



# Kaua'i Island Utility Cooperative

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**PUBLIC UTILITIES  
COMMISSION**

March 20, 2015

The Honorable Chairman and Members of the  
Hawaii Public Utilities Commission  
Kekuanaoa Building, First Floor  
465 South King Street  
Honolulu, HI 96813

Subject: KIUC 2014 Annual Service Reliability Report

Dear Mr. Iwase:

Attached for the Commission's information is a copy of KIUC's 2014 Annual Service Reliability Report. If you have any questions regarding the attached report please contact Tim Blume at (808) 246-8274.

Very truly yours,

*CV*  
Michael V. Yamane, P.E.  
Chief of Operations

Enclosures

cc: Consumer Advocate  
Tom Lovas



**ANNUAL SERVICE RELIABILITY REPORT**

**2014**

Prepared  
March 16, 2015

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## INTRODUCTION

This is the 2014 Annual Service Reliability Report ("Report") of the Kaua'i Island Utility Cooperative ("KIUC"). The Report contains a five-year history of standard industry reliability indices in order to depict the quality of electrical service provided to the cooperative consumer/member. These reliability indices are calculated using the data from all sustained (i.e. one minute or longer) system interruptions.

If data normalization is required, it is done using the guidelines specified in the report entitled, "Methodology for Determining Reliability Indices for HECO Utilities," dated December 1990. That report indicates that normalization is allowed for "abnormal" situations such as hurricane, tsunami, earthquake, flood, catastrophic equipment failure, and single outages that cascade into a loss of load greater than 10% of the system peak. Such normalizations are made because good engineering design – while accounting for safety, reliability, utility industry standards, and economics – cannot and should not always account for catastrophic events.

The Report also contains a detailed breakdown of interruption causes, which is used to determine steps to be taken to prevent recurrence of such interruptions.

## DEFINITION OF TERMS

### CUSTOMER INTERRUPTION

One interruption of one customer. Interruptions to customers at their request (e.g. customer maintenance) are not considered.

### INTERRUPTION

The loss of service to one or more consumers and is a result of one or more component outages.

### INTERRUPTION DURATION

The period from the initiation of an interruption to a consumer until service has been restored to that consumer.

### MOMENTARY INTERRUPTION

An interruption that has duration limited to the period required to restore service by automatic or supervisory-controlled switching operations or by manual switching at locations where an operator is immediately available. Such switching operations must be completed in a specific time not to exceed one minute.

### SUSTAINED INTERRUPTION

Any interruption not classified as a momentary interruption (i.e. greater than one minute in duration). Only this type of interruption is included in the reliability indices within this report.

### RELIABILITY INDICES

Measurements used to indicate electrical service reliability. The indices used in this report conform to Institute of Electrical and Electronics Engineers (IEEE) standards. Four indices that convey a meaningful representation of the level of reliability were selected and are presented in this report. These reliability indices are as follows:

#### 1. AVERAGE SERVICE AVAILABILITY (ASA)

Total customer hours actually served as a percentage of total customer hours possible during the year. This indicates the extent to which electrical service was available to all customers. This index has been commonly referred to as the "Index of Reliability."

#### 2. CUSTOMER AVERAGE INTERRUPTION DURATION INDEX (CAIDI)

The interruption duration per customer interrupted during the year. This index indicates the average duration of an interruption for those customers affected by a sustained interruption.

**3. SYSTEM AVERAGE INTERRUPTION DURATION INDEX (SAIDI)**

The interruption duration per customer served during the year. This index indicates the average interruption time experienced by all customers serviced on the system.

**4. SYSTEM AVERAGE INTERRUPTION FREQUENCY INDEX (SAIFI)**

The number of customer interruptions per customer served during the year. This index indicates the average number of sustained interruptions experienced by all customers serviced on the system.

The reliability indices are related to each other in a few ways. For example, the product of CAIDI and SAIFI is SAIDI. SAIDI can then be used to find ASA, since SAIDI represents the time during a period without service, while ASA represents the percent of time during that same period with service. The reliability indices can be thought of more simply as:

1. The percent of time electrical service is available (ASA)
2. The amount of time electrical service is NOT available (SAIDI)
3. How long an interruption lasts (CAIDI)
4. How often an interruption occurs (SAIFI)

**Table 1: 2010 – 2014 KIUC RELIABILITY INDICES**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
System Peak, MW	76.54	72.05	73.06	72.96	72.90
Customers, #	36,113	36,222	36,473	36,704	36,831
ASA, %	99.980	99.976	99.963	99.977	99.980
SAIFI, #	4.76	5.80	4.36	3.23	2.70
CAIDI, minutes	20.74	21.53	44.20	36.62	38.56
SAIDI, minutes	98.72	124.97	192.72	118.32	104.04

**Note:**

- None of the above data has been normalized.

**2014 Outages of Significant Magnitude:**

1. Interruption Report 2014-113, 5/8/14, 9:53:44 AM – Port Allen unit GT-2 tripped due to the malfunction of its fuel control valve. Six minutes and 41 seconds later the Kapaia Power Station tripped due to high system frequency. The high frequency being a result of the initial load shed response to the GT-2 trip. This incident was an island-wide blackout. Remaining generation was started and all loads were restored within less than two hours to approximately 36,831 members.
2. Interruption Report 2014-240, 9/28/14, 6:32:12 PM – The Kapaa substation experienced a transmission bus lockout. This resulted in the loss of all loads in and out of Kappa and all loads north. The bus lockout was caused by foreign material on the transmission system. The fault was cleared and loads were restored within 1 hour 17 minutes to approximately 8,403 members.

**Fig. 1: ASA (higher is better)**

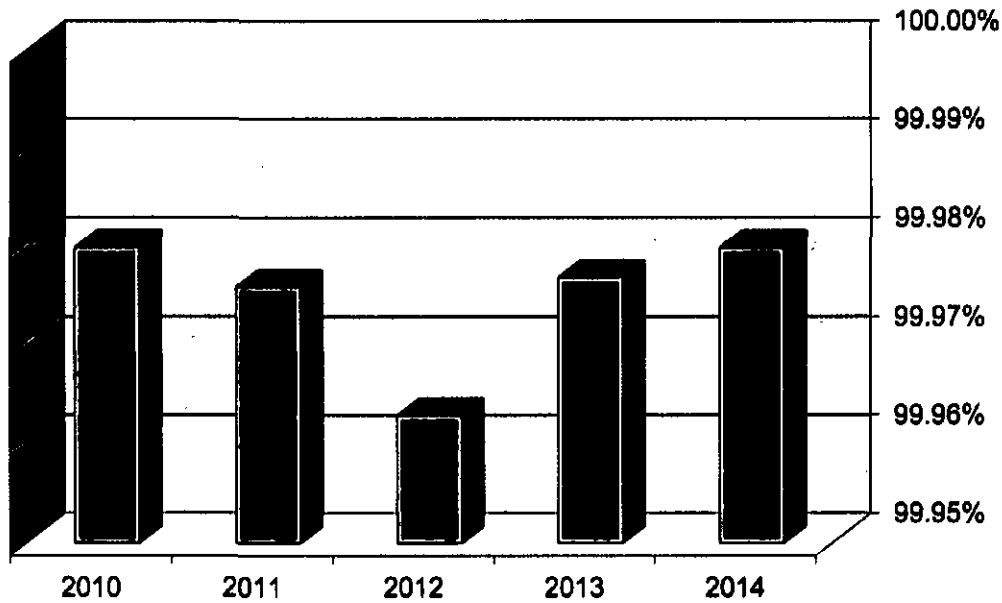


Figure 1 shows the Average System Availability (ASA) for the past five years. The 2014 ASA of 99.980% is higher than the previous three years of the five-year period and slightly better than the five-year average of 99.975%.

**Fig. 2: SAIFI (lower is better)**

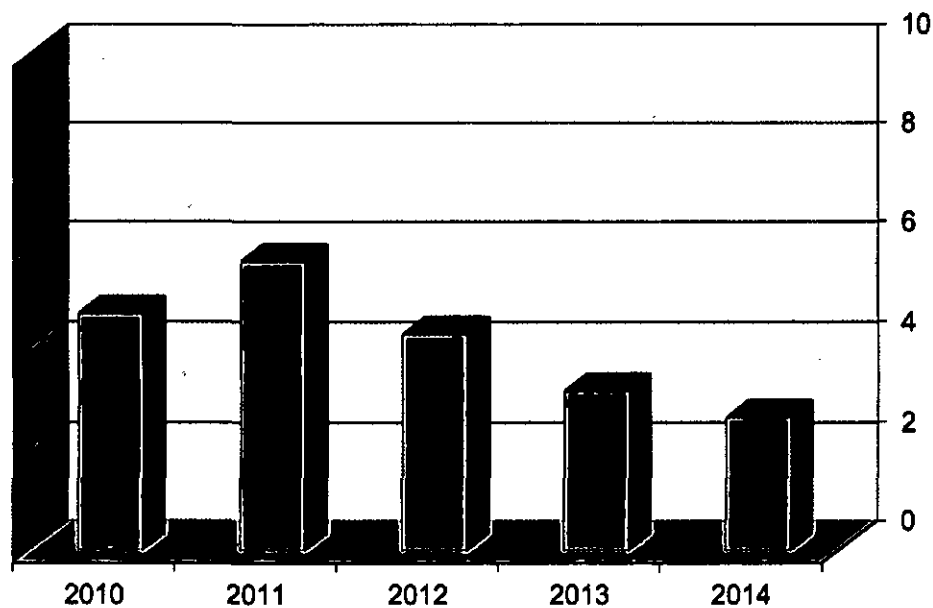


Figure 2 shows the System Average Interruption Frequency Index (SAIFI) for the past five years. The 2014 SAIFI of 2.70 was the best of the five-year period and better than the five-year average of 4.17.



**Fig. 3: CAIDI (lower is better)**

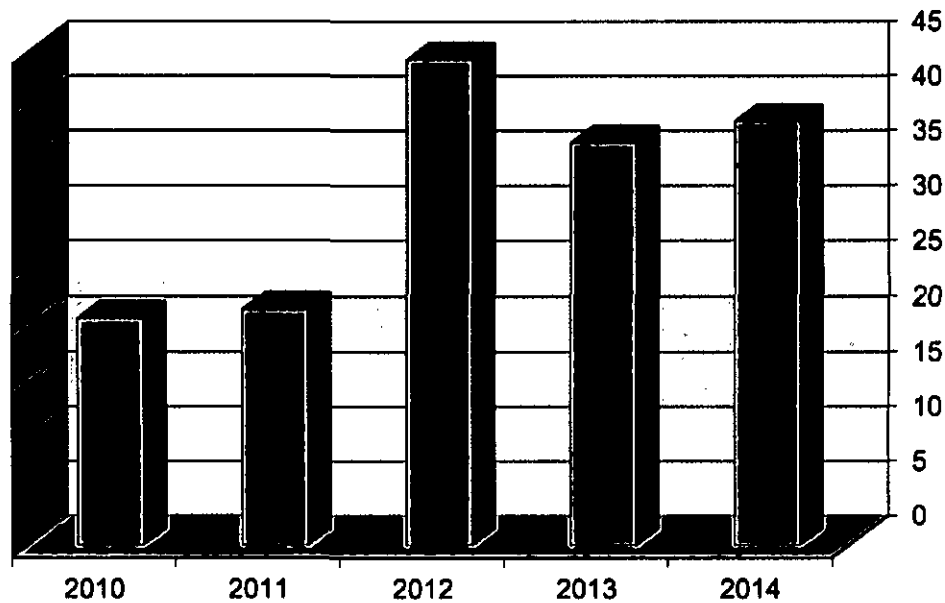


Figure 3 shows the Customer Average Interruption Duration Index (CAIDI) for the past five years. The 2014 CAIDI of 38.56 was the second highest of the five-year period and higher than the five-year average of 32.33.

**Fig. 4: SAIDI (lower is better)**

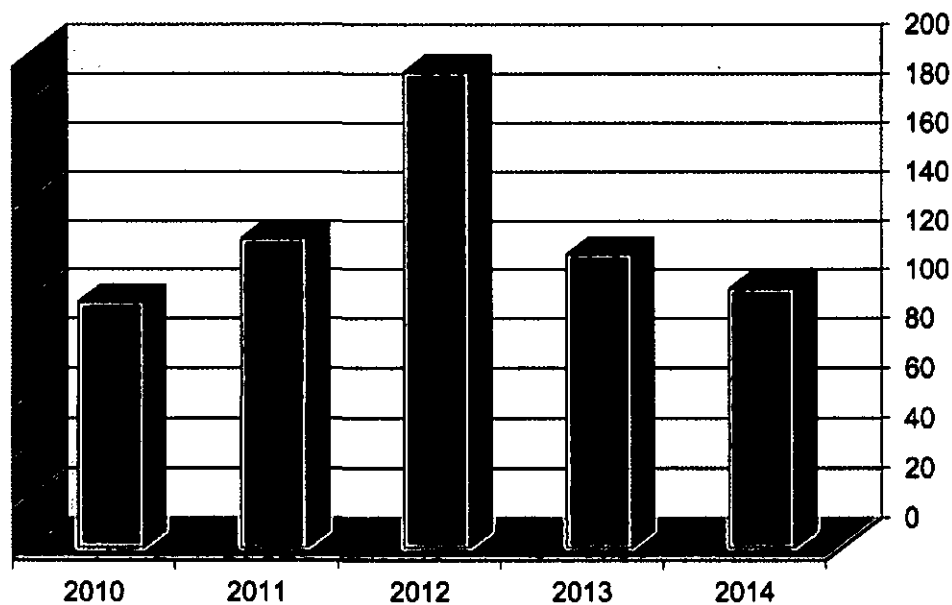


Figure 4 shows the System Average Interruption Duration Index (SAIDI) for the past five years. The 2014 SAIDI of 104.04 is lower than the previous three years of the five-year period and is also lower than the five-year average of 127.75.

## 2014 KIUC SUSTAINED INTERRUPTION CAUSES

In the following figures and tables, the most recent year's sustained interruption causes are examined. Interruptions can be broken down many ways, but we will focus on two areas: causes by frequency (what caused the most interruptions), and causes by magnitude (what caused the most severe interruptions).

Fig. 5: Sustained Interruptions by Frequency

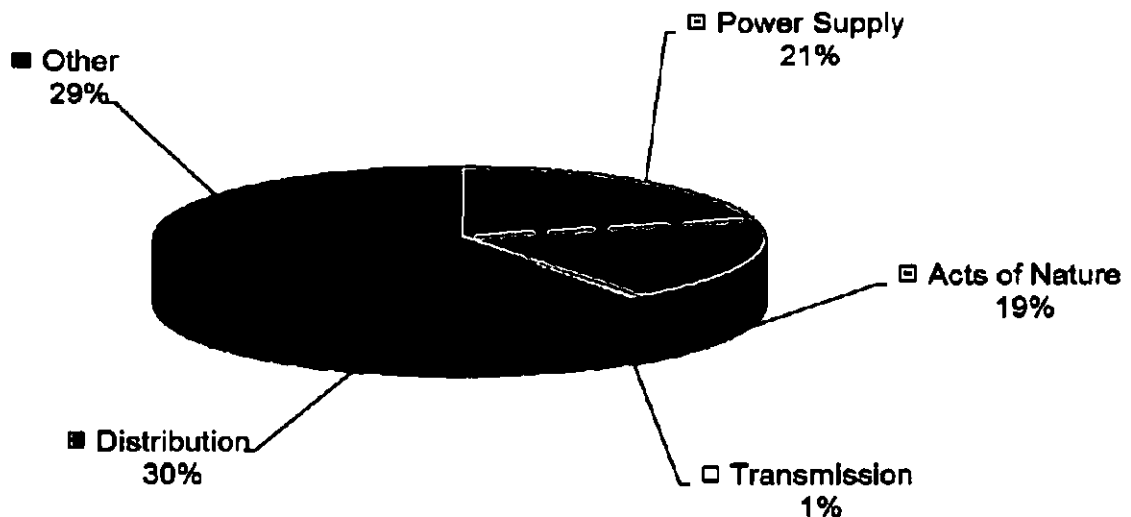


Figure 5 shows the breakdown by frequency. The leading cause of outages was "Distribution" – failure or malfunction of distribution equipment including cables, fuses, insulators, poles, and transformers. A close second was "Other" – persons or equipment not related to or owned by KIUC. Examples include auto accidents that contact utility poles or wires, non-KIUC contractors such as construction crews that dig into underground cables or tree trimmers that contact overhead wires, and trees that contact wires due to overgrowth. The third leading cause of interruptions was "Power Supply" -- interruptions caused by generating unit problems that result in a reduction of output, causing an under frequency load shed. The fourth leading cause of interruptions was "Acts of Nature" – interruptions caused by high winds, floods, storms, etc ; and the fifth (or least) and final cause of interruptions was "Transmission" – failure or malfunction of transmission equipment including insulators, large transformers, lightning arrestors, and switches.

Fig. 6: Sustained Interruptions by Magnitude

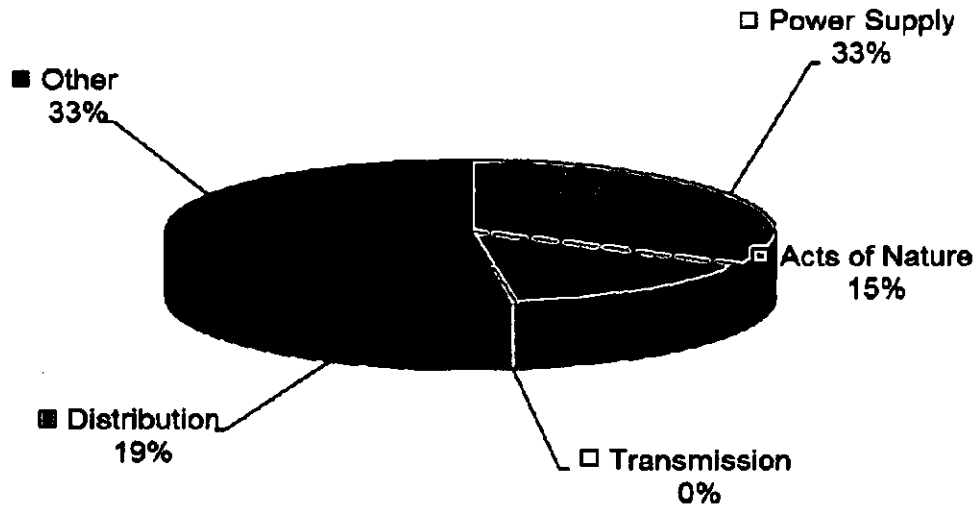


Figure 6 shows the breakdown by magnitude. The same descriptions and examples that were described following Figure 5 apply also for Figure 6. The causes of severe interruptions, in order from most to least, were "Other", "Power Supply", "Distribution", "Acts of Nature", and lastly "Transmission" which recorded almost no sustained interruptions.

Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-001	2134	1/2/2014 11:22:07 AM	1/2/2014 12:05:00 PM	0:42:53	C	2	210	1528
2014-003	5001	1/2/2014 1:02:00 PM	1/2/2014 3:00:00 PM	1:58:00	C	2	18	6
2014-004	3127	1/2/2014 1:44:34 PM	1/2/2014 7:15:00 PM	5:30:26	C	2	3	1
2014-005	3122	1/2/2014 4:36:13 PM	1/2/2014 6:00:00 PM	1:23:47	C	2	12	4
2014-005	3122	1/2/2014 3:59:09 PM	1/2/2014 4:36:13 PM	0:37:04	C	2	2560	300
2014-006	5001	1/2/2014 7:46:00 PM	1/2/2014 10:30:00 PM	2:44:00	C	2	21	7
2014-007	3413	1/3/2014 3:03:55 AM	1/3/2014 5:30:00 AM	2:26:05	C	5	147	49
2014-009	3127	1/4/2014 2:33:25 AM	1/4/2014 3:19:00 AM	0:45:35	C	6	3	1
2014-010	3413	1/5/2014 7:30:00 AM	1/5/2014 10:30:00 AM	3:00:00	C	5	15	5
2014-011	3413	1/6/2014 3:00:00 PM	1/6/2014 4:30:00 PM	1:30:00	C	5	24	8
2014-013	3313	1/13/2014 8:30:00 AM	1/13/2014 11:00:00 AM	2:30:00	C	5	81	27
2014-017	4122	1/18/2014 4:25:00 PM	1/18/2014 9:00:00 PM	4:35:00	C	5	135	45
2014-018	2134	1/21/2014 12:44:49 PM	1/21/2014 1:45:00 PM	1:00:11	C	6	35	12
2014-019	4121	1/21/2014 12:39:30 PM	1/21/2014 2:00:00 PM	1:20:30	C	6	3	1
2014-020	3214	1/21/2014 8:43:00 PM	1/21/2014 9:47:00 PM	1:04:00	C	2	300	100
2014-021	4122	1/22/2014 1:28:00 AM	1/22/2014 4:00:00 AM	2:32:00	C	2	48	16
2014-022	3412	1/22/2014 3:34:00 AM	1/22/2014 6:07:00 AM	2:33:00	C	5	198	66
2014-024	5002	1/22/2014 12:09:31 PM	1/22/2014 1:37:00 PM	1:27:29	C	2	280	1980
2014-025	4121	1/22/2014 9:00:00 AM	1/22/2014 11:00:00 AM	2:00:00	C	2	50	430
2014-028	3415	1/22/2014 5:04:24 PM	1/22/2014 6:00:00 PM	0:55:36	C	2	45	15
2014-029	4122	1/22/2014 3:00:00 PM	1/22/2014 6:00:00 PM	3:00:00	C	2	36	12
2014-030	4002	1/27/2014 9:30:00 PM	1/27/2014 11:10:00 PM	1:40:00	C	6	42	14
2014-031	1325	1/27/2014 7:02:00 PM	1/27/2014 10:25:00 PM	3:23:00	C	6	110	200
2014-032	2134	1/29/2014 7:15:18 AM	1/29/2014 9:30:00 AM	2:14:42	C	5	60	20
2014-033	5001	1/29/2014 8:25:00 AM	1/29/2014 1:00:00 PM	4:35:00	C	5	18	6
2014-034	4002	1/30/2014 1:38:15 PM	1/30/2014 3:10:58 PM	1:32:43	C	6	360	471
2014-035	2134	1/30/2014 7:30:00 PM	1/30/2014 10:30:00 PM	3:00:00	C	5	57	19
2014-036	4002	2/4/2014 11:40:00 AM	2/4/2014 2:00:00 PM	2:20:00	C	6	27	9
2014-037	2134	2/5/2014 1:26:49 PM	2/5/2014 2:30:00 PM	1:03:11	C	6	81	27
2014-038	5001	2/7/2014 6:17:00 AM	2/7/2014 9:00:00 AM	2:43:00	C	5	402	134
2014-039	4002	2/8/2014 10:44:00 AM	2/8/2014 1:00:00 PM	2:16:00	C	6	18	6
2014-040	3415	2/8/2014 1:00:00 PM	2/8/2014 3:00:00 PM	2:00:00	C	6	27	9
2014-041	3412	2/13/2014 6:30:00 AM	2/13/2014 9:00:00 AM	2:30:00	C	2	45	15
2014-042	4121	2/13/2014 7:22:18 AM	2/13/2014 9:00:00 AM	1:37:42	C	2	48	16
2014-044	1325	2/13/2014 8:13:00 AM	2/13/2014 6:38:00 PM	10:25:00	C	2	150	50
2014-044	1325	2/13/2014 8:13:00 AM	2/13/2014 10:54:00 AM	2:41:00	C	2	150	50
2014-045	5002	2/14/2014 1:10:43 AM	2/14/2014 6:00:00 AM	4:49:17	C	5	18	6
2014-047	5001	2/15/2014 6:30:00 AM	2/15/2014 9:20:00 AM	2:50:00	C	5	75	25
2014-048	4121	2/15/2014 10:25:01 AM	2/15/2014 2:44:00 PM	4:18:59	C	5	9	3
2014-049	3413	2/15/2014 6:00:00 PM	2/15/2014 7:00:00 PM	1:00:00	C	5	120	40
2014-050	3215	2/16/2014 1:00:00 AM	2/16/2014 3:00:00 AM	2:00:00	C	5	20	1818
2014-051	1233	2/16/2014 11:24:24 AM	2/16/2014 12:11:00 PM	0:46:36	C	2	550	30
2014-052	4122	2/16/2014 10:49:00 AM	2/16/2014 1:00:00 PM	2:11:00	C	2	78	26
2014-053	4123	2/16/2014 11:32:08 AM	2/16/2014 3:00:00 PM	3:27:52	C	2	42	14
2014-055	1233	2/16/2014 5:36:25 PM	2/16/2014 7:11:18 PM	1:34:53	C	2	260	30
2014-056	5002	2/16/2014 11:00:00 PM	2/17/2014 12:30:00 AM	1:30:00	C	2	120	40
2014-057	3121	2/17/2014 1:15:00 AM	2/17/2014 2:30:00 AM	1:15:00	C	2	18	6
2014-058	2134	2/21/2014 5:20:00 PM	2/21/2014 7:15:00 PM	1:55:00	C	5	30	10
2014-059	3413	2/23/2014 3:05:01 AM	2/23/2014 4:03:10 AM	0:58:09	C	6	1220	2735
2014-059	3413	2/23/2014 1:14:23 AM	2/23/2014 5:30:00 AM	4:15:37	C	6	57	19
2014-060	3413	2/23/2014 3:15:00 PM	2/23/2014 4:00:00 PM	0:45:00	C	5	81	27
2014-061	3313	2/26/2014 2:11:58 AM	2/26/2014 3:02:59 AM	0:51:01	C	6	500	1396
2014-061	3313	2/26/2014 12:40:32 AM	2/26/2014 8:18:00 AM	7:37:28	C	6	260	45

Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-061	5784	2/26/2014 12:40:26 AM	2/26/2014 9:13:35 AM	8:33:09	C	6	0	0
2014-061	5783	2/26/2014 12:40:26 AM	2/26/2014 9:12:53 AM	8:32:27	C	6	0	0
2014-061	5778	2/26/2014 12:40:20 AM	2/26/2014 9:16:56 AM	8:36:36	C	6	0	0
2014-061	5777	2/26/2014 12:40:20 AM	2/26/2014 9:15:36 AM	8:35:16	C	6	0	0
2014-062	1322	2/28/2014 4:29:38 PM	2/28/2014 7:00:00 PM	2:30:22	C	5	33	11
2014-064	2311	3/3/2014 2:10:03 PM	3/3/2014 2:18:13 PM	0:08:10	B	1	790	748
2014-064	4123	3/3/2014 2:10:02 PM	3/3/2014 2:13:54 PM	0:03:52	B	1	720	225
2014-064	1432	3/3/2014 2:10:01 PM	3/3/2014 2:17:44 PM	0:07:43	B	1	210	300
2014-064	3314	3/3/2014 2:10:00 PM	3/3/2014 2:15:55 PM	0:05:55	B	1	840	552
2014-064	3313	3/3/2014 2:10:00 PM	3/3/2014 2:16:15 PM	0:06:15	B	1	860	1396
2014-064	3122	3/3/2014 2:09:59 PM	3/3/2014 2:16:47 PM	0:06:48	B	1	1940	300
2014-065	2311	3/6/2014 7:15:00 AM	3/6/2014 10:30:00 AM	3:15:00	C	5	33	11
2014-066	3313	3/7/2014 9:30:00 AM	3/7/2014 12:00:00 PM	2:30:00	C	5	51	17
2014-068	3125	3/8/2014 9:37:58 AM	3/8/2014 9:52:46 AM	0:14:48	B	5	630	766
2014-068	3124	3/8/2014 9:37:24 AM	3/8/2014 9:52:03 AM	0:14:39	B	5	350	210
2014-068	3124	3/8/2014 8:07:59 AM	3/8/2014 9:52:03 AM	1:44:04	C	5	420	210
2014-068	3125	3/8/2014 8:07:59 AM	3/8/2014 9:52:46 AM	1:44:47	C	5	410	766
2014-069	1322	3/13/2014 12:23:00 PM	3/13/2014 3:18:00 PM	2:55:00	C	3	39	13
2014-070	2132	3/15/2014 8:31:00 AM	3/15/2014 10:21:00 AM	1:50:00	C	5	51	17
2014-071	2134	3/15/2014 2:55:00 PM	3/15/2014 4:58:00 PM	2:03:00	C	2	156	1528
2014-076	3412	3/15/2014 8:36:00 PM	3/15/2014 10:00:00 PM	1:24:00	C	5	81	27
2014-078	3412	3/17/2014 6:27:00 PM	3/17/2014 7:02:00 PM	0:35:00	C	5	33	11
2014-079	3127	3/23/2014 6:15:59 PM	3/23/2014 9:30:00 PM	3:14:01	C	6	30	1569
2014-080	2313	3/25/2014 5:00:00 PM	3/25/2014 7:30:00 PM	2:30:00	C	5	18	6
2014-081	1322	3/27/2014 12:45:23 PM	3/27/2014 3:20:00 PM	2:34:37	C	6	210	3
2014-081	1322	3/27/2014 12:45:23 PM	3/27/2014 1:31:21 PM	0:45:58	C	6	790	700
2014-084	3413	3/31/2014 7:10:00 AM	3/31/2014 11:30:00 AM	4:20:00	C	6	12	4
2014-085	3413	4/1/2014 5:45:00 PM	4/1/2014 9:00:00 PM	3:15:00	C	5	15	5
2014-086	5001	4/1/2014 10:25:00 PM	4/2/2014 1:00:00 AM	2:35:00	C	5	21	7
2014-087	3415	4/5/2014 12:00:00 PM	4/5/2014 1:45:00 PM	1:45:00	C	5	120	40
2014-088	2134	4/7/2014 4:19:12 PM	4/7/2014 4:56:02 PM	0:36:50	C	6	1230	1528
2014-088	2134	4/7/2014 4:18:23 PM	4/7/2014 5:40:00 PM	1:21:37	C	6	850	1528
2014-089	3415	4/10/2014 11:30:00 PM	4/11/2014 1:30:00 AM	2:00:00	C	5	75	25
2014-090	2134	4/12/2014 11:38:25 PM	4/13/2014 1:25:00 AM	1:46:35	C	2	57	19
2014-091	5001	4/13/2014 7:30:00 AM	4/13/2014 9:00:00 AM	1:30:00	C	6	48	16
2014-092	3314	4/13/2014 7:05:00 AM	4/13/2014 8:45:00 AM	1:40:00	C	5	90	30
2014-094	3214	4/13/2014 8:45:00 AM	4/13/2014 10:00:00 AM	1:15:00	C	6	147	49
2014-095	5002	4/15/2014 3:30:00 PM	4/15/2014 6:00:00 PM	2:30:00	C	5	3	1
2014-096	3214	4/16/2014 2:01:24 AM	4/16/2014 2:28:27 AM	0:27:03	C	5	960	120
2014-096	3214	4/16/2014 1:20:12 AM	4/16/2014 2:00:43 AM	0:40:31	C	5	960	120
2014-097	4002	4/16/2014 8:15:00 PM	4/17/2014 12:30:00 AM	4:15:00	C	5	30	10
2014-098	1323	4/17/2014 4:30:00 PM	4/17/2014 5:15:00 PM	0:45:00	C	5	50	16
2014-099	2134	4/18/2014 7:15:00 AM	4/18/2014 9:45:00 AM	2:30:00	C	5	18	6
2014-101	3121	4/19/2014 4:04:41 AM	4/19/2014 7:40:00 AM	3:35:19	C	5	126	42
2014-102	3121	4/20/2014 9:10:00 PM	4/20/2014 11:55:00 PM	2:45:00	C	5	42	14
2014-103	3413	4/21/2014 11:38:32 AM	4/21/2014 12:30:00 PM	0:51:28	C	6	222	74
2014-104	3215	4/22/2014 8:40:00 AM	4/22/2014 10:30:00 AM	1:50:00	C	5	129	43
2014-106	5001	4/28/2014 2:35:29 PM	4/28/2014 4:30:00 PM	1:54:31	C	6	195	65
2014-107	4122	4/30/2014 7:00:00 AM	4/30/2014 10:30:00 AM	3:30:00	C	6	3	1
2014-108	3411	5/1/2014 2:03:36 AM	5/1/2014 9:30:00 AM	7:26:24	C	5	3	1
2014-111	3123	5/3/2014 12:32:36 AM	5/3/2014 2:30:00 AM	1:57:24	C	5	15	5
2014-112	4123	5/7/2014 8:23:48 AM	5/7/2014 5:30:00 PM	9:06:12	C	5	45	15
2014-113	3314	5/8/2014 10:00:14 AM	5/8/2014 10:06:01 AM	0:05:47	A	1	4770	552

Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-113	1323	5/8/2014 10:00:14 AM	5/8/2014 10:06:00 AM	0:05:46	A	1	2170	1385
2014-113	3126	5/8/2014 10:00:13 AM	5/8/2014 10:36:05 AM	0:35:52	A	1	240	19
2014-113	2313	5/8/2014 10:00:06 AM	5/8/2014 10:11:56 AM	0:11:50	A	1	3520	717
2014-113	1325	5/8/2014 10:00:03 AM	5/8/2014 10:13:34 AM	0:13:31	A	1	200	200
2014-113	3411	5/8/2014 10:00:02 AM	5/8/2014 10:10:12 AM	0:10:10	A	1	1250	300
2014-113	1233	5/8/2014 10:00:02 AM	5/8/2014 10:14:37 AM	0:14:35	A	1	1240	30
2014-113	1232	5/8/2014 10:00:02 AM	5/8/2014 10:32:01 AM	0:31:59	A	1	280	10
2014-113	1231	5/8/2014 10:00:02 AM	5/8/2014 10:15:54 AM	0:15:52	A	1	390	0
2014-113	3124	5/8/2014 9:54:12 AM	5/8/2014 10:54:23 AM	1:00:11	A	1	2530	210
2014-113	3121	5/8/2014 9:54:12 AM	5/8/2014 10:55:17 AM	1:01:05	A	1	2790	650
2014-113	3215	5/8/2014 9:54:09 AM	5/8/2014 10:53:25 AM	0:59:16	A	1	1370	1818
2014-113	1322	5/8/2014 9:54:08 AM	5/8/2014 10:56:11 AM	1:02:03	A	1	820	700
2014-113	5002	5/8/2014 9:54:06 AM	5/8/2014 10:18:22 AM	0:24:16	A	1	2230	1980
2014-113	4122	5/8/2014 9:54:06 AM	5/8/2014 10:48:26 AM	0:54:20	A	1	2190	1972
2014-113	5001	5/8/2014 9:54:06 AM	5/8/2014 10:19:46 AM	0:25:40	A	1	1030	876
2014-113	4124	5/8/2014 9:54:06 AM	5/8/2014 10:29:49 AM	0:35:43	A	1	4240	1926
2014-113	3413	5/8/2014 9:54:05 AM	5/8/2014 10:50:45 AM	0:56:40	A	1	1980	2735
2014-113	2133	5/8/2014 9:54:05 AM	5/8/2014 10:36:26 AM	0:42:21	A	1	270	406
2014-113	2132	5/8/2014 9:54:05 AM	5/8/2014 10:49:03 AM	0:54:58	A	1	550	718
2014-113	3415	5/8/2014 9:53:49 AM	5/8/2014 10:57:49 AM	1:04:00	A	1	870	1612
2014-113	3414	5/8/2014 9:53:49 AM	5/8/2014 10:59:36 AM	1:05:47	A	1	2110	859
2014-113	3412	5/8/2014 9:53:49 AM	5/8/2014 11:01:36 AM	1:07:47	A	1	1100	1004
2014-113	3212	5/8/2014 9:53:48 AM	5/8/2014 11:04:21 AM	1:10:33	A	1	320	30
2014-113	3211	5/8/2014 9:53:48 AM	5/8/2014 11:06:20 AM	1:12:32	A	1	740	5
2014-113	3214	5/8/2014 9:53:48 AM	5/8/2014 11:03:32 AM	1:09:44	A	1	1570	120
2014-113	3127	5/8/2014 9:53:47 AM	5/8/2014 10:37:49 AM	0:44:02	A	1	2930	1569
2014-113	3123	5/8/2014 9:53:47 AM	5/8/2014 11:09:35 AM	1:15:48	A	1	1340	1187
2014-113	3122	5/8/2014 9:53:47 AM	5/8/2014 11:49:52 AM	1:56:05	A	1	2330	300
2014-113	2134	5/8/2014 9:53:47 AM	5/8/2014 11:39:02 AM	1:45:15	A	1	1060	1528
2014-113	4123	5/8/2014 9:53:46 AM	5/8/2014 11:30:26 AM	1:36:40	A	1	750	225
2014-113	4121	5/8/2014 9:53:46 AM	5/8/2014 10:56:55 AM	1:03:09	A	1	770	430
2014-113	1432	5/8/2014 9:53:46 AM	5/8/2014 11:51:03 AM	1:57:17	A	1	210	300
2014-113	2312	5/8/2014 9:53:44 AM	5/8/2014 11:18:27 AM	1:24:43	A	1	2810	754
2014-113	2311	5/8/2014 9:53:44 AM	5/8/2014 11:51:22 AM	1:57:38	A	1	1020	748
2014-113	2314	5/8/2014 9:53:44 AM	5/8/2014 11:13:01 AM	1:19:17	A	1	1400	768
2014-113	3313	5/8/2014 9:53:44 AM	5/8/2014 11:49:30 AM	1:55:46	A	1	1040	1396
2014-115	3413	5/10/2014 6:10:00 PM	5/10/2014 8:30:00 PM	2:20:00	C	6	24	8
2014-116	1325	5/11/2014 10:00:00 AM	5/11/2014 5:00:00 PM	7:00:00	C	6	6	2
2014-117	2313	5/12/2014 3:40:00 AM	5/12/2014 8:00:00 AM	4:20:00	C	5	90	30
2014-118	4123	5/12/2014 2:11:14 PM	5/12/2014 3:00:00 PM	0:48:46	C	5	51	17
2014-119	2313	5/15/2014 12:02:34 PM	5/15/2014 3:45:00 PM	3:42:26	C	5	87	29
2014-120	3411	5/15/2014 1:55:00 PM	5/15/2014 4:00:00 PM	2:05:00	C	6	18	6
2014-123	1325	5/18/2014 11:21:27 PM	5/18/2014 11:25:47 PM	0:04:20	C	2	610	200
2014-124	1325	5/19/2014 2:56:50 PM	5/19/2014 2:58:33 PM	0:01:43	C	2	210	200
2014-124	1325	5/19/2014 12:14:48 PM	5/19/2014 12:16:28 PM	0:01:40	C	2	210	200
2014-125	5766	5/22/2014 9:44:55 PM	5/23/2014 10:41:00 AM	12:56:05	C	4	0	0
2014-125	1432	5/22/2014 9:44:55 PM	5/22/2014 10:49:00 PM	1:04:05	C	4	450	300
2014-125	5702	5/22/2014 9:44:52 PM	5/23/2014 10:57:00 AM	13:12:08	C	4	0	0
2014-127	4123	5/23/2014 5:58:26 PM	5/23/2014 9:15:00 PM	3:16:34	C	2	147	49
2014-128	4124	5/23/2014 10:55:25 PM	5/23/2014 11:30:08 PM	0:34:43	C	2	3900	1926
2014-129	1231	5/24/2014 12:11:32 AM	5/24/2014 1:21:53 AM	1:10:21	B	2	730	0
2014-129	5767	5/24/2014 12:11:32 AM	5/24/2014 12:42:07 AM	0:30:35	B	2	0	0
2014-129	1233	5/24/2014 12:11:32 AM	5/24/2014 1:20:28 AM	1:08:56	B	2	1060	30

Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-129	1232	5/24/2014 12:11:32 AM	5/24/2014 1:21:13 AM	1:09:41	B	2	280	10
2014-130	5735	5/25/2014 1:22:17 PM	5/25/2014 1:29:37 PM	0:07:20	B	2	0	0
2014-130	5714	5/25/2014 1:22:14 PM	5/25/2014 1:30:18 PM	0:08:04	B	2	0	0
2014-130	2134	5/25/2014 1:22:14 PM	5/25/2014 1:32:47 PM	0:10:33	B	2	1160	1528
2014-130	2133	5/25/2014 1:22:14 PM	5/25/2014 1:33:45 PM	0:11:31	B	2	250	406
2014-130	2132	5/25/2014 1:22:14 PM	5/25/2014 1:33:17 PM	0:11:03	B	2	550	718
2014-131	3415	5/25/2014 1:40:00 PM	5/25/2014 5:11:00 PM	3:31:00	C	2	36	12
2014-131	3415	5/25/2014 1:27:06 PM	5/25/2014 3:17:00 PM	1:49:54	C	2	36	12
2014-132	3413	5/26/2014 6:51:00 AM	5/26/2014 8:02:00 AM	1:11:00	C	6	141	47
2014-133	3413	5/27/2014 4:50:00 PM	5/27/2014 10:40:00 PM	5:50:00	C	6	180	60
2014-134	3314	5/28/2014 1:48:00 PM	5/28/2014 2:20:00 PM	0:32:00	C	5	140	552
2014-135	4002	5/28/2014 11:15:00 AM	5/28/2014 3:50:00 PM	4:35:00	C	6	12	9
2014-136	2134	5/28/2014 7:35:00 PM	5/28/2014 11:45:00 PM	4:10:00	C	6	60	20
2014-137	2313	6/3/2014 8:57:00 AM	6/3/2014 12:59:00 PM	4:02:00	C	3	234	78
2014-138	1325	6/3/2014 9:35:00 AM	6/3/2014 8:00:00 PM	10:25:00	C	6	6	2
2014-139	2134	6/4/2014 12:44:15 AM	6/4/2014 2:18:26 AM	1:34:11	C	5	940	1528
2014-140	3313	6/4/2014 8:15:00 PM	6/4/2014 10:33:00 PM	2:18:00	C	5	120	40
2014-142	3413	6/8/2014 1:42:00 PM	6/8/2014 5:24:00 PM	3:42:00	C	5	78	26
2014-143	3415	6/9/2014 6:50:00 AM	6/9/2014 8:00:00 AM	1:10:00	C	5	141	47
2014-144	4002	6/11/2014 3:08:10 AM	6/11/2014 4:48:03 AM	1:39:53	C	6	240	471
2014-145	4123	6/11/2014 2:51:42 PM	6/11/2014 2:59:18 PM	0:07:36	B	1	760	225
2014-145	2311	6/11/2014 2:51:41 PM	6/11/2014 3:01:08 PM	0:09:27	B	1	810	748
2014-145	3122	6/11/2014 2:51:40 PM	6/11/2014 3:01:53 PM	0:10:13	B	1	2370	300
2014-145	2134	6/11/2014 2:51:39 PM	6/11/2014 2:59:48 PM	0:08:09	B	1	890	1528
2014-145	3313	6/11/2014 2:51:38 PM	6/11/2014 3:02:35 PM	0:10:57	B	1	1060	1396
2014-145	1432	6/11/2014 2:51:38 PM	6/11/2014 2:58:10 PM	0:06:32	B	1	250	300
2014-146	2132	6/11/2014 4:00:00 PM	6/11/2014 6:00:00 PM	2:00:00	C	5	90	30
2014-147	3313	6/11/2014 7:38:13 PM	6/11/2014 7:50:32 PM	0:12:19	B	1	1400	1396
2014-147	4123	6/11/2014 7:38:09 PM	6/11/2014 7:51:01 PM	0:12:52	B	1	920	225
2014-148	2132	6/12/2014 9:36:14 PM	6/12/2014 9:57:24 PM	0:21:10	C	5	90	30
2014-148	2132	6/12/2014 4:30:01 PM	6/12/2014 9:57:24 PM	5:27:23	C	5	168	56
2014-148	2132	6/12/2014 4:30:01 PM	6/12/2014 6:21:10 PM	1:51:09	C	5	390	718
2014-151	4124	6/15/2014 11:27:07 PM	6/16/2014 2:02:00 AM	2:34:53	C	5	21	7
2014-152	2133	6/16/2014 5:27:00 PM	6/16/2014 5:36:00 PM	0:09:00	C	5	24	8
2014-153	2311	6/19/2014 9:39:11 PM	6/19/2014 9:47:06 PM	0:07:55	B	1	1160	748
2014-153	4123	6/19/2014 9:39:10 PM	6/19/2014 9:42:31 PM	0:03:21	B	1	920	225
2014-153	3313	6/19/2014 9:39:10 PM	6/19/2014 9:45:19 PM	0:06:09	B	1	1300	1396
2014-153	3122	6/19/2014 9:39:10 PM	6/19/2014 9:44:24 PM	0:05:14	B	1	2850	300
2014-153	2134	6/19/2014 9:39:09 PM	6/19/2014 9:43:23 PM	0:04:14	B	1	1480	1528
2014-153	1432	6/19/2014 9:39:08 PM	6/19/2014 9:47:27 PM	0:08:19	B	1	280	300
2014-154	3415	6/21/2014 1:25:44 PM	6/21/2014 3:00:00 PM	1:34:16	C	6	18	6
2014-155	1322	6/22/2014 12:44:51 PM	6/22/2014 3:30:00 PM	2:45:09	C	6	15	5
2014-156	4122	6/22/2014 3:23:00 PM	6/22/2014 5:50:00 PM	2:27:00	C	5	120	40
2014-158	3415	6/24/2014 9:08:20 AM	6/24/2014 10:00:00 AM	0:51:40	C	6	111	37
2014-159	1432	6/28/2014 8:03:00 AM	6/28/2014 10:57:00 AM	2:54:00	C	6	36	12
2014-160	2132	6/29/2014 10:04:00 AM	6/29/2014 10:50:00 AM	0:46:00	C	6	30	10
2014-161	5001	6/29/2014 2:02:00 PM	6/29/2014 6:15:00 PM	4:13:00	C	6	21	7
2014-162	1233	7/2/2014 11:27:53 AM	7/2/2014 12:43:05 PM	1:15:12	C	6	1190	30
2014-163	4002	7/3/2014 9:59:00 AM	7/3/2014 2:58:00 PM	4:59:00	C	6	201	67
2014-164	1325	7/4/2014 3:00:00 AM	7/4/2014 7:04:00 AM	4:04:00	C	6	33	11
2014-165	3413	7/4/2014 11:48:04 AM	7/4/2014 1:23:00 PM	1:34:56	C	6	51	27
2014-166	3123	7/6/2014 8:26:58 PM	7/7/2014 12:01:00 AM	3:34:02	C	5	120	40
2014-167	2313	7/8/2014 12:15:00 AM	7/8/2014 2:30:00 AM	2:15:00	C	5	6	2

Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-168	3415	7/11/2014 9:35:00 AM	7/11/2014 11:10:00 AM	1:35:00	C	5	90	30
2014-169	4124	7/15/2014 10:26:38 AM	7/15/2014 1:00:00 PM	2:33:22	C	5	114	38
2014-170	1232	7/16/2014 6:39:54 AM	7/16/2014 1:00:00 PM	6:20:06	C	6	3	10
2014-172	3215	7/20/2014 8:54:42 AM	7/20/2014 10:30:00 AM	1:35:18	C	6	108	36
2014-173	2134	7/21/2014 8:16:16 AM	7/21/2014 10:00:00 AM	1:43:44	C	6	99	33
2014-174	2311	7/22/2014 1:46:53 PM	7/22/2014 1:58:53 PM	0:12:00	C	5	1260	748
2014-175	1232	7/23/2014 4:46:31 PM	7/23/2014 4:50:25 PM	0:03:54	C	5	210	10
2014-175	1232	7/23/2014 2:07:25 PM	7/23/2014 5:45:00 PM	3:37:35	C	5	60	10
2014-176	3412	7/27/2014 1:05:00 PM	7/27/2014 3:30:00 PM	2:25:00	C	6	90	30
2014-177	5001	7/28/2014 4:05:00 PM	7/28/2014 5:01:00 PM	0:56:00	C	6	99	33
2014-179	3215	8/1/2014 4:45:00 PM	8/1/2014 6:15:00 PM	1:30:00	C	5	99	33
2014-180	3415	8/2/2014 9:39:00 AM	8/2/2014 10:57:00 AM	1:18:00	C	5	117	39
2014-182	1322	8/5/2014 11:28:16 AM	8/5/2014 12:45:00 PM	1:16:44	C	6	96	32
2014-183	3415	8/6/2014 4:07:00 AM	8/6/2014 6:00:00 AM	1:53:00	C	6	21	7
2014-184	4122	8/6/2014 1:06:10 PM	8/6/2014 1:38:46 PM	0:32:36	C	6	2080	1972
2014-185	4122	8/7/2014 5:01:00 AM	8/7/2014 6:14:00 AM	1:13:00	C	6	18	6
2014-187	2134	8/7/2014 2:32:15 PM	8/7/2014 3:24:00 PM	0:51:45	C	6	141	47
2014-188	4123	8/8/2014 11:31:38 AM	8/8/2014 1:26:00 PM	1:54:22	C	2	294	98
2014-189	2311	8/8/2014 11:49:42 AM	8/8/2014 1:00:00 PM	1:10:18	C	2	225	75
2014-190	2314	8/8/2014 12:05:38 PM	8/8/2014 1:45:00 PM	1:39:22	C	2	126	42
2014-191	1325	8/8/2014 12:28:21 PM	8/8/2014 6:30:30 PM	6:02:09	C	2	183	20
2014-193	3313	8/8/2014 9:10:00 PM	8/8/2014 11:26:00 PM	2:16:00	C	2	9	3
2014-194	3127	8/8/2014 10:36:36 PM	8/9/2014 12:21:00 AM	1:44:24	C	2	18	6
2014-195	4122	8/8/2014 3:50:00 PM	8/8/2014 5:40:00 PM	1:50:00	C	2	120	40
2014-196	3412	8/9/2014 2:15:44 AM	8/9/2014 6:00:00 AM	3:44:16	C	2	66	22
2014-197	1323	8/9/2014 2:33:00 AM	8/9/2014 8:15:00 AM	5:42:00	C	2	108	36
2014-198	1323	8/10/2014 2:33:48 AM	8/10/2014 10:15:00 AM	7:41:12	C	2	21	7
2014-199	5002	8/10/2014 1:12:00 PM	8/10/2014 7:30:00 PM	6:18:00	C	5	39	13
2014-200	5001	8/10/2014 1:40:00 PM	8/10/2014 8:30:00 PM	6:50:00	C	2	27	9
2014-201	5001	8/11/2014 8:20:00 AM	8/12/2014 5:00:00 PM	8:40:00	C	2	18	6
2014-202	3215	8/15/2014 11:47:00 AM	8/15/2014 2:38:00 PM	2:51:00	C	5	24	8
2014-203	2314	8/16/2014 12:56:28 PM	8/16/2014 5:00:00 PM	4:03:32	C	5	108	36
2014-204	2313	8/18/2014 2:10:00 PM	8/18/2014 5:00:00 PM	2:50:00	C	5	27	9
2014-205	2311	8/18/2014 6:39:16 PM	8/18/2014 8:30:00 PM	1:50:44	C	5	60	20
2014-206	2313	8/23/2014 6:01:01 AM	8/23/2014 9:17:00 AM	3:15:59	C	5	225	75
2014-206	2313	8/23/2014 6:01:01 AM	8/23/2014 6:08:43 AM	0:07:42	C	5	1306	3
2014-206	2313	8/23/2014 6:01:01 AM	8/23/2014 6:59:23 AM	0:58:22	C	5	990	717
2014-209	2134	8/26/2014 5:26:55 PM	8/26/2014 7:30:00 PM	2:03:05	C	6	60	19
2014-210	3127	8/27/2014 1:37:25 AM	8/27/2014 4:30:00 AM	2:52:35	C	6	3	1
2014-211	5001	8/27/2014 9:05:19 PM	8/28/2014 2:40:00 AM	5:34:41	C	5	12	4
2014-212	3415	8/27/2014 11:34:54 PM	8/28/2014 1:00:00 AM	1:25:06	C	6	138	46
2014-213	5002	8/29/2014 2:50:00 AM	8/29/2014 8:30:00 AM	5:40:00	C	5	30	10
2014-214	4121	8/29/2014 7:25:00 AM	8/29/2014 10:00:00 AM	2:35:00	C	5	111	37
2014-215	1322	8/31/2014 10:46:55 AM	8/31/2014 12:18:00 PM	1:31:05	C	5	42	14
2014-216	3415	8/31/2014 6:30:00 PM	8/31/2014 10:00:00 PM	3:30:00	C	5	9	3
2014-217	1325	9/1/2014 11:16:00 AM	9/1/2014 8:50:00 PM	9:34:00	C	5	60	200
2014-217	1325	9/1/2014 11:16:00 AM	9/1/2014 5:21:38 PM	6:05:38	C	5	540	200
2014-218	3126	9/2/2014 3:02:29 PM	9/2/2014 3:06:35 PM	0:04:06	B	1	230	19
2014-218	2314	9/2/2014 3:02:26 PM	9/2/2014 3:07:10 PM	0:04:44	B	1	1570	768
2014-218	4121	9/2/2014 3:02:26 PM	9/2/2014 3:05:56 PM	0:03:30	B	1	930	430
2014-218	3412	9/2/2014 3:02:26 PM	9/2/2014 3:06:16 PM	0:03:50	B	1	1200	1004
2014-218	5001	9/2/2014 3:02:25 PM	9/2/2014 3:05:31 PM	0:03:06	B	1	1390	876
2014-218	3123	9/2/2014 3:02:24 PM	9/2/2014 3:06:53 PM	0:04:29	B	1	1710	1187



Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-219	3215	9/3/2014 7:00:14 AM	9/3/2014 9:00:00 AM	1:59:46	C	5	18	6
2014-220	3415	9/4/2014 10:53:29 AM	9/4/2014 11:50:00 AM	0:56:31	C	6	120	1612
2014-221	3415	9/6/2014 2:22:44 AM	9/6/2014 3:45:00 AM	1:22:16	C	6	141	47
2014-222	3314	9/6/2014 6:12:29 AM	9/6/2014 9:07:00 AM	2:54:31	C	5	42	14
2014-223	5001	9/6/2014 11:08:00 PM	9/7/2014 9:25:00 AM	10:17:00	C	6	9	876
2014-224	3313	9/15/2014 5:15:00 AM	9/15/2014 7:00:00 AM	1:45:00	C	6	33	11
2014-225	3124	9/17/2014 6:08:36 AM	9/17/2014 9:00:00 AM	2:51:24	C	5	126	42
2014-225	3124	9/17/2014 4:27:46 AM	9/17/2014 6:00:00 AM	1:32:14	C	5	57	19
2014-226	3214	9/18/2014 2:19:47 AM	9/18/2014 7:00:00 AM	4:40:13	C	5	90	120
2014-227	3123	9/19/2014 12:53:53 PM	9/19/2014 3:30:00 PM	2:36:07	C	5	15	5
2014-228	1325	9/20/2014 7:35:00 AM	9/20/2014 1:30:00 PM	5:55:00	C	6	18	6
2014-229	1325	9/21/2014 10:57:55 AM	9/21/2014 5:15:56 PM	6:18:01	C	5	580	20
2014-231	2313	9/22/2014 5:16:04 AM	9/22/2014 9:00:00 AM	3:43:56	C	5	20	1
2014-232	3412	9/22/2014 9:39:10 AM	9/22/2014 12:15:00 PM	2:35:50	C	6	96	32
2014-233	3122	9/23/2014 10:48:00 AM	9/23/2014 12:34:00 PM	1:46:00	C	5	69	23
2014-234	3122	9/24/2014 11:50:51 PM	9/25/2014 2:22:00 AM	2:31:09	C	5	6	2
2014-235	4122	9/24/2014 10:38:00 PM	9/25/2014 6:00:00 AM	7:22:00	C	5	12	4
2014-237	2134	9/26/2014 8:55:41 AM	9/26/2014 9:42:00 AM	0:46:19	C	6	114	38
2014-238	4122	9/27/2014 7:39:26 AM	9/27/2014 11:58:00 AM	4:18:34	C	6	111	37
2014-238	4122	9/27/2014 6:10:43 AM	9/27/2014 7:39:26 AM	1:28:43	B	6	1840	1972
2014-239	3126	9/27/2014 4:57:47 PM	9/27/2014 5:12:48 PM	0:15:01	B	1	170	19
2014-239	2314	9/27/2014 4:57:38 PM	9/27/2014 5:14:47 PM	0:17:09	B	1	1580	768
2014-239	5001	9/27/2014 4:57:37 PM	9/27/2014 5:06:50 PM	0:09:13	B	1	1430	876
2014-239	3123	9/27/2014 4:57:36 PM	9/27/2014 5:13:48 PM	0:16:12	B	1	1100	1187
2014-239	3412	9/27/2014 4:57:36 PM	9/27/2014 5:11:49 PM	0:14:13	B	1	1400	1004
2014-239	4121	9/27/2014 4:57:36 PM	9/27/2014 5:07:43 PM	0:10:07	B	1	850	430
2014-240	3411	9/28/2014 6:32:12 PM	9/28/2014 7:42:12 PM	1:10:00	A	6	2010	300
2014-240	3412	9/28/2014 6:32:12 PM	9/28/2014 7:42:37 PM	1:10:25	A	6	1640	1004
2014-240	3413	9/28/2014 6:32:12 PM	9/28/2014 7:43:12 PM	1:11:00	A	6	3200	2735
2014-240	3414	9/28/2014 6:32:12 PM	9/28/2014 7:43:51 PM	1:11:39	A	6	2230	859
2014-240	4123	9/28/2014 6:32:12 PM	9/28/2014 7:48:18 PM	1:16:06	A	6	1000	225
2014-240	3415	9/28/2014 6:32:12 PM	9/28/2014 7:44:31 PM	1:12:19	A	6	1760	1612
2014-240	5777	9/28/2014 6:32:12 PM	9/28/2014 6:43:56 PM	0:11:44	A	6	0	0
2014-240	5778	9/28/2014 6:32:12 PM	9/28/2014 6:44:15 PM	0:12:03	A	6	0	0
2014-240	5747	9/28/2014 6:32:12 PM	9/28/2014 7:40:32 PM	1:08:20	A	6	0	0
2014-240	5745	9/28/2014 6:32:12 PM	9/28/2014 7:36:50 PM	1:04:38	A	6	0	0
2014-240	4124	9/28/2014 6:32:12 PM	9/28/2014 7:46:10 PM	1:13:58	A	6	4570	1926
2014-240	4121	9/28/2014 6:32:12 PM	9/28/2014 7:49:30 PM	1:17:18	A	6	860	430
2014-240	4122	9/28/2014 6:32:12 PM	9/28/2014 7:48:54 PM	1:16:42	A	6	2800	1972
2014-240	5746	9/28/2014 6:32:12 PM	9/28/2014 7:39:44 PM	1:07:32	A	6	0	0
2014-240	3214	9/28/2014 6:32:12 PM	9/28/2014 7:01:39 PM	0:29:27	A	6	1790	120
2014-240	3212	9/28/2014 6:32:12 PM	9/28/2014 7:00:39 PM	0:28:27	A	6	320	30
2014-240	3211	9/28/2014 6:32:12 PM	9/28/2014 6:59:27 PM	0:27:15	A	6	1020	5
2014-240	3215	9/28/2014 6:32:12 PM	9/28/2014 7:02:00 PM	0:29:48	A	6	2010	1818
2014-242	4002	9/30/2014 3:43:00 PM	9/30/2014 6:30:00 PM	2:47:00	C	6	110	34
2014-243	3413	10/1/2014 7:25:00 AM	10/1/2014 8:30:00 AM	1:05:00	C	5	60	20
2014-244	3126	10/1/2014 4:10:32 PM	10/1/2014 6:00:00 PM	1:49:28	C	2	6	2
2014-245	5002	10/1/2014 9:00:11 PM	10/1/2014 10:37:00 PM	1:36:49	C	5	186	62
2014-245	5002	10/1/2014 8:58:46 PM	10/1/2014 9:00:11 PM	0:01:25	C	5	2850	1980
2014-246	3127	10/2/2014 2:26:15 PM	10/2/2014 4:01:00 PM	1:34:45	C	6	3	1
2014-247	3126	10/5/2014 12:27:47 PM	10/5/2014 3:40:49 PM	3:13:02	C	6	220	19
2014-247	3126	10/5/2014 12:27:47 PM	10/5/2014 5:30:00 PM	5:02:13	C	6	110	19
2014-248	3413	10/5/2014 1:05:00 PM	10/5/2014 3:00:00 PM	1:55:00	C	6	20	6

Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-249	3415	10/6/2014 11:50:25 AM	10/6/2014 12:30:00 PM	0:39:35	C	6	120	40
2014-250	3126	10/6/2014 12:12:14 PM	10/6/2014 1:01:16 PM	0:49:02	C	6	220	19
2014-250	3126	10/6/2014 12:07:09 PM	10/6/2014 12:11:57 PM	0:04:48	C	6	220	19
2014-251	5001	10/6/2014 4:12:00 AM	10/7/2014 8:57:00 AM	4:45:00	C	5	27	9
2014-252	1432	10/7/2014 2:59:00 AM	10/7/2014 10:10:00 AM	7:11:00	C	5	21	7
2014-252	1432	10/7/2014 2:59:00 AM	10/7/2014 7:30:00 AM	4:31:00	C	5	78	26
2014-254	3314	10/7/2014 5:55:30 PM	10/7/2014 6:35:00 PM	0:39:30	C	5	69	23
2014-255	1323	10/8/2014 11:54:00 AM	10/8/2014 2:09:09 PM	2:15:09	C	3	99	3
2014-256	2132	10/11/2014 5:16:00 AM	10/11/2014 7:29:00 AM	2:13:00	C	6	12	4
2014-257	2134	10/11/2014 1:56:00 AM	10/11/2014 1:47:00 PM	11:51:00	C	5	18	6
2014-258	3126	10/11/2014 11:58:00 AM	10/11/2014 4:09:00 PM	4:11:00	C	3	57	19
2014-259	3415	10/15/2014 6:20:00 AM	10/15/2014 8:00:00 AM	1:40:00	C	5	120	40
2014-260	2313	10/15/2014 9:00:00 PM	10/16/2014 1:00:00 AM	4:00:00	C	3	25	8
2014-261	3413	10/18/2014 5:25:47 AM	10/18/2014 7:30:00 AM	2:04:13	C	2	45	15
2014-262	2132	10/18/2014 10:23:25 PM	10/19/2014 1:00:00 AM	2:36:35	C	2	579	193
2014-263	5002	10/19/2014 1:36:00 AM	10/19/2014 3:43:00 AM	2:07:00	C	2	759	253
2014-264	2132	10/19/2014 3:50:53 AM	10/19/2014 5:12:00 AM	1:21:07	C	2	75	25
2014-265	3415	10/19/2014 5:40:00 AM	10/19/2014 7:33:00 AM	1:53:00	C	2	33	11
2014-267	2134	10/19/2014 6:51:30 AM	10/19/2014 8:00:00 AM	1:08:30	C	2	96	32
2014-269	5001	10/19/2014 8:32:00 AM	10/19/2014 10:00:00 AM	1:28:00	C	2	27	9
2014-270	2134	10/19/2014 3:28:00 PM	10/19/2014 4:30:00 PM	1:02:00	C	2	132	44
2014-271	4121	10/19/2014 3:38:41 PM	10/19/2014 6:00:00 PM	2:21:19	C	2	15	5
2014-273	3127	10/19/2014 11:46:22 PM	10/20/2014 7:30:00 AM	7:43:38	C	2	3	1
2014-274	5001	10/19/2014 11:59:00 PM	10/20/2014 8:30:00 AM	8:31:00	C	2	276	92
2014-275	5001	10/20/2014 7:30:00 AM	10/20/2014 9:00:00 AM	1:30:00	C	2	21	7
2014-276	5001	10/23/2014 8:25:00 AM	10/23/2014 10:45:00 AM	2:20:00	C	5	81	27
2014-277	1325	10/23/2014 12:39:00 PM	10/23/2014 6:36:00 PM	5:57:00	C	2	110	20
2014-277	1325	10/23/2014 12:39:00 PM	10/23/2014 2:25:59 PM	1:46:59	C	2	190	20
2014-278	4002	10/28/2014 11:14:21 AM	10/28/2014 1:46:45 PM	2:32:24	C	6	410	471
2014-279	3415	10/31/2014 9:30:00 AM	10/31/2014 11:30:00 AM	2:00:00	C	6	60	1612
2014-280	3215	10/31/2014 12:39:00 PM	10/31/2014 3:30:00 PM	2:51:00	C	5	300	1818
2014-281	3124	11/5/2014 6:39:00 PM	11/5/2014 8:10:00 PM	1:31:00	C	5	132	44
2014-282	4124	11/7/2014 9:51:59 AM	11/7/2014 3:00:00 PM	5:08:01	C	5	3	1
2014-283	4121	11/7/2014 7:02:13 PM	11/7/2014 7:16:31 PM	0:14:18	B	1	850	430
2014-283	3126	11/7/2014 7:02:11 PM	11/7/2014 7:13:01 PM	0:10:50	B	1	200	19
2014-283	3123	11/7/2014 7:02:11 PM	11/7/2014 7:12:24 PM	0:10:13	B	1	1140	4246
2014-283	5001	11/7/2014 7:02:10 PM	11/7/2014 7:11:01 PM	0:08:51	B	1	1580	876
2014-283	2314	11/7/2014 7:02:10 PM	11/7/2014 7:11:53 PM	0:09:43	B	1	1670	768
2014-283	3313	11/7/2014 7:02:10 PM	11/7/2014 7:11:33 PM	0:09:23	B	1	1360	1396
2014-285	3127	11/12/2014 9:07:04 PM	11/12/2014 11:15:00 PM	2:07:56	C	6	6	2
2014-286	2134	11/15/2014 3:03:00 AM	11/15/2014 4:39:00 AM	1:36:00	C	6	620	1528
2014-288	2132	11/16/2014 1:27:39 AM	11/16/2014 5:00:00 AM	3:32:21	C	6	80	45
2014-289	4002	11/16/2014 9:25:00 AM	11/16/2014 11:39:00 AM	2:14:00	C	5	21	7
2014-290	3415	11/20/2014 12:33:30 AM	11/20/2014 3:08:00 AM	2:34:30	C	6	90	31
2014-291	3215	11/21/2014 4:35:00 AM	11/21/2014 9:49:00 AM	5:14:00	C	5	30	10
2014-292	3126	11/22/2014 1:15:16 AM	11/22/2014 1:19:12 AM	0:03:56	B	1	100	19
2014-292	3412	11/22/2014 1:15:14 AM	11/22/2014 1:18:35 AM	0:03:21	B	1	900	1004
2014-292	3123	11/22/2014 1:15:14 AM	11/22/2014 1:19:40 AM	0:04:26	B	1	600	1187
2014-292	2314	11/22/2014 1:15:11 AM	11/22/2014 1:20:33 AM	0:05:22	B	1	1150	768
2014-292	5001	11/22/2014 1:15:10 AM	11/22/2014 1:17:28 AM	0:02:18	B	1	830	876
2014-292	4121	11/22/2014 1:15:10 AM	11/22/2014 1:18:01 AM	0:02:51	B	1	440	430
2014-295	3413	11/24/2014 12:45:00 PM	11/24/2014 2:30:00 PM	1:45:00	C	6	75	25
2014-296	2311	11/24/2014 4:42:00 PM	11/24/2014 7:41:00 PM	2:59:00	C	5	15	5

Outage Number	Circuit	Outage Start Time	Outage End Time	Duration	Class	Type	kW	Consumers
2014-297	4002	11/28/2014 8:00:00 AM	11/28/2014 11:30:00 AM	3:30:00	C	6	36	12
2014-298	4002	11/29/2014 8:30:00 AM	11/29/2014 1:20:00 PM	4:50:00	C	6	36	12
2014-299	3415	12/1/2014 10:45:00 AM	12/1/2014 12:30:00 PM	1:45:00	C	5	45	15
2014-300	2132	12/3/2014 2:45:00 PM	12/3/2014 6:00:00 PM	3:15:00	C	6	27	9
2014-301	3121	12/4/2014 9:45:00 AM	12/4/2014 11:30:00 AM	1:45:00	C	5	36	12
2014-302	2311	12/11/2014 10:41:00 PM	12/12/2014 2:40:00 AM	3:59:00	C	3	270	90
2014-303	2134	12/12/2014 11:52:00 PM	12/13/2014 1:00:00 PM	13:08:00	C	6	6	2
2014-304	3415	12/13/2014 4:15:10 PM	12/13/2014 7:00:00 PM	2:44:50	C	6	540	188
2014-305	4122	12/14/2014 1:04:00 AM	12/14/2014 4:00:00 AM	2:56:00	C	6	147	49
2014-306	3214	12/20/2014 12:30:00 AM	12/20/2014 2:00:00 AM	1:30:00	C	6	15	5
2014-307	5001	12/20/2014 4:45:00 PM	12/20/2014 10:05:00 PM	5:20:00	C	5	54	18
2014-308	3415	12/21/2014 7:24:00 PM	12/21/2014 9:30:00 PM	2:06:00	C	6	51	17
2014-311	3127	12/22/2014 1:04:59 PM	12/22/2014 5:00:00 PM	3:55:01	C	6	3	1
2014-312	1325	12/23/2014 9:03:00 AM	12/24/2014 9:17:00 AM	0:14:00	C	6	30	10
2014-313	3126	12/24/2014 10:18:56 AM	12/24/2014 12:30:00 PM	2:11:04	C	5	20	19
2014-314	2132	12/27/2014 1:51:00 PM	12/27/2014 7:30:00 PM	5:39:00	C	5	18	6
2014-315	2314	12/30/2014 10:35:25 AM	12/30/2014 12:16:00 PM	1:40:35	C	2	135	45
2014-317	3415	12/30/2014 11:54:08 AM	12/30/2014 1:47:00 PM	1:52:52	C	2	195	65
2014-318	2134	12/30/2014 2:26:00 PM	12/30/2014 4:35:00 PM	2:09:00	C	2	135	45
2014-319	1325	12/30/2014 12:00:00 PM	12/30/2014 5:20:00 PM	5:20:00	C	2	9	20
2014-320	4122	12/30/2014 1:13:00 PM	12/30/2014 4:54:00 PM	3:41:00	C	2	75	25
2014-321	1323	12/30/2014 7:05:00 PM	12/30/2014 8:00:00 PM	0:55:00	C	2	12	4
2014-322	4121	12/30/2014 6:19:22 PM	12/30/2014 8:33:00 PM	2:13:38	C	2	252	430
2014-323	4002	12/30/2014 1:19:00 PM	12/30/2014 10:50:00 PM	9:31:00	C	2	18	6
2014-325	3313	12/31/2014 3:25:59 PM	12/31/2014 6:30:00 PM	3:04:01	C	6	24	1396