



Dean K. Matsuura  
Manager  
Regulatory Affairs

July 30, 2013

The Honorable Chair and Members  
of the Hawaii Public Utilities Commission  
Kekuanaoa Building, 1st Floor  
465 South King Street  
Honolulu, Hawaii 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'<sup>1</sup> monthly report for June 2013 on (1) system frequency control performance during month; (2) significant system events during month; and (3) curtailment of non-dispatchable renewable resources.

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

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

Very truly yours,

Enclosure

cc: Service List

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

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(Docket No. 2011-0206)

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

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

1 Copy  
Electronically Transmitted

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

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

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

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

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

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

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

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

1 Copy  
Electronically Transmitted

HUGH D. BAKER, JR.

1 Copy

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HDBAKER & COMPANY HAWAII LLC  
78-7000 Kewalo Street  
Kailua-Kona, HI 96740

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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  
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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 June 30, 2013):

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

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

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

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

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

The following provides information with respect to items 2a) through 2c) – (all statements are current as of the month ending June 30, 2013):

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

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

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

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

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

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

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

The following provides information with respect to items 3a) through 3b) – (all statements are current as of the month ending June 30, 2013):

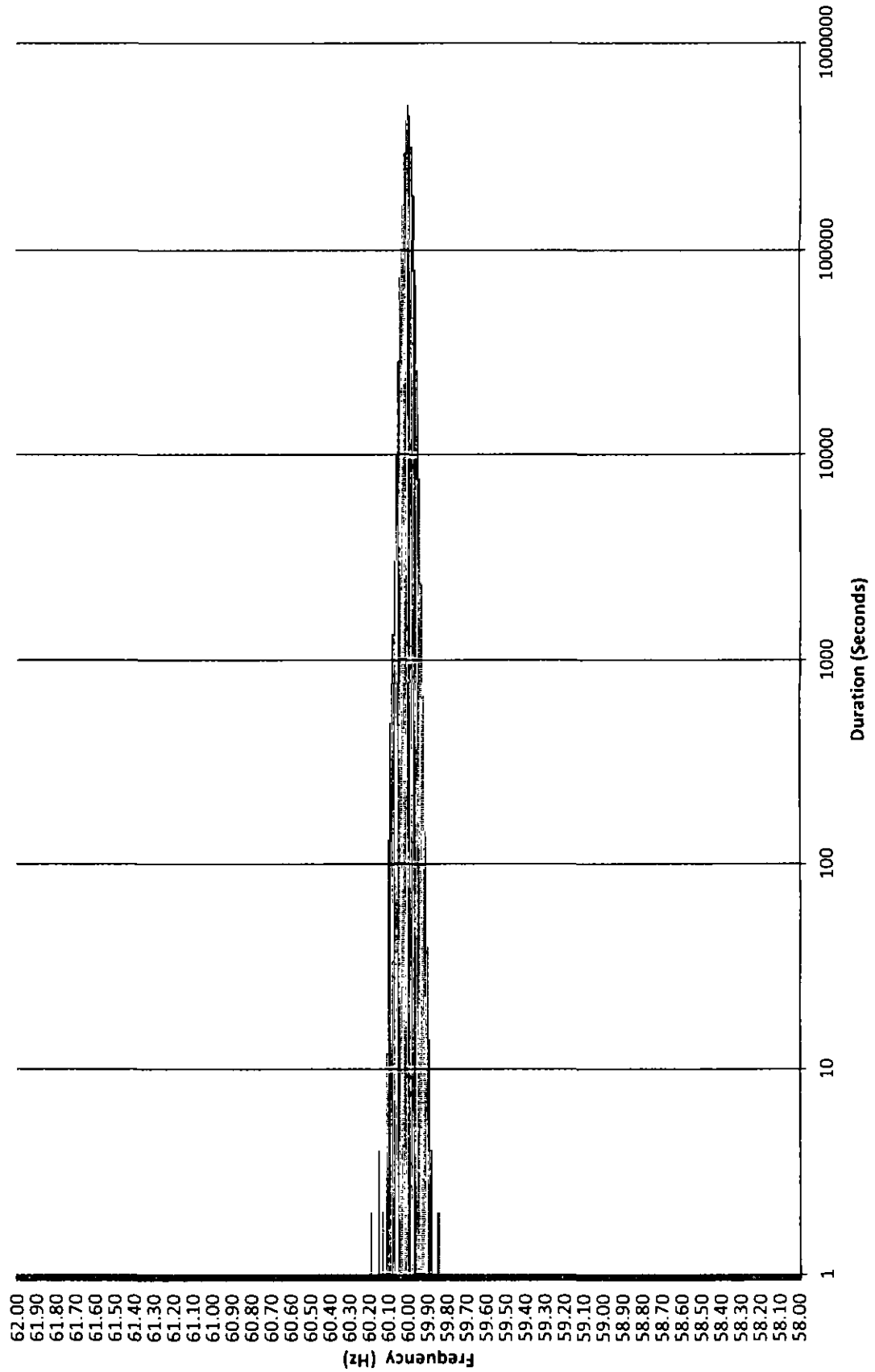
**3a) Tabulation of each curtailment event for each resource including the starting date and time, duration, megawatt hours curtailed, peak MW curtailed, and reason for curtailment:**

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

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

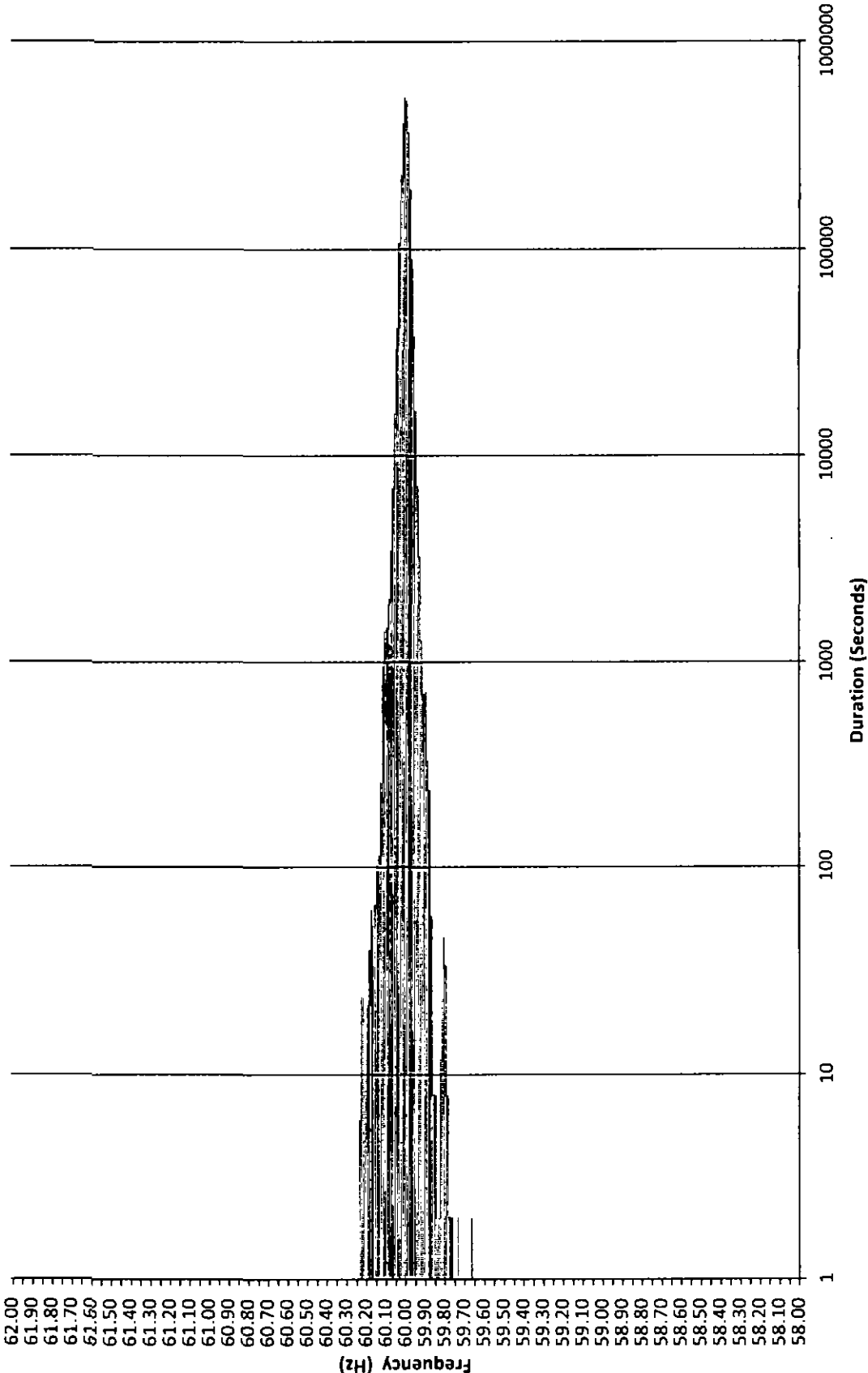
Curtailed MWh from non-dispatchable resources are difficult to determine due to the variability of the resource during curtailment periods. In some cases, the curtailed MWh estimates were provided by the IPPs under curtailment. HELCO is not providing an estimate of curtailed MWh, as this information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

# Frequency Distribution Plot - HECO June 2013

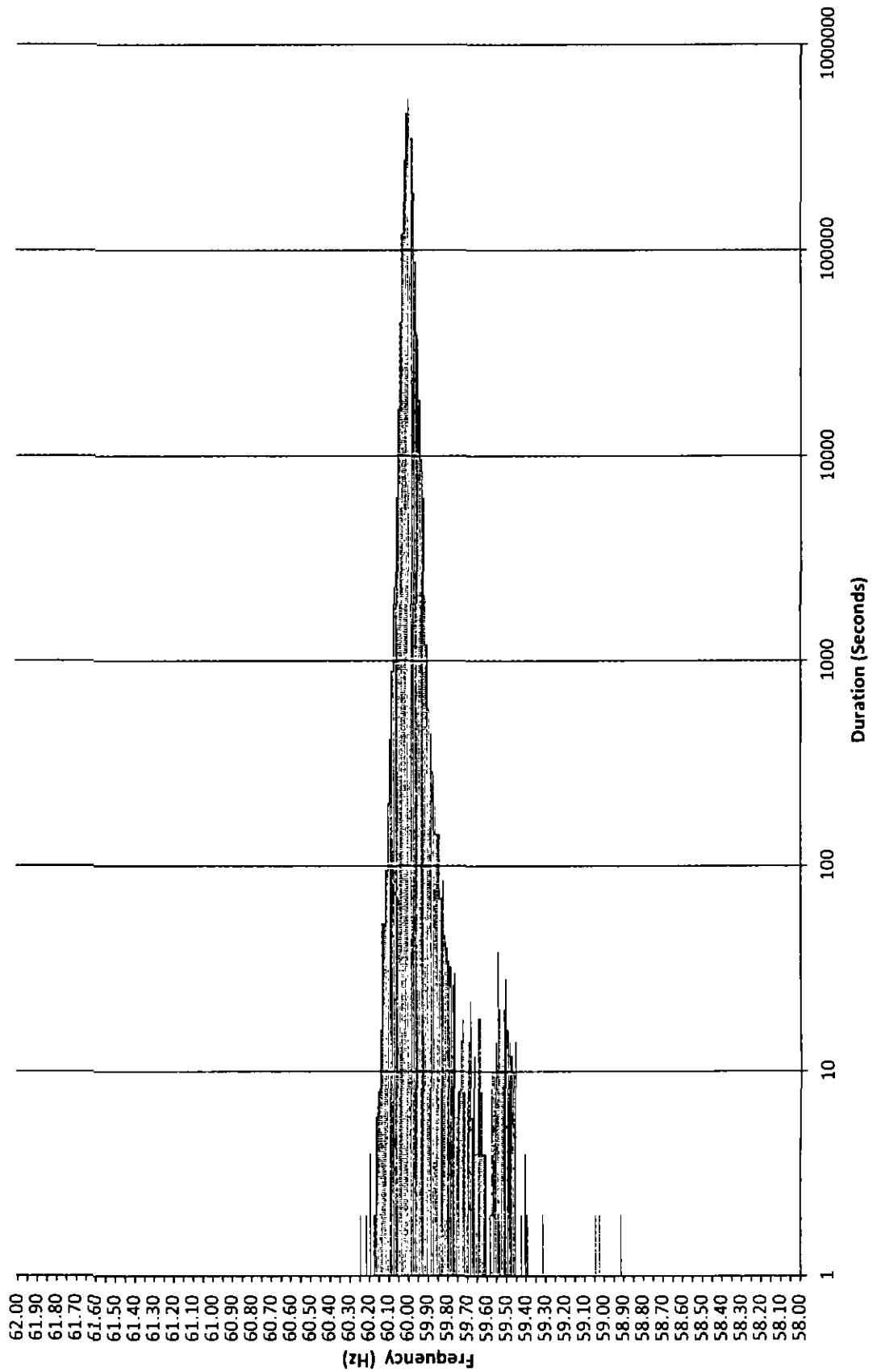




**MECO Frequency Distribution Plot - Maui  
June 2013**



# Frequency Distribution Plot - HELCO June 2013



HECO Frequency Excursion Statistics June 2013		
Data Rounded to the nearest	<59.95 Hz	>60.05 Hz
Number of Excursions	1459	1296
Maximum Duration (sec)	390	418
Maximum Deviation (Hz)	59.839	60.188
Total Duration of Excursions (sec)	20430	25274

MECO Frequency Excursion Statistics June 2013		
	<59.95 Hz	>60.05 Hz
Number of Excursions	8867	2153
Maximum Duration (sec)	658	554
Maximum Deviation (Hz)	59.656	60.22656
Total Duration of Excursions (sec)	61836	20482

HELCO Frequency Excursion Statistics June 2013		
	<59.95 Hz	>60.05 Hz
Number of Excursions	7993	3562
Maximum Duration (sec)	276	80
Maximum Deviation (Hz)	58.90918	60.24219
Total Duration of Excursions (sec)	56904	16882

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

Event #	Date & Time	Frequency (Hz)			Spinning Reserve Shortfall (MW)	Duration (HH:MM)	Description
		Prior to Event	Nadir	Trigger			
1	06/10/13 08:44	60.014	60.003	N/A	3.00	0:14	W7 blocked at 50 MW. W10 called online for spinning reserve.
2							
3							







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HECO Curtailment Report June 2013

Start Date/Time	Curtailment Set Point	MW output prior to start of curtailment	End Date/Time	MW output after curtailment released	Estimated MWh of curtailed energy during event (1)	IPP	Reason for Curtailment
05/31/13 13:54	0.0	4.00	06/02/13 12:21	0	*	KLS2	Copper theft incident at KLS2 site.
06/03/13 06:42	0.0	7.80	06/03/13 07:38	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line.
06/03/13 15:01	0.0	9.70	06/03/13 16:12	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line.
06/05/13 07:31	0.0	8.90	06/05/13 07:53	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line and substation work.
06/05/13 16:58	0.0	8.00	06/05/13 18:46	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line and substation work.
06/06/13 06:56	0.0	1.00	06/06/13 07:45	0	*	Makai	Equipment and fixture upgrades on Koolau-Kahuku 46kV line.
06/06/13 15:40	0.0	10.00	06/06/13 16:37	0	*	Makai	Equipment and fixture upgrades on Koolau-Kahuku 46kV line.
06/07/13 06:15	0.0	0.00	06/07/13 10:25	0	*	KLS2	Kahe-Standard Oil 2 line clearance required for 138kV structure replacement.
06/07/13 18:31	0.0	0.00	06/08/13 08:38	0	*	KLS2	Kahe-Standard Oil 2 line clearance required for 138kV structure replacement.
06/08/13 16:35	0.0	4.50	06/09/13 07:28	0	*	KLS2	Kahe-Standard Oil 2 line clearance required for 138kV structure replacement.
06/09/13 15:51	0.0	5.00	06/09/13 23:38	0	*	KLS2	Kahe-Standard Oil 2 line clearance required for 138kV structure replacement.
06/17/13 06:43	0.0	7.00	06/17/13 07:58	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line.
06/17/13 16:14	0.0	4.30	06/17/13 17:12	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line.
06/20/13 06:49	0.0	2.80	06/20/13 08:01	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/20/13 14:59	0.0	3.80	06/20/13 15:27	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/21/13 19:37	0.0	0.00	06/21/13 20:26	0	*	KLS2	Barbers Point Switching Station restoration.
06/24/13 06:49	0.0	2.80	06/24/13 07:26	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/24/13 15:06	0.0	3.00	06/24/13 15:47	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/25/13 07:20	0.0	6.20	06/25/13 08:00	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/25/13 15:06	0.0	3.40	06/25/13 16:21	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/26/13 06:33	0.0	0.00	06/26/13 07:44	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/26/13 15:02	0.0	6.50	06/26/13 15:58	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/27/13 07:33	0.0	1.20	06/27/13 08:19	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/27/13 14:57	0.0	3.80	06/27/13 15:48	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/28/13 06:55	0.0	0.40	06/28/13 07:33	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/28/13 14:07	0.0	4.10	06/28/13 15:21	0	*	Makai	Conductor replacement on Kawailoa Makai-Kahipa 46kV line.
06/28/13 06:04	0.0	0.00	06/28/13 08:40	0	*	KLS2	Kahe-Standard Oil 2 line clearance required for 138kV structure replacement.
06/28/13 08:40	2.5	0.00	06/30/13 19:02	0	*	KLS2	Kahe-Standard Oil 2 line clearance required for 138kV structure replacement.
06/30/13 19:02	0.0	0.00	06/30/13 20:24	0	*	KLS2	Kahe-Standard Oil 2 line clearance required for 138kV structure replacement.

KLS2 = Kalaeloa Solar 2 PV Farm  
 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









MECO - Maui Curtailment Report June 2013

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWh	Peak MW Curtailed	Reason for Curtailment
6/16/2013 3:05	0:02	AWE	0:008	11:300	AGC MAVG - entered - Maintaining Regulating Reserves
6/16/2013 3:10	0:01	AWE	0:011	13:700	AGC MAVG - entered - Maintaining Regulating Reserves
6/16/2013 3:18	0:02	AWE	0:003	10:900	AGC MAVG - entered - Maintaining Regulating Reserves
6/16/2013 3:21	0:04	AWE	0:045	10:500	AGC MAVG - entered - Maintaining Regulating Reserves
6/16/2013 3:28	3:08	AWE	24:790	18:600	AGC MAVG - entered - Maintaining Regulating Reserves AGC MAVG - entered - Excess Energy, and AGC MAVG - calculated
6/16/2013 6:35	0:48	AWE	2:209	21:000	AGC MAVG - calculated
6/16/2013 7:30	1:30	KWPII	29:558	20:181	AGC MAVG - calculated and Good Engineering and Operating Practices
6/16/2013 8:09	0:01	AWE	0:008	21:000	AGC MAVG - calculated
6/16/2013 8:12	0:01	AWE	0:005	21:000	AGC MAVG - calculated
6/16/2013 8:14	0:04	AWE	0:057	21:000	AGC MAVG - calculated
6/16/2013 8:20	0:12	AWE	0:233	21:000	AGC MAVG - calculated
6/16/2013 8:38	0:03	AWE	0:023	21:000	AGC MAVG - calculated
6/16/2013 8:40	0:03	AWE	0:024	21:000	AGC MAVG - calculated
6/16/2013 8:44	0:02	AWE	0:025	21:000	AGC MAVG - calculated
6/16/2013 8:47	0:01	AWE	0:010	21:000	AGC MAVG - calculated
6/16/2013 8:02	0:17	KWPII	0:953	16:308	AGC MAVG - calculated and Good Engineering and Operating Practices
6/16/2013 8:20	0:01	KWPII	0:007	16:120	AGC MAVG - calculated
6/16/2013 8:54	0:01	KWPII	0:012	16:857	AGC MAVG - calculated
6/16/2013 8:58	0:01	KWPII	0:040	17:273	AGC MAVG - calculated
6/16/2013 9:58	0:01	KWPII	0:001	14:944	AGC MAVG - calculated
6/16/2013 10:08	0:01	KWPII	0:043	15:587	AGC MAVG - calculated
6/16/2013 10:10	0:01	KWPII	0:006	13:710	AGC MAVG - calculated
6/16/2013 10:17	0:01	KWPII	0:008	15:834	AGC MAVG - calculated
6/16/2013 10:19	0:11	KWPII	0:378	17:120	AGC MAVG - calculated
6/16/2013 10:31	0:13	KWPII	0:557	18:019	AGC MAVG - calculated
6/16/2013 10:45	0:04	KWPII	0:198	16:865	AGC MAVG - calculated
6/16/2013 10:50	0:01	KWPII	0:032	14:969	AGC MAVG - calculated
6/16/2013 11:02	0:03	KWPII	0:018	18:128	AGC MAVG - calculated
6/16/2013 11:47	0:02	KWPII	0:015	15:277	AGC MAVG - calculated
6/16/2013 11:56	0:02	KWPII	0:066	15:558	AGC MAVG - calculated
6/16/2013 11:59	0:01	KWPII	0:002	14:518	AGC MAVG - calculated
6/16/2013 12:01	0:06	KWPII	0:451	17:348	AGC MAVG - calculated
6/16/2013 12:11	0:02	KWPII	0:034	17:885	AGC MAVG - calculated
6/16/2013 12:14	0:07	KWPII	0:174	16:729	AGC MAVG - calculated
6/16/2013 12:22	0:56	KWPII	3:931	18:753	AGC MAVG - calculated
6/16/2013 13:18	0:17	KWPII	0:891	18:232	AGC MAVG - calculated
6/16/2013 13:37	0:01	KWPII	0:025	15:268	AGC MAVG - calculated
6/16/2013 13:42	0:02	KWPII	0:021	15:995	AGC MAVG - calculated
6/16/2013 13:48	0:01	KWPII	0:030	17:399	AGC MAVG - calculated
6/16/2013 13:09	0:02	KWPII	0:025	18:692	AGC MAVG - calculated
6/16/2013 13:13	0:01	KWPII	0:025	17:881	AGC MAVG - calculated
6/16/2013 13:15	0:03	KWPII	0:055	18:922	AGC MAVG - calculated
6/16/2013 13:19	0:08	KWPII	0:327	20:472	AGC MAVG - calculated
6/16/2013 13:29	0:01	KWPII	0:028	18:645	AGC MAVG - calculated
6/16/2013 13:31	0:05	KWPII	0:180	20:310	AGC MAVG - calculated
6/16/2013 13:37	0:02	KWPII	0:005	19:473	AGC MAVG - calculated
6/16/2013 13:46	2:44	KWPII	18:215	20:588	AGC MAVG - calculated
6/16/2013 13:31	0:03	KWPII	0:090	18:462	AGC MAVG - calculated
6/16/2013 13:35	0:04	KWPII	0:104	18:964	AGC MAVG - calculated
6/16/2013 13:41	0:01	KWPII	0:017	17:022	AGC MAVG - calculated
6/16/2013 13:45	0:01	KWPII	0:005	16:077	AGC MAVG - calculated
6/16/2013 13:47	0:02	KWPII	0:027	16:640	AGC MAVG - calculated
6/16/2013 13:50	0:02	KWPII	0:029	19:060	AGC MAVG - calculated
6/16/2013 20:03	0:01	KWPII	0:009	18:378	AGC MAVG - calculated
6/16/2013 20:05	0:01	KWPII	0:003	17:765	AGC MAVG - calculated
6/16/2013 20:07	0:02	KWPII	0:014	18:114	AGC MAVG - calculated
6/16/2013 20:10	0:10	KWPII	0:241	18:310	AGC MAVG - calculated
6/16/2013 20:22	0:03	KWPII	0:087	18:298	AGC MAVG - calculated
6/16/2013 20:27	0:01	KWPII	0:018	18:635	AGC MAVG - calculated
6/16/2013 20:29	0:01	KWPII	0:028	18:957	AGC MAVG - calculated
6/16/2013 20:34	0:01	KWPII	0:002	17:578	AGC MAVG - calculated
6/16/2013 20:38	3:54	KWPII	84:753	20:685	AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - entered - Maintaining Regulating Reserves
6/16/2013 22:36	1:54	AWE	5:841	21:000	AGC MAVG - entered - Maintaining Regulating Reserves AGC MAVG - entered - Excess Energy, AGC MAVG - calculated, and AGC MAVG - entered
6/17/2013 0:31	5:42	AWE	80:923	21:000	AGC MAVG - entered - Excess Energy and AGC MAVG - calculated
6/17/2013 0:31	6:34	KWPII	123:820	20:705	AGC MAVG - entered - Excess Energy and AGC MAVG - calculated
6/17/2013 2:15	2:08	SA	Data not available	Data not available	AGC MAVG - entered - Excess Energy
6/17/2013 2:17	2:01	MH	Data not available	Data not available	AGC MAVG - entered - Excess Energy
6/17/2013 2:25	0:04	KWP	0:051	20:568	AGC MAVG - entered - Excess Energy
6/17/2013 2:35	0:03	KWP	0:035	20:056	AGC MAVG - entered - Excess Energy
6/17/2013 2:39	0:01	KWP	0:007	28:400	AGC MAVG - entered - Excess Energy
6/17/2013 2:41	0:02	KWP	0:018	28:720	AGC MAVG - entered - Excess Energy
6/17/2013 2:44	0:06	KWP	0:088	29:584	AGC MAVG - entered - Excess Energy
6/17/2013 2:51	0:01	KWP	0:018	29:088	AGC MAVG - entered - Excess Energy
6/17/2013 2:55	0:02	KWP	0:022	29:138	AGC MAVG - entered - Excess Energy
6/17/2013 2:58	0:32	KWP	0:775	29:680	AGC MAVG - entered - Excess Energy
6/17/2013 3:27	0:01	KWP	0:065	28:608	AGC MAVG - entered - Excess Energy
6/17/2013 3:34	0:02	KWP	0:014	28:432	AGC MAVG - entered - Excess Energy
6/17/2013 3:38	0:03	KWP	0:078	28:864	AGC MAVG - entered - Excess Energy
6/17/2013 3:44	0:01	KWP	0:018	28:080	AGC MAVG - entered - Excess Energy
6/17/2013 3:49	0:01	KWP	0:011	28:540	AGC MAVG - entered - Excess Energy
6/17/2013 3:51	0:01	KWP	0:017	29:008	AGC MAVG - entered - Excess Energy
6/17/2013 3:53	0:03	KWP	0:032	29:072	AGC MAVG - entered - Excess Energy
6/17/2013 3:57	0:09	KWP	0:085	29:584	AGC MAVG - entered - Excess Energy
6/17/2013 4:09	0:01	KWP	0:007	29:424	AGC MAVG - entered - Excess Energy
6/17/2013 4:17	0:01	KWP	0:003	28:152	AGC MAVG - entered - Excess Energy
6/17/2013 4:13	0:02	KWP	0:008	29:680	AGC MAVG - entered - Excess Energy
6/17/2013 6:14	0:24	AWE	0:882	21:000	AGC MAVG - calculated
6/17/2013 6:39	0:01	AWE	0:008	19:300	AGC MAVG - calculated
6/17/2013 6:41	0:03	AWE	0:057	19:900	AGC MAVG - calculated
6/17/2013 6:48	0:12	AWE	0:243	21:000	AGC MAVG - calculated
6/17/2013 7:07	3:16	KWPII	27:840	20:558	AGC MAVG - calculated and Good Engineering and Operating Practices
6/17/2013 10:29	0:01	KWPII	0:009	19:570	AGC MAVG - calculated and Good Engineering and Operating Practices
6/17/2013 10:34	0:12	KWPII	0:382	20:121	AGC MAVG - calculated and Good Engineering and Operating Practices
6/17/2013 10:49	0:02	KWPII	0:018	19:295	AGC MAVG - calculated
6/17/2013 10:54	0:01	KWPII	0:005	19:121	AGC MAVG - calculated
6/17/2013 10:58	0:01	KWPII	0:006	19:627	AGC MAVG - calculated
6/17/2013 11:01	0:01	KWPII	0:021	19:388	AGC MAVG - calculated
6/17/2013 11:10	0:02	KWPII	0:025	19:675	AGC MAVG - calculated
6/17/2013 15:40	0:03	KWPII	0:098	16:221	AGC MAVG - calculated
6/17/2013 15:44	0:03	KWPII	0:086	17:129	AGC MAVG - calculated
6/17/2013 15:53	4:02	KWPII	29:008	20:708	AGC MAVG - calculated
6/17/2013 20:01	0:25	KWPII	1:643	20:708	AGC MAVG - calculated
6/17/2013 20:28	1:09	KWPII	9:005	20:708	AGC MAVG - calculated
6/17/2013 21:38	7:39	KWPII	117:497	20:708	AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered - Maintaining Regulating Reserves, AGC MAVG - calculated, AGC MAVG - entered - Maintaining Regulating Reserves, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - entered - Excess Energy, AGC MAVG - calculated, AGC MAVG - entered - Excess Energy, AGC MAVG - calculated, AGC MAVG - entered - Excess Energy, and AGC MAVG - calculated





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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reason for Curtailment
6/20/2013 23:40	0:54	AWE	2 187	20 600	AGC MAVG - entered - Maintaining Regulating Reserves AGC MAVG - calculated and AGC MAVG - entered - Maintaining Regulating Reserves
6/21/2013 0:35	0:28	AWE	0 870	18 300	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - entered - Excess Energy
6/21/2013 1:04	0:01	AWE	0 001	14 100	AGC MAVG - entered - Excess Energy
6/21/2013 1:17	0:01	AWE	0 002	15 100	AGC MAVG - entered - Excess Energy
6/21/2013 1:21	0:02	AWE	0 017	14 900	AGC MAVG - entered - Excess Energy
6/21/2013 1:30	0:09	AWE	0 037	12 700	AGC MAVG - entered - Excess Energy
6/21/2013 1:40	0:02	AWE	0 004	10 700	AGC MAVG - entered - Excess Energy
6/21/2013 1:44	0:01	AWE	0 004	11 300	AGC MAVG - entered - Excess Energy
6/21/2013 1:58	5:02	KWPII	65 074	20 587	AGC MAVG - entered - Excess Energy
6/21/2013 2:21	0:28	AWE	0 812	9 500	AGC MAVG - entered - Excess Energy
6/21/2013 2:50	0:32	AWE	1 822	15 300	AGC MAVG - calculated and AGC MAVG - entered - Excess Energy
6/21/2013 3:28	1:23	AWE	4 439	16 400	AGC MAVG - entered - Excess Energy
6/21/2013 4:52	0:08	AWE	0 084	9 300	AGC MAVG - entered - Excess Energy
6/21/2013 5:01	0:01	AWE	0 002	9 200	AGC MAVG - entered - Excess Energy
6/21/2013 5:03	0:01	AWE	0 003	10 200	AGC MAVG - entered - Excess Energy
6/21/2013 5:06	0:01	AWE	0 003	11 200	AGC MAVG - entered - Excess Energy
6/21/2013 7:01	0:01	KWPII	0 033	20 537	AGC MAVG - calculated
6/21/2013 7:03	0:01	KWPII	0 029	20 490	AGC MAVG - calculated
6/21/2013 7:06	0:01	KWPII	0 017	20 486	AGC MAVG - calculated
6/21/2013 7:09	0:01	KWPII	0 003	20 486	AGC MAVG - calculated
6/21/2013 7:14	0:01	KWPII	0 004	20 448	AGC MAVG - calculated
6/21/2013 7:20	0:01	KWPII	0 019	20 620	AGC MAVG - calculated
6/21/2013 7:22	0:01	KWPII	0 007	20 527	AGC MAVG - calculated
6/21/2013 7:24	0:13	KWPII	0 644	20 693	AGC MAVG - calculated
6/21/2013 7:44	0:01	KWPII	0 008	20 335	AGC MAVG - calculated
6/21/2013 7:48	0:01	KWPII	0 011	19 777	AGC MAVG - calculated
6/21/2013 7:53	0:01	KWPII	0 003	20 455	AGC MAVG - calculated - Good Engineering and Operating Practices, and Testing
6/21/2013 7:59	0:01	KWPII	0 012	20 048	AGC MAVG - calculated - Good Engineering and Operating Practices, and Testing
6/21/2013 8:02	0:01	KWPII	0 005	18 843	AGC MAVG - calculated - Good Engineering and Operating Practices, and Testing
6/21/2013 8:17	0:01	KWPII	0 012	11 659	AGC MAVG - calculated - Good Engineering and Operating Practices, and Testing
6/21/2013 8:22	0:58	KWPII	8 324	20 705	AGC MAVG - calculated - Good Engineering and Operating Practices, and Testing
6/21/2013 9:21	0:02	KWPII	0 052	20 348	AGC MAVG - calculated and Testing
6/21/2013 9:37	0:04	KWPII	0 040	20 047	AGC MAVG - calculated and Testing
6/21/2013 10:11	0:01	KWPII	0 024	20 498	AGC MAVG - calculated and Testing
6/21/2013 10:14	0:01	KWPII	0 023	19 507	AGC MAVG - calculated and Testing
6/21/2013 10:17	0:39	KWPII	2 159	20 467	AGC MAVG - calculated and Testing
6/21/2013 10:58	1:50	KWPII	12 482	20 616	AGC MAVG - calculated and Testing
6/21/2013 13:11	0:36	KWPII	3 290	19 971	AGC MAVG - calculated and Testing
6/21/2013 13:46	0:05	KWPII	0 308	16 312	AGC MAVG - calculated and Testing
6/21/2013 13:57	0:02	KWPII	0 065	18 264	AGC MAVG - calculated and Testing
6/21/2013 14:32	0:01	AWE	0 003	20 600	AGC MAVG - calculated and Testing
6/21/2013 14:35	0:04	AWE	0 029	20 100	AGC MAVG - calculated and Testing
6/21/2013 14:43	0:01	AWE	0 002	19 100	AGC MAVG - calculated and Testing
6/21/2013 14:44	0:02	AWE	0 003	19 100	AGC MAVG - calculated and Testing
6/21/2013 15:36	0:13	KWPII	1 047	20 588	AGC MAVG - calculated
6/21/2013 15:50	0:34	KWPII	2 446	20 708	AGC MAVG - calculated
6/21/2013 16:25	2:38	KWPII	22 861	20 708	AGC MAVG - calculated
6/21/2013 19:04	3:24	KWPII	47 877	20 708	AGC MAVG - calculated
6/21/2013 22:05	0:01	AWE	0 003	20 900	AGC MAVG - calculated
6/21/2013 22:09	0:06	AWE	0 079	21 000	AGC MAVG - calculated
6/21/2013 22:16	0:02	AWE	0 016	20 700	AGC MAVG - calculated
6/21/2013 22:30	0:25	KWPII	8 146	20 708	AGC MAVG - calculated
6/21/2013 22:36	0:02	AWE	0 009	20 000	AGC MAVG - calculated
6/21/2013 22:39	0:12	AWE	0 508	21 000	AGC MAVG - calculated
6/21/2013 22:57	0:16	KWPII	5 323	20 708	AGC MAVG - calculated
6/21/2013 23:00	0:04	AWE	0 041	21 000	AGC MAVG - calculated
6/21/2013 23:15	0:28	KWPII	9 255	20 708	AGC MAVG - calculated
6/21/2013 23:18	0:02	AWE	0 014	17 500	AGC MAVG - calculated
6/21/2013 23:22	0:01	AWE	0 009	18 900	AGC MAVG - calculated
6/21/2013 23:24	0:06	AWE	0 092	18 700	AGC MAVG - calculated
6/21/2013 23:38	0:01	AWE	0 012	19 600	AGC MAVG - calculated
6/21/2013 23:45	1:07	KWPII	22 368	20 708	AGC MAVG - calculated
6/21/2013 23:58	0:02	AWE	0 010	20 900	AGC MAVG - calculated
6/22/2013 0:02	5:40	AWE	46 998	21 000	AGC MAVG - calculated and AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 1:04	12:08	KWPII	231,064	20 708	AGC MAVG - entered - Maintaining Regulating Reserves, AGC MAVG - calculated, Testing, AGC MAVG - entered - Maintaining Regulating Reserves, and AGC MAVG - calculated
6/22/2013 5:43	0:03	AWE	0 021	17 700	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 5:53	0:12	AWE	0 329	21 000	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 6:06	0:02	AWE	0 010	20 500	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 6:16	0:08	AWE	0 034	20 600	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 6:25	0:10	AWE	0 042	20 600	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 6:36	0:01	AWE	0 010	20 700	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 6:40	0:01	AWE	0 005	20 400	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 6:42	0:15	AWE	0 201	21 000	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 6:50	0:04	AWE	0 153	21 000	AGC MAVG - entered - Maintaining Regulating Reserves
6/22/2013 12:34	0:01	AWE	0 005	21 000	AGC MAVG - calculated
6/22/2013 12:46	0:05	AWE	0 034	21 000	AGC MAVG - calculated
6/22/2013 12:54	0:02	AWE	0 010	21 000	AGC MAVG - calculated
6/22/2013 13:14	3:11	KWPII	37 503	20 708	AGC MAVG - calculated
6/22/2013 16:26	0:07	KWPII	0 202	20 668	AGC MAVG - calculated
6/22/2013 16:34	0:03	KWPII	0 018	20 449	AGC MAVG - calculated
6/22/2013 16:40	2:16	KWPII	13 029	20 708	AGC MAVG - calculated
6/22/2013 19:06	0:07	KWPII	0 029	20 354	AGC MAVG - calculated
6/22/2013 21:01	10:12	KWPII	177 825	20 708	AGC MAVG - entered - Maintaining Regulating Reserves, AGC MAVG - entered - Excess Energy, and AGC MAVG - calculated
6/23/2013 0:59	0:57	AWE	4 350	19 000	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/23/2013 1:59	0:31	AWE	2 114	13 100	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/23/2013 2:33	0:01	AWE	0 012	2 900	AGC MAVG - calculated
6/23/2013 2:36	0:25	AWE	0 988	9 200	AGC MAVG - calculated
6/23/2013 3:02	4:02	AWE	35 402	21 000	AGC MAVG - calculated, AGC MAVG - entered - Maintaining Regulating Reserves, AGC MAVG - entered - Excess Energy, and AGC MAVG - calculated
6/23/2013 3:13	1:27	SA	Data not available	Data not available	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - entered - Excess Energy
6/23/2013 3:15	1:25	MP	Data not available	Data not available	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - entered - Excess Energy
6/23/2013 3:31	0:38	KWP	0 753	28 496	AGC MAVG - entered - Excess Energy
6/23/2013 4:10	0:03	KWP	0 007	28 304	AGC MAVG - entered - Excess Energy
6/23/2013 4:14	0:01	KWP	0 008	28 480	AGC MAVG - entered - Excess Energy
6/23/2013 7:15	3:56	KWPII	58 487	20 708	AGC MAVG - calculated, AGC MAVG - entered - Maintaining Regulating Reserves, AGC MAVG - calculated, and AGC MAVG - entered - Maintaining Regulating Reserves
6/23/2013 11:12	0:02	KWPII	0 108	17 855	AGC MAVG - calculated
6/23/2013 11:15	0:02	KWPII	0 049	17 238	AGC MAVG - calculated
6/23/2013 11:16	0:01	KWPII	0 020	17 131	AGC MAVG - calculated
6/23/2013 11:20	0:05	KWPII	0 088	18 022	AGC MAVG - calculated
6/23/2013 11:36	0:11	KWPII	0 206	19 792	AGC MAVG - calculated
6/23/2013 11:31	0:01	KWPII	0 015	19 382	AGC MAVG - calculated
6/23/2013 11:53	0:01	KWPII	0 004	20 132	AGC MAVG - calculated
6/23/2013 12:00	0:02	KWPII	0 053	19 008	AGC MAVG - calculated
6/23/2013 12:09	0:02	KWPII	0 031	19 797	AGC MAVG - calculated
6/23/2013 12:23	0:03	KWPII	0 017	19 631	AGC MAVG - calculated
6/23/2013 12:38	0:01	KWPII	0 005	19 385	AGC MAVG - calculated
6/23/2013 12:45	0:02	KWPII	0 044	19 724	AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reason for Curtailment
6/23/2013 12:56	0:05	KWPII	0.082	20.358	AGC MAVG - calculated
6/23/2013 13:02	0:01	KWPII	0.012	18.278	AGC MAVG - calculated
6/23/2013 13:04	0:03	KWPII	0.082	19.958	AGC MAVG - calculated
6/23/2013 13:10	0:22	KWPII	0.524	20.508	AGC MAVG - calculated
6/23/2013 13:34	0:01	KWPII	0.022	17.763	AGC MAVG - calculated
6/23/2013 13:36	0:02	KWPII	0.040	18.088	AGC MAVG - calculated
6/23/2013 13:39	0:19	KWPII	0.789	20.091	AGC MAVG - calculated
6/23/2013 13:59	0:04	KWPII	0.078	19.345	AGC MAVG - calculated
6/23/2013 14:04	0:01	KWPII	0.006	19.415	AGC MAVG - calculated
6/23/2013 14:08	0:14	KWPII	0.737	20.553	AGC MAVG - calculated
6/23/2013 14:25	0:03	KWPII	0.045	20.180	AGC MAVG - calculated
6/23/2013 14:30	1:08	KWPII	4.235	20.622	AGC MAVG - calculated
6/23/2013 15:39	0:01	KWPII	0.003	18.349	AGC MAVG - calculated
6/23/2013 15:41	0:02	KWPII	0.073	20.324	AGC MAVG - calculated
6/23/2013 15:44	0:02	KWPII	0.014	20.019	AGC MAVG - calculated
6/23/2013 15:49	0:11	KWPII	0.182	20.249	AGC MAVG - calculated
6/23/2013 16:02	0:01	KWPII	0.005	20.102	AGC MAVG - calculated
6/23/2013 16:04	0:04	KWPII	0.039	20.609	AGC MAVG - calculated
6/23/2013 16:10	0:34	KWPII	1.990	20.702	AGC MAVG - calculated
6/23/2013 16:45	0:18	KWPII	0.793	20.688	AGC MAVG - calculated
6/23/2013 17:04	0:17	KWPII	1.077	20.570	AGC MAVG - calculated
6/23/2013 17:23	0:02	KWPII	0.062	20.328	AGC MAVG - calculated
6/23/2013 17:34	0:01	KWPII	0.001	20.531	AGC MAVG - calculated
6/23/2013 17:37	0:01	KWPII	0.004	20.808	AGC MAVG - calculated
6/23/2013 17:39	0:02	KWPII	0.022	20.658	AGC MAVG - calculated
6/23/2013 17:48	0:02	KWPII	0.018	20.844	AGC MAVG - calculated
6/23/2013 17:51	0:03	KWPII	0.035	20.592	AGC MAVG - calculated
6/23/2013 17:55	0:02	KWPII	0.022	20.382	AGC MAVG - calculated
6/23/2013 17:58	0:19	KWPII	0.556	20.447	AGC MAVG - calculated
6/23/2013 18:21	0:04	KWPII	0.032	20.513	AGC MAVG - calculated
6/23/2013 18:28	0:04	KWPII	0.089	20.642	AGC MAVG - calculated
6/23/2013 18:31	0:14	KWPII	0.333	20.704	AGC MAVG - calculated
6/23/2013 18:58	0:05	KWPII	0.040	20.708	AGC MAVG - calculated
6/23/2013 19:08	0:23	KWPII	0.897	20.708	AGC MAVG - calculated
6/23/2013 19:30	0:07	KWPII	0.132	20.708	AGC MAVG - calculated
6/23/2013 19:40	0:07	KWPII	0.087	20.708	AGC MAVG - calculated
6/23/2013 19:50	0:02	KWPII	0.015	20.367	AGC MAVG - calculated
6/23/2013 20:16	0:01	KWPII	0.012	20.415	AGC MAVG - calculated
6/23/2013 20:18	0:10	KWPII	0.232	20.530	AGC MAVG - calculated
6/23/2013 20:38	0:12	KWPII	0.239	20.882	AGC MAVG - calculated
6/23/2013 20:51	0:01	KWPII	0.008	20.888	AGC MAVG - calculated
6/23/2013 20:54	0:06	KWPII	0.087	20.708	AGC MAVG - calculated
6/23/2013 21:00	0:01	KWPII	0.015	20.703	AGC MAVG - calculated
6/23/2013 21:02	2:01	KWPII	24.023	20.705	AGC MAVG - calculated
6/23/2013 22:14	0:02	AWE	0.008	20.900	AGC MAVG - calculated
6/23/2013 22:29	0:01	AWE	0.005	20.400	AGC MAVG - calculated
6/23/2013 22:39	0:02	AWE	0.002	21.000	AGC MAVG - calculated
6/23/2013 22:42	0:01	AWE	0.004	20.700	AGC MAVG - calculated
6/23/2013 22:44	0:04	AWE	0.021	20.400	AGC MAVG - calculated
6/23/2013 22:49	0:03	AWE	0.010	19.900	AGC MAVG - calculated
6/23/2013 22:54	0:01	AWE	0.003	18.400	AGC MAVG - calculated
6/23/2013 23:05	0:35	KWPII	10.915	20.708	AGC MAVG - calculated
6/23/2013 23:21	0:01	AWE	0.001	21.000	AGC MAVG - calculated
6/23/2013 23:23	0:03	AWE	0.005	20.800	AGC MAVG - calculated
6/23/2013 23:28	0:01	AWE	0.000	18.100	AGC MAVG - calculated
6/23/2013 23:30	0:03	AWE	0.012	18.900	AGC MAVG - calculated
6/23/2013 23:35	0:01	AWE	0.003	18.400	AGC MAVG - calculated
6/23/2013 23:42	4:54	KWPII	94.674	20.708	AGC MAVG - calculated
6/23/2013 23:54	0:02	AWE	0.017	18.600	AGC MAVG - calculated
6/23/2013 23:57	0:03	AWE	0.026	17.500	AGC MAVG - calculated
6/24/2013 0:07	1:01	AWE	5.941	21.000	AGC MAVG - calculated
6/24/2013 1:12	0:01	AWE	0.001	8.500	AGC MAVG - calculated
6/24/2013 1:16	2:52	AWE	26.394	21.000	AGC MAVG - calculated
6/24/2013 3:01	0:01	KWPII	0.001	28.480	AGC MAVG - calculated
6/24/2013 3:03	1:00	SA	Data not available	Data not available	AGC MAVG - entered - Maintaining Regulating Reserves
6/24/2013 3:03	0:01	KWPII	0.000	28.416	AGC MAVG - entered - Maintaining Regulating Reserves
6/24/2013 3:08	0:51	MH	Data not available	Data not available	AGC MAVG - entered - Maintaining Regulating Reserves
6/24/2013 4:10	0:01	AWE	0.015	11.200	AGC MAVG - calculated
6/24/2013 4:13	0:18	AWE	1.234	12.800	AGC MAVG - calculated
6/24/2013 4:39	1:54	KWPII	12.788	20.708	AGC MAVG - calculated
6/24/2013 6:34	0:09	KWPII	0.295	20.708	AGC MAVG - calculated
6/24/2013 6:44	0:02	KWPII	0.014	20.703	AGC MAVG - calculated
6/24/2013 6:48	0:20	KWPII	0.765	20.598	AGC MAVG - calculated
6/24/2013 7:09	0:02	KWPII	0.002	20.587	AGC MAVG - calculated
6/24/2013 7:12	0:23	KWPII	1.343	20.692	AGC MAVG - calculated
6/24/2013 7:36	6:48	KWPII	70.975	20.643	AGC MAVG - calculated, Testing, AGC MAVG - entered - Maintaining Regulating Reserves, AGC MAVG - calculated, and Good Engineering and Operating Practices
6/24/2013 7:50	0:01	AWE	0.000	19.800	AGC MAVG - calculated and Testing
6/24/2013 7:53	1:03	AWE	1.826	20.900	AGC MAVG - calculated, Testing, and AGC MAVG - entered - Maintaining Regulating Reserves
6/24/2013 8:57	1:12	AWE	5.477	19.200	AGC MAVG - entered - Maintaining Regulating Reserves and Testing
6/24/2013 12:20	0:01	AWE	0.004	20.500	AGC MAVG - calculated
6/24/2013 14:09	0:02	AWE	0.006	19.200	Good Engineering and Operating Practices
6/24/2013 14:14	0:07	AWE	0.072	19.100	AGC MAVG - calculated
6/24/2013 14:24	0:04	AWE	0.020	18.800	AGC MAVG - calculated
6/24/2013 14:27	0:03	KWPII	0.053	18.565	AGC MAVG - calculated
6/24/2013 14:30	0:02	AWE	0.003	18.100	AGC MAVG - calculated
6/24/2013 14:31	0:01	KWPII	0.009	19.747	AGC MAVG - calculated
6/24/2013 14:33	0:02	AWE	0.020	18.600	AGC MAVG - calculated
6/24/2013 14:38	0:01	AWE	0.005	18.300	AGC MAVG - calculated
6/24/2013 14:42	0:01	AWE	0.002	18.100	AGC MAVG - calculated
6/24/2013 14:45	0:01	AWE	0.005	18.300	AGC MAVG - calculated
6/24/2013 14:48	0:01	AWE	0.002	18.100	AGC MAVG - calculated
6/24/2013 14:50	0:01	AWE	0.002	18.100	AGC MAVG - calculated
6/24/2013 14:52	0:01	AWE	0.008	18.500	AGC MAVG - calculated
6/24/2013 14:54	0:02	AWE	0.012	18.600	AGC MAVG - calculated
6/24/2013 16:45	0:13	KWPII	0.697	17.921	AGC MAVG - calculated
6/24/2013 17:00	0:04	KWPII	0.214	17.660	AGC MAVG - calculated
6/24/2013 17:18	0:02	KWPII	0.015	17.504	AGC MAVG - calculated
6/24/2013 17:45	0:01	KWPII	0.005	20.303	AGC MAVG - calculated
6/24/2013 17:49	0:01	KWPII	0.012	20.531	AGC MAVG - calculated
6/24/2013 20:57	0:01	AWE	0.002	0.100	AGC MAVG - calculated
6/24/2013 21:55	0:03	KWPII	0.002	20.541	AGC MAVG - calculated
6/24/2013 22:04	0:02	KWPII	0.016	20.450	AGC MAVG - calculated
6/24/2013 22:07	0:01	KWPII	0.014	19.884	AGC MAVG - calculated
6/24/2013 22:09	0:14	KWPII	0.246	20.591	AGC MAVG - calculated
6/24/2013 22:21	0:41	KWPII	3.084	20.685	AGC MAVG - calculated
6/24/2013 23:07	0:03	KWPII	0.058	18.043	AGC MAVG - calculated
6/24/2013 23:11	0:01	KWPII	0.037	18.078	AGC MAVG - calculated
6/24/2013 23:19	0:03	KWPII	0.029	19.236	AGC MAVG - calculated
6/24/2013 23:23	0:09	KWPII	0.262	18.449	AGC MAVG - calculated
6/24/2013 23:33	0:08	KWPII	0.224	18.756	AGC MAVG - calculated
6/24/2013 23:42	1:43	KWPII	12.064	20.267	AGC MAVG - calculated, Good Engineering and Operating Practices, and AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reason for Curtailment
6/24/2013 23:49	0:03	AWE	0.013	13.400	AGC MAVG - calculated
6/25/2013 1:26	0:52	KWPII	3.609	15.524	AGC MAVG - calculated
6/25/2013 22:05	7:02	KWPII	123.761	20.708	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - entered - Excess Energy
6/26/2013 0:35	0:01	AWE	0.905	19.100	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 0:37	0:03	AWE	0.062	18.400	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 0:41	0:01	AWE	0.003	17.200	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 0:45	0:01	AWE	0.010	17.600	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 0:47	0:01	AWE	0.010	17.600	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 0:49	0:02	AWE	0.007	17.200	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 0:53	0:13	AWE	0.448	18.200	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 1:07	0:02	AWE	0.013	14.700	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 1:10	0:01	AWE	0.005	14.300	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 1:14	0:03	AWE	0.010	14.400	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 1:28	0:01	AWE	0.008	14.500	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 1:29	0:01	AWE	0.002	14.100	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 1:32	0:53	AWE	2.764	18.500	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 2:29	0:01	AWE	0.003	9.200	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 2:33	0:01	AWE	0.002	9.100	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 2:38	0:01	AWE	0.002	9.100	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 2:40	0:01	AWE	0.002	9.100	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 2:42	1:22	AWE	3.516	14.800	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 4:05	0:02	AWE	0.007	7.300	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 4:20	0:02	AWE	0.007	11.300	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 5:09	0:44	KWPII	4.556	19.878	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - entered - Excess Energy
6/26/2013 6:11	0:14	KWPII	0.451	20.137	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 6:28	0:10	KWPII	0.146	19.545	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 7:51	0:16	KWPII	0.429	20.747	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 8:50	1:08	KWPII	3.678	20.314	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 9:59	0:09	KWPII	0.058	19.782	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 10:26	0:59	KWPII	1.640	19.332	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 11:33	0:13	KWPII	0.267	18.988	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 12:56	0:23	KWPII	0.500	20.311	AGC MAVG - entered - Maintaining Regulating Reserves
6/26/2013 16:50	0:02	KWPII	0.021	19.383	AGC MAVG - calculated
6/26/2013 16:54	0:01	KWPII	0.025	19.637	AGC MAVG - calculated
6/26/2013 17:00	0:07	KWPII	0.130	20.467	AGC MAVG - calculated
6/26/2013 17:15	1:11	KWPII	7.592	20.707	AGC MAVG - calculated
6/26/2013 18:27	0:03	KWPII	0.050	20.471	AGC MAVG - calculated
6/26/2013 18:31	1:04	KWPII	5.742	20.708	AGC MAVG - calculated
6/26/2013 19:36	0:02	KWPII	0.033	20.705	AGC MAVG - calculated
6/26/2013 19:39	0:05	KWPII	0.071	20.696	AGC MAVG - calculated
6/26/2013 20:35	0:07	KWPII	0.181	20.708	AGC MAVG - calculated
6/26/2013 21:18	7:06	KWPII	30.569	20.708	AGC MAVG - calculated
6/26/2013 22:16	0:01	AWE	0.005	18.600	AGC MAVG - calculated
6/26/2013 22:18	0:08	AWE	0.037	19.300	AGC MAVG - calculated
6/26/2013 22:28	0:06	AWE	0.213	18.200	AGC MAVG - calculated
6/26/2013 22:38	0:11	AWE	0.338	17.500	AGC MAVG - calculated
6/26/2013 22:54	0:07	AWE	0.065	18.300	AGC MAVG - calculated
6/26/2013 23:02	0:06	AWE	0.166	15.900	AGC MAVG - calculated
6/26/2013 23:16	0:01	AWE	0.009	17.000	AGC MAVG - calculated
6/26/2013 23:18	0:01	AWE	0.003	15.800	AGC MAVG - calculated
6/26/2013 23:26	0:23	KWPII	6.640	19.153	AGC MAVG - calculated
6/26/2013 23:31	0:01	AWE	0.013	17.000	AGC MAVG - calculated
6/26/2013 23:33	0:01	AWE	0.013	17.200	AGC MAVG - calculated
6/26/2013 23:39	0:04	AWE	0.021	18.800	AGC MAVG - calculated
6/26/2013 23:51	0:42	KWPII	12.243	19.211	AGC MAVG - calculated
6/27/2013 0:00	0:03	AWE	0.009	20.400	AGC MAVG - calculated
6/27/2013 0:05	0:01	AWE	0.000	17.300	AGC MAVG - calculated
6/27/2013 0:07	0:01	AWE	0.000	18.400	AGC MAVG - calculated
6/27/2013 0:10	0:01	AWE	0.019	19.000	AGC MAVG - calculated
6/27/2013 0:17	0:01	AWE	0.012	14.800	AGC MAVG - calculated
6/27/2013 0:22	0:01	AWE	0.003	17.000	AGC MAVG - calculated
6/27/2013 0:35	0:58	KWPII	16.376	19.076	AGC MAVG - calculated
6/27/2013 0:37	0:06	AWE	0.090	14.800	AGC MAVG - calculated
6/27/2013 0:51	0:03	AWE	0.015	10.600	AGC MAVG - calculated
6/27/2013 1:00	0:10	AWE	0.085	11.900	AGC MAVG - calculated
6/27/2013 1:11	0:02	AWE	0.012	10.200	AGC MAVG - calculated
6/27/2013 1:23	0:02	AWE	0.008	6.600	AGC MAVG - calculated
6/27/2013 1:33	0:57	KWPII	16.917	19.185	AGC MAVG - calculated
6/27/2013 1:43	0:01	AWE	0.003	3.500	AGC MAVG - calculated
6/27/2013 1:52	0:05	AWE	0.036	3.500	AGC MAVG - calculated
6/27/2013 1:59	0:08	AWE	0.033	5.200	AGC MAVG - calculated
6/27/2013 2:07	0:01	AWE	0.000	3.300	AGC MAVG - calculated
6/27/2013 2:16	0:02	AWE	0.005	3.200	AGC MAVG - calculated
6/27/2013 2:20	0:01	AWE	0.007	3.500	AGC MAVG - calculated
6/27/2013 2:23	0:02	AWE	0.017	3.300	AGC MAVG - calculated
6/27/2013 2:32	1:18	KWPII	19.954	19.173	AGC MAVG - calculated
6/27/2013 3:32	0:01	AWE	0.002	0.100	AGC MAVG - calculated
6/27/2013 3:35	0:01	AWE	0.002	5.800	AGC MAVG - calculated
6/27/2013 3:37	0:02	AWE	0.003	6.900	AGC MAVG - calculated
6/27/2013 3:42	0:01	AWE	0.008	4.900	AGC MAVG - calculated
6/27/2013 3:52	1:43	KWPII	17.785	19.069	AGC MAVG - calculated
6/27/2013 3:56	0:01	AWE	0.002	0.100	AGC MAVG - calculated
6/27/2013 5:36	0:01	KWPII	0.013	18.748	AGC MAVG - calculated
6/27/2013 5:38	0:14	KWPII	0.533	18.815	AGC MAVG - calculated
6/27/2013 5:53	0:03	KWPII	0.061	18.822	AGC MAVG - calculated
6/27/2013 6:01	0:03	KWPII	0.049	18.183	AGC MAVG - calculated
6/27/2013 6:07	0:01	KWPII	0.013	18.172	AGC MAVG - calculated
6/27/2013 6:09	0:06	KWPII	0.078	18.800	AGC MAVG - calculated
6/27/2013 6:16	0:01	KWPII	0.013	18.953	AGC MAVG - calculated
6/27/2013 6:29	0:01	AWE	0.002	0.100	AGC MAVG - calculated
6/27/2013 6:36	0:01	KWPII	0.001	18.910	AGC MAVG - calculated
6/27/2013 6:38	0:01	KWPII	0.007	18.862	AGC MAVG - calculated
6/27/2013 6:45	0:03	KWPII	0.027	17.109	AGC MAVG - calculated
6/27/2013 6:49	0:01	KWPII	0.007	17.276	AGC MAVG - calculated
6/27/2013 6:51	0:01	KWPII	0.012	17.728	AGC MAVG - calculated
6/27/2013 6:55	0:01	KWPII	0.004	17.416	AGC MAVG - calculated
6/27/2013 7:55	0:01	KWPII	0.020	18.707	AGC MAVG - calculated
6/27/2013 7:58	0:01	KWPII	0.025	19.482	AGC MAVG - calculated
6/27/2013 8:15	4:58	KWPII	51.573	20.630	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/27/2013 13:14	0:32	KWPII	2.391	20.537	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/27/2013 13:47	5:41	KWPII	45.381	20.708	AGC MAVG - entered - Maintaining Regulating Reserves AGC MAVG - calculated, Testing, and AGC MAVG calculated
6/27/2013 14:14	0:03	AWE	0.013	20.400	AGC MAVG - calculated and Testing
6/27/2013 14:19	0:06	AWE	0.166	19.300	AGC MAVG - calculated and Testing
6/27/2013 20:29	0:41	KWPII	6.337	20.676	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/27/2013 21:11	0:01	KWPII	0.010	17.950	AGC MAVG - calculated
6/27/2013 21:13	0:01	KWPII	0.011	18.450	AGC MAVG - calculated
6/27/2013 21:16	0:01	KWPII	0.001	15.937	AGC MAVG - calculated
6/27/2013 21:32	0:01	KWPII	0.010	11.861	AGC MAVG - calculated
6/27/2013 21:35	1:35	KWPII	9.520	18.135	AGC MAVG - calculated
6/27/2013 23:14	0:01	KWPII	0.009	15.797	AGC MAVG - calculated
6/27/2013 23:16	0:01	KWPII	0.002	15.827	AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWh	Peak MW Curtailed	Reason for Curtailment
6/27/2013 23 19	0:02	KWPII	0 012	13 784	AGC MAVG - calculated
6/27/2013 23 26	0:29	KWPII	2 815	18 115	AGC MAVG - calculated
6/28/2013 0 02	0:02	KWPII	0 014	10 718	AGC MAVG - calculated
6/28/2013 0 37	0:01	KWPII	0 038	16 230	AGC MAVG - calculated
6/28/2013 1:02	0:01	KWPII	0 017	18 091	AGC MAVG - calculated
6/28/2013 2 15	0:01	KWPII	0 012	10 856	AGC MAVG - calculated
6/28/2013 2 18	0:09	KWPII	0 256	10 835	AGC MAVG - calculated
6/28/2013 2 28	0:02	KWPII	0 017	10 496	AGC MAVG - calculated
6/28/2013 2 35	0:01	KWPII	0 011	8 414	AGC MAVG - calculated
6/28/2013 2 37	2 36	KWPII	37 041	20 358	AGC MAVG - calculated
6/28/2013 2 48	0:01	AWE	0 001	4 200	AGC MAVG - calculated
6/28/2013 3:03	0:03	AWE	0 018	5 300	AGC MAVG - calculated
6/28/2013 3 10	0:01	AWE	0 007	4 800	AGC MAVG - calculated
6/28/2013 3:16	0:01	AWE	0 006	2 700	AGC MAVG - calculated
6/28/2013 3 23	0:46	AWE	0 530	3 800	AGC MAVG - calculated and AGC MAVG - calculated
6/28/2013 4 10	0:04	AWE	0 022	1 500	AGC MAVG - calculated
6/28/2013 4 15	0:01	AWE	0 003	1 200	AGC MAVG - calculated
6/28/2013 4 17	0:04	AWE	0 014	1 300	AGC MAVG - calculated
6/28/2013 5 15	0 54	KWPII	11 698	20 336	AGC MAVG - calculated and AGC MAVG - entered - Maintaining Regulating Reserves
6/28/2013 6 10	2 44	KWPII	35 220	20 706	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/28/2013 10 53	0 05	AWE	0 063	16 300	AGC MAVG - calculated and Testing
6/28/2013 11 47	0 01	KWPII	0 020	14 862	AGC MAVG - calculated and Testing
6/28/2013 11 53	0 01	KWPII	0 030	18 581	AGC MAVG - calculated and Testing
6/28/2013 11 58	0 01	KWPII	0 007	18 754	AGC MAVG - calculated and Testing
6/28/2013 15 53	0 01	KWPII	0 010	19 406	AGC MAVG - calculated and Testing
6/28/2013 18 42	0 02	KWPII	0 013	13 908	AGC MAVG - calculated
6/28/2013 18 53	0 05	KWPII	0 065	18 835	AGC MAVG - calculated
6/28/2013 18 59	0 09	KWPII	0 328	18 453	AGC MAVG - calculated
6/28/2013 17 08	0 12	KWPII	0 538	20 460	AGC MAVG - calculated
6/28/2013 17 22	0 04	KWPII	0 117	20 318	AGC MAVG - calculated
6/28/2013 17 27	0 01	KWPII	0 029	18 198	AGC MAVG - calculated
6/28/2013 17 30	0 01	KWPII	0 009	17 552	AGC MAVG - calculated
6/28/2013 17 45	0 00	KWPII	0 152	20 815	AGC MAVG - calculated
6/28/2013 20 23	0 01	KWPII	0 008	20 537	AGC MAVG - calculated
6/28/2013 20 45	1 07	KWPII	6 473	20 687	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/28/2013 21 53	0 08	KWPII	0 219	20 593	AGC MAVG - calculated
6/28/2013 22 05	0 50	KWPII	6 041	20 701	AGC MAVG - calculated
6/28/2013 22 56	0 01	KWPII	0 002	19 088	AGC MAVG - calculated
6/28/2013 23 00	0 02	KWPII	0 033	19 412	AGC MAVG - calculated
6/28/2013 23 04	0 08	KWPII	0 352	20 228	AGC MAVG - calculated
6/28/2013 23 13	0 17	KWPII	0 817	20 020	AGC MAVG - calculated
6/28/2013 23 32	0 03	KWPII	0 057	19 271	AGC MAVG - calculated
6/28/2013 23 38	0 01	KWPII	0 001	17 705	AGC MAVG - calculated
6/28/2013 23 40	0 01	KWPII	0 004	18 688	AGC MAVG - calculated
6/28/2013 23 43	0 22	KWPII	1 484	18 181	AGC MAVG - calculated
6/29/2013 0 06	0 01	KWPII	0 005	11 274	AGC MAVG - calculated
6/29/2013 0 10	2 00	KWPII	76 710	20 700	AGC MAVG - calculated
6/29/2013 1:18	0 04	AWE	0 052	12 000	AGC MAVG - calculated
6/29/2013 1:23	0 03	AWE	0 038	13 600	AGC MAVG - calculated
6/29/2013 1:27	0 03	AWE	0 020	13 200	AGC MAVG - calculated
6/29/2013 1:32	0 02	AWE	0 010	13 300	AGC MAVG - calculated
6/29/2013 1 35	0 03	AWE	0 029	12 800	AGC MAVG - calculated
6/29/2013 1 39	0 12	AWE	0 427	13 800	AGC MAVG - calculated
6/29/2013 1 52	0 03	AWE	0 011	7 200	AGC MAVG - calculated
6/29/2013 1 57	0 02	AWE	0 095	6 700	AGC MAVG - calculated
6/29/2013 2 01	0 03	AWE	0 038	9 100	AGC MAVG - calculated
6/29/2013 2 12	1 02	KWPII	17 169	20 703	AGC MAVG - calculated
6/29/2013 2 23	0 05	AWE	0 024	6 500	AGC MAVG - calculated
6/29/2013 2 29	0 08	AWE	0 022	7 800	AGC MAVG - calculated
6/29/2013 2 36	0 08	AWE	0 060	9 300	AGC MAVG - calculated
6/29/2013 2 43	0 31	AWE	0 913	8 700	AGC MAVG - calculated
6/29/2013 2 48	0 19	AWE	1 105	18 300	AGC MAVG - calculated
6/29/2013 3 06	0 02	AWE	0 062	18 000	AGC MAVG - calculated
6/29/2013 3 16	0 14	KWPII	0 980	7 705	AGC MAVG - calculated
6/29/2013 3 17	0 01	AWE	0 005	17 700	AGC MAVG - calculated
6/29/2013 3 19	0 01	AWE	0 001	18 600	AGC MAVG - calculated
6/29/2013 3 24	0 01	AWE	0 004	16 000	AGC MAVG - calculated
6/29/2013 3 46	0 01	KWPII	0 006	1 984	AGC MAVG - calculated
6/29/2013 3 48	2 31	KWPII	44 359	20 650	AGC MAVG - calculated AGC MAVG - entered AGC MAVG - entered - Excess Energy, and AGC MAVG - calculated
6/29/2013 3 49	0 09	AWE	0 058	13 900	AGC MAVG - calculated
6/29/2013 3 59	0 07	AWE	0 118	15 900	AGC MAVG - calculated
6/29/2013 4 08	0 01	AWE	0 008	15 000	AGC MAVG - calculated
6/29/2013 4 12	0 02	AWE	0 025	16 100	AGC MAVG - calculated
6/29/2013 4 15	1 35	AWE	13 912	21 000	AGC MAVG - calculated AGC MAVG - entered AGC MAVG - entered - Excess Energy and AGC MAVG - calculated
6/29/2013 5 51	0 11	AWE	0 729	21 000	AGC MAVG - calculated
6/29/2013 6 51	0 03	AWE	0 081	21 000	AGC MAVG - calculated
6/29/2013 6 08	0 03	AWE	0 085	21 000	AGC MAVG - calculated
6/29/2013 6 22	0 33	KWPII	8 472	20 282	AGC MAVG - calculated
6/29/2013 6 40	0 04	AWE	0 009	20 900	AGC MAVG - calculated
6/29/2013 6 47	0 03	AWE	0 018	19 100	AGC MAVG - calculated
6/29/2013 6 57	0 34	KWPII	4 027	19 528	AGC MAVG - calculated
6/29/2013 7 32	0 03	KWPII	0 132	13 947	AGC MAVG - calculated
6/29/2013 7 36	0 01	KWPII	0 025	15 151	AGC MAVG - calculated
6/29/2013 7 38	0 17	KWPII	1 036	17 473	AGC MAVG - calculated
6/29/2013 7 59	0 02	KWPII	0 041	18 799	AGC MAVG - calculated
6/29/2013 8 12	0 04	KWPII	0 081	18 828	AGC MAVG - calculated
6/29/2013 14 47	0 05	KWPII	0 123	17 507	AGC MAVG - calculated
6/29/2013 14 54	0 06	KWPII	0 108	16 872	AGC MAVG - calculated
6/29/2013 15 02	0 01	KWPII	0 001	15 082	AGC MAVG - calculated
6/29/2013 15 04	0 05	KWPII	0 067	16 653	AGC MAVG - calculated
6/29/2013 15 36	0 01	KWPII	0 007	16 901	AGC MAVG - calculated
6/29/2013 15 42	0 06	KWPII	0 133	18 188	AGC MAVG - calculated
6/29/2013 15 49	0 07	KWPII	0 382	18 483	AGC MAVG - calculated
6/29/2013 15 58	0 06	KWPII	0 384	18 766	AGC MAVG - calculated
6/29/2013 16 13	0 01	KWPII	0 018	17 440	AGC MAVG - calculated
6/29/2013 17 29	0 02	KWPII	0 018	18 145	AGC MAVG - calculated
6/29/2013 17 33	0 05	KWPII	0 103	20 343	AGC MAVG - calculated
6/29/2013 21 54	0 02	KWPII	0 010	18 681	AGC MAVG - calculated
6/29/2013 21 57	0 03	KWPII	0 036	19 248	AGC MAVG - calculated
6/29/2013 22 04	0 01	KWPII	0 007	17 212	AGC MAVG - calculated
6/29/2013 22 17	0 06	KWPII	0 117	15 318	AGC MAVG - calculated
6/29/2013 22 24	0 02	KWPII	0 035	13 723	AGC MAVG - calculated
6/29/2013 22 27	0 03	KWPII	0 040	12 979	AGC MAVG - calculated
6/29/2013 22 31	0 01	KWPII	0 004	12 614	AGC MAVG - calculated
6/29/2013 22 36	0 05	KWPII	0 074	17 799	AGC MAVG - calculated
6/30/2013 0 29	0 28	KWPII	2 672	18 050	AGC MAVG - calculated
6/30/2013 0 39	0 02	AWE	0 006	18 500	AGC MAVG - calculated
6/30/2013 0 58	0 02	KWPII	0 051	15 241	AGC MAVG - calculated
6/30/2013 1 02	0 01	KWPII	0 004	18 256	AGC MAVG - calculated
6/30/2013 1 05	0 03	KWPII	0 045	15 171	AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW Curtailed	Reason for Curtailment
6/30/2013 0:09	0:19	KWPII	1,210	17,548	AGC MAVG - calculated
6/30/2013 2:21	4:09	KWPII	33,836	20,429	AGC MAVG - calculated, AGC MAVG - entered - Excess Energy, AGC MAVG - calculated, AGC MAVG - entered - Excess Energy, and AGC MAVG - entered - Maintaining Regulating Reserves
6/30/2013 2:54	0:01	AWE	0,005	13,100	AGC MAVG - calculated
6/30/2013 3:00	0:01	AWE	0,005	12,900	AGC MAVG - calculated
6/30/2013 6:32	0:05	KWPII	0,069	20,327	AGC MAVG - entered - Maintaining Regulating Reserves
6/30/2013 6:38	0:11	KWPII	0,423	20,506	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/30/2013 6:52	0:01	KWPII	0,010	20,312	AGC MAVG - entered - Maintaining Regulating Reserves
6/30/2013 6:54	0:10	KWPII	0,207	20,318	AGC MAVG - entered - Maintaining Regulating Reserves
6/30/2013 7:05	0:45	KWPII	3,526	20,659	AGC MAVG - entered - Maintaining Regulating Reserves and AGC MAVG - calculated
6/30/2013 7:51	0:05	KWPII	0,044	19,788	AGC MAVG - calculated
6/30/2013 7:58	0:08	KWPII	0,130	20,081	AGC MAVG - calculated
6/30/2013 8:05	0:07	KWPII	0,354	20,409	AGC MAVG - calculated
6/30/2013 8:14	0:03	KWPII	0,038	18,014	AGC MAVG - calculated
6/30/2013 8:22	0:03	KWPII	0,031	17,562	AGC MAVG - calculated
6/30/2013 8:26	0:03	KWPII	0,121	19,402	AGC MAVG - calculated
6/30/2013 8:30	0:03	KWPII	0,063	18,087	AGC MAVG - calculated
6/30/2013 8:35	0:02	KWPII	0,031	19,843	AGC MAVG - calculated
6/30/2013 8:38	0:01	KWPII	0,027	19,848	AGC MAVG - calculated
6/30/2013 8:51	0:08	KWPII	0,207	19,081	AGC MAVG - calculated
6/30/2013 9:02	0:02	KWPII	0,011	17,234	AGC MAVG - calculated
6/30/2013 10:29	0:01	KWPII	0,006	17,086	AGC MAVG - calculated
6/30/2013 10:33	0:01	KWPII	0,006	18,087	AGC MAVG - calculated
6/30/2013 10:35	0:01	KWPII	0,019	17,485	AGC MAVG - calculated
6/30/2013 10:37	0:01	KWPII	0,004	17,508	AGC MAVG - calculated
6/30/2013 14:47	0:01	KWPII	0,026	18,976	AGC MAVG - calculated
6/30/2013 14:51	0:01	KWPII	0,007	19,262	AGC MAVG - calculated
6/30/2013 14:53	0:02	KWPII	0,024	19,655	AGC MAVG - calculated
6/30/2013 15:40	0:01	KWPII	0,001	17,784	AGC MAVG - calculated
6/30/2013 15:43	0:03	KWPII	0,019	19,540	AGC MAVG - calculated
6/30/2013 15:47	0:01	KWPII	0,010	19,424	AGC MAVG - calculated
6/30/2013 15:48	0:01	KWPII	0,013	19,951	AGC MAVG - calculated
6/30/2013 15:51	0:01	KWPII	0,014	19,770	AGC MAVG - calculated
6/30/2013 15:55	0:04	KWPII	0,069	19,385	AGC MAVG - calculated
6/30/2013 16:01	0:01	KWPII	0,012	19,070	AGC MAVG - calculated
6/30/2013 16:03	0:02	KWPII	0,031	19,334	AGC MAVG - calculated
6/30/2013 16:14	0:01	KWPII	0,004	15,792	AGC MAVG - calculated
6/30/2013 20:33	0:01	AWE	0,002	0,100	AGC MAVG - calculated
6/30/2013 21:31	0:01	AWE	0,002	0,100	AGC MAVG - calculated
6/30/2013 22:27	0:02	KWPII	0,013	20,682	AGC MAVG - calculated
6/30/2013 22:33	0:02	KWPII	0,008	20,889	AGC MAVG - calculated
6/30/2013 23:02	0:02	KWPII	0,018	20,681	AGC MAVG - calculated
6/30/2013 23:05	0:05	KWPII	0,171	20,708	AGC MAVG - calculated
6/30/2013 23:28	0:32	KWPII	1,857	20,708	AGC MAVG - calculated

Notes:

Curtailment for KWP, AWEs and KWP II is now controlled by MECO's Automatic Generation Control System ("AGC"). The AGC curtailment control automatically calculates the amount of Maximum Allowable Variable Generation ("MAVG") that MECO 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 MECO 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 MW and Peak MW Curtailed are formulated with information provided by the IPPs, and MECO does not make any representation as to its accuracy.

MECO recently upgraded the SCADA controls to permit the curtailment of the Makaha Hydro facility to Net Zero Protocol and uncurtailment of the Makaha Hydro facility without opening and closing the MECO and Makaha Hydro interconnection circuit breaker. The SCADA control upgrade decreased the duration of the Makaha Hydro curtailment events beginning from 2/17/13.

Estimated Curtailed MW and Peak MW Curtailed data is not provided by the IPPs for Makaha Hydro, or AAAAA Rent-A-Space Maui LTD.

\* There is a data gap from 6/7/13 04:40 through 6/10/13 15:10 that was caused by a power supply interruption to the data server.

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Start Date/Time	Duration	IPP Curtailed	Estimated MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
6/1/13 9:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 10:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 11:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 12:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 13:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 14:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 15:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 16:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/1/13 17:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 9:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 10:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 11:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 12:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 13:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 14:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 15:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 16:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/2/13 17:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 9:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 10:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 11:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 12:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 13:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 14:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 15:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 16:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/3/13 17:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 9:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 10:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 11:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 12:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 13:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 14:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 15:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 16:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/4/13 17:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 9:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 10:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 11:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 12:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 13:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 14:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 15:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/5/13 16:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/6/13 9:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/6/13 10:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/6/13 11:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/6/13 12:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/6/13 13:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/6/13 14:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/6/13 15:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation

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

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Start Date/Time	Duration	IPP Curtailed	Estimated MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
6/12/13 15:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/12/13 16:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/12/13 17:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 9:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 10:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 11:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 12:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 13:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 14:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 15:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/13/13 16:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 9:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 10:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 11:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 12:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 13:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 14:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 15:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 16:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/14/13 17:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 9:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 10:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 11:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 12:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 13:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 14:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 15:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 16:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/15/13 17:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 9:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 10:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 11:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 12:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 13:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 14:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 15:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 16:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/16/13 17:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 9:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 10:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 11:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 12:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 13:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 14:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 15:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 16:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/17/13 17:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 9:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 10:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 11:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 12:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 13:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 14:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation



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Start Date/Time	Duration	IPP Curtailed	Estimated MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
6/18/13 15:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 16:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/18/13 17:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 9:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 10:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 11:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 12:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 13:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 14:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 15:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 16:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/19/13 17:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 9:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 10:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 11:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 12:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 13:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 14:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 15:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 16:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/20/13 17:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 9:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 10:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 11:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 12:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 13:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 14:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 15:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 16:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/21/13 17:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 9:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 10:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 11:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 12:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 13:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 14:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 15:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 16:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/22/13 17:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 9:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 10:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 11:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 12:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 13:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 14:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 15:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 16:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/23/13 17:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 9:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 10:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 11:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 12:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 13:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation

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Start Date/Time	Duration	IPP Curtailed	Estimated MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
6/24/13 14:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 15:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 16:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/24/13 17:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 9:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 10:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 11:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 12:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 13:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 14:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 15:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 16:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/25/13 17:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 9:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 10:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 11:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 12:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 13:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 14:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 15:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 16:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/26/13 17:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 9:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 10:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 11:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 12:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 13:01	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 14:01	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 15:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 16:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/27/13 17:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 9:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 10:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 11:00	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 12:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 13:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 14:02	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 15:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 16:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/28/13 17:02	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 9:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 10:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 11:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 12:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 13:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 14:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 15:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 16:02	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/29/13 17:01	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 9:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 10:02	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 11:00	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 12:00	0:17	LSR-La Ola PV	No data	No data	Ramp rate mitigation

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Start Date/Time	Duration	IPP Curtailed	Estimated MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
6/30/13 13:01	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 14:00	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 15:00	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 16:02	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
6/30/13 17:01	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation

HELCO Curtailment Report June 2013				
Start Date/Time	MW output prior to start of curtailment	End Date/Time	MW output after curtailment released	Reason for Curtailment
06/01/13 01:51	19.1 MW	06/01/13 04:22	18.6 MW	Tawhiri Group B curtailed for excess energy.
06/13/13 10:22	18.6 MW	06/13/13 13:53	18.9 MW	Tawhiri - High wind curtailment at Tawhiri request.
06/18/13 02:54	19.8 MW	06/18/13 03:55	18.5 MW	Tawhiri Group B curtailed for excess energy.
06/26/13 19:13	4.8 MW	06/27/13 05:00	0.0 MW	HRD curtailed - scheduled outage to perform upgrades at Waimea Switching Station
06/27/13 18:59	2.1 MW	06/28/13 05:21	0.0 MW	HRD curtailed - scheduled outage to perform upgrades at Waimea Switching Station