	Oversupply / generation unit test
06/16/16 16:06	0.0 MW	06/16/16 16:58	0.0 MW	WHCC	Oversupply / generation unit test
06/16/16 16:07	18.9 MW	06/16/16 16:56	10.5 MW	Tawhiri	Oversupply / generation unit test
06/26/16 01:01	18.7 MW	06/26/16 04:20	10.1 MW	Tawhiri	Oversupply
06/27/16 09:25	7.1 MW	06/27/16 10:12	5.0 MW	HRD	Facility requested

[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.