



March 28, 2013

Dean K. Matsuura  
Manager  
Regulatory Affairs

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

FILED  
2013 MAR 28 P 3 04  
PUBLIC UTILITIES  
COMMISSION

Dear Commissioners:

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

Pursuant to Ordering Paragraph 3 of the Commission's Order No. 30371, filed on May 4, 2012, in the above subject proceeding, enclosed as Exhibit A is the Hawaiian Electric Companies'<sup>1</sup> monthly report for February 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

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<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".

SERVICE LIST  
(Docket No. 2011-0206)

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

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(Docket No. 2011-0206)

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

KENT D. MORIHARA, ESQ.  
KRIS N. NAKAGAWA, ESQ.  
LAUREN M. IMADA-LEE, ESQ.  
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

1 Copy  
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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  
Electronically Transmitted

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

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(Docket No. 2011-0206)

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

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Electronically Transmitted

SERVICE LIST  
(Docket No. 2011-0206)

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

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

1 Copy  
Electronically Transmitted

ALISON SILVERSTEIN  
19213 Luedtke Lane  
Pflugerville, TX 78660

1 Copy  
Electronically Transmitted

BRENDAN KIRBY  
12011 SW Pineapple Court  
Palm City, FL 34990

1 Copy  
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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 February 28, 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 February 28, 2013):

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

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

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

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

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

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

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

The following provides information with respect to items 3a) through 3b) – (all statements are current as of the month ending February 28, 2013):

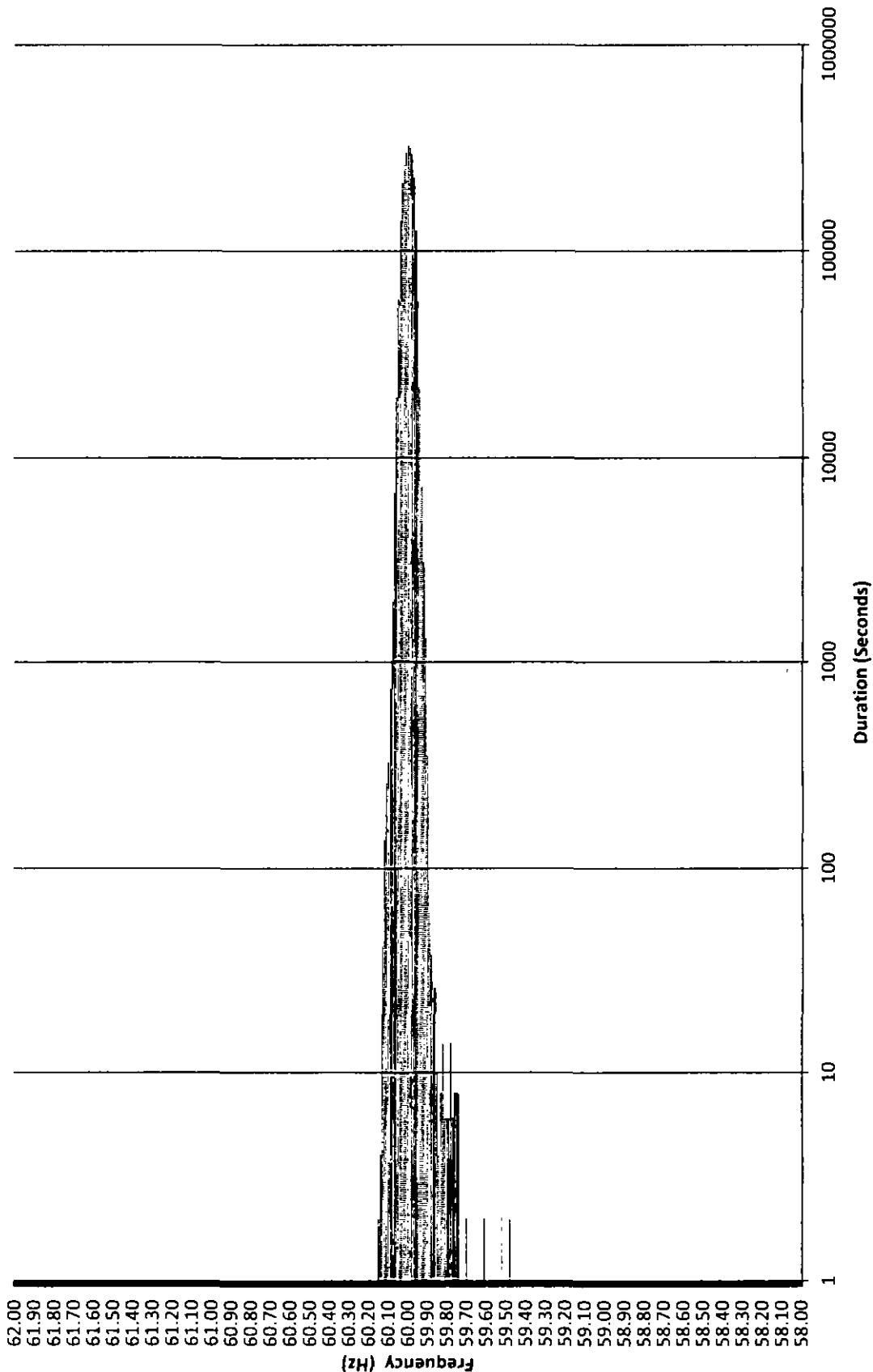
**3a) Tabulation of each curtailment event for each resource including the starting date and time, duration, megawatt hours curtailed, peak MW curtailed, and reason for curtailment:**

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:**

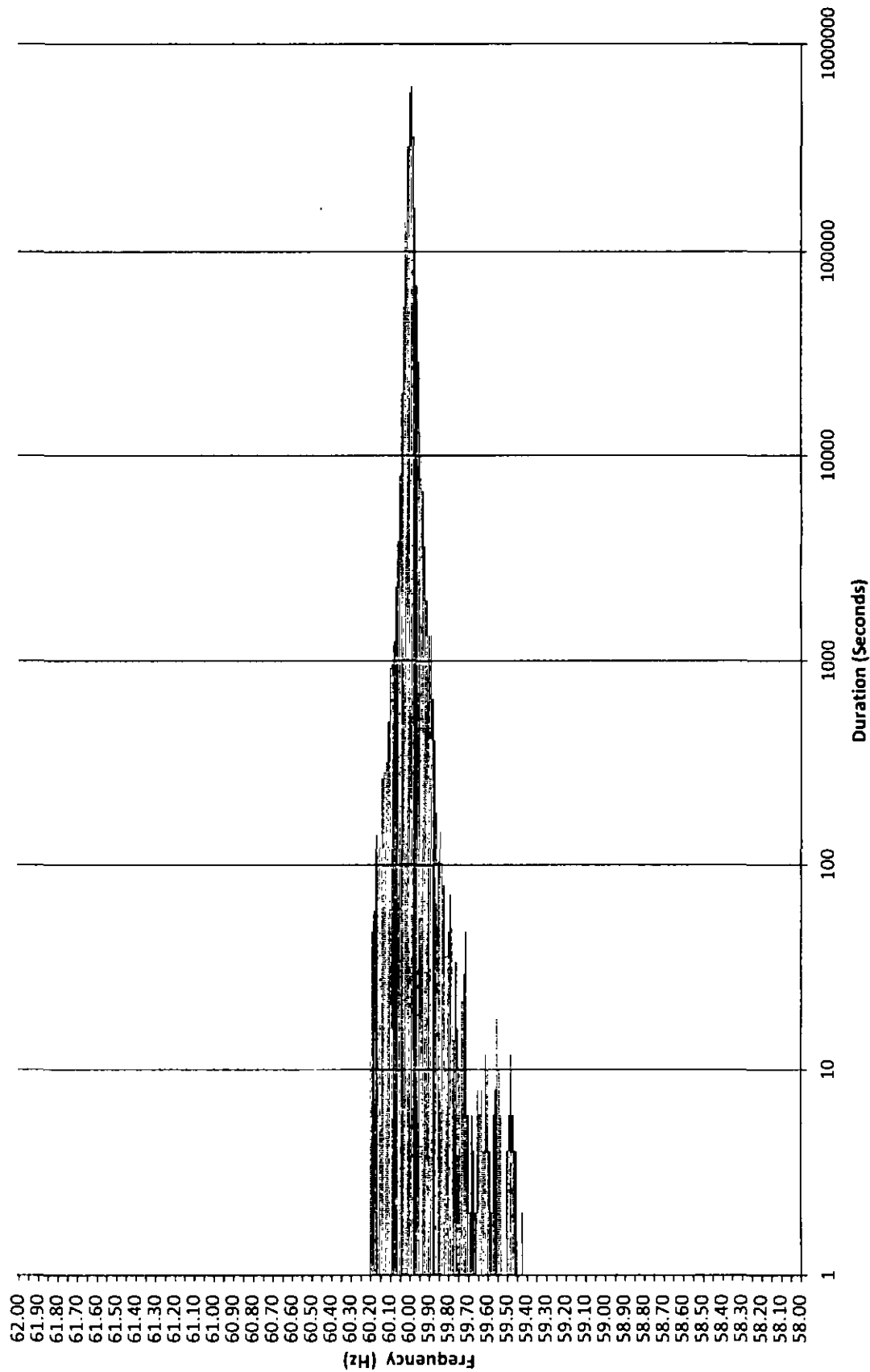
Curtailed MWh from non-dispatchable resources are difficult to determine due to the variability of the resource during curtailment periods. In some cases, the curtailed MWh estimates were provided by the IPPs under curtailment. HELCO is not providing an estimate of curtailed MWh, as this information 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 February 2013

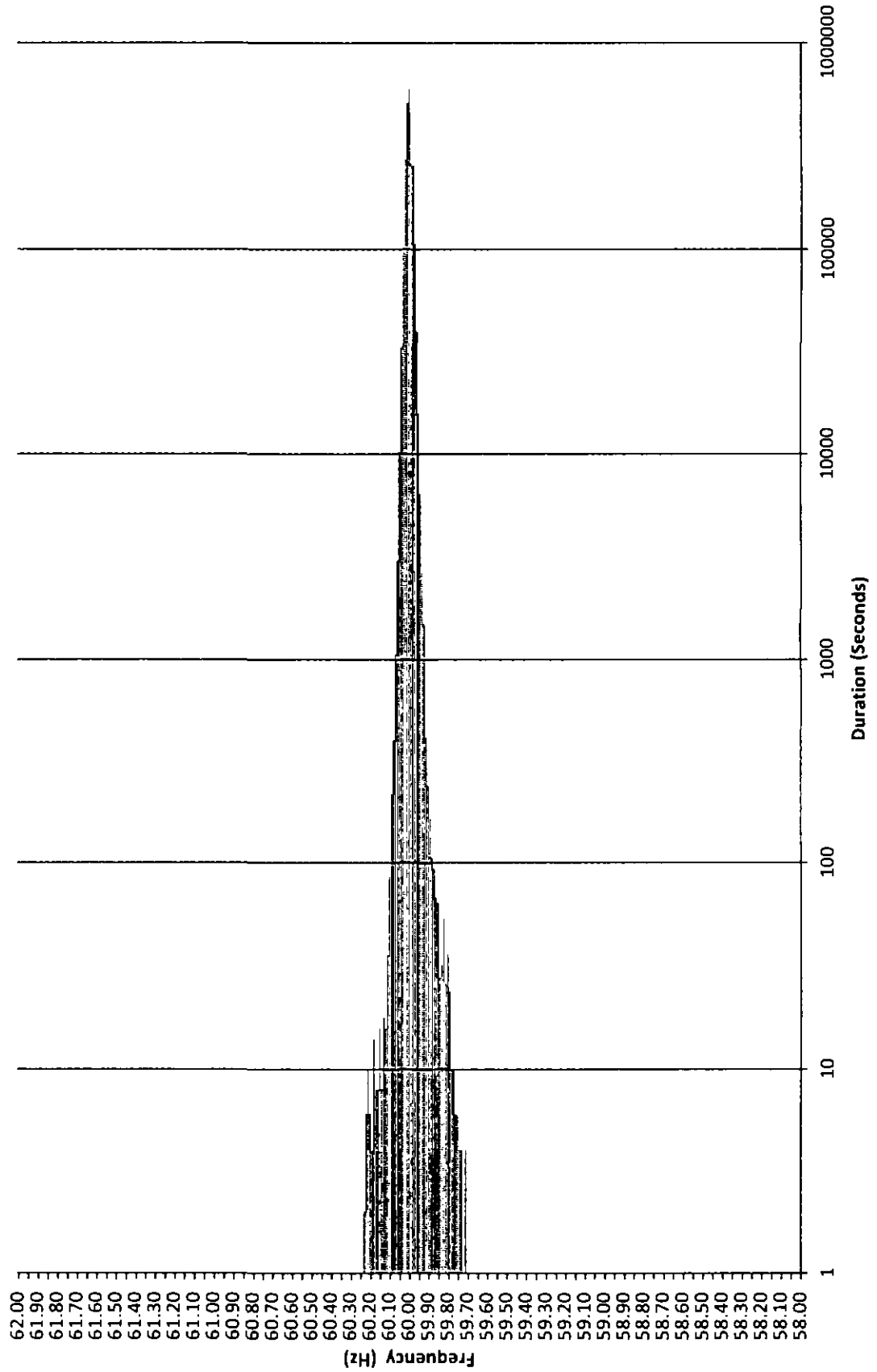




# MECO Frequency Distribution Plot - Maui February 2013



# Frequency Distribution Plot - HELCO February 2013



HECO Frequency Excursion Statistics February 2013		
Data Rounded to the nearest	<59.95 Hz	>60.05 Hz
Number of Excursions	3140	2678
Maximum Duration (sec)	986	846
Maximum Deviation (Hz)	59.48	60.148
Total Duration of Excursions (sec)	56294	50884

MECO Frequency Excursion Statistics February 2013		
	<59.95 Hz	>60.05 Hz
Number of Excursions	6943	875
Maximum Duration (sec)	1310	704
Maximum Deviation (Hz)	59.41699	60.19629
Total Duration of Excursions (sec)	59564	11266

HELCO Frequency Excursion Statistics February 2013		
	<59.95 Hz	>60.05 Hz
Number of Excursions	2738	1711
Maximum Duration (sec)	186	184
Maximum Deviation (Hz)	59.71484	60.22754
Total Duration of Excursions (sec)	18066	8556









HECO Curtailment Report February 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
02/06/13 06:18	0.0	4.00	02/06/13 08:22	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
02/11/13 06:35	0.0	0.00	02/11/13 07:00	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
02/11/13 14:08	0.0	14.00	02/11/13 15:15	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
02/17/13 00:54	20.0	39.00	02/17/13 01:28	20	*	Mauka	System Minimum Load Curtailment
02/17/13 01:28	30.0	20.00	02/17/13 01:56	18	*	Mauka	System Minimum Load Curtailment
02/18/13 03:34	20.0	41.00	02/18/13 04:49	0	*	Mauka	System Minimum Load Curtailment
02/21/13 05:58	0.0	4.70	02/21/13 07:35	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
02/21/13 16:12	0.0	11.60	02/21/13 16:33	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
02/22/13 06:31	0.0	6.80	02/22/13 07:08	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line
02/22/13 15:08	0.0	5.30	02/22/13 16:35	0	*	Makai	Pole replacement on Koolau-Kahuku 46kV line

KWF = Kahuku Wind Farm

Makai = Kawaiolo Makai Wind Farm

Mauka = Kawaiolo Mauka Wind Farm

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

\* Data has not been provided by IPP.

MECO - Maui Curtailment Report February 2013

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/1/2013 0:00	5:06	KWP/II	103.3	21.0	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/1/2013 0:50	4:04	5A	No data available	No data available	AGC MAVG - entered - excess energy
2/1/2013 0:52	6:59	MH	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/1/2013 0:54	3:58	KWP	21.5	27.0	AGC MAVG - entered - excess energy
2/1/2013 0:57	0:08	AWE	0.0	0.4	AGC MAVG - entered - excess energy
2/1/2013 1:06	1:35	AWE	1.2	2.0	AGC MAVG - entered - excess energy
2/1/2013 3:17	0:06	AWE	0.0	0.5	AGC MAVG - entered - excess energy
2/1/2013 4:31	0:08	AWE	0.0	0.5	AGC MAVG - entered - excess energy
2/1/2013 5:08	9:48	KWP/II	153.0	21.0	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/1/2013 8:11	0:01	AWE	0.0	0.2	AGC MAVG - calculated
2/1/2013 10:07	0:01	AWE	0.0	10.9	AGC MAVG - calculated
2/1/2013 10:17	4:35	AWE	38.8	20.8	AGC MAVG - calculated
2/1/2013 14:58	5:59	KWP/II	82.2	21.0	AGC MAVG - calculated, testing, and AGC MAVG - entered - maintain regulating reserves
2/1/2013 15:01	0:01	AWE	0.0	15.9	AGC MAVG - calculated
2/1/2013 15:35	0:04	AWE	0.1	12.8	AGC MAVG - calculated and testing
2/1/2013 19:56	0:56	AWE	6.8	20.9	AGC MAVG - calculated
2/1/2013 20:59	10:58	KWP/II	190.8	21.0	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/1/2013 23:54	7:42	AWE	88.8	15.1	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - entered - maintain regulating reserves
2/2/2013 0:44	5:22	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/2/2013 0:49	5:07	KWP	60.2	28.5	AGC MAVG - entered - excess energy
2/2/2013 1:26	8:53	MH	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, entered, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/2/2013 5:58	0:08	KWP	0.2	25.7	AGC MAVG - entered - excess energy
2/2/2013 7:37	0:20	AWE	1.8	20.9	AGC MAVG - entered - maintain regulating reserves
2/2/2013 7:58	0:12	AWE	1.5	20.3	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/2/2013 8:09	0:22	KWP/II	1.8	15.3	AGC MAVG - calculated
2/2/2013 10:54	0:10	KWP/II	0.3	13.1	AGC MAVG - calculated
2/2/2013 11:13	0:02	KWP	0.0	0.1	AGC MAVG - calculated
2/2/2013 12:31	0:05	KWP/II	0.0	6.5	AGC MAVG - calculated
2/2/2013 12:40	0:06	KWP/II	0.1	9.4	AGC MAVG - calculated
2/2/2013 12:54	0:03	KWP/II	0.0	7.9	AGC MAVG - calculated
2/2/2013 12:59	0:02	KWP/II	0.0	7.7	AGC MAVG - calculated
2/2/2013 13:13	0:03	KWP/II	0.1	8.6	AGC MAVG - calculated
2/2/2013 13:13	0:03	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/2/2013 13:25	0:02	KWP/II	0.0	7.6	AGC MAVG - calculated
2/2/2013 13:33	0:01	KWP/II	0.0	7.3	AGC MAVG - calculated
2/2/2013 13:33	0:01	MH	No data available	No data available	AGC MAVG - entered - excess energy
2/2/2013 13:40	0:15	KWP/II	0.8	11.1	AGC MAVG - calculated
2/2/2013 14:13	0:01	KWP/II	0.0	9.5	AGC MAVG - calculated
2/2/2013 14:17	0:09	KWP/II	0.2	12.7	AGC MAVG - calculated
2/2/2013 14:27	0:02	KWP/II	0.0	10.7	AGC MAVG - calculated
2/2/2013 14:47	0:01	KWP/II	0.0	10.7	AGC MAVG - calculated
2/2/2013 16:22	0:02	KWP/II	0.0	15.2	AGC MAVG - calculated
2/2/2013 16:25	0:02	KWP/II	0.0	16.1	AGC MAVG - calculated
2/2/2013 16:31	0:01	KWP/II	0.0	15.8	AGC MAVG - calculated
2/2/2013 17:38	0:11	KWP/II	0.3	18.9	AGC MAVG - calculated
2/2/2013 17:55	0:39	KWP/II	1.7	17.5	AGC MAVG - calculated
2/2/2013 18:35	0:01	KWP/II	0.0	16.4	AGC MAVG - calculated
2/2/2013 18:37	0:01	KWP/II	0.0	17.6	AGC MAVG - calculated
2/2/2013 18:54	0:11	KWP/II	1.0	20.3	AGC MAVG - calculated
2/2/2013 19:13	0:08	AWE	0.6	18.3	AGC MAVG - entered - operating conditions on Company's system
2/3/2013 0:31	0:01	AWE	0.0	4.1	AGC MAVG - calculated
2/3/2013 0:31	0:14	KWP/II	0.3	14.2	AGC MAVG - calculated
2/3/2013 0:58	0:02	KWP/II	0.0	9.8	AGC MAVG - calculated
2/3/2013 1:01	0:55	KWP/II	10.0	19.8	AGC MAVG - calculated and AGC MAVG - entered - maintain regulating reserves
2/3/2013 1:58	4:23	KWP/II	54.7	20.8	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/3/2013 2:25	3:24	AWE	21.3	14.7	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/3/2013 4:51	0:53	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/3/2013 4:51	8:10	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/3/2013 4:59	0:10	KWP	0.4	20.1	AGC MAVG - entered - excess energy
2/3/2013 5:14	0:28	KWP	2.3	22.8	AGC MAVG - entered - excess energy

MECO - Maui Curtailment Report February 2013

Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/3/2013 5:55	0:10	AWE	0.2	8.2	AGC MAVG - entered - excess energy
2/3/2013 6:06	0:01	AWE	0.0	8.1	AGC MAVG - entered - excess energy
2/3/2013 6:23	0:27	KWP/II	7.4	20.5	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/3/2013 6:37	0:01	AWE	0.0	12.9	AGC MAVG - calculated
2/3/2013 6:52	3:51	KWP/II	77.4	21.0	AGC MAVG - calculated
2/3/2013 6:59	0:01	AWE	0.0	13.6	AGC MAVG - calculated
2/3/2013 7:14	0:01	AWE	0.0	10.0	AGC MAVG - calculated
2/3/2013 7:16	0:03	AWE	0.0	9.8	AGC MAVG - calculated
2/3/2013 7:23	0:05	AWE	0.1	8.9	AGC MAVG - calculated
2/3/2013 7:29	0:18	AWE	0.8	10.8	AGC MAVG - calculated
2/3/2013 7:48	0:08	AWE	0.1	8.8	AGC MAVG - calculated
2/3/2013 8:03	0:08	AWE	0.2	10.3	AGC MAVG - calculated
2/3/2013 8:12	0:01	AWE	0.0	7.6	AGC MAVG - calculated
2/3/2013 8:23	0:02	AWE	0.0	7.8	AGC MAVG - calculated
2/3/2013 8:31	0:28	AWE	1.0	15.3	AGC MAVG - calculated
2/3/2013 9:05	0:01	AWE	0.0	11.8	AGC MAVG - calculated
2/3/2013 9:07	0:03	AWE	0.0	11.7	AGC MAVG - calculated
2/3/2013 9:13	0:11	AWE	0.1	13.3	AGC MAVG - calculated
2/3/2013 9:25	0:02	AWE	0.0	13.6	AGC MAVG - calculated
2/3/2013 9:28	0:56	AWE	4.5	18.8	AGC MAVG - calculated
2/3/2013 10:25	0:03	AWE	0.0	17.7	AGC MAVG - calculated
2/3/2013 10:45	2:35	KWP/II	22.5	20.2	AGC MAVG - calculated
2/3/2013 13:21	0:12	KWP/II	0.4	18.3	AGC MAVG - calculated
2/3/2013 13:40	0:02	KWP/II	0.0	14.6	AGC MAVG - calculated
2/3/2013 13:47	0:02	KWP/II	0.0	14.1	AGC MAVG - calculated
2/3/2013 14:06	0:02	KWP/II	0.0	12.5	AGC MAVG - calculated
2/3/2013 14:14	0:02	KWP/II	0.0	12.8	AGC MAVG - calculated
2/3/2013 14:17	0:13	KWP/II	0.3	14.2	AGC MAVG - calculated
2/3/2013 14:31	0:09	KWP/II	0.3	14.8	AGC MAVG - calculated
2/3/2013 14:43	0:11	KWP/II	0.2	14.2	AGC MAVG - calculated
2/3/2013 14:56	0:01	KWP/II	0.0	13.2	AGC MAVG - calculated
2/3/2013 15:00	0:04	KWP/II	0.1	13.8	AGC MAVG - calculated
2/3/2013 15:20	0:02	KWP/II	0.0	14.6	AGC MAVG - calculated
2/3/2013 15:23	0:03	KWP/II	0.1	14.5	AGC MAVG - calculated
2/3/2013 15:30	0:01	KWP/II	0.0	13.8	AGC MAVG - calculated
2/3/2013 15:35	0:01	KWP/II	0.0	14.1	AGC MAVG - calculated
2/3/2013 15:35	0:01	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/3/2013 15:37	0:02	KWP/II	0.0	14.9	AGC MAVG - calculated
2/3/2013 15:37	0:02	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/3/2013 15:53	0:04	KWP/II	0.1	15.7	AGC MAVG - calculated
2/3/2013 16:01	2:34	KWP/II	25.4	21.0	AGC MAVG - calculated
2/3/2013 18:52	0:02	AWE	0.0	0.2	AGC MAVG - calculated
2/3/2013 19:12	0:01	KWP/II	0.0	21.0	AGC MAVG - calculated
2/3/2013 19:37	0:02	KWP/II	0.0	21.0	AGC MAVG - calculated
2/3/2013 19:41	0:02	KWP/II	0.0	21.0	AGC MAVG - calculated
2/3/2013 20:37	0:08	KWP/II	0.2	21.0	AGC MAVG - entered - maintain regulating reserves
2/3/2013 23:57	5:02	KWP/II	82.5	19.5	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/4/2013 1:32	0:14	AWE	0.1	3.4	AGC MAVG - entered - maintain regulating reserves
2/4/2013 1:34	3:03	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/4/2013 1:35	5:33	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - calculated, and testing
2/4/2013 1:37	1:44	KWP	11.0	24.0	AGC MAVG - entered - excess energy
2/4/2013 1:47	0:32	AWE	0.4	2.9	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/4/2013 2:29	0:01	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/4/2013 2:39	1:14	AWE	4.8	11.4	AGC MAVG - entered - excess energy
2/4/2013 3:34	0:08	KWP	0.2	10.5	AGC MAVG - entered - excess energy
2/4/2013 3:48	0:30	KWP	1.8	21.0	AGC MAVG - entered - excess energy
2/4/2013 3:58	0:03	AWE	0.0	0.3	AGC MAVG - entered - excess energy
2/4/2013 4:02	0:05	AWE	0.0	0.3	AGC MAVG - entered - excess energy
2/4/2013 4:08	0:08	AWE	0.0	0.6	AGC MAVG - entered - excess energy
2/4/2013 4:17	0:08	KWP	0.4	16.5	AGC MAVG - entered - excess energy
2/4/2013 4:17	0:26	AWE	0.4	2.5	AGC MAVG - entered - excess energy
2/4/2013 5:01	0:47	KWP/II	6.3	18.0	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
2/4/2013 5:49	0:02	KWP/II	0.0	18.0	AGC MAVG - calculated
2/4/2013 6:22	0:01	AWE	0.0	0.2	AGC MAVG - calculated
2/4/2013 6:49	0:01	AWE	0.0	0.2	AGC MAVG - calculated and testing
2/4/2013 7:05	0:11	KWP/II	0.5	16.5	AGC MAVG - calculated
2/4/2013 7:18	0:03	KWP/II	0.1	13.5	AGC MAVG - calculated
2/4/2013 7:22	0:01	KWP/II	0.0	12.0	AGC MAVG - calculated
2/4/2013 7:27	0:20	KWP/II	1.2	10.5	AGC MAVG - calculated
2/4/2013 8:01	0:01	KWP/II	0.0	10.5	AGC MAVG - calculated
2/4/2013 8:04	0:03	KWP/II	0.0	10.5	AGC MAVG - calculated
2/4/2013 8:13	0:03	KWP/II	0.0	10.5	AGC MAVG - calculated
2/4/2013 8:31	0:01	KWP/II	0.0	12.0	AGC MAVG - calculated
2/4/2013 9:08	0:02	KWP/II	0.0	9.0	AGC MAVG - calculated
2/4/2013 9:11	0:01	KWP/II	0.0	9.0	AGC MAVG - calculated
2/4/2013 9:14	0:01	KWP/II	0.0	9.0	AGC MAVG - calculated
2/4/2013 9:22	0:03	KWP/II	0.0	9.0	AGC MAVG - calculated
2/4/2013 9:30	0:08	KWP/II	0.2	9.0	AGC MAVG - calculated
2/4/2013 9:41	0:02	KWP/II	0.0	7.5	AGC MAVG - calculated
2/4/2013 9:47	0:02	KWP/II	0.0	7.5	AGC MAVG - calculated
2/4/2013 9:52	0:16	KWP/II	0.4	7.5	AGC MAVG - calculated
2/4/2013 10:26	0:01	KWP/II	0.0	6.0	AGC MAVG - calculated
2/4/2013 10:28	0:03	KWP/II	0.0	6.0	AGC MAVG - calculated
2/4/2013 10:48	0:03	KWP/II	0.0	6.0	AGC MAVG - calculated
2/4/2013 10:58	1:14	KWP/II	16.2	21.0	AGC MAVG - calculated
2/4/2013 11:31	0:41	AWE	7.8	17.7	AGC MAVG - calculated and testing
2/4/2013 11:49	0:01	KWP	0.0	25.5	Testing and AGC MAVG - calculated
2/4/2013 11:52	0:20	KWP	0.9	27.0	Testing and AGC MAVG - calculated
2/4/2013 12:17	2:56	AWE	20.7	21.0	AGC MAVG - calculated, testing, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/4/2013 12:18	0:08	KWP/II	2.8	19.5	AGC MAVG - calculated
2/4/2013 12:42	5:27	KWP/II	111.4	21.0	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated and testing
2/4/2013 15:19	2:36	AWE	13.9	21.0	AGC MAVG - calculated and testing
2/4/2013 17:59	0:03	AWE	0.0	20.2	AGC MAVG - calculated
2/4/2013 18:03	0:01	AWE	0.0	17.8	AGC MAVG - calculated
2/4/2013 18:11	3:35	KWP/II	42.3	21.0	AGC MAVG - calculated
2/4/2013 20:28	0:04	AWE	0.1	18.9	AGC MAVG - calculated
2/4/2013 21:28	0:14	AWE	0.6	18.3	AGC MAVG - calculated
2/4/2013 21:48	1:40	KWP/II	31.9	21.0	AGC MAVG - calculated and AGC MAVG - entered - maintain regulating reserves
2/4/2013 22:05	0:09	AWE	0.9	18.4	AGC MAVG - calculated
2/4/2013 22:15	6:38	AWE	48.3	21.0	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/4/2013 23:29	8:27	KWP/II	176.4	21.0	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/4/2013 23:47	5:46	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - entered - excess energy
2/4/2013 23:48	7:23	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - entered - excess energy
2/4/2013 23:52	5:25	KWP	47.8	25.5	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - entered - excess energy
2/5/2013 4:56	0:10	AWE	0.0	0.5	AGC MAVG - entered - excess energy
2/5/2013 5:10	0:33	AWE	0.8	2.2	AGC MAVG - entered - excess energy
2/5/2013 5:44	0:03	AWE	0.0	1.4	AGC MAVG - entered - excess energy
2/5/2013 5:55	0:25	AWE	0.6	5.7	AGC MAVG - entered - excess energy
2/5/2013 6:43	1:08	AWE	7.4	19.7	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and good engineering and operating practices
2/5/2013 7:58	9:21	KWP/II	180.1	21.0	AGC MAVG - calculated, operating conditions on Company's system, good engineering and operating practices, testing, and AGC MAVG - entered - maintain regulating reserves
2/5/2013 8:28	7:53	AWE	50.8	21.0	operating conditions on Company's system and AGC MAVG - entered - maintain regulating reserves
2/5/2013 16:25	0:01	AWE	0.0	18.1	AGC MAVG - entered - maintain regulating reserves
2/5/2013 16:29	0:02	AWE	0.0	18.7	AGC MAVG - entered - maintain regulating reserves
2/5/2013 16:42	0:01	AWE	0.0	18.6	AGC MAVG - entered - maintain regulating reserves
2/5/2013 16:48	0:02	AWE	0.0	18.7	AGC MAVG - entered - maintain regulating reserves
2/5/2013 17:21	1:07	KWP/II	18.5	20.7	AGC MAVG - entered - maintain regulating reserves
2/5/2013 17:57	0:06	AWE	0.1	21.0	AGC MAVG - entered - maintain regulating reserves

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/5/2013 18.30	4:12	KWP/II	26.1	20.9	AGC MAVG - entered - maintain regulating reserves
2/5/2013 22.44	0:04	KWP/II	0.0	10.4	AGC MAVG - entered - maintain regulating reserves
2/5/2013 22.55	14:40	KWP/II	238.5	21.0	AGC MAVG - entered - maintain regulating reserves, good engineering and operating practices, AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/5/2013 23.33	0:01	AWE	0.0	8.8	AGC MAVG - entered - maintain regulating reserves
2/5/2013 23.35	0:03	AWE	0.0	10.1	AGC MAVG - entered - maintain regulating reserves
2/5/2013 23.41	0:03	AWE	0.0	8.0	AGC MAVG - entered - maintain regulating reserves
2/5/2013 23.45	0:07	AWE	0.2	12.4	AGC MAVG - entered - maintain regulating reserves
2/5/2013 23.54	5:21	AWE	18.6	12.6	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/6/2013 0.37	4:47	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/6/2013 0.38	6:42	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/6/2013 0.41	4:32	KWP	40.0	26.2	AGC MAVG - entered - excess energy
2/6/2013 12.57	0:09	AWE	0.2	17.6	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 13.10	0:01	AWE	0.0	18.7	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 13.12	0:19	AWE	0.6	19.6	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 13.38	3:28	KWP/II	68.8	20.7	AGC MAVG - calculated
2/6/2013 13.41	0:11	AWE	0.3	20.0	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 13.53	0:32	AWE	1.0	18.9	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 14.27	2:13	AWE	8.1	19.7	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 16.41	0:05	AWE	0.1	16.6	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 16.47	0:14	AWE	0.3	16.0	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.08	1:07	KWP/II	22.3	20.9	AGC MAVG - calculated
2/6/2013 17.10	0:01	AWE	0.0	15.7	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.13	0:02	AWE	0.0	15.4	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.17	0:04	AWE	0.1	16.1	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.25	0:09	AWE	0.1	18.8	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.36	0:08	AWE	0.1	18.8	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.43	0:01	AWE	0.0	16.1	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.45	0:08	AWE	0.1	17.8	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.52	0:01	AWE	0.0	17.4	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 17.57	0:02	AWE	0.0	17.6	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 18.00	0:02	AWE	0.0	18.3	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 18.10	0:01	AWE	0.0	18.8	AGC MAVG - calculated and operating conditions on Company's system
2/6/2013 18.17	2:22	KWP/II	34.5	20.9	AGC MAVG - calculated
2/6/2013 20.19	0:03	AWE	0.0	14.7	AGC MAVG - calculated
2/6/2013 20.23	0:01	AWE	0.0	13.6	AGC MAVG - calculated
2/6/2013 20.25	0:10	AWE	0.1	14.9	AGC MAVG - calculated
2/6/2013 20.41	0:42	KWP/II	14.1	20.9	AGC MAVG - calculated
2/6/2013 20.44	0:01	AWE	0.0	11.3	AGC MAVG - calculated
2/6/2013 20.47	0:31	AWE	0.9	15.0	AGC MAVG - calculated
2/6/2013 21.25	18:18	KWP/II	297.0	21.0	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, TESTING, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/6/2013 21.30	0:03	AWE	0.0	12.3	AGC MAVG - calculated
2/6/2013 21.58	0:01	AWE	0.0	10.7	AGC MAVG - calculated
2/6/2013 22.00	0:01	AWE	0.0	11.5	AGC MAVG - calculated
2/6/2013 22.02	0:02	AWE	0.0	11.9	AGC MAVG - calculated
2/6/2013 22.07	0:12	AWE	0.3	15.3	AGC MAVG - calculated
2/6/2013 22.24	0:03	AWE	0.0	10.0	AGC MAVG - calculated
2/6/2013 22.31	0:03	AWE	0.1	11.0	AGC MAVG - calculated
2/6/2013 22.35	0:05	AWE	0.1	9.7	AGC MAVG - calculated
2/6/2013 22.41	13:57	AWE	135.4	21.0	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - entered - maintain regulating reserves
2/6/2013 23.34	6:01	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered
2/6/2013 23.38	5:56	KWP	56.7	30.0	AGC MAVG - calculated and AGC MAVG - entered
2/7/2013 14.21	0:44	AWE	1.8	21.0	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/7/2013 15:06	0.11	AWE	0.2	20.6	AGC MAVG - calculated
2/7/2013 15:18	0.13	AWE	0.2	21.0	AGC MAVG - calculated
2/7/2013 15:33	0.03	AWE	0.0	20.7	AGC MAVG - calculated
2/7/2013 15:43	1.06	KWP/II	11.2	18.5	AGC MAVG - calculated
2/7/2013 16:51	0.01	KWP/II	0.0	14.2	AGC MAVG - calculated
2/7/2013 16:53	0.02	KWP/II	0.0	14.0	AGC MAVG - calculated
2/7/2013 16:56	0.06	KWP/II	0.1	15.0	AGC MAVG - calculated
2/7/2013 19:35	1.17	KWP/II	19.8	20.5	AGC MAVG - calculated
2/7/2013 19:35	1.17	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/7/2013 19:55	0.01	AWE	0.0	14.7	AGC MAVG - calculated
2/7/2013 19:59	0.04	AWE	0.1	14.9	AGC MAVG - calculated
2/7/2013 20:09	0.01	AWE	0.0	14.1	AGC MAVG - calculated
2/7/2013 20:14	0.04	AWE	0.1	17.3	AGC MAVG - calculated
2/7/2013 20:19	0.02	AWE	0.0	16.4	AGC MAVG - calculated
2/7/2013 20:22	0.16	AWE	0.4	17.0	AGC MAVG - calculated
2/7/2013 20:39	0.01	AWE	0.0	9.3	AGC MAVG - calculated
2/7/2013 20:44	0.04	AWE	0.0	9.3	AGC MAVG - calculated
2/7/2013 20:54	0.42	KWP/II	13.1	20.9	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/7/2013 21:03	0.01	AWE	0.0	7.7	AGC MAVG - calculated and AGC MAVG - entered - maintain regulating reserves
2/7/2013 21:06	0.02	AWE	0.0	7.5	AGC MAVG - entered - maintain regulating reserves
2/7/2013 21:20	0.11	AWE	0.2	10.3	AGC MAVG - calculated
2/7/2013 21:38	0.38	KWP/II	12.1	20.9	AGC MAVG - calculated and good engineering and operating practices
2/7/2013 21:55	0.06	AWE	0.1	8.8	AGC MAVG - calculated
2/7/2013 22:03	0.02	AWE	0.0	6.1	AGC MAVG - calculated
2/7/2013 22:06	0.02	AWE	0.0	5.2	AGC MAVG - calculated
2/7/2013 22:09	0.03	AWE	0.0	4.9	AGC MAVG - calculated
2/7/2013 22:18	0.38	KWP/II	10.7	20.6	AGC MAVG - calculated
2/7/2013 22:41	0.12	AWE	0.1	4.5	AGC MAVG - calculated and operating conditions on Company's system
2/7/2013 22:59	7.29	KWP/II	136.7	21.0	AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/7/2013 23:11	0.02	AWE	0.0	1.5	AGC MAVG - calculated
2/7/2013 23:14	3.26	AWE	4.9	5.6	AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/7/2013 23:18	6.32	5A	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/7/2013 23:19	9.17	MH	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/7/2013 23:19	6.28	KWP	109.2	30.0	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/8/2013 2:42	0.02	AWE	0.0	0.2	AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/8/2013 3:15	2:52	AWE	15.5	14.3	AGC MAVG - calculated and AGC MAVG - entered
2/8/2013 5:08	0.04	AWE	0.1	11.2	AGC MAVG - entered
2/8/2013 5:13	0.01	AWE	0.0	11.3	AGC MAVG - calculated
2/8/2013 5:18	0.02	AWE	0.0	14.5	AGC MAVG - calculated
2/8/2013 5:30	2.21	KWP/II	23.5	20.8	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/8/2013 10:51	0.20	KWP/II	0.3	15.9	AGC MAVG - entered - maintain regulating reserves
2/8/2013 22:01	0.27	KWP/II	1.3	12.2	AGC MAVG - calculated
2/8/2013 22:29	0.03	KWP/II	0.0	7.8	AGC MAVG - calculated
2/8/2013 22:36	0.02	KWP/II	0.0	7.6	AGC MAVG - calculated
2/8/2013 22:47	0.05	KWP/II	0.1	7.1	AGC MAVG - calculated
2/8/2013 22:57	0.05	KWP/II	0.0	8.1	AGC MAVG - calculated
2/8/2013 23:04	0.02	KWP/II	0.0	5.7	AGC MAVG - calculated
2/8/2013 23:07	0.01	KWP/II	0.0	5.7	AGC MAVG - calculated
2/8/2013 23:09	0.01	KWP/II	0.0	5.9	AGC MAVG - calculated
2/8/2013 23:13	0.02	KWP/II	0.0	6.6	AGC MAVG - calculated
2/8/2013 23:16	0.01	KWP/II	0.0	7.1	AGC MAVG - calculated
2/8/2013 23:20	0.06	KWP/II	0.1	6.1	AGC MAVG - calculated
2/8/2013 23:27	0.01	KWP/II	0.0	7.8	AGC MAVG - calculated
2/8/2013 23:29	4.00	KWP/II	17.7	12.3	MAVG and AGC MAVG - entered - excess energy
2/8/2013 23:44	0.02	AWE	0.0	14.5	AGC MAVG - calculated
2/8/2013 23:50	0.01	AWE	0.0	13.4	AGC MAVG - calculated
2/8/2013 23:57	0.08	AWE	0.1	13.2	AGC MAVG - calculated
2/9/2013 0:09	0:09	AWE	0.2	10.4	AGC MAVG - calculated
2/9/2013 0:19	0:04	AWE	0.1	9.5	AGC MAVG - calculated
2/9/2013 0:24	3:05	AWE	9.8	10.5	AGC MAVG - calculated and AGC MAVG - entered - excess energy

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/9/2013 2:00	1:17	KWP	3.9	13.2	AGC MAVG - calculated
2/9/2013 2:04	2:29	5A	No data available	No data available	AGC MAVG - calculated and AGC MAVG - entered - excess energy
2/9/2013 2:05	2:28	MH	No data available	No data available	AGC MAVG - calculated and AGC MAVG - entered - excess energy
2/9/2013 3:29	0:06	KWP	0.0	5.5	AGC MAVG - entered - excess energy
2/9/2013 3:31	2:10	AWE	9.7	8.6	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and testing
2/9/2013 3:31	2:32	KWP	13.2	10.9	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and Testing
2/9/2013 4:10	0:08	KWP	0.1	5.6	AGC MAVG - entered - excess energy
2/9/2013 4:23	0:04	KWP	0.0	5.9	AGC MAVG - entered - excess energy
2/9/2013 5:43	0:04	AWE	0.0	6.5	AGC MAVG - calculated and testing
2/9/2013 5:48	0:03	AWE	0.0	7.4	AGC MAVG - calculated and testing
2/9/2013 5:53	0:01	AWE	0.0	7.2	AGC MAVG - calculated and testing
2/9/2013 5:58	0:01	AWE	0.0	7.8	AGC MAVG - calculated and testing
2/9/2013 5:58	0:01	AWE	0.0	8.3	AGC MAVG - calculated and testing
2/9/2013 6:05	3:58	KWP	37.4	20.7	Testing, AGC MAVG - entered, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/9/2013 9:41	0:18	AWE	0.8	19.3	AGC MAVG - entered - maintain regulating reserves, testing, and AGC MAVG - calculated
2/9/2013 10:04	0:02	AWE	0.0	18.1	AGC MAVG - calculated, testing, and AGC MAVG - entered
2/9/2013 10:05	0:27	KWP	7.8	19.9	Testing, AGC MAVG - entered, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/9/2013 10:27	0:04	AWE	0.1	20.2	AGC MAVG - calculated and testing
2/9/2013 10:33	0:36	KWP	11.6	20.2	Testing, AGC MAVG - calculated, and AGC MAVG - entered
2/9/2013 10:38	0:06	AWE	0.2	20.1	AGC MAVG - calculated and testing
2/9/2013 10:43	0:26	AWE	1.7	20.6	AGC MAVG - calculated, testing, and AGC MAVG - entered
2/9/2013 11:10	0:21	AWE	1.2	18.9	AGC MAVG - entered and testing,
2/9/2013 11:10	4:09	KWP	84.2	20.9	Testing, AGC MAVG - entered, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/9/2013 11:35	3:14	AWE	24.9	21.0	AGC MAVG - entered - maintain regulating reserves, testing, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/9/2013 14:53	0:13	AWE	0.3	12.3	AGC MAVG - entered - maintain regulating reserves
2/9/2013 15:12	0:02	AWE	0.0	10.2	AGC MAVG - calculated
2/9/2013 15:21	0:35	KWP	10.9	20.7	AGC MAVG - calculated
2/9/2013 15:28	0:02	AWE	0.0	12.2	AGC MAVG - calculated
2/9/2013 15:31	0:15	AWE	0.5	16.5	AGC MAVG - calculated
2/9/2013 15:51	0:01	AWE	0.0	15.3	AGC MAVG - calculated
2/9/2013 15:58	0:19	KWP	5.9	20.4	AGC MAVG - calculated
2/9/2013 16:03	0:10	AWE	0.1	20.2	AGC MAVG - calculated
2/9/2013 16:19	2:13	KWP	42.8	21.0	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/9/2013 16:29	0:05	AWE	0.2	17.9	AGC MAVG - calculated
2/9/2013 16:36	1:52	AWE	10.6	19.1	AGC MAVG - calculated and AGC MAVG - entered - maintain regulating reserves
2/9/2013 18:34	3:43	KWP	43.2	21.0	AGC MAVG - calculated and good engineering and operating practices
2/9/2013 21:58	0:14	AWE	0.3	15.5	AGC MAVG - calculated
2/9/2013 22:18	0:40	KWP	12.7	21.0	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/9/2013 22:31	0:02	AWE	0.0	8.1	AGC MAVG - calculated
2/9/2013 22:35	0:08	AWE	0.2	12.0	AGC MAVG - calculated
2/9/2013 23:00	19:29	KWP	377.5	19.5	AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, Testing, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - entered
2/9/2013 23:05	7:13	AWE	68.9	21.0	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and testing
2/9/2013 23:05	0:04	KWP	0.0	30.0	AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - entered
2/9/2013 23:12	11:09	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and testing
2/9/2013 23:12	7:55	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and testing
2/10/2013 0:17	10:02	KWP	108.4	30.0	AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and testing
2/10/2013 6:21	13:09	AWE	157.4	21.0	MAVG - entered - operating conditions on Company's system, AGC MAVG - calculated, AGC MAVG - entered - operating conditions on Company's system, and AGC MAVG - entered - maintain regulating reserves
2/10/2013 14:41	0:01	KWP	0.0	30.0	AGC MAVG - entered - maintain regulating reserves
2/10/2013 18:31	2:18	KWP	29.5	19.5	AGC MAVG - calculated and AGC MAVG - entered - maintain regulating reserves
2/10/2013 20:51	1:02	KWP	19.7	19.5	AGC MAVG - entered - maintain regulating reserves

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/10/2013 21:54	5:22	KWP	104.2	19.5	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - entered - testing, and AGC MAVG - entered - maintain regulating reserves
2/10/2013 23:30	3:46	KWP	58.6	28.5	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - entered - testing
2/11/2013 0:10	3:06	AWE	64.9	21.0	testing
2/11/2013 3:18	5:30	KWP	96.4	30.0	AGC MAVG - entered - excess energy, AGC MAVG - entered - testing, and AGC MAVG - entered - maintain regulating reserves
2/11/2013 3:18	11:31	KWP	224.3	20.7	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered, testing, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, operating conditions on Company's system, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/11/2013 3:18	11:31	AWE	193.6	21.0	AGC MAVG - entered - excess energy, AGC MAVG - entered - testing, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, good engineering and operating practices, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/11/2013 14:50	2:33	AWE	27.0	21.0	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/11/2013 14:50	2:37	KWP	53.8	20.7	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/11/2013 17:29	0:53	KWP	17.5	20.7	AGC MAVG - calculated
2/11/2013 17:31	0:41	AWE	1.4	20.2	AGC MAVG - calculated
2/11/2013 18:13	0:05	AWE	0.1	19.3	AGC MAVG - calculated
2/11/2013 18:24	0:53	KWP	17.1	20.7	AGC MAVG - calculated
2/11/2013 18:33	0:40	AWE	2.9	19.3	AGC MAVG - calculated
2/11/2013 19:19	2:05	KWP	29.3	20.7	AGC MAVG - calculated and AGC MAVG - entered - maintain regulating reserves
2/11/2013 21:25	0:05	AWE	0.0	0.9	AGC MAVG - entered - maintain regulating reserves
2/11/2013 21:25	16:11	KWP	278.2	20.7	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, good engineering and operating practices, AGC MAVG - calculated, testing, AGC MAVG - entered - maintain regulating reserves, testing, and AGC MAVG - calculated
2/11/2013 23:27	8:42	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered, and AGC MAVG - calculated
2/11/2013 23:32	6:38	KWP	117.0	29.5	AGC MAVG - calculated and AGC MAVG - entered
2/11/2013 23:41	0:06	AWE	0.0	0.3	AGC MAVG - calculated
2/12/2013 0:35	1:39	AWE	0.9	1.3	AGC MAVG - calculated
2/12/2013 2:25	0:22	AWE	0.1	0.6	AGC MAVG - calculated
2/12/2013 2:48	0:04	AWE	0.0	0.1	AGC MAVG - calculated
2/12/2013 2:54	0:03	AWE	0.0	0.2	AGC MAVG - calculated
2/12/2013 3:00	0:06	AWE	0.0	0.3	AGC MAVG - calculated
2/12/2013 3:10	0:02	AWE	0.0	0.1	AGC MAVG - calculated
2/12/2013 3:18	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/12/2013 3:20	1:29	AWE	1.1	1.6	AGC MAVG - calculated
2/12/2013 4:50	0:10	AWE	0.0	0.5	AGC MAVG - calculated
2/12/2013 5:03	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/12/2013 6:10	0:01	AWE	0.0	0.2	AGC MAVG - calculated and good engineering and operating practices
2/12/2013 6:13	0:06	AWE	0.0	0.5	AGC MAVG - calculated and good engineering and operating practices
2/12/2013 8:19	0:01	AWE	0.0	0.1	AGC MAVG - calculated and testing
2/12/2013 8:41	0:01	AWE	0.0	0.1	AGC MAVG - calculated and testing
2/12/2013 10:49	0:03	AWE	0.0	13.0	AGC MAVG - calculated
2/12/2013 11:42	0:33	AWE	2.0	21.0	AGC MAVG - entered - maintain regulating reserves
2/12/2013 12:24	0:01	AWE	0.0	17.9	AGC MAVG - entered - maintain regulating reserves
2/12/2013 12:28	0:55	AWE	4.3	21.0	AGC MAVG - entered - maintain regulating reserves
2/12/2013 13:28	0:04	AWE	0.1	15.6	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/12/2013 13:38	0:24	KWP	4.9	18.0	AGC MAVG - calculated
2/12/2013 13:54	0:03	AWE	0.0	17.9	AGC MAVG - calculated
2/12/2013 14:07	1:06	KWP	15.6	20.4	AGC MAVG - calculated
2/12/2013 14:42	0:17	AWE	0.5	21.0	AGC MAVG - calculated
2/12/2013 15:01	0:01	AWE	0.0	20.4	AGC MAVG - calculated
2/12/2013 15:06	0:03	AWE	0.0	17.3	AGC MAVG - calculated
2/12/2013 15:15	1:09	KWP	23.1	20.7	AGC MAVG - calculated
2/12/2013 15:20	0:01	AWE	0.0	15.7	AGC MAVG - calculated
2/12/2013 15:22	0:42	AWE	1.6	21.0	AGC MAVG - calculated
2/12/2013 16:07	0:10	AWE	0.2	18.3	AGC MAVG - calculated
2/12/2013 16:26	2:21	KWP	37.7	20.7	AGC MAVG - calculated
2/12/2013 17:32	0:02	AWE	0.0	18.6	AGC MAVG - calculated
2/12/2013 18:01	0:28	AWE	1.0	21.0	AGC MAVG - calculated



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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/12/2013 18:38	0:05	AWE	0.0	21.0	AGC MAVG - calculated
2/12/2013 18:48	11:22	KWP/II	201.7	20.7	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/12/2013 23:59	0:02	AWE	0.0	0.1	AGC MAVG - entered - excess energy
2/12/2013 23:59	5:59	5A	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/12/2013 23:59	7:27	MH	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/12/2013 23:59	5:38	KWP	75.8	29.5	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/13/2013 0:13	0:01	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/13/2013 0:15	0:05	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/13/2013 0:59	0:26	AWE	0.5	2.1	AGC MAVG - calculated
2/13/2013 2:00	0:02	AWE	0.0	0.1	AGC MAVG - calculated
2/13/2013 2:09	0:20	AWE	0.1	0.7	AGC MAVG - calculated
2/13/2013 2:41	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/13/2013 2:47	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/13/2013 2:49	0:08	AWE	0.0	0.2	AGC MAVG - calculated
2/13/2013 3:14	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/13/2013 4:55	0:04	AWE	0.0	0.2	AGC MAVG - calculated
2/13/2013 5:00	0:20	AWE	0.1	0.9	AGC MAVG - calculated
2/13/2013 5:38	0:10	KWP	0.1	28.4	AGC MAVG - calculated
2/13/2013 5:41	0:08	AWE	0.1	0.7	AGC MAVG - calculated
2/13/2013 5:51	0:13	AWE	0.3	4.3	AGC MAVG - calculated
2/13/2013 6:12	4:42	KWP/II	42.5	20.7	AGC MAVG - calculated
2/13/2013 8:12	0:01	AWE	0.0	0.3	AGC MAVG - calculated
2/13/2013 8:27	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/13/2013 8:29	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/13/2013 10:34	0:02	AWE	0.0	16.7	AGC MAVG - calculated
2/13/2013 10:41	0:01	AWE	0.0	16.2	AGC MAVG - calculated
2/13/2013 10:43	0:08	AWE	0.2	19.4	AGC MAVG - calculated
2/13/2013 10:58	2:04	KWP/II	31.8	19.9	AGC MAVG - calculated
2/13/2013 11:52	0:07	AWE	0.2	18.0	AGC MAVG - calculated
2/13/2013 12:00	0:58	AWE	2.6	21.0	AGC MAVG - calculated
2/13/2013 13:02	3:34	KWP/II	36.0	19.8	AGC MAVG - calculated
2/13/2013 16:43	0:07	KWP/II	0.1	16.1	AGC MAVG - calculated
2/13/2013 16:52	0:10	KWP/II	0.2	16.6	AGC MAVG - calculated
2/13/2013 17:04	0:01	KWP/II	0.0	18.4	AGC MAVG - calculated
2/13/2013 17:06	1:33	KWP/II	15.0	18.8	AGC MAVG - calculated
2/13/2013 18:24	0:02	AWE	0.0	16.8	AGC MAVG - calculated
2/13/2013 18:27	0:04	AWE	0.1	17.5	AGC MAVG - calculated
2/13/2013 18:33	0:02	AWE	0.0	17.2	AGC MAVG - calculated
2/13/2013 18:42	0:49	KWP/II	5.5	19.7	AGC MAVG - calculated
2/13/2013 19:35	0:01	KWP/II	0.0	19.2	AGC MAVG - calculated
2/13/2013 19:42	0:38	KWP/II	1.8	19.5	AGC MAVG - calculated
2/13/2013 20:38	0:35	KWP/II	3.8	20.4	AGC MAVG - calculated and AGC MAVG - entered - maintain regulating reserves
2/13/2013 21:15	2:19	KWP/II	20.1	20.5	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/13/2013 22:58	0:01	AWE	0.0	4.6	AGC MAVG - entered - maintain regulating reserves
2/13/2013 23:29	0:05	AWE	0.0	3.1	AGC MAVG - calculated
2/13/2013 23:35	0:14	AWE	0.1	3.1	AGC MAVG - entered - maintain regulating reserves
2/13/2013 23:35	6:24	KWP/II	113.1	20.6	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/13/2013 23:54	1:32	AWE	1.6	2.0	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/14/2013 0:03	5:08	5A	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/14/2013 0:03	7:11	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/14/2013 0:35	4:34	KWP	55.0	28.9	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/14/2013 2:09	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/14/2013 4:16	0:05	AWE	0.0	0.3	AGC MAVG - calculated
2/14/2013 4:22	0:01	AWE	0.0	0.1	AGC MAVG - calculated
2/14/2013 4:24	0:05	AWE	0.0	0.2	AGC MAVG - calculated
2/14/2013 4:44	1:10	AWE	3.5	8.2	AGC MAVG - calculated
2/14/2013 5:18	0:23	KWP	0.9	28.5	AGC MAVG - calculated
2/14/2013 5:42	0:06	KWP	0.0	28.8	AGC MAVG - calculated
2/14/2013 6:02	1:49	KWP/II	12.1	20.7	AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/14/2013 8:01	0:56	KWP/II	11.8	20.7	AGC MAVG - calculated
2/14/2013 8:43	0:03	AWE	0.0	18.3	AGC MAVG - calculated
2/14/2013 8:48	0:05	AWE	0.1	19.8	AGC MAVG - calculated
2/14/2013 8:59	3:10	KWP/II	49.5	20.7	AGC MAVG - calculated
2/14/2013 9:00	0:01	AWE	0.0	18.7	AGC MAVG - calculated
2/14/2013 10:09	0:18	AWE	0.9	19.7	AGC MAVG - calculated
2/14/2013 10:28	0:31	AWE	0.9	19.9	AGC MAVG - calculated
2/14/2013 11:01	0:17	AWE	0.4	20.0	AGC MAVG - calculated
2/14/2013 11:21	0:01	AWE	0.0	19.5	AGC MAVG - calculated
2/14/2013 11:23	0:02	AWE	0.0	20.7	AGC MAVG - calculated
2/14/2013 11:27	0:37	AWE	1.0	20.0	AGC MAVG - calculated
2/14/2013 12:11	8:35	KWP/II	84.7	20.7	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered
2/14/2013 14:16	0:02	AWE	0.0	21.0	AGC MAVG - entered - maintain regulating reserves
2/14/2013 19:28	0:01	AWE	0.0	18.8	AGC MAVG - calculated
2/14/2013 20:47	10:16	KWP/II	186.5	20.7	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, good engineering and operating practices, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and testing
2/14/2013 22:53	8:02	AWE	87.9	21.0	AGC MAVG - entered - maintain regulating reserves, good engineering and operating practices, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and testing
2/14/2013 23:05	0:05	KWP	0.1	29.5	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/14/2013 23:38	6:20	SA	No data available	No data available	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/14/2013 23:38	7:41	MH	No data available	No data available	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and testing
2/14/2013 23:40	6:14	KWP	95.4	29.5	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/15/2013 6:56	0:01	AWE	0.0	15.0	AGC MAVG - calculated and testing
2/15/2013 7:04	0:30	KWP/II	9.4	20.8	testing and AGC MAVG - calculated
2/15/2013 7:11	0:15	AWE	0.4	18.8	AGC MAVG - calculated and testing
2/15/2013 7:38	0:08	AWE	0.1	17.2	AGC MAVG - calculated and testing
2/15/2013 7:38	0:17	KWP/II	5.0	20.5	testing and AGC MAVG - calculated
2/15/2013 7:54	0:02	AWE	0.0	17.6	AGC MAVG - calculated and testing
2/15/2013 7:55	0:45	KWP/II	11.8	19.2	testing and AGC MAVG - calculated
2/15/2013 7:59	0:03	AWE	0.1	19.1	AGC MAVG - calculated and testing
2/15/2013 8:28	0:03	AWE	0.0	21.0	AGC MAVG - calculated and testing
2/15/2013 8:33	0:01	AWE	0.0	21.0	AGC MAVG - calculated and testing
2/15/2013 8:43	0:25	KWP/II	4.2	19.1	testing and AGC MAVG - calculated
2/15/2013 8:48	0:02	AWE	0.0	18.9	AGC MAVG - calculated and testing
2/15/2013 10:21	20:46	KWP/II	409.9	20.7	AGC MAVG - calculated, testing, good engineering and operating practices, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/15/2013 10:32	20:30	AWE	238.5	21.0	AGC MAVG - calculated, testing, good engineering and operating practices, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/15/2013 23:51	6:04	SA	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/15/2013 23:55	5:54	KWP	72.8	29.5	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/16/2013 5:51	0:01	KWP	0.0	23.6	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/16/2013 7:09	1:29	KWP/II	19.7	20.7	AGC MAVG - calculated
2/16/2013 7:12	0:02	AWE	0.0	21.0	AGC MAVG - calculated
2/16/2013 8:21	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/16/2013 8:24	0:10	AWE	0.3	21.0	AGC MAVG - calculated
2/16/2013 8:40	6:01	KWP/II	99.4	20.7	AGC MAVG - entered, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/16/2013 11:14	0:04	AWE	0.1	21.0	AGC MAVG - entered - maintain regulating reserves
2/16/2013 11:19	3:15	AWE	33.3	21.0	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/16/2013 14:42	0:46	KWP/II	3.4	14.7	AGC MAVG - entered - maintain regulating reserves
2/16/2013 15:43	0:01	KWP/II	0.0	16.2	AGC MAVG - entered - maintain regulating reserves
2/16/2013 19:14	2:46	KWP/II	24.9	20.7	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/16/2013 22:01	0:10	AWE	0.2	18.2	AGC MAVG - calculated
2/16/2013 22:01	9:34	KWP/II	193.0	20.7	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - entered - excess energy
2/16/2013 22:12	0:02	AWE	0.0	18.0	AGC MAVG - entered - maintain regulating reserves
2/16/2013 22:15	0:01	AWE	0.0	17.3	AGC MAVG - entered - maintain regulating reserves
2/16/2013 22:17	0:20	AWE	0.7	20.9	AGC MAVG - entered - maintain regulating reserves
2/16/2013 22:38	0:13	AWE	0.3	18.2	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/16/2013 23:06	8:22	AWE	145.2	21.0	AGC MAVG - calculated and AGC MAVG - entered - excess energy

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/17/2013 1:46	4:37	MH	No data available	No data available	AGC MAVG - entered - excess energy
2/17/2013 1:47	4:36	5A	No data available	No data available	AGC MAVG - entered - excess energy
2/17/2013 1:50	3:37	KWP	27.4	26.6	AGC MAVG - entered - excess energy
2/17/2013 5:30	0:04	KWP	0.3	25.1	AGC MAVG - entered - excess energy
2/17/2013 5:38	0:03	KWP	0.2	23.8	AGC MAVG - entered - excess energy
2/17/2013 5:43	0:12	KWP	0.8	26.6	AGC MAVG - entered - excess energy
2/17/2013 5:57	0:02	KWP	0.2	23.6	AGC MAVG - entered - excess energy
2/17/2013 6:02	0:03	KWP	0.2	25.1	AGC MAVG - entered - excess energy
2/17/2013 6:11	0:02	KWP	0.0	25.1	AGC MAVG - entered - excess energy
2/17/2013 6:17	0:01	KWP	0.0	25.1	AGC MAVG - entered - excess energy
2/17/2013 7:37	0:14	KWP/II	1.3	14.7	AGC MAVG - entered - excess energy
2/17/2013 7:52	0:39	KWP/II	1.1	17.7	AGC MAVG - entered - excess energy
2/17/2013 8:55	1:44	KWP/II	21.6	20.7	AGC MAVG - entered - maintain regulating reserves
2/17/2013 10:12	0:21	AWE	1.1	21.0	AGC MAVG - entered - maintain regulating reserves
2/17/2013 10:40	1:00	KWP/II	18.6	20.7	AGC MAVG - entered - maintain regulating reserves
2/17/2013 11:42	2:06	KWP/II	39.0	20.7	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/17/2013 13:30	0:08	AWE	0.2	18.2	AGC MAVG - entered - maintain regulating reserves
2/17/2013 13:40	0:01	AWE	0.0	20.5	AGC MAVG - entered - maintain regulating reserves
2/17/2013 13:49	1:03	KWP/II	14.8	20.7	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - entered - excess energy
2/17/2013 15:57	0:04	KWP/II	0.1	7.2	AGC MAVG - entered - maintain regulating reserves
2/17/2013 16:51	0:01	KWP/II	0.0	7.2	AGC MAVG - calculated
2/17/2013 17:19	0:03	KWP/II	0.0	8.7	AGC MAVG - calculated
2/17/2013 17:23	0:01	KWP/II	0.0	8.7	AGC MAVG - calculated
2/17/2013 17:25	0:02	KWP/II	0.0	8.7	AGC MAVG - calculated
2/17/2013 20:24	1:35	KWP/II	26.9	20.7	AGC MAVG - entered - maintain regulating reserves
2/17/2013 20:54	1:01	AWE	5.1	21.0	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/17/2013 22:01	1:25	KWP/II	28.9	20.7	AGC MAVG - calculated
2/17/2013 22:11	1:15	AWE	7.0	21.0	AGC MAVG - calculated
2/17/2013 23:29	8:22	AWE	148.0	21.0	AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - entered - maintain regulating reserves
2/18/2013 0:19	0:03	KWP	0.1	22.2	AGC MAVG - calculated and AGC MAVG - entered - excess energy
2/18/2013 0:31	5:26	MH	No data available	No data available	AGC MAVG - entered - excess energy
2/18/2013 0:32	5:25	5A	No data available	No data available	AGC MAVG - entered - excess energy
2/18/2013 0:35	0:14	KWP	0.7	23.6	AGC MAVG - entered - excess energy
2/18/2013 0:54	0:02	KWP	0.0	18.2	AGC MAVG - entered - excess energy
2/18/2013 1:03	0:02	KWP	0.0	18.2	AGC MAVG - entered - excess energy
2/18/2013 1:07	0:06	KWP	0.2	19.2	AGC MAVG - entered - excess energy
2/18/2013 1:18	0:26	KWP	1.3	19.2	AGC MAVG - entered - excess energy
2/18/2013 1:53	0:37	KWP	2.2	17.7	AGC MAVG - entered - excess energy
2/18/2013 2:38	2:51	KWP	30.5	25.1	AGC MAVG - entered - excess energy
2/18/2013 5:34	0:03	KWP	0.0	19.2	AGC MAVG - entered - excess energy
2/18/2013 5:38	0:04	KWP	0.0	19.2	AGC MAVG - entered - excess energy
2/18/2013 5:43	0:02	KWP	0.0	19.2	AGC MAVG - entered - excess energy
2/18/2013 8:02	0:04	AWE	0.1	18.9	AGC MAVG - entered - maintain regulating reserves
2/18/2013 8:10	0:01	AWE	0.0	17.1	AGC MAVG - entered - maintain regulating reserves
2/18/2013 8:12	0:47	AWE	1.9	21.0	AGC MAVG - entered - maintain regulating reserves
2/18/2013 10:44	1:55	AWE	10.5	20.9	AGC MAVG - entered - maintain regulating reserves
2/18/2013 12:42	0:03	AWE	0.3	20.0	AGC MAVG - entered - maintain regulating reserves
2/18/2013 12:47	0:01	AWE	0.0	12.1	AGC MAVG - entered - maintain regulating reserves
2/18/2013 13:53	0:22	KWP/II	1.7	20.7	AGC MAVG - entered - maintain regulating reserves
2/18/2013 14:20	0:01	KWP/II	0.0	19.2	AGC MAVG - calculated
2/18/2013 14:58	3:56	KWP/II	51.0	20.7	AGC MAVG - entered - maintain regulating reserves
2/18/2013 20:26	2:37	KWP/II	14.7	16.2	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/18/2013 22:35	0:11	AWE	0.3	17.9	AGC MAVG - calculated
2/18/2013 22:47	0:08	AWE	0.1	18.2	AGC MAVG - calculated
2/18/2013 22:57	0:01	AWE	0.0	17.9	AGC MAVG - calculated
2/18/2013 23:05	20:24	KWP/II	393.6	20.7	AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, testing, AGC MAVG - calculated, good engineering and operating practices, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/18/2013 23:09	0:19	AWE	1.1	18.1	AGC MAVG - calculated
2/18/2013 23:29	15:31	AWE	151.4	21.0	AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, testing, and good engineering and operating practices
2/19/2013 0:15	5:38	MH	No data available	No data available	AGC MAVG - entered - excess energy

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/19/2013 0:16	5:41	5A	No data available	No data available	AGC MAVG - entered - excess energy
2/19/2013 0:21	5:28	KWP	76.3	28.1	AGC MAVG - entered - excess energy
2/19/2013 5:50	0:01	KWP	0.0	28.1	AGC MAVG - entered - excess energy
2/19/2013 15:02	0:02	AWE	0.0	21.0	AGC MAVG - calculated and AGC MAVG - entered
2/19/2013 19:18	0:01	AWE	0.0	20.8	AGC MAVG - calculated
2/19/2013 19:25	0:04	AWE	0.1	21.0	AGC MAVG - calculated
2/19/2013 19:30	2:23	AWE	17.2	21.0	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/19/2013 19:30	19:14	KWP	386.9	20.7	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, testing, AGC MAVG - entered - maintain regulating reserves, good engineering and operating practices, and AGC MAVG - calculated
2/19/2013 21:55	3:27	AWE	42.9	21.0	AGC MAVG - calculated and AGC MAVG - entered - excess energy
2/20/2013 1:23	13:21	AWE	199.5	21.0	regulating reserves, testing, good engineering and operating practices, and AGC MAVG - calculated
2/20/2013 1:26	2:40	5A	No data available	No data available	AGC MAVG - entered - excess energy
2/20/2013 1:29	6:16	MH	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, testing, and good engineering and operating practices
2/20/2013 1:34	0:12	KWP	0.2	28.1	AGC MAVG - entered - excess energy
2/20/2013 2:24	1:11	KWP	0.8	28.6	AGC MAVG - entered - excess energy
2/20/2013 14:47	0:01	KWP	0.3	20.7	AGC MAVG - calculated
2/20/2013 14:47	0:01	AWE	0.2	21.0	AGC MAVG - calculated
2/20/2013 14:56	0:53	KWP	18.3	20.7	AGC MAVG - calculated
2/20/2013 14:56	0:53	AWE	6.0	21.0	AGC MAVG - calculated
2/20/2013 15:50	0:11	AWE	0.8	21.0	AGC MAVG - calculated
2/20/2013 15:50	0:15	KWP	4.7	20.7	AGC MAVG - calculated
2/20/2013 18:05	0:03	AWE	0.1	21.0	AGC MAVG - calculated and AGC MAVG - entered
2/20/2013 18:07	0:44	KWP	11.1	20.7	AGC MAVG - entered and AGC MAVG - calculated
2/20/2013 18:26	0:02	AWE	0.1	21.0	AGC MAVG - calculated and AGC MAVG - entered
2/20/2013 18:52	1:58	KWP	19.4	20.7	AGC MAVG - entered - maintain regulating reserves and testing
2/20/2013 18:51	0:19	KWP	1.8	20.7	AGC MAVG - calculated
2/20/2013 19:11	0:41	KWP	4.0	20.7	AGC MAVG - entered and AGC MAVG - entered - maintain regulating reserves
2/20/2013 19:53	0:59	KWP	8.8	20.7	AGC MAVG - entered - maintain regulating reserves
2/20/2013 20:53	2:00	KWP	20.4	20.7	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/20/2013 22:54	0:29	KWP	8.5	20.7	AGC MAVG - calculated
2/20/2013 23:07	0:01	AWE	0.0	6.6	AGC MAVG - calculated
2/20/2013 23:10	0:07	AWE	0.1	10.6	AGC MAVG - calculated
2/20/2013 23:25	0:13	KWP	4.0	19.2	AGC MAVG - calculated and AGC MAVG - entered - excess energy
2/20/2013 23:30	0:08	AWE	0.1	6.6	AGC MAVG - calculated and AGC MAVG - entered - excess energy
2/20/2013 23:39	0:13	KWP	4.4	20.7	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered - excess energy
2/20/2013 23:39	0:13	AWE	0.7	13.7	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered - excess energy
2/20/2013 23:51	0:01	KWP	0.0	25.1	AGC MAVG - entered - excess energy and operating conditions on Company's system
2/20/2013 23:53	0:05	KWP	0.2	25.1	AGC MAVG - entered - excess energy and operating conditions on Company's system
2/20/2013 23:53	1:01	KWP	21.0	20.7	AGC MAVG - entered - excess energy
2/20/2013 23:53	1:01	AWE	14.7	21.0	AGC MAVG - entered - excess energy
2/21/2013 0:01	5:59	5A	No data available	No data available	AGC MAVG - entered - excess energy
2/21/2013 0:03	5:57	MH	No data available	No data available	AGC MAVG - entered - excess energy
2/21/2013 0:06	0:48	KWP	3.9	25.1	AGC MAVG - entered - excess energy
2/21/2013 0:55	0:58	KWP	19.5	20.7	AGC MAVG - entered - excess energy
2/21/2013 0:55	0:58	AWE	14.3	18.8	AGC MAVG - entered - excess energy
2/21/2013 0:55	0:58	KWP	10.4	25.1	AGC MAVG - entered - excess energy
2/21/2013 1:55	1:59	KWP	40.0	20.7	AGC MAVG - entered - excess energy
2/21/2013 1:55	1:59	AWE	33.4	20.4	AGC MAVG - entered - excess energy
2/21/2013 1:55	1:59	KWP	28.6	25.1	AGC MAVG - entered - excess energy
2/21/2013 3:55	1:00	KWP	19.9	20.7	AGC MAVG - entered - excess energy
2/21/2013 3:55	1:00	AWE	8.6	18.1	AGC MAVG - entered - excess energy
2/21/2013 3:55	1:00	KWP	13.0	25.1	AGC MAVG - entered - excess energy
2/21/2013 4:56	0:09	AWE	2.3	18.9	AGC MAVG - entered - excess energy
2/21/2013 4:56	0:52	KWP	5.2	28.6	AGC MAVG - entered - excess energy
2/21/2013 4:56	1:00	KWP	20.5	20.7	AGC MAVG - entered - excess energy
2/21/2013 5:13	0:43	AWE	12.1	21.0	AGC MAVG - entered - excess energy
2/21/2013 5:57	0:58	KWP	18.8	20.7	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and testing
2/21/2013 5:57	0:58	AWE	7.8	21.0	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
2/21/2013 6:58	0:09	AWE	0.1	21.0	AGC MAVG - calculated and good engineering and operating practices
2/21/2013 6:58	0:17	KWP/II	5.8	20.7	AGC MAVG - calculated
2/21/2013 7:15	0:42	KWP/II	12.1	20.7	AGC MAVG - calculated
2/21/2013 7:58	0:58	KWP/II	13.9	20.7	AGC MAVG - calculated and testing
2/21/2013 8:57	1:01	KWP/II	12.9	20.7	AGC MAVG - calculated and testing
2/21/2013 9:59	0:59	KWP/II	17.0	20.7	AGC MAVG - calculated and testing
2/21/2013 10:59	2:00	KWP/II	40.1	20.7	AGC MAVG - calculated
2/21/2013 11:38	1:21	AWE	4.2	21.0	AGC MAVG - calculated
2/21/2013 13:00	0:08	AWE	0.2	21.0	AGC MAVG - calculated
2/21/2013 13:00	0:28	KWP/II	8.5	20.7	AGC MAVG - calculated
2/21/2013 13:14	0:04	AWE	0.1	21.0	AGC MAVG - calculated
2/21/2013 13:28	0:32	KWP/II	9.7	20.7	AGC MAVG - calculated
2/21/2013 14:01	0:58	KWP/II	16.5	20.7	AGC MAVG - calculated
2/21/2013 15:00	0:59	KWP/II	15.1	20.7	AGC MAVG - calculated
2/21/2013 16:00	0:01	KWP/II	0.2	20.7	AGC MAVG - calculated
2/21/2013 16:02	1:58	KWP/II	16.3	20.7	AGC MAVG - calculated
2/21/2013 18:01	0:43	KWP/II	3.2	20.7	AGC MAVG - calculated
2/21/2013 18:45	0:01	KWP/II	0.0	20.7	AGC MAVG - calculated
2/21/2013 18:47	0:15	KWP/II	0.7	20.7	AGC MAVG - calculated
2/21/2013 19:03	0:58	KWP/II	11.8	20.7	AGC MAVG - calculated
2/21/2013 20:02	1:00	KWP/II	14.3	20.7	AGC MAVG - calculated and good engineering and operating practices
2/21/2013 21:03	1:00	KWP/II	13.7	20.7	AGC MAVG - calculated
2/21/2013 22:04	0:58	KWP/II	18.5	20.7	AGC MAVG - calculated
2/21/2013 22:28	0:38	AWE	3.0	21.0	AGC MAVG - calculated
2/21/2013 23:03	2:00	KWP/II	41.4	20.7	AGC MAVG - entered - excess energy
2/21/2013 23:03	2:00	AWE	34.0	20.9	AGC MAVG - entered - excess energy
2/21/2013 23:46	4:08	SA	No data available	No data available	AGC MAVG - entered - excess energy
2/21/2013 23:50	1:13	KWP	9.8	28.1	AGC MAVG - entered - excess energy
2/22/2013 1:04	0:01	KWP/II	0.3	20.7	AGC MAVG - entered - excess energy
2/22/2013 1:04	0:01	AWE	0.3	19.2	AGC MAVG - entered - excess energy
2/22/2013 1:04	0:01	KWP	0.2	28.1	AGC MAVG - entered - excess energy
2/22/2013 1:06	0:59	KWP/II	20.3	20.7	AGC MAVG - entered - excess energy
2/22/2013 1:06	0:59	AWE	18.8	20.7	AGC MAVG - entered - excess energy
2/22/2013 1:06	0:59	KWP	11.6	28.1	AGC MAVG - entered - excess energy
2/22/2013 2:06	0:58	KWP/II	20.0	20.7	AGC MAVG - entered - excess energy
2/22/2013 2:06	0:58	AWE	19.2	20.9	AGC MAVG - entered - excess energy
2/22/2013 2:06	0:58	KWP	4.4	28.1	AGC MAVG - entered - excess energy
2/22/2013 3:05	0:48	KWP	1.3	28.1	AGC MAVG - entered - excess energy
2/22/2013 3:05	2:00	KWP/II	41.3	20.7	AGC MAVG - entered - excess energy
2/22/2013 3:05	2:00	AWE	36.4	20.9	AGC MAVG - entered - excess energy
2/22/2013 5:09	0:01	KWP/II	0.3	20.7	AGC MAVG - entered - excess energy
2/22/2013 5:09	0:01	AWE	0.2	20.6	AGC MAVG - entered - excess energy
2/22/2013 5:14	0:27	AWE	3.2	20.9	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/22/2013 5:14	0:52	KWP/II	15.9	20.7	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/22/2013 6:08	0:01	KWP/II	0.3	20.7	AGC MAVG - calculated
2/22/2013 6:13	0:53	KWP/II	11.7	20.7	AGC MAVG - calculated
2/22/2013 7:11	0:01	KWP/II	0.2	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 7:14	0:53	KWP/II	14.3	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 8:11	0:01	KWP/II	0.2	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 8:15	0:52	KWP/II	9.8	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 9:11	0:01	KWP/II	0.3	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 9:15	0:53	KWP/II	13.4	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 10:11	0:01	KWP/II	0.2	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 10:15	0:53	KWP/II	13.9	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 11:12	1:05	KWP/II	14.0	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 12:18	1:22	KWP/II	18.7	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 13:09	0:24	AWE	0.4	21.0	AGC MAVG - calculated
2/22/2013 13:34	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/22/2013 13:42	0:31	KWP/II	10.1	20.7	AGC MAVG - calculated and good engineering and operating practices
2/22/2013 13:43	0:15	AWE	0.2	21.0	AGC MAVG - calculated
2/22/2013 13:59	0:03	AWE	0.1	21.0	AGC MAVG - calculated
2/22/2013 14:03	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/22/2013 14:05	0:01	AWE	0.0	21.0	AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/22/2013 14:07	0:01	AWE	0.0	20.9	AGC MAVG - calculated
2/22/2013 14:15	0:36	KWP/II	11.9	20.7	AGC MAVG - calculated, good engineering and operating practices, and testing
2/22/2013 14:21	0:01	AWE	0.0	20.9	AGC MAVG - calculated
2/22/2013 14:24	0:11	AWE	0.2	21.0	AGC MAVG - calculated
2/22/2013 14:36	0:04	AWE	0.1	21.0	AGC MAVG - calculated
2/22/2013 14:53	20:15	KWP/II	360.8	20.7	AGC MAVG - calculated, good engineering and operating practices, AGC MAVG - entered, AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/22/2013 14:57	0:06	AWE	0.1	21.0	AGC MAVG - calculated
2/22/2013 22:34	9:37	AWE	153.4	21.0	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/22/2013 23:46	6:32	SA	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/22/2013 23:48	6:30	MH	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/22/2013 23:52	6:14	KWP	75.2	26.1	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/23/2013 8:13	0:02	AWE	0.0	18.1	AGC MAVG - calculated
2/23/2013 8:16	0:02	AWE	0.0	19.4	AGC MAVG - calculated
2/23/2013 8:27	0:05	AWE	0.0	20.9	AGC MAVG - calculated
2/23/2013 8:33	0:05	AWE	0.1	20.8	AGC MAVG - calculated
2/23/2013 8:39	0:17	AWE	0.3	21.0	AGC MAVG - calculated
2/23/2013 9:00	0:06	AWE	0.0	20.9	AGC MAVG - calculated
2/23/2013 9:10	0:04	AWE	0.0	20.9	AGC MAVG - calculated
2/23/2013 9:20	1:48	AWE	6.1	21.0	AGC MAVG - calculated
2/23/2013 11:09	0:06	KWP/II	1.8	19.3	AGC MAVG - calculated
2/23/2013 11:17	5:50	KWP/II	113.4	20.7	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/23/2013 12:19	3:46	AWE	23.2	21.0	AGC MAVG - entered - maintain regulating reserves and AGC MAVG - calculated
2/23/2013 18:25	0:24	AWE	0.7	21.0	AGC MAVG - calculated
2/23/2013 16:50	0:01	AWE	0.0	20.8	AGC MAVG - calculated
2/23/2013 16:56	0:02	AWE	0.0	21.0	AGC MAVG - calculated
2/23/2013 17:09	3:02	KWP/II	48.8	20.7	AGC MAVG - calculated
2/23/2013 19:31	0:03	AWE	0.0	21.0	AGC MAVG - calculated
2/23/2013 19:35	0:01	AWE	0.0	20.8	AGC MAVG - calculated
2/23/2013 19:37	0:01	AWE	0.0	20.8	AGC MAVG - calculated
2/23/2013 20:02	0:01	AWE	0.0	20.9	AGC MAVG - calculated
2/23/2013 20:04	0:02	AWE	0.0	21.0	AGC MAVG - calculated
2/23/2013 20:12	0:28	KWP/II	8.0	20.7	AGC MAVG - calculated
2/23/2013 20:27	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/23/2013 20:29	0:02	AWE	0.0	20.9	AGC MAVG - calculated
2/23/2013 20:40	9:52	KWP/II	196.0	20.7	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/23/2013 22:29	6:28	AWE	75.5	21.0	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/23/2013 23:42	6:51	SA	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/23/2013 23:43	6:50	MH	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/23/2013 23:51	6:41	KWP	89.3	29.5	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/24/2013 5:02	0:01	AWE	0.0	0.2	AGC MAVG - calculated
2/24/2013 5:04	1:28	AWE	2.6	11.7	AGC MAVG - calculated
2/24/2013 6:33	1:14	AWE	6.6	19.4	AGC MAVG - calculated
2/24/2013 6:33	1:26	KWP/II	29.4	20.7	AGC MAVG - calculated
2/24/2013 7:50	0:03	AWE	0.0	14.2	AGC MAVG - calculated
2/24/2013 8:01	7:57	KWP/II	144.5	19.2	AGC MAVG - calculated
2/24/2013 9:00	0:06	AWE	0.1	21.0	AGC MAVG - calculated
2/24/2013 9:31	0:40	AWE	0.9	21.0	AGC MAVG - calculated
2/24/2013 10:12	0:07	AWE	0.1	21.0	AGC MAVG - calculated
2/24/2013 10:20	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/24/2013 10:22	0:05	AWE	0.1	20.8	AGC MAVG - calculated
2/24/2013 10:28	0:01	AWE	0.0	20.8	AGC MAVG - calculated
2/24/2013 10:33	5:10	AWE	28.3	21.0	AGC MAVG - calculated
2/24/2013 15:44	0:01	AWE	0.0	20.7	AGC MAVG - calculated
2/24/2013 15:48	0:01	AWE	0.0	20.8	AGC MAVG - calculated
2/24/2013 16:00	3:21	KWP/II	35.4	19.2	AGC MAVG - calculated
2/24/2013 19:52	0:19	KWP/II	1.3	19.2	AGC MAVG - calculated

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWh	Peak MW curtailed	Reason for Curtailment
2/24/2013 22:05	3:31	KWP/II	51.4	19.2	AGC MAVG - calculated, good engineering and operating practices, AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/24/2013 23:28	1:54	AWE	2.2	3.6	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/24/2013 23:28	5:50	5A	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and testing
2/24/2013 23:31	5:47	MH	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and testing
2/24/2013 23:35	1:44	KWP	10.8	29.5	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/25/2013 1:20	3:08	KWP	9.3	29.5	AGC MAVG - calculated and AGC MAVG - entered - excess energy
2/25/2013 1:23	0:04	AWE	0.0	0.8	AGC MAVG - calculated
2/25/2013 1:37	4:32	KWP/II	86.0	19.2	AGC MAVG - entered - excess energy, AGC MAVG - entered - maintain regulating reserves, and testing
2/25/2013 1:54	0:02	AWE	0.0	0.5	AGC MAVG - calculated
2/25/2013 1:59	0:08	AWE	0.0	0.8	AGC MAVG - entered - excess energy
2/25/2013 2:08	0:02	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/25/2013 2:09	0:01	AWE	0.0	0.3	AGC MAVG - entered - excess energy
2/25/2013 2:14	0:06	AWE	0.0	0.5	AGC MAVG - entered - excess energy
2/25/2013 2:23	0:03	AWE	0.0	0.4	AGC MAVG - entered - excess energy
2/25/2013 2:40	0:10	AWE	0.1	0.8	AGC MAVG - entered - excess energy
2/25/2013 2:51	0:03	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/25/2013 2:59	0:01	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/25/2013 3:25	0:01	AWE	0.0	0.1	AGC MAVG - entered - excess energy
2/25/2013 3:27	0:02	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/25/2013 3:32	0:05	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/25/2013 3:41	0:22	AWE	0.3	1.3	AGC MAVG - entered - excess energy
2/25/2013 4:09	0:03	AWE	0.0	0.3	AGC MAVG - entered - excess energy
2/25/2013 4:14	0:13	AWE	0.1	0.7	AGC MAVG - entered - excess energy
2/25/2013 4:30	0:01	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/25/2013 4:39	0:01	AWE	0.0	0.2	AGC MAVG - entered - excess energy
2/25/2013 4:42	0:11	AWE	0.1	0.7	AGC MAVG - entered - excess energy
2/25/2013 4:55	0:13	AWE	0.1	0.5	AGC MAVG - entered - excess energy and AGC MAVG - entered - maintain regulating reserves
2/25/2013 5:09	0:07	KWP	0.1	29.5	AGC MAVG - entered - maintain regulating reserves and testing
2/25/2013 6:11	1:39	KWP/II	22.9	19.2	AGC MAVG - entered - maintain regulating reserves, testing, good engineering and operating practices, and AGC MAVG - calculated
2/25/2013 7:38	0:09	AWE	0.1	15.8	AGC MAVG - calculated, testing, and good engineering and operating practices
2/25/2013 7:52	21:19	KWP/II	396.5	20.7	AGC MAVG - calculated, AGC MAVG - entered - testing, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - testing, AGC MAVG - calculated, testing, AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - AGC MAVG - entered - excess energy, AGC MAVG - calculated, good engineering and operating practices, and AGC MAVG - calculated
2/25/2013 7:53	0:01	AWE	0.0	12.7	AGC MAVG - calculated, testing, and good engineering and operating practices
2/25/2013 7:55	0:19	AWE	0.5	17.5	AGC MAVG - calculated, testing, and good engineering and operating practices
2/25/2013 8:18	9:47	AWE	123.1	20.9	AGC MAVG - calculated, testing, good engineering and operating practices, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/25/2013 18:06	0:08	AWE	0.2	16.7	AGC MAVG - calculated
2/25/2013 18:23	0:01	AWE	0.0	17.9	AGC MAVG - calculated
2/25/2013 23:13	0:08	AWE	0.1	8.1	AGC MAVG - entered - excess energy
2/25/2013 23:24	0:10	AWE	0.2	6.8	AGC MAVG - entered - excess energy
2/25/2013 23:36	4:51	AWE	51.9	20.2	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/25/2013 23:37	6:07	5A	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, good engineering and operating practices, and AGC MAVG - entered
2/25/2013 23:39	6:03	MH	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, good engineering and operating practices, and AGC MAVG - entered
2/25/2013 23:47	5:24	KWP	67.7	28.1	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered - excess energy, AGC MAVG - calculated, good engineering and operating practices, and AGC MAVG - entered
2/26/2013 4:28	0:43	AWE	7.0	16.0	AGC MAVG - calculated
2/26/2013 5:12	0:28	KWP	1.8	28.1	AGC MAVG - entered
2/26/2013 5:12	1:30	AWE	12.3	20.0	AGC MAVG - calculated and AGC MAVG - entered
2/26/2013 5:12	9:54	KWP/II	182.6	20.7	AGC MAVG - calculated, AGC MAVG - entered, and AGC MAVG - entered - maintain regulating reserves
2/26/2013 14:13	0:41	AWE	1.3	21.0	AGC MAVG - entered - maintain regulating reserves
2/26/2013 15:08	3:45	KWP/II	54.3	20.7	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and testing
2/26/2013 18:27	0:17	AWE	0.4	20.0	AGC MAVG - calculated and testing

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Start Date and Time	Duration	IPP Curtailed	Estimated Curtailed MWH	Peak MW curtailed	Reason for Curtailment
2/26/2013 18:47	0:02	AWE	0.0	18.8	AGC MAVG - calculated and testing
2/26/2013 18:55	13:26	KWP/II	258.4	20.7	AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, testing, and AGC MAVG - calculated
2/26/2013 22:31	6:36	AWE	111.5	20.9	AGC MAVG - entered - excess energy, AGC MAVG - calculated and AGC MAVG - entered
2/26/2013 23:36	6:11	SA	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/26/2013 23:38	6:05	MH	No data available	No data available	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/26/2013 23:43	5:56	KWP	69.5	26.6	AGC MAVG - entered - excess energy, AGC MAVG - calculated, and AGC MAVG - entered
2/27/2013 5:08	1:53	AWE	21.5	21.0	AGC MAVG - entered, AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, and testing
2/27/2013 7:02	1:19	AWE	11.2	20.9	AGC MAVG - entered - maintain regulating reserves, testing, and AGC MAVG - calculated
2/27/2013 8:47	2:15	AWE	16.2	20.9	AGC MAVG - calculated, testing, AGC MAVG - entered - maintain regulating reserves, and AGC MAVG - calculated
2/27/2013 8:47	8:58	KWP/II	178.1	20.7	AGC MAVG - calculated, testing, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - calculated, and AGC MAVG - entered - maintain regulating reserves
2/27/2013 11:03	1:11	AWE	8.2	20.9	AGC MAVG - calculated and testing
2/27/2013 12:15	0:39	AWE	1.0	18.1	AGC MAVG - calculated and testing
2/27/2013 13:12	4:29	AWE	32.8	21.0	AGC MAVG - entered - maintain regulating reserves, testing, and AGC MAVG - calculated
2/27/2013 17:47	2:12	KWP/II	35.5	20.7	AGC MAVG - calculated
2/27/2013 19:23	0:02	AWE	0.0	21.0	AGC MAVG - calculated
2/27/2013 19:28	0:25	AWE	0.9	21.0	AGC MAVG - calculated
2/27/2013 19:54	0:01	AWE	0.0	20.8	AGC MAVG - calculated
2/27/2013 20:01	11:53	KWP/II	223.8	20.7	AGC MAVG - calculated, AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/27/2013 22:28	8:13	AWE	147.7	21.0	AGC MAVG - entered - maintain regulating reserves, AGC MAVG - entered - excess energy, AGC MAVG - calculated, AGC MAVG - entered, and AGC MAVG - calculated
2/27/2013 23:37	6:08	SA	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - entered
2/27/2013 23:39	6:04	MH	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - entered
2/27/2013 23:42	6:00	KWP	64.8	28.1	AGC MAVG - entered - excess energy and AGC MAVG - entered
2/28/2013 6:42	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/28/2013 7:32	0:03	AWE	0.0	21.0	AGC MAVG - calculated
2/28/2013 7:38	0:09	AWE	0.1	21.0	AGC MAVG - calculated
2/28/2013 7:55	7:18	KWP/II	128.6	20.7	AGC MAVG - calculated
2/28/2013 10:58	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/28/2013 11:00	0:09	AWE	0.1	21.0	AGC MAVG - calculated
2/28/2013 11:10	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/28/2013 11:16	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/28/2013 11:18	3:44	AWE	17.3	21.0	AGC MAVG - calculated
2/28/2013 15:03	0:01	AWE	0.0	21.0	AGC MAVG - calculated
2/28/2013 15:16	4:27	KWP/II	56.2	19.2	AGC MAVG - calculated and good engineering and operating practices
2/28/2013 15:33	0:01	AWE	0.0	21.0	AGC MAVG - calculated and good engineering and operating practices
2/28/2013 19:44	0:01	KWP/II	0.0	19.2	AGC MAVG - calculated
2/28/2013 19:47	0:36	KWP/II	2.4	19.2	AGC MAVG - calculated
2/28/2013 21:42	0:36	KWP/II	0.7	19.2	AGC MAVG - entered - maintain regulating reserves, good engineering and operating practices, and AGC MAVG - calculated
2/28/2013 22:29	1:31	KWP/II	18.8	19.2	AGC MAVG - entered - AGC MAVG - entered - excess energy, and AGC MAVG - calculated
2/28/2013 23:17	0:05	AWE	0.0	0.8	AGC MAVG - entered - excess energy
2/28/2013 23:36	0:25	SA	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - calculated
2/28/2013 23:37	0:24	MH	No data available	No data available	AGC MAVG - entered - excess energy and AGC MAVG - calculated

Notes:

- Curtailment for KWP, Auwahi, 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 Makūa Hydro facility to Net Zero Protocol and uncurtailment of the Makūa Hydro facility without opening and closing the MECO and Makūa Hydro interconnection circuit breaker. The SCADA control upgrade decreased the durations of the Makūa Hydro curtailment events beginning from 2/17/13.
- Estimated Curtailed MW and Peak MW Curtailed data is not provided by the IPPs for Makūa Hydro, or AAAAA Rent-A-Space Maui LTD.



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Start Date/Time	End Date/Time	Curtailment Event Duration	IPP Curtailed	MWH Curtailed	Peak MW Curtailed	Reason for Curtailment
2/20/13 9:00	2/20/13 9:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 10:01	2/20/13 10:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 11:02	2/20/13 11:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 12:00	2/20/13 12:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 13:00	2/20/13 13:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 14:01	2/20/13 14:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 15:01	2/20/13 15:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 16:01	2/20/13 16:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/20/13 17:01	2/20/13 17:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 9:02	2/21/13 9:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 10:02	2/21/13 10:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 11:02	2/21/13 11:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 12:00	2/21/13 12:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 13:00	2/21/13 13:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 14:01	2/21/13 14:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 15:01	2/21/13 15:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 16:01	2/21/13 16:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/21/13 17:00	2/21/13 17:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 9:02	2/22/13 9:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 10:01	2/22/13 10:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 11:01	2/22/13 11:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 12:02	2/22/13 12:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 13:00	2/22/13 13:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 14:00	2/22/13 14:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 15:01	2/22/13 15:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 16:00	2/22/13 16:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/22/13 17:02	2/22/13 17:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 9:01	2/23/13 9:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 10:00	2/23/13 10:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 11:00	2/23/13 11:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 12:02	2/23/13 12:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 13:00	2/23/13 13:15	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 14:02	2/23/13 14:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 15:02	2/23/13 15:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 16:01	2/23/13 16:17	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/23/13 17:02	2/23/13 17:14	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 9:00	2/24/13 9:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 10:01	2/24/13 10:16	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 11:01	2/24/13 11:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 12:00	2/24/13 12:14	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 13:00	2/24/13 13:16	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 14:02	2/24/13 14:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 15:02	2/24/13 15:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 16:02	2/24/13 16:17	0:15	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/24/13 17:02	2/24/13 17:18	0:16	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 9:01	2/25/13 9:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 10:02	2/25/13 10:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 11:00	2/25/13 11:13	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 12:01	2/25/13 12:15	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 13:00	2/25/13 13:12	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 14:02	2/25/13 14:16	0:14	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 15:01	2/25/13 15:14	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 16:02	2/25/13 16:15	0:13	LSR-La Ola PV	No data	No data	Ramp rate mitigation
2/25/13 17:01	2/25/13 17:13	0:12	LSR-La Ola PV	No data	No data	Ramp rate mitigation

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

HELCO Curtailment Report February 2013				
Start Date/Time	MW output prior to start of curtailment	End Date/Time	MW output after curtailment released	Reason for Curtailment
02/02/13 00:30	19.8 MW	02/02/13 05:32	19.7 MW	Tawhiri Group B curtailed for excess energy.
02/08/13 02:20	18.1 MW	02/08/13 04:25	17.4 MW	Tawhiri Group B curtailed for excess energy.
02/09/13 00:44	18.1 MW	02/09/13 04:54	15.4 MW	Tawhiri Group B curtailed for excess energy.
02/10/13 00:06	19.8 MW	02/10/13 05:30	17.5 MW	Tawhiri Group B curtailed for excess energy.
02/11/13 00:07	19.8 MW	02/11/13 05:25	9.8 MW	Tawhiri Group B curtailed for excess energy.
02/13/13 07:29	15.5 MW	02/13/13 07:29	15.5 MW	Tawhiri curtailed - test purposes
02/16/13 17:47	19.0 MW	02/17/13 07:11	17.6 MW	Tawhiri - High wind curtailment at Tawhiri request.
02/18/13 00:41	19.8 MW	02/18/13 04:27	19.7 MW	Tawhiri Group B curtailed for excess energy.
02/18/13 07:03	19.8 MW	02/18/13 18:54	18.2 MW	Tawhiri - High wind curtailment at Tawhiri request.
02/19/13 01:11	19.8 MW	02/19/13 04:12	19.7 MW	Tawhiri Group B curtailed for excess energy.
02/20/13 00:21	18.6 MW	02/20/13 05:03	18.1 MW	Tawhiri Group B curtailed for excess energy.
02/21/13 00:59	18.4 MW	02/21/13 04:37	16.7 MW	Tawhiri Group B curtailed for excess energy.
02/22/13 00:30	18.6 MW	02/22/13 04:58	18.6 MW	Tawhiri Group B curtailed for excess energy.
02/22/13 11:07	18.6 MW	02/22/13 14:26	18.6 MW	Tawhiri - High wind curtailment at Tawhiri request.
02/23/13 00:32	18.5 MW	02/23/13 05:38	18.5 MW	Tawhiri Group B curtailed for excess energy.
02/23/13 09:13	18.6 MW	02/23/13 14:05	15.9 MW	Tawhiri - High wind curtailment at Tawhiri request.
02/24/13 00:19	18.2 MW	02/24/13 05:59	16.3 MW	Tawhiri Group B curtailed for excess energy.
02/25/13 00:40	12.8 MW	02/25/13 04:16	2.8 MW	Tawhiri Group B curtailed for excess energy.
02/26/13 00:02	18.6 MW	02/26/13 05:03	14.6 MW	Tawhiri Group B curtailed for excess energy.
02/27/13 00:02	18.2 MW	02/27/13 04:57	15.8 MW	Tawhiri Group B curtailed for excess energy.
02/28/13 00:08	18.8 MW	02/28/13 05:06	16.6 MW	Tawhiri Group B curtailed for excess energy.