



# Annual Reliability & Power Quality Report

1 July 2009 to 30 June 2010

safe reliable efficient

### DOCUMENT RELEASE INFORMATION

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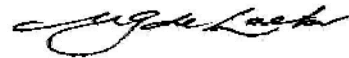
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## 1 Introduction

This report presents information required as part of Schedule 1 of the *Electricity Industry (Network Quality and Reliability of Supply) Code 2005* (“the Code”) – for the 12 months to 30 June 2010.

Western Power’s commitment is to work with the Office of Energy and the Economic Regulation Authority to ensure that the data presented in the Annual Reliability and Power Quality Report is clear and interprets the Code requirements correctly.

The figures stated in this report should not be compared to other publications by Western Power on reliability performance. Western Power is required to report on industry standard definitions of reliability to the Economic Regulatory Authority, which is different from the measures defined in the Code.

## 2 Overview

During the 12 months to 30 June 2010 there were a number of events outside of Western Power’s control that impacted negatively on reliability, resulting in an increase in the total minutes without power for customers.

In comparison to the previous year, there has been an increase in significant storm related outages. During this period, customers experienced three days where there were widespread outages due to storm activity.

If the impact of these major weather events are excluded, the overall reliability performance of the network improved slightly over the 12 months.

The most significant storm event occurred on the 22 and 23 March 2010 where the weather consisting of lightning and strong winds caused extensive damage to the network. Approximately 250,000 customers (predominantly in the Perth Metropolitan area) were affected over these two days, with winds gusting up to and above 100kph. The West Australian Premier Colin Barnett designated this event to be a natural disaster. The Insurance Council of Australia declared the Perth storm an insurance catastrophe.

While the above environmental factors had an adverse affect on reliability, there were a number of activities during the year that delivered improvements in reliability to customers:

- The deployment of 3-phase telemetered reclosers and load break switches. This strategy provides switching flexibility, reducing the number of customers affected by a supply interruption;
- The reinforcement of the protection sections of distribution feeders that contribute the most to SAIDI (measure of average interruption duration) on the South West Interconnected System (SWIS). This strategy aims to improve the reliability of the targeted protection section by reducing faults due to equipment failure and wildlife;
- The State Underground Power Program, which is a partnership between Western Power, the State Government and local government authorities, with funding shared 25%, 25% and 50% respectively, to target areas of the distribution network for undergrounding;
- Directing maintenance work to the worst performing feeders in the network;

- The replacement of under performing key overhead assets such as poles and conductors;
- Upgrade of transformers to prevent overloading in future summers; and
- Other targeted maintenance work on our distribution and transmission network.

These activities have contributed to significant reliability improvements in the areas they have targeted.

### 3 Definitions

All terminology used in this report is in accordance with definitions presented in Item 1 to Item 3 of Schedule 1 of the Code.

For the purposes of this report, “all other areas of the State” as defined in Items 2 and 3 of Schedule 1 are referred to as “Rural” areas of the SWIS and will be referred to as such in Sections 6, 7 and 9 of the Report.

### 4 Response to Item 4 of Schedule 1 of the Code

Permanent power quality (PQ) meters have been deployed in different parts of the low voltage (LV) distribution network to monitor the quality of customers’ supply.

In responding to item 4, the program of installing permanent PQ meters (known as Electronic Design and Manufacturing International or “EDMI” meters) continues with an additional 28 devices deployed for the 12 months to 30 June 2010. This brings the total number operating to 84.

#### 4.1 Harmonics Compliance

Harmonics are certain characteristics of voltage and current on a power system that arise from particular types of equipment that are connected to the system. Harmonics can result in extra strain on the network and devices connected to the network. Where reasonably practicable, the voltage distortion levels arising from harmonics in the network are to be contained within the compatibility levels given in Part 2 Section 7 of the Code. The Technical Rules provide the requirements that must be met by loads and generators connecting to the distribution and transmission networks.

To assist the management of harmonics on the distribution network, Western Power has developed Guidelines, based on requirements in the Technical Rules and the methodologies used in the Australian Standards (AS61000.3.6 and Power Quality Handbook HB264). These guidelines are used when assessing new customer connections to mitigate loads with high levels of voltage disturbances connecting to the network. Residential customers are not the main contributors to harmonic voltage distortion, therefore harmonic limits are generally negotiated with commercial and industrial customers.

In accordance with the Technical Rules, the total harmonic voltage distortion (THD) limit is 6.5% for each customer. This is to help ensure that the compatibility level of 8% THD specified in the Code is not exceeded.

Figures 1 and 2 illustrate the THD representation of the permanent PQ meter transformer and customer sites. The median THD recorded by the permanent PQ meters is approximately 2.7% for the customer sites and 2.1% for the transformer sites. Out of the

total 84 sites, 1 customer site (0.14% of the time) and 4 transformers sites (1.13% of time) exceeded the Western Power planning level of 6.5%, (99.86% of the time the sites were within the Western Power planning level). Investigation is currently underway to identify potential issues at these sites.

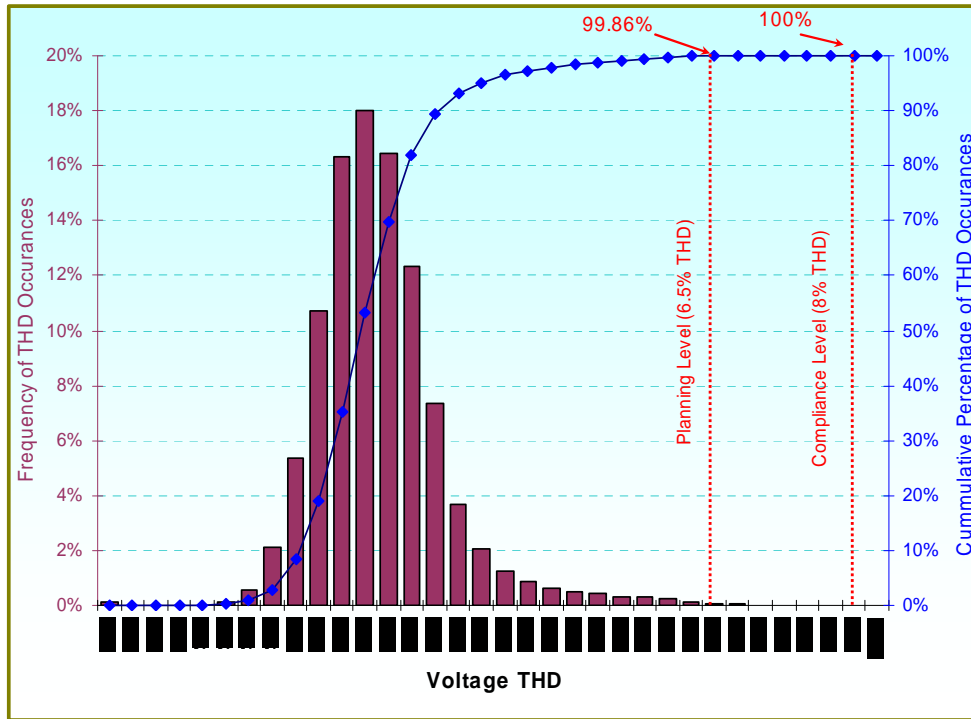


Figure 1: Percentage of THD for aggregate of 40 customer permanent PQ meters recording sites

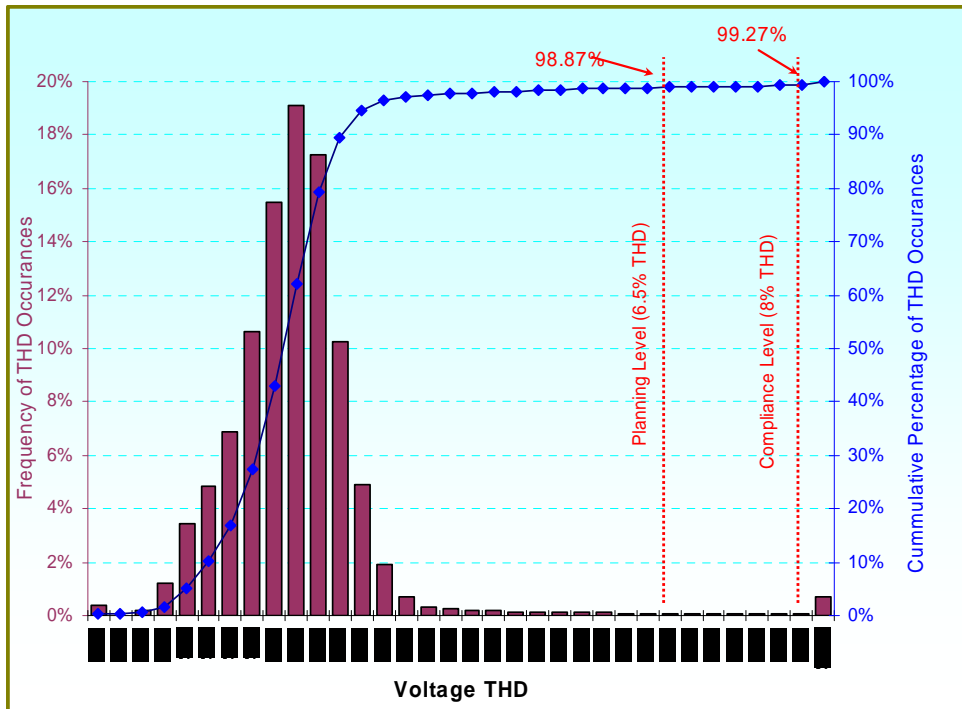


Figure 2: Percentage of THD for aggregate of 44 transformer permanent PQ meters recording sites

## 4.2 Voltage Variation Compliance

Voltages must be maintained within  $\pm 6\%$  of the of the nominal supply voltage according to the Electricity Act 1945 Section 25(1)(d). The nominal voltage for the purposes of the Electricity Act and the Code is 240 V single-phase and 415 V three-phase. According to the Technical Rules, the steady state voltage must be within the following limits:

- $\pm 6\%$  of the nominal voltage during normal conditions;
- $\pm 8\%$  of the nominal voltage during maintenance conditions; and
- $\pm 10\%$  of the nominal voltage during emergency conditions.

Figures 3 and 4 represent the frequency of variations in voltage levels for customer and transformer sites as recorded by the permanent PQ meters.

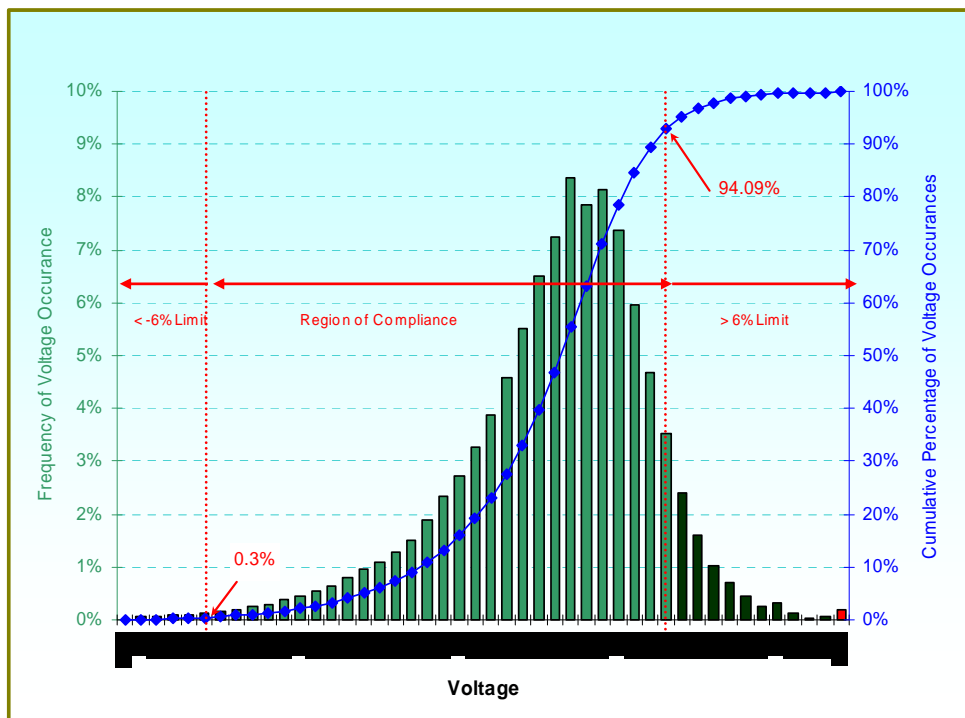


Figure 3: Voltage distribution for aggregate of 40 permanent PQ meters at customer sites

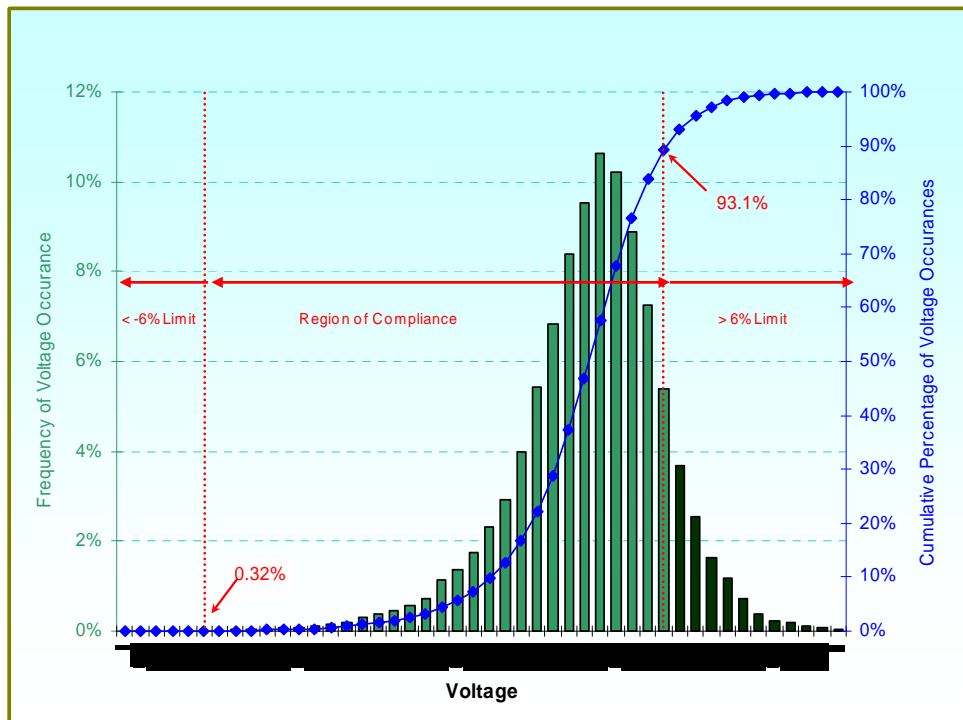


Figure 4: Voltage distribution for aggregate of 44 permanent PQ meters at transformer sites

Figures 3 and 4 show that the voltage level was maintained within the required limits for 93.8% of the time at customer sites, and 92.8% of the time at transformer sites. The voltage lower limit (240V -6%) was not met for approximately 0.3% of the time at all sites and this can be attributed mostly to times of peak loads and possibly network interruptions. The voltage upper limit (240V +6%) was exceeded at the customer sites 5.91% of the time and at transformer sites 6.9% of the time. Transformer sites traditionally will be the point of highest voltage on an LV network.

The locations represented by the permanent PQ meters have a median voltage of approximately 250V for the transformer sites and 248V for customer sites. This illustrates that the distribution network generally complies with the Code under 'normal operating' conditions. Future activities are in the initial planning and development stage to address the management of the LV network voltage to improve compliance and management of the LV network.

#### 4.3 Voltage Unbalance Compliance

Power is distributed to customers by way of 3 phase electricity, in which each phase is initially transmitted at  $120^\circ$  before and after the proceeding and preceding phase and this is known as a balanced supply. However, differing loads on each of the phases causes imbalances between phases and amplitudes and can cause problems that may risk damage to connected equipment and in extreme cases could pose electric shock risks. Where such unbalances are identified, appropriate work is done either within the customer's installation or by balancing of the customer connections on the LV or the High Voltage (HV) distribution networks.

The Technical Rules outline the limit for the negative phase sequence component of the voltage (in percent of the positive sequence component) to be less than 2%.

As instrumentation for measuring sequence components is not readily available, the measurements for voltage unbalance are based on an approximation method that



compares the voltage differences between each phase. The approximation method requires voltage measurements to be either:

- Phase to phase; or
- Phase to neutral (in this instance, the displacement angles also need to be considered).

All measurements were recorded as positive and negative sequence components by the permanent meters and the unbalance results calculated.

Figure 5 and Figure 6 depict the occurrences of voltage unbalance between 0 and 3% for customer and transformer permanent meter sites. These figures show that the voltage unbalance is well within the limit for 99.4% of the time for customer sites and 98.13% for transformer sites.

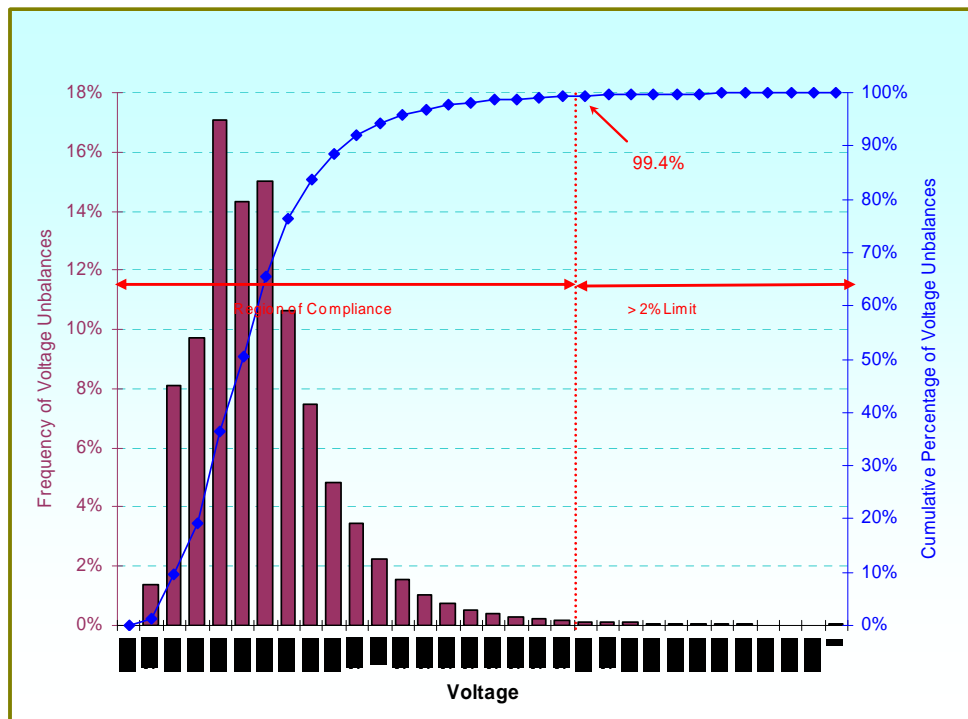
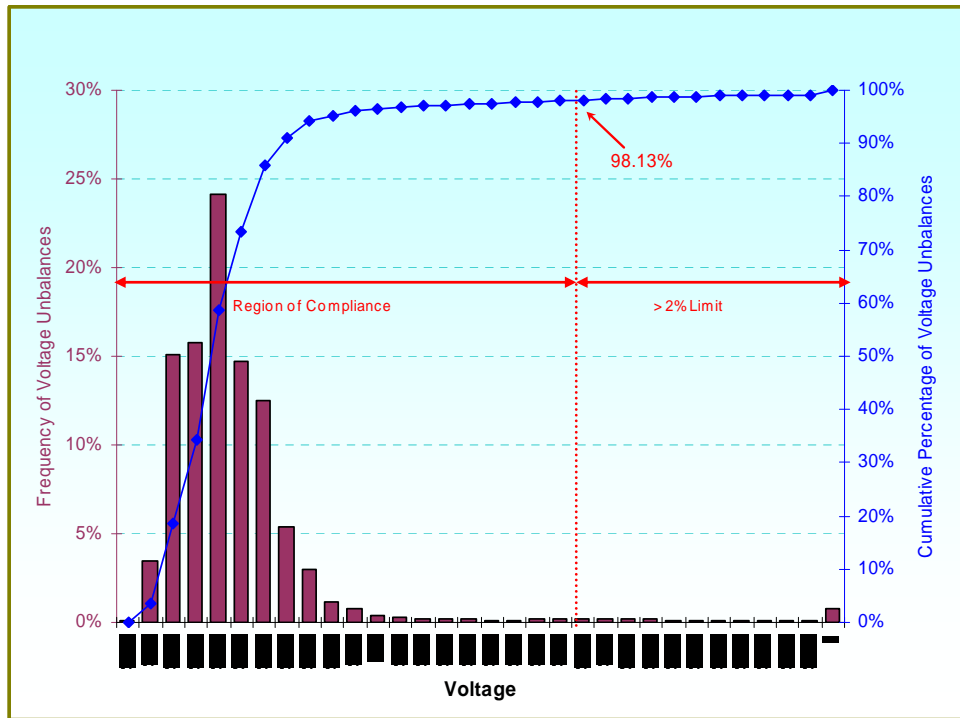


Figure 5: Voltage unbalance for aggregated recordings for 40 permanent customer sites



**Figure 6: Voltage unbalance for aggregated recordings for 44 permanent transformer sites**

#### 4.4 Summary

As shown in this section, the level of non-compliance is relatively small in percentage terms and projects are in place to target the areas of identified non-compliance. In future years, it is expected that the Power Quality delivered to the customer will continue to improve.

## 5 Response to Item 5 of Schedule 1 of the Code

This section reports on the customers that experienced power interruptions exceeding 12 hours at least once during the 12 months to 30 June 2010.

### 5.1 Response

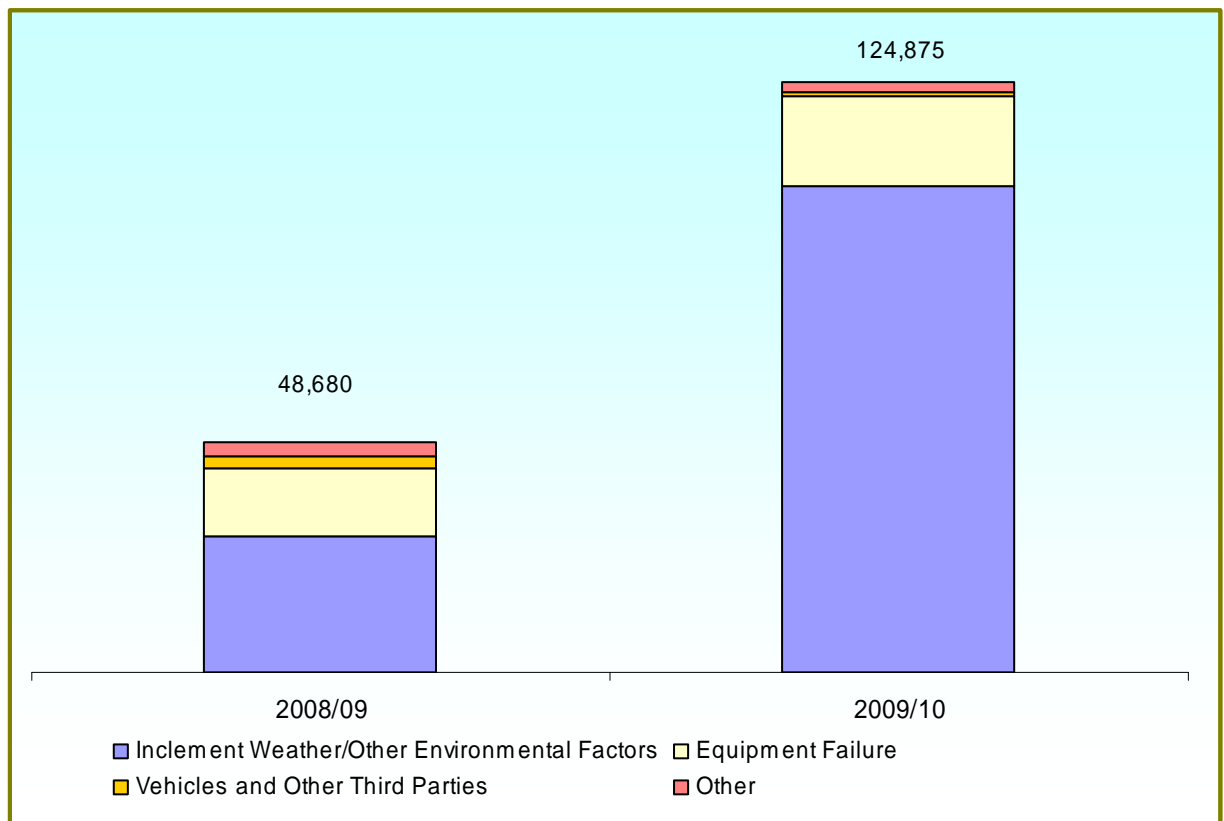
Out of a customer base of 986,775 customers that have been interrupted for more than 12 hours:

- Customer premises that experienced one outage that exceeds 12 hours – 112,396; and
- Customer premises that experienced more than one outage that exceeds 12 hours – 12,479.

Figure 7 shows the total customer interruptions lasting greater than 12 hours by fault cause.

These outages were predominantly due to events beyond Western Power’s control such as storm activity, as well as lightning activity in Rural areas. Equipment failure on the distribution network also contributed to the extended outages. Equipment failures were prominent during January 2010, which was the second hottest January for Perth since the Bureau of Meteorology records began. There were also equipment failures lasting longer than 12 hours during the days immediately after the 22 and 23 March storm as restoration time to customers would have been longer than usual due to the extensive damage during these days.

There were 2,026 incidents where customers experienced outages exceeding 12 hours. Refer to Appendix A for a complete list of these outages.



**Figure 7 – Customer Interruptions lasting greater than 12 hours by Fault Cause**

**Table 1 - Customers that have been interrupted more than the number of times expressed in section 12(1) of the Code**

	2008/09	2009/10
Urban area (including Perth CBD) customers that have been interrupted more than 9 times	16,733	12,616
Rural area customers that have been interrupted more than 16 times	739	1,513

Urban area customers experiencing more than 9 interruptions for the 12 months to 30 June 2010 were predominantly within the outer suburbs of the South East and Eastern parts of the Perth Metropolitan region and the Bunbury region. Rural area customers experiencing more than 16 interruptions for the 12 months to 30 June 2010 were predominantly within the Great Southern, Goldfields and Wheatbelt regions.

Western Power constantly monitors areas where customers experience recurring outages and instigates remedial action where required.

## 6 Response to Items 11, 12 and 13 of Schedule 1 of the Code

### 6.1 Overview

This data is inclusive of all protection device trips on the network greater than or equal to one minute that resulted in loss of power to customers.

In reference to Item 11 of Schedule 1 of the Code:

- 'SAIDI' (System Average Interruption Duration Index) refers to 11(d);
- 'SAIFI' (System Average Frequency Interruption Duration Index) refers to 11(b);
- 'CAIDI' (Customer Average Interruption Duration Index) refers to 11(a); and
- 'ASAI' (Average Service Availability Index) refers to 11(c).

### 6.2 Response - Perth CBD

There was a decrease in the number of customers interrupted due to incidents caused by the equipment under the customers control and underground distribution hardware, resulting in a reduction in SAIDI, SAIFI and CAIDI in the Perth CBD during the 12 months to 30 June 2010.

**Table 2 – Perth CBD area reliability**

KPI	Units	Financial Year Ending 30 June				4 Year Average
		2006/07	2007/08	2008/09	2009/10	
SAIDI	Minutes	33	57	46	11	37
SAIFI		0.26	0.25	0.30	0.29	0.28
CAIDI	Minutes	128	223	152	36	135
ASAI	%	99.994	99.989	99.991	99.998	99.993

### 6.3 Response - urban areas other than Perth CBD

SAIDI and CAIDI increased in urban areas during the 12 months to 30 June 2010. This is in part due to outages from:

- The storm events during 22 and 23 March 2010 (see Section 2);
- Equipment failures on the distribution network; and
- Emergency outages to remove hazards.

Power line reinforcements (such as conductor and pole upgrades) have contributed to a reduction in the frequency of unplanned interruptions caused by equipment failure. Automated switchgear has reduced customer impact due to interruptions such as storms and other environmental events.

**Table 3 – Urban areas (other than the Perth CBD) reliability**

KPI	Units	Financial Year Ending 30 June				4 Year Average
		2006/07	2007/08	2008/09	2009/10	
SAIDI	Minutes	264	269	329	471	333
SAIFI		3.0	2.9	2.7	2.7	2.83
CAIDI	Minutes	87	92	122	173	118
ASAI	%	99.95	99.95	99.937	99.910	99.937

### 6.4 Response – isolated networks

The outages experienced by customers in the Ravensthorpe area are predominantly due to lightning activity. However, analysis has shown an overall improvement in reliability to these customers as a result of the new power station.

To improve the reliability, quality and capacity of power supply to the Ravensthorpe's town, a stand alone power station (Ravensthorpe Stage 1 Temporary Power Station) was commissioned on 17 December 2009. Ravensthorpe customers were informed of the changeover, which took effect without any reported issues. Ravensthorpe is now supplied "off the grid" however is still connected to the network.

There are currently plans underway to reconnect Ravensthorpe back onto the grid with a backup power station to cater for peak energy and other contingency situations by the end of 2011.

**Table 4 – Isolated Networks**

KPI	Units	Financial Year Ending 30 June				4 Year Average
		2006/07	2007/08	2008/09	2009/10	
SAIDI	Minutes	N/A			888	N/A
SAIFI					2.5	
CAIDI	Minutes				360	
ASAI	%				99.831	

## 6.5 Response – rural areas

SAIDI, CAIDI and SAIFI increased for rural areas during the 12 months to 30 June 2010. The primary concerns were:

- Lightning activity;
- Overhead equipment failures on the distribution network; and
- Emergency outages to remove hazards.

Automated switchgear has reduced the impact of the outages on customers by reducing the restoration time.

**Table 5 – Rural areas reliability**

KPI	Units	Financial Year Ending 30 June				4 Year Average
		2006/07	2007/08	2008/09	2009/10	
SAIDI	Minutes	563	599	735	818	679
SAIFI		4.3	4.7	5.1	5.4	4.87
CAIDI	Minutes	131	128	145	151	139
ASAI	%	99.89	99.89	99.860	99.844	99.871

## 7 Response to Items 6, 7 and 8 of Schedule 1 of the Code

### 7.1 Overview

This section summarises complaints that have been logged and subsequently directed for corrective action where required.

### 7.2 Response

**Table 6 - Complaints received in 2008/09 and 2009/10 - total and by discrete area as per Items 6 and 7 of Schedule 1 of the Code.**

Discrete Area	# Complaints	
	2008/09	2009/10
Perth CBD	39	53
Urban areas other than the Perth CBD	1,249	1,655
Rural areas	358	317
Isolated systems	0	43
<b>Total</b>	<b>1,646</b>	<b>2,068</b>

As shown in Table 6, complaints rose by 25 per cent in the 12 months to 30 June 2010 in comparison to the previous 12 months. This was predominately due to complaints throughout the summer period during extreme weather days. The total amount spent during the 12 months to 30 June 2010 addressing complaints (including materials and labour on the network) was \$5.17 million compared to \$6.21 million in the previous 12 months. These figures include the complaints received in that particular financial year, as well as carry over complaints from the previous financial year that requires corrective work to be done.

## 8 Response to Item 9 of Schedule 1 of the Code

The increase in payments for supply interruptions exceeding 12 hours is predominantly due to the increase in outages to customers that were affected by the 22 and 23 March storm (see Section 2).

The increase in payments for failure to give required notice of planned interruption is due primarily to an increase in customer awareness of this compensation scheme.

**Table 7 - Payments in 2008/09 and 2009/10 as per Items 8 of Schedule 1 of the Code**

	2008/09		2009/10	
	Number	Value	Number	Value
Payments for failure to give required notice of a planned Interruption	364	\$18,200	573	\$28,650
Payments for supply interruptions exceeding 12 Hours	5,589	\$447,120	34,151	\$2,732,080

## 9 Response to Items 14 and 15 of Schedule 1 of the Code

This response outlines the customer percentiles of average length of interruption, total length of interruption and number of interruptions for the 12 months to 30 June 2010.

Percentiles are selected over the customer premise count for each discrete area. For example, Table 9 and Figure 9 show that in 12 months to 30 June 2010, 50 percent of customers in urban areas had no more than 2 interruptions.

### 9.1 Average length of interruption

Table 8 outlines the average length of interruptions to customers based on the prescribed percentiles for 12 months to 30 June 2010.

The 100<sup>th</sup> percentile figure for Rural is due to lightning activity in the Wheatbelt area.

The 100<sup>th</sup> percentile figure for Urban and Perth CBD is predominantly due to extended outages attributed to the 22 and 23 March storm (see Section 2).

**Table 8 – Average length of interruption (minutes) percentile figures as per Item 14(a) of Schedule 1 of the Code**

	25 <sup>th</sup>	50 <sup>th</sup>	75 <sup>th</sup>	90 <sup>th</sup>	95 <sup>th</sup>	98 <sup>th</sup>	100 <sup>th</sup>
Perth CBD	0	0	0	19	22	100	771
Urban (ex Perth CBD)	31	90	183	360	499	745	5,458
Rural	59	108	190	325	416	528	3,689

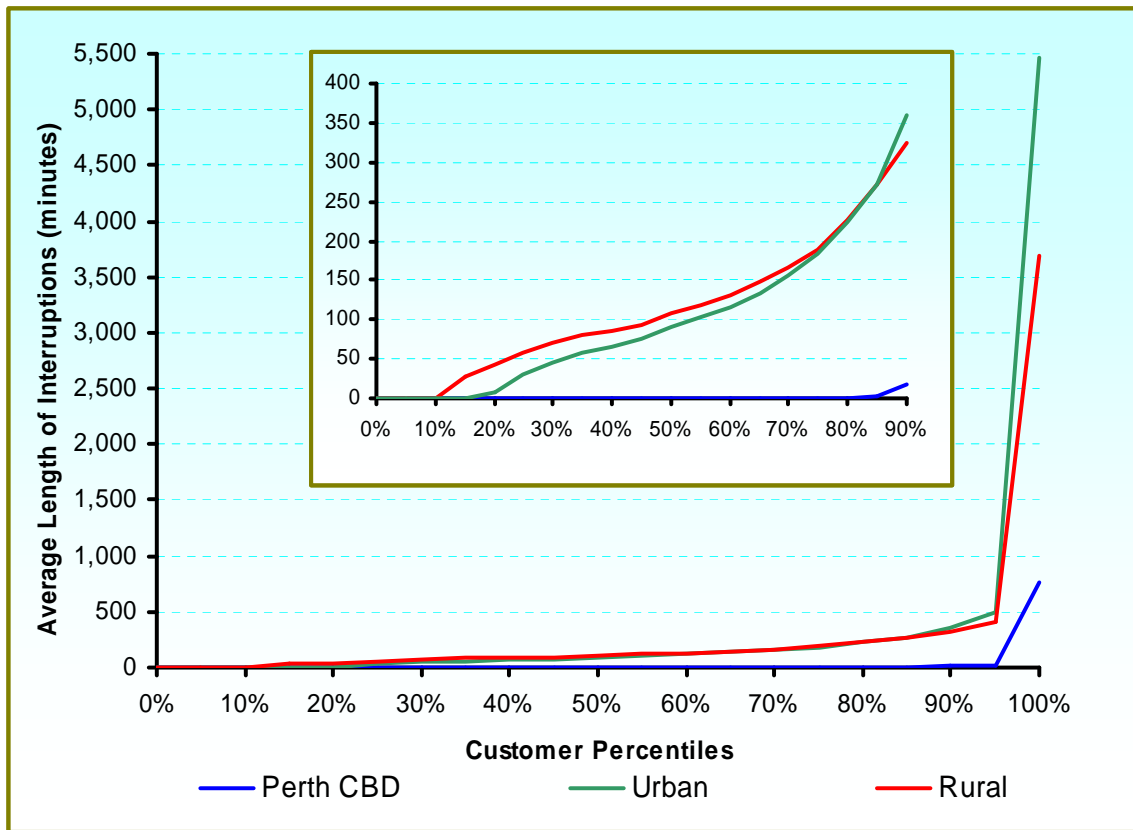


Figure 8 – Average length of interruption percentile distribution as per Item 15 of Schedule 1 of the Code

## 9.2 Number of interruptions

Table 9 outlines the number of interruptions to customers based on the prescribed percentiles for 12 months to 30 June 2010.

- Approximately 84% of CBD customers experienced no outages;
- Approximately 98% of urban area customers experienced 9 or less outages; and
- Approximately 99% of rural area customers experienced 16 or less outages.

Areas of the network which have high frequency of interruptions are monitored and targeted for applicable remedial activities.

Table 9- Number of interruptions percentile figures as per Item 14(b) of Schedule 1 of the Code

	25th	50th	75th	90th	95th	98th	100th
Perth CBD	0	0	0	1	1	1	5
Urban (ex Perth CBD)	1	2	3	5	7	8	18
Rural	2	4	6	8	11	13	26



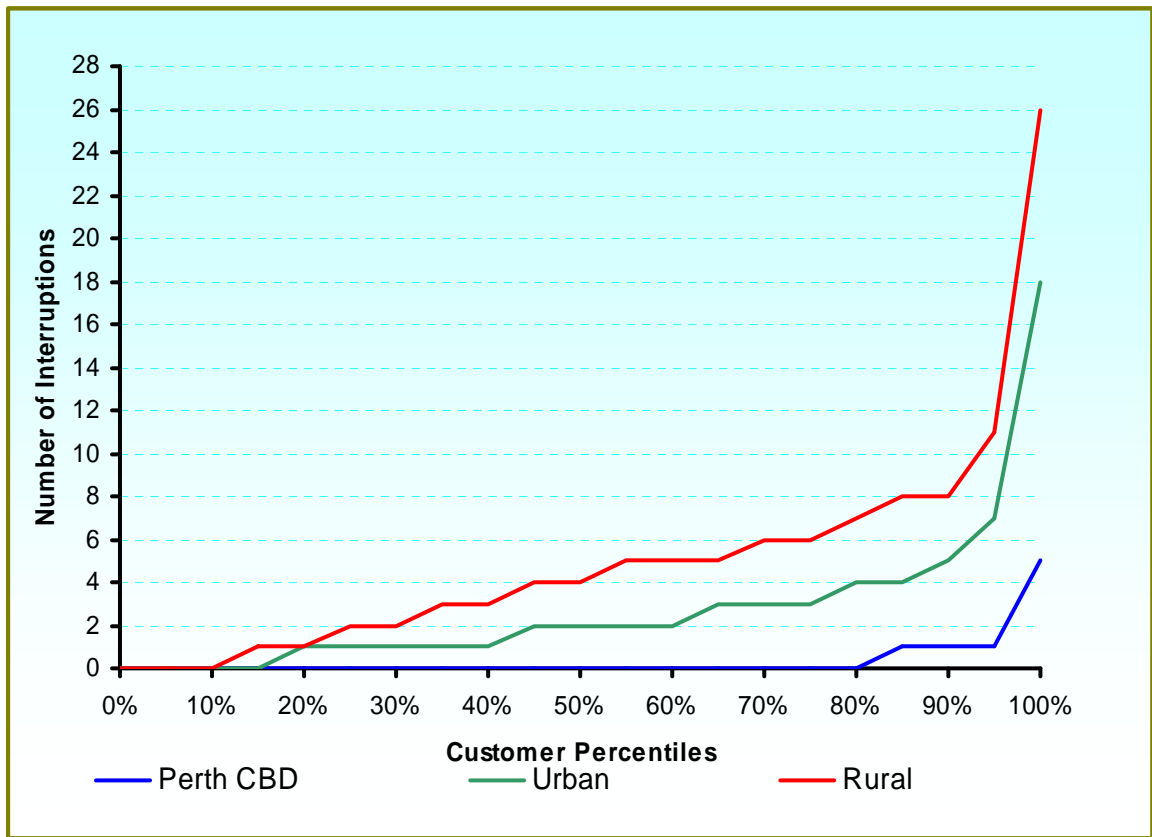


Figure 9 – Number of interruptions percentile distribution as per Item 15 of Schedule 1 of the Code

### 9.3 Total length of all interruptions

For 12 months to 30 June 2010:

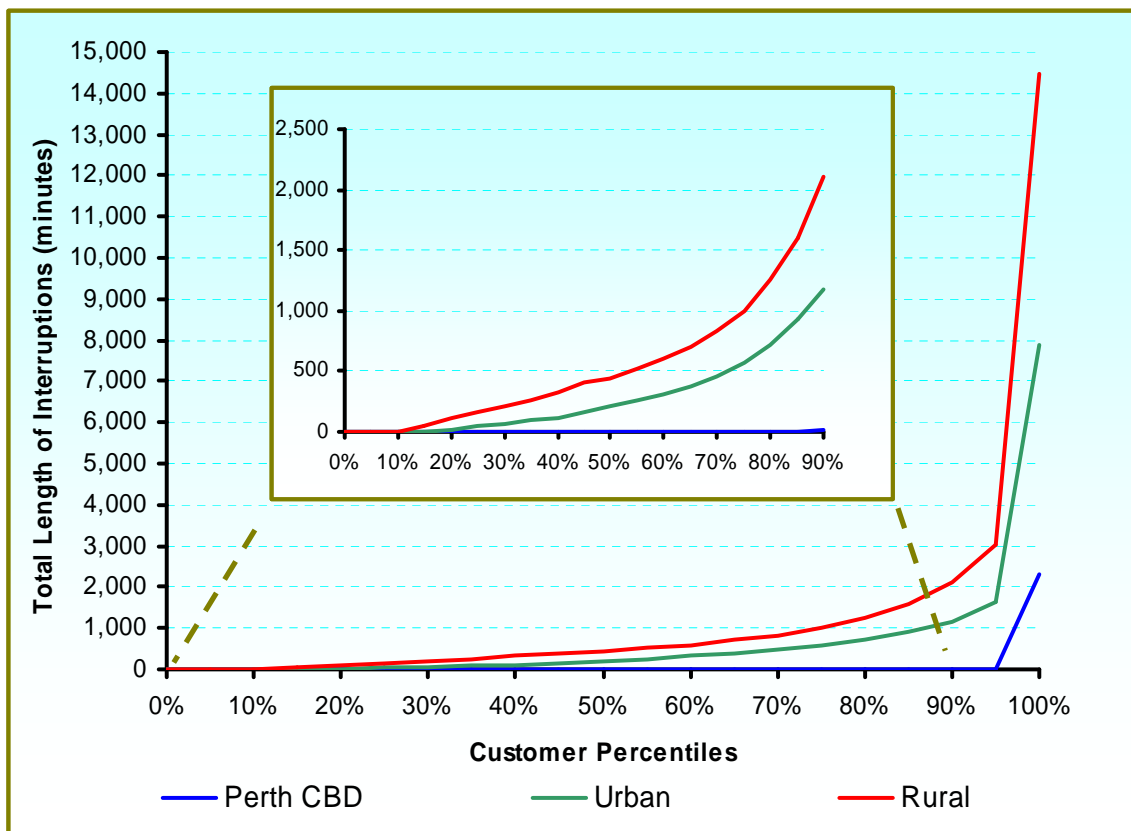
- Approximately 97% of Perth CBD customers experienced total outage minutes of less than 30 minutes;
- Approximately 44% of urban area customers experienced total outage minutes of less than 160 minutes; and
- Approximately 37% of rural area customers experienced total outage minutes of less than 290 minutes.

The 100<sup>th</sup> percentile figure for Urban and Perth CBD is predominantly due to extended outages attributed to the 22 and 23 March storm (see Section 2).

The 100<sup>th</sup> percentile figure for Rural is due to lightning activity in the Wheatbelt area.

**Table 10 - Total length of interruptions (minutes) percentile figures as per Item 14(c) of Schedule 1 of the Code**

	25th	50th	75th	90th	95th	98th	100th
Perth CBD	0	0	0	21	22	127	2,312
Urban (ex Perth CBD)	50	206	569	1,170	1,658	2,149	7,878
Rural	156	446	998	2,109	3,011	4,009	14,472



**Figure 10 – Total length of interruptions percentile distribution as per Item 15 of Schedule 1 of the Code**

## Appendix A - List of Customer Outages Greater than 12 Hours

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1	22.85	22.85	1
2	15.27	15.27	14
3	17.76	17.76	1
4	18.68	18.68	1
5	52.66	52.66	1
6	12.15	12.15	1
7	12.81	12.81	2
8	26.58	26.58	8
9	33.12	33.12	111
10	14.91	14.91	1
11	14.87	14.87	1
12	26.23	26.23	21
13	20.75	20.75	9
14	15.65	15.65	1
15	18.54	18.54	17
16	22.83	22.83	15
17	14.02	14.02	1
18	22.18	22.18	1
19	13.86	13.86	156
20	12.86	12.86	6
21	15.81	15.81	4
22	18.7	18.7	10
23	13.43	13.43	43
24	12.03	12.03	1
25	27.77	27.77	9
26	26.77	26.77	1
27	13.82	13.82	1
28	14.58	14.58	84
29	17.64	17.64	1
30	15.77	15.77	1
31	21.61	21.61	1
32	16.31	16.31	1
33	18.23	18.23	1
34	16.05	16.05	10
35	15.74	15.74	146
36	12.13	12.13	1
37	16.13	16.13	1
38	13.17	13.17	1
39	18.33	18.33	1
40	13.35	13.35	83
41	12.45	12.45	1
42	19.18	19.18	102
43	12.45	12.45	1
44	14.77	14.77	1
45	14.1	14.1	1
46	15.45	15.45	21
47	12.41	12.41	10

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
48	17.27	17.27	1
49	12.3	12.3	1
50	16.69	16.69	295
51	32.75	32.75	40
52	15.4	15.4	1
53	12.61	12.61	1
54	12.7	12.7	1
55	13.2	13.2	19
56	35.51	35.51	68
57	17.5	21.92	51
58	20.22	20.22	81
59	56	56	1
60	25.25	25.25	1
61	13.78	13.78	8
62	12.6	12.6	1
63	21.48	21.48	62
64	21.37	21.37	1
65	18.38	18.38	1
66	20.72	20.72	2
67	28.95	28.95	1
68	18.65	18.65	4
69	14.96	14.96	1
70	14.85	14.85	40
71	12.9	12.9	22
72	18.62	18.62	4
73	14.34	15.69	216
74	20.52	20.52	1
75	15.92	15.92	81
76	16.58	16.58	13
77	12.57	12.57	1
78	13.83	13.83	1
79	16.67	16.67	12
80	48.83	48.83	27
81	24.94	24.94	2
82	12.05	12.05	161
83	17.29	17.29	1
84	36.09	36.09	14
85	21.67	21.67	161
86	14.27	14.27	9
87	18.33	18.33	2
88	26.28	26.28	51
89	25.73	25.73	2
90	21.69	21.69	13
91	23.53	23.53	1
92	15.58	15.58	1
93	37.87	37.87	2
94	13.08	13.08	47
95	14.87	14.87	55
96	25.81	25.81	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
97	18.05	18.05	1
98	31.95	31.95	1
99	23.3	23.3	14
100	15.55	42.25	43
101	14.64	14.64	1
102	13.23	13.23	1
103	14.3	14.3	1
104	12.43	12.43	21
105	16.22	16.22	107
106	56.9	56.9	1
107	13.42	13.42	88
108	16.1	16.1	1
109	30.76	30.76	1
110	15.11	15.11	5
111	22.97	22.97	39
112	70.87	70.87	1
113	18.14	18.14	6
114	15.21	15.21	1
115	12.79	12.79	12
116	19.17	19.17	1
117	16.52	16.52	1
118	13.18	13.18	1
119	13.55	13.55	1
120	14	14	14
121	13.52	13.52	1
122	27.08	27.08	3
123	35.65	35.65	58
124	14.8	14.8	140
125	13.06	13.06	1
126	17.12	17.12	1
127	34.61	34.61	1
128	12.68	12.68	1
129	15.99	15.99	1
130	20.09	20.09	1
131	20.54	20.54	1
132	16.63	16.63	1
133	18.81	18.81	7
134	22.1	22.1	1
135	13.31	13.31	8
136	22.04	22.04	1
137	15.21	15.21	17
138	14.23	14.23	5
139	17.74	17.74	1
140	25.35	25.35	1
141	17.57	17.57	1
142	28.7	28.7	1
143	19.58	19.58	13
144	17.55	17.55	1
145	17.64	17.64	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
146	14.44	14.44	1
147	17.11	17.11	28
148	17.16	17.16	2
149	15.18	15.18	1
150	18.37	18.37	18
151	18.19	18.19	1
152	16.33	16.33	21
153	16.2	16.2	1
154	16.65	16.65	1
155	13.55	13.55	1
156	17.15	17.15	2
157	17.47	17.47	1
158	13.39	13.39	1
159	13.18	13.18	29
160	13.37	13.37	36
161	16.35	16.35	1
162	40.72	40.72	6
163	13.75	13.75	16
164	19.84	19.84	1
165	24.23	24.23	1
166	19.73	19.73	1
167	74.43	74.43	1
168	22.66	23.83	253
169	20.71	20.71	1
170	18.43	18.43	1
171	18.98	18.98	1
172	19.09	19.09	1
173	23.78	23.78	1
174	18.55	18.55	2
175	21.26	21.26	1
176	17.54	17.54	1
177	18.93	18.93	1
178	16.57	16.57	1
179	16.31	16.31	107
180	15.83	15.83	63
181	13.32	13.32	1
182	76.51	76.51	1
183	16.52	16.52	1
184	13.02	13.02	1
185	25.9	25.9	28
186	33.44	33.44	107
187	21.36	21.36	2
188	18.8	18.8	1
189	53.23	53.23	75
190	19.83	19.83	152
191	76.99	76.99	1
192	15.41	15.41	1
193	33.51	33.51	18
194	27.62	27.62	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
195	27.53	27.53	15
196	47.48	47.48	1
197	12.9	12.9	1
198	20.87	20.87	1
199	12.98	12.98	2
200	13.16	13.16	104
201	19.81	19.81	1
202	18.97	18.97	32
203	18.81	18.81	2
204	14.84	14.84	1
205	15.44	15.44	15
206	16.76	16.76	1
207	12.57	12.57	1
208	15.08	15.08	6
209	22.69	22.69	1
210	15.15	15.15	1
211	17.03	17.03	1
212	12.32	12.32	1
213	19.5	19.5	1
214	16.58	16.58	1
215	21.47	21.47	61
216	12.65	12.65	1
217	12.63	12.63	1
218	13.11	15.22	17
219	27.66	27.66	1
220	44.55	44.55	1
221	32.74	32.74	83
222	26.17	26.17	2
223	17.51	17.51	17
224	15.18	15.18	30
225	13.07	13.07	1
226	12.05	12.05	1
227	31.77	31.77	18
228	22.73	22.73	3
229	17.79	17.79	1
230	22.92	22.92	1
231	23.05	23.05	22
232	42.19	42.19	2
233	13.51	13.51	1
234	44.53	44.53	89
235	12.03	12.03	420
236	28.7	28.7	17
237	29.62	29.62	48
238	13.24	13.24	1
239	12.9	12.9	1
240	14.66	14.66	1
241	26.59	26.59	24
242	28.45	28.45	117
243	13.98	13.98	1



Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
244	31.22	31.22	88
245	12.15	12.15	27
246	22.33	22.33	16
247	27.17	27.17	1
248	30.42	30.42	1
249	29.9	29.9	2
250	35.11	35.11	1
251	24.63	24.63	28
252	12.62	12.62	1
253	32.11	32.11	1
254	17.83	17.83	16
255	22.44	22.44	11
256	15.73	15.73	25
257	12.18	12.18	1
258	17.7	17.7	19
259	27.68	27.68	1
260	12.23	12.23	1
261	13.16	13.16	1
262	20.53	20.53	1
263	14.22	14.22	53
264	12.74	18.12	99
265	51.53	51.53	3
266	20.97	20.97	1
267	12.37	12.37	1
268	22.19	22.19	1
269	15.85	15.85	132
270	14.23	14.23	118
271	15.14	15.14	1
272	26.89	26.89	1
273	49.92	49.92	1
274	16.53	16.53	21
275	34.47	34.47	28
276	14.8	14.8	1
277	13.76	13.76	1
278	20.12	20.12	55
279	93.72	93.72	1
280	12.12	12.12	25
281	12.93	12.93	1
282	14.23	14.23	1
283	14.36	14.36	157
284	15.23	15.23	1
285	87.83	87.83	1
286	12.56	12.56	1
287	14.47	14.47	1
288	12.25	12.25	1
289	43.19	43.19	1
290	27.91	27.91	1
291	19.81	19.81	13
292	20.85	20.85	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
293	34.99	34.99	1
294	16.52	16.52	1
295	13.02	13.02	1
296	22.83	22.83	2
297	20.72	20.72	1
298	13.37	13.37	111
299	12.32	12.32	70
300	22.5	27.2	22
301	24.24	26.94	797
302	21.15	21.15	1
303	20.17	42.5	107
304	43.02	43.02	1
305	17.64	17.64	1
306	19.88	19.88	28
307	17.41	17.41	1
308	49.83	49.83	4
309	45.62	45.62	2
310	25.43	25.43	1
311	18.75	18.75	1
312	24.55	24.55	1
313	25.43	25.43	10
314	15.13	22.23	148
315	18.1	18.1	2
316	18.7	18.7	17
317	42.44	42.44	1
318	24.8	24.8	1
319	39.62	39.62	1
320	68.3	68.3	1
321	39.52	39.52	2
322	21.77	21.77	2
323	27.34	27.34	2
324	14.19	17.01	439
325	24.52	24.52	1
326	19.43	19.43	1
327	23.16	67.4	35
328	20.09	47.15	83
329	21.58	21.58	43
330	17.34	18.54	862
331	15.64	15.64	1
332	25.09	25.09	1
333	27.59	27.59	6
334	15.98	16.36	24
335	18.1	18.1	1
336	15.95	51.82	100
337	69.47	69.47	2
338	17.55	35.28	86
339	64.04	64.04	85
340	25.44	25.44	1
341	21.94	21.94	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
342	16.85	16.85	14
343	16.31	20.73	413
344	25.31	25.31	171
345	16.95	23.69	141
346	59.27	59.27	1
347	20.46	20.46	4
348	38.57	38.57	1
349	36.56	36.56	1
350	42.15	42.15	1
351	39.23	39.23	1
352	45.8	45.8	8
353	12.58	12.58	1
354	12.52	12.52	1
355	42.04	42.04	1
356	36.88	36.88	1
357	40.47	40.47	1
358	35.92	35.92	14
359	57.42	57.42	1
360	19.27	19.27	1
361	20.15	20.15	8
362	18.25	18.25	1
363	15.35	15.35	1
364	18.1	18.1	1
365	36.31	36.31	1
366	12.15	12.15	1
367	14.34	14.34	1
368	12.1	12.1	80
369	12.65	12.65	2
370	22.02	22.02	1
371	65.82	65.82	1
372	12.53	12.53	1
373	19.88	19.88	1
374	18.63	18.63	32
375	17.01	17.01	2
376	15.41	15.41	93
377	36.17	36.17	1
378	21.36	21.36	1
379	13.52	13.52	1
380	13.36	13.36	19
381	17.85	17.85	2
382	31.2	31.2	1
383	30.92	30.92	1
384	43.17	43.17	12
385	34.84	34.84	1
386	50.57	50.57	9
387	14.46	14.46	1
388	56.65	56.65	17
389	55.85	55.85	9
390	25.76	25.76	4

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
391	26.05	26.05	22
392	30.74	30.74	1
393	48.29	48.29	1
394	14.36	14.36	547
395	13.13	13.13	1
396	12.46	12.46	1
397	12.05	12.05	3
398	24.32	24.32	1
399	12.09	12.09	1
400	30.34	30.34	1
401	25.49	25.49	1
402	12.17	12.17	1
403	25.14	25.14	1
404	27.95	27.95	1
405	32.38	32.38	9
406	30.38	30.38	1
407	19.98	19.98	104
408	51.48	51.48	1
409	91.51	91.51	1
410	19.03	19.03	2
411	21.85	21.85	19
412	18.71	18.71	11
413	21.65	42.58	49
414	19.33	19.33	1
415	28.91	28.91	18
416	22.09	22.09	1
417	22.52	22.52	1
418	44.37	44.37	1
419	28.87	28.87	1
420	42.53	42.53	12
421	23.23	23.23	4
422	47.27	47.27	1
423	22.85	22.85	1
424	17.15	17.15	6
425	48.72	48.72	1
426	25.31	25.31	1
427	50.08	50.08	2
428	19.07	19.07	1
429	18.09	18.09	1
430	18.13	18.13	2
431	15.15	15.15	2
432	18.45	18.45	18
433	48.4	48.4	2
434	38.47	38.47	1
435	21.19	21.19	1
436	18.39	18.39	1
437	42.95	42.95	2
438	22.92	23.05	19
439	22.36	22.36	6

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
440	20.78	20.78	1
441	42.09	42.09	1
442	40.21	40.21	1
443	60.28	60.28	4
444	21.54	21.54	1
445	38.63	38.63	1
446	15.38	15.38	1
447	18.42	18.42	1
448	40.65	40.65	34
449	40.89	40.89	10
450	19.42	19.42	11
451	31.51	31.51	1
452	28.39	28.39	1
453	31.08	31.08	1
454	24.09	24.09	1
455	23.48	23.48	1
456	25.81	25.81	13
457	27.69	27.69	1
458	19.97	19.97	2
459	33.91	33.91	19
460	19.23	19.23	1
461	15.91	15.91	1
462	15.73	15.73	1
463	19.03	19.03	1
464	15.99	15.99	1
465	21.86	21.86	1
466	22.76	22.76	13
467	20.12	20.12	1
468	16.47	16.47	1
469	19.76	19.76	13
470	20.52	20.52	1
471	40.88	40.88	1
472	31.18	31.18	1
473	79.54	79.54	1
474	44.63	44.63	1
475	55.2	55.2	1
476	31.09	31.09	1
477	51.18	51.18	13
478	24.22	24.22	6
479	13.63	13.63	1
480	23.73	23.73	1
481	42.99	42.99	1
482	18.84	18.84	1
483	19.86	19.86	21
484	20.94	20.94	1
485	45.08	45.08	1
486	16.95	16.95	2
487	13.48	13.48	1
488	16.06	16.06	2

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
489	18.18	18.18	1
490	18.5	18.5	9
491	12.42	12.42	1
492	13.4	13.4	1
493	12.74	12.74	1
494	14.85	14.85	1
495	13.8	13.8	11
496	13.24	13.24	1
497	12.82	12.82	15
498	50.77	50.77	1
499	22.98	22.98	1
500	15.24	15.24	83
501	15.16	15.16	2
502	14.48	14.48	10
503	55.92	55.92	24
504	24.59	24.59	1
505	14.49	14.49	11
506	14.28	14.28	8
507	17.34	17.34	1
508	71.85	71.85	1
509	40.36	40.36	1
510	16.7	16.7	8
511	24.05	24.05	1
512	92.12	92.12	26
513	17.79	17.79	1
514	12.36	12.36	1
515	52.22	52.22	175
516	21.62	21.62	1
517	12.02	12.02	1
518	17.67	17.67	7
519	14.71	14.71	15
520	12.64	14.95	43
521	19.52	19.52	1
522	19.27	19.27	1
523	25.17	25.17	35
524	14.46	14.46	1
525	12.28	12.28	1
526	16.84	16.84	1
527	18.26	18.26	1
528	12.52	12.52	1
529	19.88	19.88	4
530	15.19	15.19	1
531	14.96	14.96	1
532	12.56	12.56	1
533	16.74	16.74	1
534	19.75	19.75	1
535	14.58	14.58	72
536	20.09	20.09	2
537	20.55	20.55	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
538	42.91	42.91	1
539	22.08	22.08	1
540	15.46	15.46	1
541	34.28	34.28	100
542	17.56	17.56	1
543	31.36	31.36	91
544	93.52	93.52	1
545	17.54	17.54	1
546	13.62	13.62	38
547	15.13	15.13	1
548	27.24	27.24	1
549	15.83	15.83	10
550	18.31	18.31	167
551	12.84	12.84	1
552	21.33	21.33	1
553	18.83	18.83	48
554	22.18	22.18	15
555	23.37	23.37	14
556	13.66	13.66	1
557	14.36	14.36	2
558	29.62	29.62	9
559	34.88	34.88	6
560	41.97	41.97	66
561	33.62	33.62	120
562	32.28	32.28	1
563	42.33	42.33	1
564	29.78	29.78	1
565	26.74	26.74	14
566	24.77	24.77	10
567	28.88	28.88	1
568	28.9	28.9	2
569	24.55	24.55	12
570	28.65	28.65	1
571	21.98	21.98	16
572	28.4	28.4	1
573	22.74	22.74	28
574	27.79	27.79	1
575	27.79	27.79	1
576	28.46	28.46	9
577	27.69	27.69	1
578	24.05	24.05	1
579	30.9	30.9	13
580	16.44	16.44	1
581	30.72	30.72	26
582	16.94	16.94	1
583	24.43	24.43	2
584	25.44	25.44	1
585	26.25	26.25	2
586	13.15	13.15	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
587	15.07	15.07	1
588	23.62	23.62	1
589	19.81	19.81	1
590	24.67	24.67	7
591	108.08	108.08	1
592	24.08	24.08	16
593	14.62	14.62	1
594	16.35	16.35	5
595	12.45	12.45	1
596	22.77	22.77	8
597	17.07	17.07	1
598	84.82	84.82	1
599	19.28	19.28	2
600	12.72	12.72	1
601	73.61	73.61	1
602	92.33	92.33	3
603	29.72	29.72	1
604	15.97	15.97	1
605	22.34	22.34	8
606	18.5	18.5	1
607	19.6	19.6	1
608	19.28	19.28	7
609	13.75	13.75	16
610	14.67	14.67	34
611	13.72	18	77
612	13.71	13.71	37
613	15.51	15.51	34
614	14.59	14.59	10
615	12.03	14.68	23
616	13.08	13.08	2
617	22.82	22.82	67
618	20.43	20.43	1
619	20.3	20.3	1
620	19.14	19.14	10
621	17.47	17.47	1
622	29.27	29.27	46
623	24.91	24.91	1
624	32.76	32.76	22
625	13.23	13.23	76
626	13.08	13.08	2
627	68.65	149.08	53
628	20.84	20.84	1
629	13.13	13.13	64
630	26.79	26.79	24
631	23.83	23.83	7
632	20.93	20.93	8
633	23.56	23.56	463
634	22.71	22.71	238
635	16.62	16.62	1



Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
636	43.69	43.69	1
637	20.36	20.36	113
638	21.57	21.59	20
639	17.93	17.93	1
640	13.57	13.69	148
641	12.11	12.11	193
642	24.8	24.8	18
643	17.48	17.48	1
644	21.29	140.62	2
645	14.13	14.13	1
646	25.86	25.86	7
647	14.1	14.1	1
648	15.37	15.37	1
649	22.85	22.85	56
650	49.02	49.02	36
651	15.88	15.88	604
652	28.05	28.05	1
653	25.12	25.12	1
654	20.88	20.88	1
655	13.4	13.4	116
656	65.66	65.66	1
657	16.28	16.28	4
658	15.28	15.28	1
659	26.1	26.1	11
660	22.55	22.55	34
661	21.72	21.72	9
662	16.44	18.39	40
663	21.81	21.81	1
664	12.83	12.83	1
665	12.83	12.83	1
666	27.44	27.44	1
667	17.2	17.2	1
668	20.11	20.11	1
669	15.23	15.23	1
670	14.78	14.78	7
671	17.86	17.86	15
672	17.61	17.61	1
673	19.44	40.22	9
674	49.17	49.17	73
675	16.61	16.61	1
676	20.53	20.53	1
677	12.72	12.72	1
678	13.6	13.6	1
679	13.6	13.6	5
680	24.95	24.95	1
681	12	12	29
682	13.89	13.89	76
683	12.09	12.09	1
684	21.29	21.29	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
685	19.36	19.36	1
686	18.68	18.68	35
687	18.5	18.5	1
688	14.03	14.03	115
689	13.74	13.74	113
690	16.06	16.06	1
691	16.86	16.86	4
692	15.86	15.86	1
693	18.75	18.75	1
694	14.22	14.22	84
695	18.24	18.24	1
696	20.21	20.21	4
697	22.45	22.45	1
698	32.41	32.41	1
699	29.57	29.57	26
700	27.75	27.75	1
701	25.23	25.23	35
702	27.29	27.29	1
703	13.6	13.6	134
704	15.45	18.23	268
705	12.54	12.54	1
706	13.14	13.14	1
707	12.45	12.45	138
708	21.04	21.04	1
709	14.46	14.46	1
710	12.17	12.17	100
711	23.97	23.97	1
712	14.54	14.54	1
713	20.93	20.93	74
714	13.26	13.26	1
715	21.28	21.28	23
716	28.78	28.78	1
717	14.22	14.22	37
718	12.49	12.49	1
719	13.63	13.63	1
720	14.33	14.33	1
721	23.81	23.81	1
722	17.36	17.36	192
723	14.15	14.15	104
724	21.04	21.04	1
725	12.02	12.02	1
726	13.19	13.19	1
727	20.72	20.72	31
728	17.38	17.38	3
729	14.78	14.78	1
730	36.84	36.84	59
731	17.22	17.22	39
732	15.74	15.74	1
733	16.98	16.98	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
734	12.18	12.18	65
735	13.65	13.65	5
736	12.39	12.39	1
737	12.41	12.41	13
738	17.58	17.58	1
739	53.57	53.57	22
740	14.66	14.66	1
741	13.67	13.67	1
742	12.39	12.39	1
743	16.33	16.33	1
744	12.8	12.8	6
745	13.74	13.74	1
746	12.58	12.58	1
747	15.92	15.92	2
748	12.22	16.62	104
749	15.26	15.26	123
750	15.01	15.01	255
751	14.72	14.72	12
752	14.83	14.83	35
753	12.36	12.36	9
754	21.4	21.4	14
755	12.7	12.7	1
756	20.31	20.31	1
757	20.71	20.71	1
758	12.38	12.38	1
759	14.08	14.08	1
760	12.03	12.03	11
761	12.25	26.11	18
762	26.8	26.8	17
763	25.92	25.92	1
764	20.64	20.64	7
765	19.87	19.87	1
766	19.14	19.14	1
767	16.07	16.07	1
768	13.69	13.69	1
769	26.52	26.52	1
770	14.13	14.13	47
771	35.28	35.28	9
772	31.71	31.71	1
773	20.7	20.7	1
774	31.19	31.19	1
775	30.66	30.66	1
776	30.51	30.51	1
777	30.46	30.46	1
778	30.48	30.48	1
779	13.15	13.15	49
780	29.82	29.82	1
781	14.34	14.34	13
782	28.62	28.62	42

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
783	12.8	12.8	26
784	29.73	29.73	9
785	23.16	23.16	1
786	65.25	65.25	1
787	23.85	23.85	1
788	19.43	19.43	15
789	16.86	16.86	1
790	20.96	20.96	1
791	16.91	16.91	1
792	13.49	13.49	150
793	14.59	14.59	128
794	14.59	14.59	1
795	20.95	20.95	1
796	23.57	23.57	2
797	13.85	13.85	1
798	13.83	13.83	1
799	12.92	12.92	1
800	14.88	14.88	1
801	13.25	13.25	1
802	29.91	29.91	31
803	20.06	20.06	1
804	25.77	25.77	79
805	18.14	18.14	127
806	28.23	28.23	56
807	32.99	32.99	1
808	14.56	14.56	1
809	63.52	63.52	1
810	12.88	12.88	47
811	13.5	14.86	40
812	33.14	33.14	1
813	23.33	23.33	39
814	15.24	15.24	3
815	12.19	12.19	142
816	12.6	12.6	47
817	12.44	14.98	166
818	13.35	13.35	1
819	16.41	16.41	13
820	12.18	12.18	25
821	15.58	15.58	1
822	17.08	17.08	1
823	16.43	16.43	7
824	16.24	16.24	95
825	15.82	15.82	1
826	29	29	39
827	13.17	14.08	55
828	19.32	19.32	1
829	13.29	13.29	1
830	13.27	13.76	647
831	32.7	32.7	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
832	26.41	26.41	1
833	13.44	13.44	1
834	16.27	16.27	1
835	28.79	28.79	1
836	48.7	48.7	58
837	23.28	23.28	1
838	13.45	13.45	101
839	13.16	13.16	1
840	17.82	17.82	1
841	17.45	17.45	1
842	16.75	16.75	1
843	18.45	18.45	1
844	16.02	16.02	1
845	13.63	13.63	1
846	12.52	12.52	1
847	12.26	12.26	1
848	16.78	16.78	1
849	22.48	22.48	1
850	28.63	28.63	1
851	23.74	23.74	1
852	25	25	15
853	18.33	18.33	1
854	18.35	18.35	40
855	24.04	24.04	8
856	17.27	17.27	1
857	18.11	18.11	1
858	17.95	17.95	1
859	22.36	22.36	1
860	22.38	22.38	1
861	15.35	15.35	1
862	20.37	20.37	1
863	21.8	21.8	2
864	24.83	24.83	5
865	21.47	21.47	1
866	17.91	17.91	1
867	20.79	20.79	1
868	21.44	21.44	1
869	21.35	21.35	1
870	19.61	19.61	1
871	17.61	17.61	1
872	20.66	22.04	21
873	20.82	20.82	1
874	21.31	21.31	1
875	16.91	17.01	483
876	23.68	23.68	1
877	21.15	21.15	6
878	19.9	19.9	5
879	16.36	16.36	1
880	25.09	26.77	10

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
881	20.89	20.89	1
882	41.35	41.35	1
883	41.2	41.2	1
884	18.13	18.13	1
885	21.82	21.82	1
886	16.54	16.54	22
887	16.96	16.96	1
888	18.63	18.63	1
889	22.89	46.16	29
890	14.81	14.81	1
891	14.75	14.75	13
892	16.04	16.04	168
893	20.11	20.11	2
894	21.51	21.51	1
895	14.83	14.83	1
896	22.4	22.4	1
897	18.3	18.3	1
898	29.65	29.65	4
899	14.3	19.13	401
900	15.11	15.11	1
901	21.37	21.37	1
902	21.43	21.43	1
903	16.12	16.12	17
904	22.59	22.59	1
905	19.54	19.54	1
906	18.21	18.21	10
907	37.86	37.86	1
908	20.15	20.15	1
909	15.65	15.65	1
910	21.62	21.62	1
911	15.78	15.78	1
912	21.41	21.41	1
913	19.5	19.5	1
914	20.07	20.07	13
915	19.97	19.97	1
916	20.42	20.42	1
917	18.12	18.12	22
918	19.51	19.51	1
919	22.23	22.23	1
920	20.04	20.04	1
921	14.53	14.53	19
922	20.57	25.86	85
923	39.53	39.53	1
924	20.45	20.45	1
925	21.09	21.09	1
926	13.71	13.71	1
927	21.97	21.97	1
928	15.24	15.24	1
929	13.62	13.62	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
930	20.2	20.2	25
931	14.2	14.2	1
932	16.8	16.8	5
933	14.78	14.78	1
934	22.71	22.71	1
935	24.48	24.48	1
936	14.54	14.54	1
937	13.82	13.82	1
938	15.47	15.47	1
939	17.28	17.28	1
940	16.57	16.57	21
941	12.27	12.27	16
942	16.36	16.36	1
943	14.63	14.63	1
944	16.47	16.47	1
945	13	13	1
946	12.98	12.98	1
947	18.27	18.27	1
948	16.09	16.09	4
949	15.85	15.85	14
950	14.99	14.99	1
951	15.18	15.18	14
952	18.62	18.62	1
953	14.56	14.56	13
954	24.04	24.04	6
955	16.68	16.68	13
956	15.52	15.52	1
957	16.25	16.25	1
958	16.86	16.86	1
959	12.68	12.68	1
960	19.23	19.23	1
961	36.56	36.56	1
962	14.14	14.14	1
963	12.19	12.19	1
964	12.64	12.64	1
965	13.45	13.45	1
966	12.56	12.56	1
967	23.82	23.82	1
968	26.52	26.52	1
969	26.15	26.15	1
970	31.03	31.03	2
971	24.05	24.05	1
972	20.16	20.16	1
973	25.48	25.48	1
974	40.73	40.73	1
975	17.88	17.88	1
976	18.02	18.02	1
977	18.28	18.28	1
978	17.6	17.6	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
979	21.15	21.15	1
980	19.66	19.66	1
981	16.85	16.85	33
982	18.58	18.58	1
983	17.75	17.75	1
984	13.64	13.64	107
985	17.06	17.06	1
986	16.62	16.62	1
987	16.94	16.94	1
988	13.82	13.82	1
989	16.39	16.39	1
990	15.79	15.79	1
991	19.33	19.33	6
992	13.13	13.13	1
993	21.38	21.38	1
994	19.14	19.14	1
995	12.02	12.02	1
996	14.86	14.86	1
997	15.92	15.92	15
998	18.9	18.9	1
999	12.16	12.16	1
1000	17.1	17.1	1
1001	16.76	16.76	1
1002	16.99	16.99	8
1003	20.04	20.04	1
1004	12.82	12.82	70
1005	19.62	19.62	1
1006	21.79	21.79	1
1007	21.23	21.23	1
1008	12.76	12.76	1
1009	18.21	18.21	1
1010	12.95	12.95	87
1011	13.11	13.11	41
1012	65.78	65.78	1
1013	18.17	18.17	1
1014	15.05	15.05	1
1015	68.5	68.5	1
1016	14.9	14.9	1
1017	18.4	18.4	13
1018	14.65	14.65	51
1019	30.8	30.8	31
1020	22.33	22.33	1
1021	32.07	32.07	115
1022	22.64	22.64	1
1023	20.55	20.55	1
1024	15.95	15.95	1
1025	41.85	41.85	1
1026	14.47	14.47	10
1027	15.88	15.88	31



Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1028	13.84	13.84	25
1029	15.32	15.32	1
1030	12.59	18.95	33
1031	15.93	15.93	42
1032	12.8	12.86	10
1033	16.71	16.71	1
1034	28.59	28.59	167
1035	22.25	22.25	1
1036	12.19	12.19	45
1037	41.17	41.17	14
1038	16.12	16.12	1
1039	12.23	12.23	5
1040	15.46	15.46	1
1041	12.14	12.14	7
1042	12.47	12.47	1
1043	16.8	16.8	13
1044	22.32	22.32	57
1045	19.49	19.49	1
1046	40.73	40.73	11
1047	19.7	19.7	472
1048	24.63	24.63	62
1049	20.92	20.92	96
1050	17.58	17.58	83
1051	13.63	13.63	82
1052	17.55	17.55	49
1053	15.8	16.65	129
1054	20.02	20.02	116
1055	22.64	22.64	90
1056	14.67	14.67	13
1057	16.26	16.26	1
1058	14.28	14.28	68
1059	19.48	19.48	99
1060	16.62	16.62	1
1061	15.57	15.57	1
1062	15.2	15.2	1
1063	14.98	14.98	1
1064	12.58	12.58	142
1065	12.83	12.83	57
1066	19.35	19.35	1
1067	20.55	20.55	1
1068	15.05	15.05	57
1069	19.52	19.52	32
1070	14.35	14.35	1
1071	13.32	13.32	1
1072	16.77	16.77	1
1073	13.27	13.27	44
1074	17.78	17.78	131
1075	34.75	34.75	1
1076	14.99	14.99	4

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1077	16.11	16.11	1
1078	12.94	12.94	1
1079	119.39	119.39	1
1080	18.55	18.55	53
1081	13.62	13.62	1
1082	70.18	70.18	1
1083	22.08	22.08	41
1084	16.26	16.26	1
1085	15.34	15.34	1
1086	17.15	17.15	33
1087	20.12	20.12	1
1088	16.35	16.35	10
1089	15.74	15.74	1
1090	12.5	27.37	40
1091	14.22	14.22	1
1092	26.75	26.75	1
1093	23.74	23.74	147
1094	15.63	15.63	1
1095	16.57	16.57	1
1096	12.55	12.55	36
1097	12.52	12.52	37
1098	15.17	15.17	8
1099	12.25	12.25	42
1100	22.17	24.63	11
1101	18.25	18.25	90
1102	13.24	13.24	1
1103	12.12	12.12	1
1104	12.11	12.11	5
1105	18.03	18.03	10
1106	32.03	32.03	4
1107	18.71	18.71	11
1108	18.09	18.09	101
1109	12.76	12.76	52
1110	12.35	12.35	74
1111	17.42	17.42	19
1112	21.29	21.29	4
1113	19.04	19.04	25
1114	17.58	17.58	21
1115	22.04	22.04	181
1116	14.32	14.32	20
1117	20.94	20.94	10
1118	51.94	51.94	16
1119	21.77	21.77	48
1120	40.32	40.32	1
1121	40.12	40.12	1
1122	47.86	47.87	23
1123	30.13	39.64	28
1124	20.07	46.54	89
1125	40.97	40.97	12

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1126	88.54	88.54	1
1127	17.85	17.85	1
1128	73.32	73.32	21
1129	19.86	19.86	49
1130	18.59	18.59	13
1131	15.64	15.64	35
1132	13.88	14.05	142
1133	16.68	16.68	31
1134	32.51	32.51	1
1135	16.78	16.92	64
1136	30.51	30.51	1
1137	17.19	17.25	192
1138	35.47	35.47	6
1139	130.71	130.71	1
1140	26.05	26.05	1
1141	25.38	25.38	1
1142	15.77	15.77	1
1143	13.38	13.38	23
1144	15.3	15.3	6
1145	17.7	17.7	25
1146	14.32	14.32	95
1147	25.25	25.25	26
1148	20.66	20.66	1
1149	22.96	22.96	17
1150	39.63	39.63	97
1151	32.64	32.64	27
1152	95.16	95.16	3
1153	19.96	19.96	16
1154	19.41	19.41	77
1155	72.79	72.79	14
1156	20.09	20.09	4
1157	24.29	32.12	93
1158	22.27	22.27	58
1159	17.97	17.97	1
1160	21.88	26.95	66
1161	73.73	73.73	1
1162	17.24	17.24	41
1163	18.18	49.12	602
1164	23.95	23.95	30
1165	25.31	25.31	450
1166	21.81	32.86	3351
1167	18.14	22.27	3762
1168	16.92	16.92	1
1169	19.04	33.56	7570
1170	18.69	31.62	3010
1171	25.95	25.95	1287
1172	22.76	22.76	2169
1173	12.26	12.26	1040
1174	51.75	51.75	135

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1175	17.27	17.27	60
1176	16.63	16.63	1
1177	24.28	24.28	6
1178	12	30.01	1175
1179	12.41	12.41	1104
1180	28.57	28.57	87
1181	18.06	18.06	28
1182	51.97	51.97	32
1183	15.64	22.76	1450
1184	13.72	15.23	1685
1185	16	16	1691
1186	14.72	14.9	2451
1187	12.39	19.61	775
1188	21.13	47.36	389
1189	22.75	22.75	84
1190	13.99	14.12	1779
1191	21.43	21.43	141
1192	14.01	14.03	1235
1193	12.15	12.15	138
1194	27.49	27.49	1518
1195	12.06	12.06	4254
1196	32.66	32.66	163
1197	18.54	18.54	49
1198	16.86	17.58	2192
1199	13.96	30.66	1070
1200	30.55	30.55	505
1201	19.9	23.52	898
1202	16.72	19.76	2811
1203	22.27	22.27	1861
1204	20.23	22.93	3307
1205	19.64	35.19	1992
1206	23.15	23.15	1606
1207	19.75	44.29	687
1208	17.82	17.82	403
1209	15	15	124
1210	15.41	15.41	95
1211	18.64	22.65	1179
1212	18.7	22.33	5
1213	90.42	90.42	1
1214	24.66	24.66	191
1215	12.3	12.3	1
1216	16.61	16.61	48
1217	23.02	23.02	32
1218	40.76	40.76	101
1219	87.7	87.7	1
1220	14.75	70.71	551
1221	12.6	12.6	927
1222	19.17	19.17	8
1223	17.81	19.67	46

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1224	13.53	13.53	1
1225	32.66	32.66	66
1226	26.39	26.39	61
1227	25.6	25.6	21
1228	29.17	29.17	9
1229	108.58	108.58	1
1230	65.17	65.17	9
1231	17.79	24.62	165
1232	12.55	12.55	1
1233	43.4	43.4	93
1234	12.78	15.15	221
1235	26.25	26.25	139
1236	23.33	23.33	8
1237	17.07	17.07	106
1238	40.84	40.84	84
1239	36.56	36.56	36
1240	45.65	45.65	186
1241	36.13	36.13	79
1242	50.24	50.24	13
1243	12.31	15.87	1924
1244	54.44	54.44	77
1245	12.3	12.3	32
1246	74.62	74.62	1
1247	14	14	14
1248	36.02	36.02	150
1249	30.48	30.48	155
1250	12.79	12.79	3
1251	27.23	27.23	44
1252	58.64	58.64	32
1253	19.38	19.38	105
1254	31.13	31.13	33
1255	14.48	14.48	191
1256	31.36	31.36	89
1257	29.64	29.64	69
1258	30.3	30.3	68
1259	43.81	43.81	1
1260	31.52	31.52	132
1261	19.44	19.44	26
1262	14.2	14.2	3
1263	27.76	27.76	111
1264	12.88	12.88	98
1265	27.98	27.98	1
1266	36.43	36.43	90
1267	25.49	25.49	92
1268	21.84	21.84	1
1269	44.63	44.63	107
1270	30.78	30.8	89
1271	46.82	46.82	32
1272	49.05	49.05	93

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1273	29.28	29.28	115
1274	39.83	39.83	295
1275	30.48	30.48	1
1276	26.3	26.3	50
1277	31.33	31.33	118
1278	30.54	30.54	81
1279	45.38	45.38	78
1280	31.48	31.48	53
1281	31.1	31.1	107
1282	26.97	26.97	89
1283	24.36	24.36	76
1284	64.33	64.33	1
1285	19.02	19.02	1
1286	48.45	48.45	66
1287	20.02	20.02	65
1288	33.54	33.54	76
1289	20.91	20.91	1
1290	13.68	13.68	1
1291	66.32	66.32	1
1292	20.84	20.84	130
1293	27.52	27.52	36
1294	22.84	22.84	72
1295	19.75	19.75	1
1296	36.63	36.63	63
1297	44.35	44.35	15
1298	34.08	34.08	13
1299	25.99	25.99	18
1300	12.24	12.24	33
1301	22.93	22.93	16
1302	28.37	28.37	80
1303	47.46	47.46	2
1304	47.32	47.32	29
1305	53.1	53.1	31
1306	25.07	25.07	50
1307	23.38	23.38	196
1308	48.27	48.27	44
1309	69.08	69.08	1
1310	45.32	45.32	89
1311	34.43	34.43	110
1312	73.69	73.69	1
1313	28.1	28.1	1
1314	69.3	69.3	1
1315	26.39	26.39	35
1316	71.61	71.61	1
1317	28.21	28.21	1
1318	45.59	45.59	92
1319	29.82	29.82	167
1320	17.1	17.1	1
1321	27.84	27.84	3

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1322	25.2	25.2	110
1323	24.35	24.35	72
1324	16.49	16.49	1
1325	45.11	45.11	74
1326	45.39	45.39	1
1327	27.04	27.04	8
1328	48.26	48.26	47
1329	26.57	26.57	59
1330	16.28	16.28	1
1331	17.25	17.25	1
1332	34.87	34.87	66
1333	20.24	20.24	1
1334	15.49	15.49	14
1335	65.89	65.89	1
1336	23.6	23.6	35
1337	19.77	19.77	1
1338	39.59	39.59	53
1339	24.04	24.04	4
1340	40.77	40.77	1
1341	61.85	61.85	1
1342	67.07	67.07	1
1343	23.71	23.71	1
1344	17.86	17.86	18
1345	57.05	66.29	34
1346	89.12	89.12	1
1347	51.16	51.16	1
1348	48.66	48.66	29
1349	53.49	53.49	41
1350	21.78	21.78	65
1351	18.54	18.54	26
1352	27.29	27.29	128
1353	23.17	23.17	89
1354	90.97	90.97	1
1355	16.2	16.2	43
1356	22.9	22.9	97
1357	16.7	16.7	184
1358	28.5	28.5	91
1359	61.77	61.77	1
1360	19.66	19.66	46
1361	45.87	45.87	10
1362	15.06	15.06	1
1363	27.8	27.8	24
1364	24.96	24.96	1
1365	24.3	24.3	34
1366	23.28	25.52	59
1367	12.61	12.61	269
1368	31.85	31.85	1
1369	18.73	18.73	13
1370	13.17	13.17	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1371	16.53	16.53	1
1372	54.5	54.5	137
1373	13.41	13.41	49
1374	12.54	12.54	149
1375	16.21	16.21	4
1376	13.9	13.9	9
1377	65.67	65.67	1
1378	21.13	21.13	15
1379	21.23	21.23	1
1380	18.41	18.41	6
1381	16.14	16.14	1
1382	23.27	23.27	103
1383	19.55	19.55	83
1384	12.2	12.2	204
1385	13.32	13.32	1
1386	14.05	21.83	41
1387	12.1	12.1	1
1388	16.13	16.13	38
1389	19.51	19.51	47
1390	12.98	12.98	93
1391	16.71	16.71	8
1392	18.25	18.25	22
1393	13.65	13.65	21
1394	20.11	20.11	6
1395	45.35	45.35	1
1396	12.11	12.11	51
1397	23.88	23.88	20
1398	36.37	36.37	1
1399	15.45	15.45	79
1400	25.12	25.12	181
1401	15.43	15.43	91
1402	22.16	22.16	1
1403	47.15	47.15	92
1404	14.43	23.32	23
1405	45.99	45.99	1
1406	17.69	17.69	64
1407	24.55	24.55	96
1408	47.26	47.26	32
1409	25.64	25.64	88
1410	16.32	17.2	31
1411	36.33	36.33	2
1412	41.26	41.26	125
1413	46.87	46.87	95
1414	14.28	14.28	2
1415	57	57	1
1416	20.54	20.54	97
1417	15.75	15.75	48
1418	16.76	16.76	18
1419	25.87	25.87	45



Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1420	54.59	54.59	1
1421	13.21	13.21	6
1422	13.74	13.74	17
1423	48.92	48.92	39
1424	46.33	46.33	51
1425	34.45	34.45	4
1426	43.08	43.08	270
1427	12.99	12.99	31
1428	48.85	48.85	162
1429	49.66	49.66	1
1430	26	26	3
1431	29.13	29.13	9
1432	46.71	46.71	1
1433	43.39	43.39	87
1434	29.81	29.81	1
1435	46.42	46.42	62
1436	25.84	25.84	1
1437	42.79	42.79	139
1438	28.62	28.62	1
1439	25.96	25.96	89
1440	44.22	44.22	50
1441	45.11	45.11	10
1442	47.67	47.67	91
1443	16.44	16.44	64
1444	57.42	57.42	60
1445	53.99	53.99	15
1446	48.57	48.57	1
1447	35.76	35.76	1
1448	33.07	33.07	6
1449	49.97	49.97	34
1450	50.13	50.13	1
1451	32.06	32.06	16
1452	49.6	49.6	142
1453	22.95	22.95	27
1454	46.64	46.64	1
1455	48.66	48.66	174
1456	48	48	74
1457	46.21	46.21	1
1458	67.61	67.61	15
1459	48.69	48.69	1
1460	53.7	53.7	53
1461	35.73	35.73	973
1462	29.88	29.88	8
1463	66.32	66.32	1
1464	27.55	27.55	174
1465	51.45	51.45	36
1466	58.86	58.86	95
1467	37.67	37.67	16
1468	58.6	58.6	97

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1469	20.2	20.2	14
1470	47.58	47.58	1
1471	19.11	19.11	7
1472	40.18	40.18	1
1473	43.98	43.98	1
1474	22.94	22.94	10
1475	21.21	21.21	7
1476	49.79	49.79	1
1477	16.24	16.24	5
1478	19.66	19.66	6
1479	25.89	25.89	7
1480	21.33	21.33	9
1481	20.32	20.32	1
1482	13.29	13.29	1
1483	13.97	13.97	2
1484	21.02	22.02	13
1485	35.2	35.2	1
1486	36.65	36.65	27
1487	22.96	22.96	18
1488	37.83	37.83	1
1489	35.4	35.4	1
1490	13.81	13.81	50
1491	17.15	17.15	25
1492	17.05	17.05	1
1493	13.44	13.44	6
1494	28.3	28.3	1
1495	23.88	23.88	139
1496	67.92	67.92	57
1497	23.75	23.75	1
1498	70.86	70.86	99
1499	46.5	46.5	107
1500	47.42	47.42	175
1501	68.66	68.66	129
1502	74.38	74.38	76
1503	74.33	74.33	107
1504	71.67	71.67	19
1505	70.38	70.38	107
1506	55.24	55.24	20
1507	71.46	71.46	101
1508	64.83	64.83	147
1509	64.62	64.62	115
1510	53.55	53.55	6
1511	48.3	48.3	4
1512	24.66	24.66	72
1513	39.92	39.92	2
1514	71.34	71.34	13
1515	88.96	88.96	91
1516	72.07	72.07	60
1517	77.5	77.5	25

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1518	27.09	27.09	1
1519	49.23	49.23	56
1520	21.85	21.85	1
1521	50.51	50.51	17
1522	74.29	74.29	86
1523	34.7	34.7	98
1524	19.98	19.98	1
1525	20.89	20.89	13
1526	15.73	15.73	1
1527	20	20	1
1528	21.56	21.56	1
1529	40.61	40.61	1
1530	16.01	16.01	1
1531	18.31	18.31	22
1532	19.46	19.46	1
1533	14.09	14.09	1
1534	12.29	12.29	1
1535	20.2	25.67	9
1536	30.79	30.79	14
1537	43.83	43.83	1
1538	67.56	67.56	1
1539	23.22	23.22	1
1540	20.67	20.67	1
1541	20.53	20.53	1
1542	43.55	43.55	1
1543	38.51	38.51	1
1544	42.4	42.4	1
1545	45.69	45.69	36
1546	14.68	14.68	20
1547	14.2	14.2	1
1548	14.29	14.29	27
1549	13.06	13.06	23
1550	15.48	15.48	158
1551	13.46	13.46	327
1552	25.46	25.46	1
1553	12	12	1
1554	16.19	16.19	1
1555	103.05	103.05	1
1556	14.53	14.53	21
1557	29.77	29.77	1
1558	29.62	29.62	1
1559	15.46	15.46	1
1560	52.08	52.08	1
1561	61.71	61.71	1
1562	12.32	50.46	7
1563	25.25	25.25	1
1564	52.1	52.1	1
1565	25.03	25.03	1
1566	25.02	25.02	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1567	24.99	24.99	1
1568	24.94	24.94	1
1569	49.22	49.22	1
1570	12.87	12.87	1
1571	12.81	12.81	1
1572	12.72	12.72	1
1573	25.31	25.31	11
1574	24.17	24.17	1
1575	24.91	24.91	1
1576	26.53	26.53	1
1577	23.47	23.47	37
1578	48.08	48.08	1
1579	24.2	24.2	1
1580	28.64	28.64	1
1581	26.19	26.19	1
1582	56.25	56.25	1
1583	29.82	29.82	5
1584	27.6	27.6	1
1585	46.58	46.58	1
1586	52.34	52.34	1
1587	27.72	27.72	14
1588	99.12	99.12	1
1589	73.03	73.03	1
1590	45.39	45.39	1
1591	21.28	21.28	1
1592	22.35	22.35	1
1593	19.73	19.73	48
1594	24.08	24.08	20
1595	19.65	19.65	1
1596	25.38	25.38	1
1597	19.37	19.37	1
1598	43.81	43.81	1
1599	33.4	33.4	1
1600	18.43	18.43	4
1601	18.79	18.79	2
1602	96.17	96.17	1
1603	51.8	51.8	1
1604	32.12	32.12	14
1605	49.17	49.17	1
1606	49.11	49.11	1
1607	18.48	18.48	1
1608	50.3	50.3	1
1609	52.59	52.59	25
1610	21.17	21.17	4
1611	22.57	22.57	1
1612	17.22	17.22	1
1613	41.21	41.21	1
1614	19.54	19.54	1
1615	18.1	18.1	9

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1616	20.6	20.6	17
1617	16.36	16.36	1
1618	30.33	30.33	7
1619	50.54	50.54	1
1620	16.84	16.84	1
1621	18.12	18.12	3
1622	48.57	48.57	1
1623	18.67	18.67	8
1624	19.22	19.22	1
1625	93.8	93.8	1
1626	64.21	64.21	1
1627	18.24	18.24	1
1628	18.63	18.63	1
1629	18.34	18.34	1
1630	18.73	18.73	6
1631	47.06	47.06	16
1632	15.51	15.51	1
1633	41	41	1
1634	45.34	45.34	13
1635	17.15	17.15	25
1636	67.17	67.17	1
1637	43.82	43.82	9
1638	51.52	51.52	19
1639	15.43	15.43	8
1640	26.9	26.9	1
1641	17.94	17.94	62
1642	92.31	92.31	1
1643	16.1	16.1	1
1644	18.87	18.87	10
1645	41.25	41.25	1
1646	25.38	25.38	5
1647	45.32	45.32	1
1648	13.58	13.58	3
1649	44.08	44.08	17
1650	12.98	12.98	27
1651	16.35	16.35	1
1652	15.49	15.49	128
1653	23.55	23.55	10
1654	44.86	44.86	1
1655	41.84	41.84	1
1656	25.19	25.19	1
1657	38.83	38.83	1
1658	38.73	38.73	6
1659	86.63	86.63	1
1660	43.92	43.92	16
1661	38.45	38.45	1
1662	49.11	49.11	1
1663	17.14	17.14	10
1664	12.78	12.78	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1665	16.99	16.99	1
1666	16.76	16.76	1
1667	14.09	14.09	1
1668	14.14	14.14	1
1669	19.51	19.51	1
1670	17.3	17.3	1
1671	63.56	63.56	1
1672	38.3	38.3	2
1673	14	14	1
1674	44.43	44.43	1
1675	47.54	47.54	22
1676	46.41	46.41	1
1677	14.49	14.49	1
1678	14.86	14.86	1
1679	12.64	12.64	1
1680	35	35	1
1681	14.76	14.76	1
1682	37.49	37.49	1
1683	88.36	88.36	1
1684	88.16	88.16	1
1685	36.42	36.42	1
1686	12.74	12.74	1
1687	13.73	13.73	1
1688	14.66	14.66	1
1689	18.89	18.89	1
1690	20.32	20.32	62
1691	13.67	13.67	45
1692	16.36	16.36	1
1693	74.94	74.94	1
1694	54.22	54.22	1
1695	36.31	36.31	1
1696	14.14	14.14	1
1697	14.03	14.03	3
1698	53.05	53.05	1
1699	28.83	28.83	1
1700	27.29	27.29	1
1701	34.52	34.52	17
1702	28.04	28.04	1
1703	26.35	26.35	1
1704	36.42	36.42	1
1705	78.49	78.49	1
1706	29.31	29.31	2
1707	46.54	46.54	2
1708	12.98	12.98	11
1709	78.5	78.5	11
1710	35.87	35.87	1
1711	38.03	38.03	5
1712	12.55	12.55	1
1713	29.45	29.45	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1714	26.82	26.82	7
1715	29.73	29.73	5
1716	13.89	13.89	1
1717	28.07	28.07	1
1718	18.61	18.61	4
1719	19.15	19.15	17
1720	21.89	21.89	1
1721	12.08	12.08	1
1722	25.34	25.34	1
1723	77.75	77.75	1
1724	70.4	70.4	1
1725	24.81	24.81	1
1726	24.24	24.24	1
1727	51.91	51.91	8
1728	30.12	30.12	1
1729	27.33	27.33	1
1730	22.23	22.23	1
1731	75.28	75.28	1
1732	27.93	27.93	1
1733	47.69	47.69	1
1734	75.16	75.16	1
1735	25.1	25.1	4
1736	74.89	74.89	1
1737	22.37	22.37	1
1738	50.68	50.68	1
1739	68.99	68.99	1
1740	23.86	23.86	1
1741	19	19.53	2
1742	25.15	25.15	1
1743	20	38.62	32
1744	40.62	40.62	1
1745	12.03	12.03	1
1746	12.67	12.67	1
1747	27.85	27.85	32
1748	21.77	21.77	1
1749	12.32	12.32	7
1750	14.41	14.41	1
1751	22.52	22.52	24
1752	12.95	12.95	1
1753	34.47	34.47	1
1754	20.1	20.1	1
1755	18.68	18.68	1
1756	17.02	17.02	1
1757	14.53	14.53	1
1758	20.32	20.32	15
1759	16.61	16.61	1
1760	15.36	15.36	1
1761	17.41	17.41	1
1762	17.19	17.19	1

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1763	16.4	16.4	1
1764	14.47	14.47	1
1765	28.96	28.96	2
1766	25.08	25.08	1
1767	12.5	12.5	1
1768	12.28	12.28	1
1769	31.61	31.61	1
1770	12.6	12.6	12
1771	29.15	29.15	5
1772	53.35	53.35	1
1773	37.17	37.17	1
1774	28.89	28.89	1
1775	27.79	27.79	1
1776	32.4	32.4	1
1777	19.07	19.07	1
1778	20.89	20.89	19
1779	19.26	19.26	1
1780	20.22	20.22	1
1781	16.32	16.32	1
1782	16.37	16.37	1
1783	16.32	16.32	1
1784	18.04	18.04	1
1785	14.21	14.21	1
1786	15.17	15.17	1
1787	39.79	39.79	1
1788	16.66	16.66	1
1789	12.5	12.5	1
1790	12.94	12.94	1
1791	12.81	12.81	1
1792	15.42	15.42	1
1793	12.14	12.14	1
1794	25.36	25.36	1
1795	14.74	14.74	1
1796	14.25	14.25	19
1797	24.53	24.53	1
1798	24.35	24.35	62
1799	39.44	39.44	1
1800	15.11	15.11	46
1801	16.47	16.47	11
1802	12.3	26.22	131
1803	13.52	25.16	566
1804	20.85	20.85	1
1805	46.25	46.25	1
1806	15.98	15.98	170
1807	13.8	13.8	1
1808	14.79	14.79	13
1809	28.5	28.5	1
1810	71.36	71.36	1
1811	28.68	28.68	1



Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1812	23.13	23.13	51
1813	16.58	16.58	102
1814	31.45	31.45	1
1815	21.98	21.98	36
1816	15.38	15.38	1
1817	21.14	21.14	1
1818	28.41	28.41	1
1819	19.32	19.32	1
1820	21.11	21.11	1
1821	12.5	12.5	1
1822	19.39	19.39	1
1823	16.64	16.64	1
1824	12.05	12.05	1
1825	16.99	16.99	1
1826	12.09	12.09	1
1827	15.06	15.06	1
1828	14.52	14.52	1
1829	16.86	16.86	12
1830	14.94	14.94	14
1831	18.43	18.43	1
1832	14.11	14.11	1
1833	20.34	20.34	1
1834	30.99	30.99	1
1835	18.13	18.13	1
1836	16.1	16.1	1
1837	13.8	13.8	1
1838	13.25	13.25	1
1839	20.01	20.01	1
1840	21.92	21.92	1
1841	15.64	15.64	1
1842	24.63	24.63	96
1843	14.2	14.2	1
1844	27.02	27.02	1
1845	14.02	14.02	2
1846	17.35	17.35	1
1847	16.35	16.35	1
1848	17.17	17.17	1
1849	18.85	18.85	1
1850	14.25	14.25	1
1851	21.46	21.46	1
1852	13.84	13.84	12
1853	53.4	53.4	1
1854	32.48	32.48	28
1855	13.31	13.31	1
1856	17.78	17.78	1
1857	12.18	12.18	7
1858	12.64	12.64	1
1859	20.21	24.78	28
1860	19.09	19.09	6

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1861	16.68	16.68	26
1862	15.8	15.8	1
1863	13.44	13.44	2
1864	12.02	12.02	10
1865	12.37	12.37	1
1866	19.77	19.77	1
1867	21.57	21.57	10
1868	14.93	14.93	126
1869	26.34	26.34	7
1870	19.12	19.12	10
1871	23	23	8
1872	43.5	43.5	1
1873	13.42	13.42	1
1874	22.02	22.02	11
1875	13.5	13.5	1
1876	12.93	12.93	1
1877	13.07	13.07	1
1878	18.75	18.75	1
1879	14.98	14.98	6
1880	18.91	18.91	1
1881	18.74	18.74	1
1882	16.29	16.29	1
1883	21.07	21.07	1
1884	20.59	20.59	1
1885	20.51	20.51	1
1886	18.54	18.54	1
1887	15.09	15.09	5
1888	12.06	12.06	1
1889	16.21	16.21	1
1890	24.34	24.34	146
1891	14.37	14.37	2
1892	14.36	14.36	1
1893	12.97	12.97	1
1894	17.27	17.27	45
1895	13.53	13.53	1
1896	24.22	24.22	1
1897	19.51	19.51	1
1898	12.45	12.45	8
1899	16.33	16.33	31
1900	18.44	18.44	1
1901	17	17	1
1902	23.35	23.35	1
1903	21.65	21.65	7
1904	16.38	16.38	6
1905	19.2	19.2	28
1906	14.43	14.43	581
1907	15.74	15.74	14
1908	12.93	12.93	14
1909	19.49	19.49	5

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1910	12.81	12.81	1
1911	14.69	14.69	14
1912	27.26	27.26	4
1913	13.82	13.82	1
1914	13.97	13.97	1
1915	17.96	17.96	17
1916	15.38	15.38	78
1917	17.65	17.65	1
1918	12.15	12.15	1
1919	45.68	45.68	1
1920	12.78	12.78	1
1921	94.07	94.07	1
1922	16.71	16.71	15
1923	12.28	12.28	1
1924	33.12	33.12	13
1925	12.96	12.96	1
1926	16.64	16.64	61
1927	15.3	15.3	1
1928	30.72	30.72	15
1929	67.79	67.79	1
1930	19.97	19.97	4
1931	14.92	14.92	1
1932	16.68	16.68	4
1933	12.09	12.09	65
1934	18.76	18.76	1
1935	14.78	14.78	1
1936	13.64	13.64	1
1937	13.03	13.03	56
1938	15.59	15.59	1
1939	25.38	25.38	1
1940	12.13	12.13	2
1941	17.38	18.76	8
1942	17.37	17.37	1
1943	12.11	12.11	14
1944	19.18	19.18	14
1945	21.52	21.52	1
1946	17.65	17.65	16
1947	17.36	17.36	19
1948	17.53	17.53	210
1949	16.96	16.96	1
1950	17.14	17.14	11
1951	16.28	16.28	100
1952	17.38	17.38	12
1953	14.23	14.23	40
1954	12.01	12.01	7
1955	12.05	12.05	35
1956	17.52	17.52	1
1957	14.5	14.5	2
1958	13.42	13.42	12

Outage	First Restoration (hours) after 12 hours	Final Restoration (hours)	Customers Affected
1959	13.75	13.75	1
1960	14.94	14.94	1
1961	17.34	17.34	1
1962	29.13	29.13	7
1963	16.06	16.06	1
1964	19.28	19.28	1
1965	13.91	13.91	4
1966	14.2	14.2	9
1967	13.53	13.53	17
1968	38.56	38.56	70
1969	71.31	71.31	1
1970	13.84	13.84	118
1971	29.12	29.12	1
1972	12.65	12.65	1
1973	17.66	17.66	238
1974	39.94	39.94	1
1975	35.53	35.53	1
1976	18.02	18.02	47
1977	15.52	15.52	3880
1978	37.15	37.15	24
1979	38.4	38.4	89
1980	84.47	84.47	1
1981	15.5	15.5	7
1982	18.17	18.17	19
1983	36.48	36.48	99
1984	37.01	37.01	1
1985	12.09	13.36	576
1986	26.19	26.19	60
1987	39.19	39.19	69
1988	25.93	25.93	119
1989	33.27	33.27	1
1990	20.89	26.85	125
1991	43.23	43.23	103
1992	30.64	30.64	1
1993	16.86	31.17	3549
1994	82.7	82.7	1
1996	34.58	34.58	99
1997	29.7	29.7	165
1998	14.87	14.87	49
1999	78.99	78.99	1
2000	79.08	79.08	1
2001	35.37	35.37	36
2002	59.25	59.25	2
2003	27.97	27.97	16
2004	18.99	18.99	1
2005	15.25	15.25	1
2006	20.37	20.37	2
2007	17.52	17.52	7
2008	16.6	16.6	19

<b>Outage</b>	<b>First Restoration (hours) after 12 hours</b>	<b>Final Restoration (hours)</b>	<b>Customers Affected</b>
2009	21.57	21.57	1
2010	31.19	31.19	44
2011	13.43	13.43	49
2012	15.24	15.24	15
2013	15.67	15.67	1
2014	12.22	12.22	56
2015	23	23	1
2016	30.3	30.3	10
2017	21.81	21.81	1
2018	13.83	13.83	1
2019	14.55	14.55	17
2020	35.2	35.2	1
2021	30.67	30.67	10
2022	30.67	30.67	1
2023	12.58	12.58	1
2024	22.74	22.74	43
2025	13.27	13.27	3
2026	71.42	71.42	1