

# Blackout Tracker

Australia and New Zealand  
Annual Report 2015

Switch  N to Eaton.



*Powering Business Worldwide*

# Table of contents

<b>Introduction</b> .....	<b>2</b>
Downtime is disastrous .....	2
Outages closely linked to business continuity losses .....	3
How prepared are you for a power outage? .....	3
Top five most significant reported outages .....	4
Top five most unusual outages/causes .....	4
What you can do to protect your business .....	5
States, territories and islands ranked by reported outages.....	6
<b>Overview of national power outage data</b> .....	<b>7</b>
Outage summary.....	7
Reported power outages by cause .....	8
Reported power outages by region .....	8
<b>Power outage data by state, territory and island</b> .....	<b>9</b>
Introduction.....	9
New South Wales – Australia.....	10
Queensland – Australia.....	12
South Australia .....	12
Tasmania.....	13
Victoria – Australia .....	14
Western Australia .....	15
North Island – New Zealand.....	16
South Island – New Zealand .....	17

## Introduction

Welcome to Eaton Corporation's Blackout Tracker Annual Report for 2015. From extensive power outages brought on by storms to smaller, local disruptions, it's clear that power outages took a toll on both residents and businesses across Australia and New Zealand.

This annual report is based on reported outages. The sources for data include: news services, newspapers, websites (including those of newspapers and TV stations) and personal accounts. In all, 174 reported outages were tabulated and used as the basis for the report. This compares with 201 outages in 2014, 162 outage in 2013, 94 outages in 2012, and 112 power cuts in 2011. We at Eaton hope you find the report insightful and that it prompts you to take appropriate action to prepare for power outages that could affect you and your business or organization.

The main body of the report follows this introduction and is organized into two sections:

1. Overview of national power outage data
2. Power outage data by state, territory and island

## Downtime is disastrous

With the ability to cause irreparable damage and irretrievable loss of revenue in a matter of minutes, downtime is, in a word, disastrous. Electrical power outages, surges and spikes are estimated to cost billions in annual damages to the economy. The price tag varies not only by industry, but by the scale of business operations. For a medium-size business, the exact hourly cost may be lower, yet the impact on the business can be proportionally much larger.

Nailing down the cost of each hour of downtime varies widely on a number of factors, such as the nature of the business, the size of the company, and the criticality of its IT systems related to revenue generating processes. For instance, a global financial services organisation may lose millions of dollars for every hour of downtime, whereas a small firm might lose only a margin of productivity. For a business, the recovery time is significant and the costs are high. According to Price Waterhouse research, after a power outage disrupts IT systems:

- 33+ percent of companies take more than a day to recover
- 10 percent of companies take more than a week
- It can take up to 48 hours to reconfigure a network
- It can take days or weeks to re-enter lost data
- 90 percent of companies that experience a computer disaster and don't have a survival plan go out of business within 18 months

Financially, power outages can translate to substantial losses for the company affected. According to the US Department of Energy, when a power failure disrupts IT systems:

- 33 percent of companies lose \$18,500-\$465,000 AUD or \$24,000-\$600,000 NZD (\$20,000-\$500,000 USD)
- 20 percent lose \$465,000-\$1,860,000 AUD or \$600,000-\$2,400,000 NZD (\$500,000-\$2 million USD)
- 15 percent lose more than \$1,860,000 AUD or \$2,400,000 NZD (\$2 million USD)

AUD = Australian dollars

NZD = New Zealand dollars

USD = United States dollars

Currency conversion used: 1 USD = .93 AUD = 1.20 NZD

This is but a brief summary of the potential losses due a disruption to IT. Comprehensive information can be found in a white paper entitled, “Ten Ways to Protect Your IT Infrastructure.” This and other white papers on various power-related topics can be found on the [Eaton website](#).

Despite the enormous price tag attached to downtime, there’s still good news: by investing in power backup solutions to protect critical systems, you can significantly slash the risks and consequences.

## Outages closely linked to business continuity losses

File this in the “unsurprising fact” folder: a recent [analysis](#) by Allianz Global Corporate & Specialty confirmed that power interruptions are among the leading global causes of business continuity insurance losses. Based on a study of nearly 2,000 business insurance claims from 68 countries between 2010 and 2014, the report estimated the average large business property claim at a staggering \$2.4 million, with blackouts ranked among the top 10 causes of such losses.

Allianz, a specialist insurer for business and industrial risks, revealed that the 10 sources — with fire and explosion topping the list — accounted for more than 90 percent of all business interruption losses globally, with the majority attributed to non-natural catastrophe events. In fact, the report excluded losses from claims related to “very large events,” such as Superstorm Sandy in 2012.

Allianz attributed the recent rise in business-interruption insurance losses to increasingly interconnected and complex global supply chains. “Power infrastructure, for example, was once localized and isolated, but today, energy supply and distribution are far more integrated and span entire continents,” the report states. “As a result of increased interconnectivity, a solar storm or a cyber-attack on a power grid could result in countrywide blackouts lasting days, or potentially weeks, with a multitude of knock-on effects.”

## How prepared are you for a power outage?

Homeowners are learning from experience: a recent [Harris Poll found](#) that two-thirds of people who had experienced a prolonged power outage were motivated by their time in the dark to better prepare. The survey, conducted last spring and sponsored by Briggs & Stratton, also found that one out of every four homeowners had lost power for 12 hours or longer at least once in the last two years — with approximately 66 percent confirming that they would alter their approach prior to the next outage.

At the very least, the Federal Emergency Management Agency recommends that families compile an emergency preparedness kit and implement a communication plan. Furthermore, another tip is to consider purchasing a portable generator or a home standby generator. During natural disasters such as hurricanes, it can take a long time for utility power to return to neighborhoods, as winds often damage trees and block roads, making it difficult to repair power lines. In these instances, generators can keep homes from enduring lengthy power interruptions.

## Top five most significant reported outages

- 1. Taken by storm, April 22** – Statewide, New South Wales: A severe storm marked by destructive winds, heavy rainfall and damaging surf left 200,000 customers powerless in the Metropolitan, Mid North Coast, Hunter and Illawarra districts.
- 2. Losing control, Dec. 2** – Lismore, New South Wales: A Transgrid ‘control room issue’ caused a blackout to 66,000 customers, just as linesmen were scrambling to reconnect hundreds of homes and businesses affected by fallen power lines during a storm.
- 3. Twistin’ the night(s) away, Feb. 20** – Rockhampton, Queensland: A powerful cyclone smashed into the east coast of Australia, packing winds up to 285 kph (175 mph) that knocked out power to 50,000 for three days. Some 1,800 power lines were downed by the storm.
- 4. A lost connection, Oct. 31** – Adelaide, South Australia: The failure of an interconnector caused a massive outage, leaving 45,000 customers in the dark from Sellicks Beach to the Barossa Valley.
- 5. Finding fault, August 14** – Sutherland Shire, New South Wales: A fault on a 132,000 Volt power line caused a blackout to 40,000 homes and businesses, as well as resulted in raw sewage being pumped into Botany Bay.

## Top five most unusual outages/causes

- 1. A baaaad outage, Jan. 14** – City of Greater Geraldton, Western Australia: An eagle dropped a sheep’s head onto a power line, resulting in 2,000 customers losing power for 15 hours.
- 2. Not up to par, March 21** – Tea Tree Gully, Western Australia: A golfer, now reportedly nicknamed “Sparky” by fellow club members, was teeing off when his club slipped out of his hands and hit two power lines at the same time. The club acted as a conductor between the 11,000-volt power cables and caused them to short-circuit, resulting in a 2 ½ hour outage that affected 2,000 customers.
- 3. Curiosity killed the cat, July 29** – Tauranga, North Island: A wayward kitty cat who climbed on to outdoor electrical switchgear at a substation left 10,000 customers in the dark. The cat did not survive the incident.
- 4. Up, up and away, August 31** – Yarra Glen, Victoria: A hot air balloon caused a blackout to more than 300 customers after clipping a power line in the Yarra Valley.
- 5. Down in the dumps, March 4** – Hamilton, North Island: A dump truck hit live wires, causing an outage to more than 1,300 customers and sparking a fire outside a substation, which forced businesses to evacuate due to a gas leak.

## What you can do to protect your business



In today's climate, 100% uptime is expected no matter what, making your [#1 concern business continuity](#). When an unplanned outage happens, your focus shifts to resolving the issue and reducing data loss. What if you were able to monitor and control power so you can spot potential issues and resolve them before they escalate?

Eaton's [Intelligent Power Manager](#) (IPM) software helps you do just that. With the ability the ability to monitor, manage and control your power devices, even when you're away from the office, you can maximize the runtime of critical equipment and ensure data integrity. This all keeps downtime to a minimum—and makes your life a little easier.

Paired with [Eaton's ePDU G3](#) platform you can offer an unbeatable combination of reliability, flexibility and value to your customers.

### States, territories and islands ranked by reported outages

2015	2014	2013
1. North Island – 61	1. North Island – 67	1. North Island - 50
2. New South Wales – 31	2. New South Wales – 38	2. New South Wales – 25
3. Queensland – 24	3. Victoria – 25	3. Queensland - 23
4. South Island - 23	4. South Island - 24	4. South Island – 21
5. Victoria – 13 (tie)	5. Queensland - 22	5. Victoria - 16
5. Western Australia – 13 (tie)	6. Southern Australia – 9	6. Western Australia – 13
6. Tasmania - 4	7. Western Australia - 8	7. Southern Australia - 8
7. Southern Australia - 3	8. Tasmania - 6	8. Northern Territory - 1
8. Australian Capital Territory– 2	9. Northern Territory – 2	9. Tasmania – 2
	10. North Island – 67	10. Australian Capital Territory– 1



## Overview of national power outage data

This section provides aggregate data for Australia and New Zealand. It includes all the data found in the subsequent state, territory and island section.

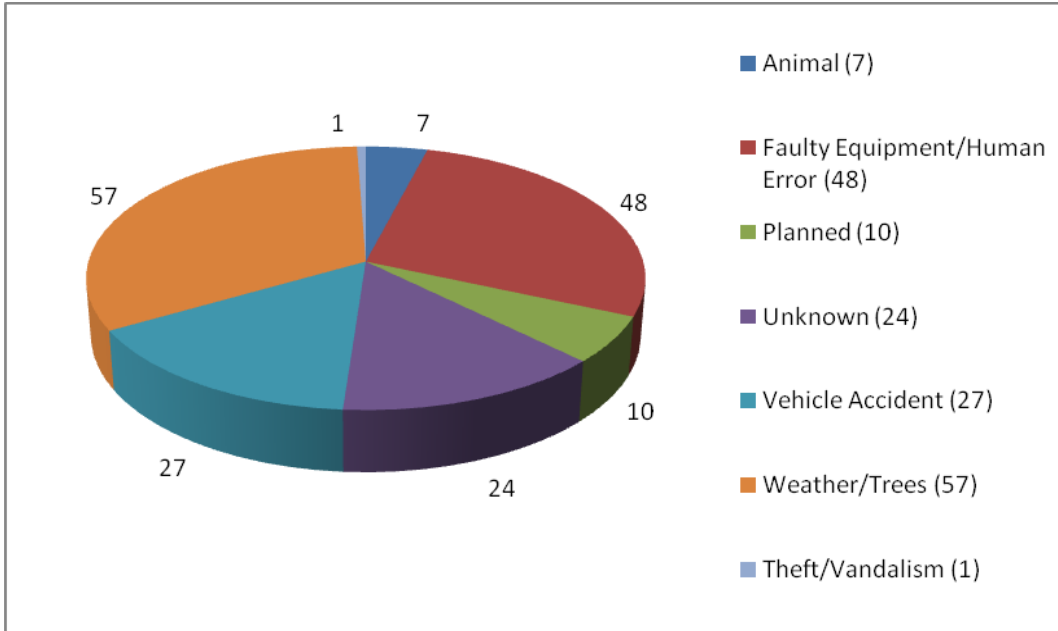
### Outage summary

Total number of people affected by outages <i>(This is the sum of the number of people affected by reported power outages for 2013.)</i>	901,614
Total duration of outages <i>(This is the sum of the durations of the reported power outages.)</i>	17,157 minutes (nearly 12 days)
Total number of outages <i>(The sum of the number of reported power outages.)</i>	174
Average number of people affected per outage <i>(This number is determined by dividing the "Total number of people affected by outages" by the number of outages that reported the number of people affected. Not all reports of outages included number of people affected. The number of outages used for this calculation can be found in the note following this table.)</i>	5,182
Average duration of outage <i>(This number is determined by dividing the "Total duration of outages" by the number of outages that reported durations. Not all reports of outages included the duration. The number of outages used for this calculation can be found in the note following this table.)</i>	99 minutes

#### Notes:

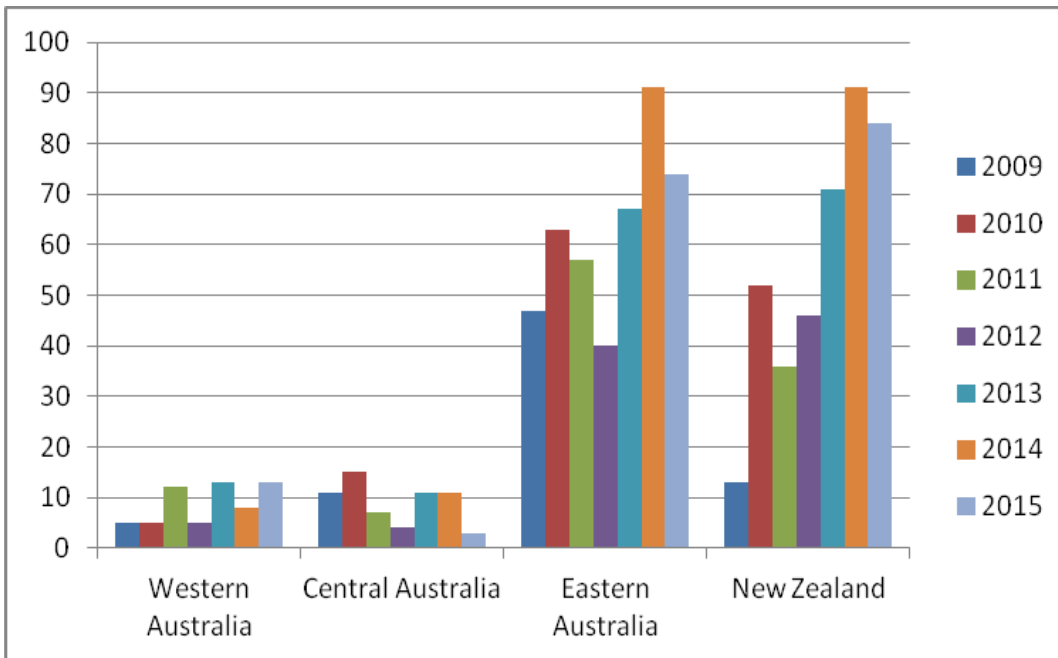
- a. Total number of people affected (and average) is based on 117 (67%) of the total reported outages. Total duration of outages (and average) is based on 48 (28%) of the total reported outages. These are the number of outages that had reports that included data for number of people affected and duration, respectively.
- b. Reports from news services, newspapers, websites, etc. that are used as sources sometimes give statistics using different terms. For example, some reports may be based on "people" while others may be based on "addresses", "homes and businesses" or "utility customers." For purposes of this report all of these are assumed to be and are counted as people.

### Reported power outages by cause



Note: Each power outage was grouped into one of seven possible causes. The outages by cause were totaled and the results displayed in the chart above. The number adjacent to the pie piece is the number of outages attributable to that cause.

### Reported power outages by region



**Regions:**

Western Australia

Central Australia: Northern Territory, South Australia

Eastern Australia: Australian Capital Territory, New South Wales, Queensland, Victoria, Tasmania

New Zealand: North Island, South Island

# Power outage data by state, territory and island

## Introduction

This section of the report provides an analysis of the reported power outages by state, territory and island. Australia's states and territories are listed first, followed by New Zealand's islands. There are four parts to each analysis.

1. The first part is an outage summary. The results are computed in the same manner as those in the outage summary found in the national power outage data in the previous part of this report. Only data pertaining to the particular state, territory or island is used.
2. The second part of the analysis is the outage fact. This is simply an interesting fact concerning a particular outage (or outages) in a state, territory or island.
3. The third part of the analysis is a chart of the power outages by cause. This is the same type of chart that can be found in the national power outage data in the previous part of this report. Only data pertaining to the particular state, territory or island is used.
4. The last part of each state, territory or island section is the number of power outages by month. This is the same type of chart that can be found in the national power outage data in the previous part of this report. Only data pertaining to the particular state, territory or island is used. From this chart it may be possible to determine particular times of the year when power outages are more common.

## New South Wales – Australia

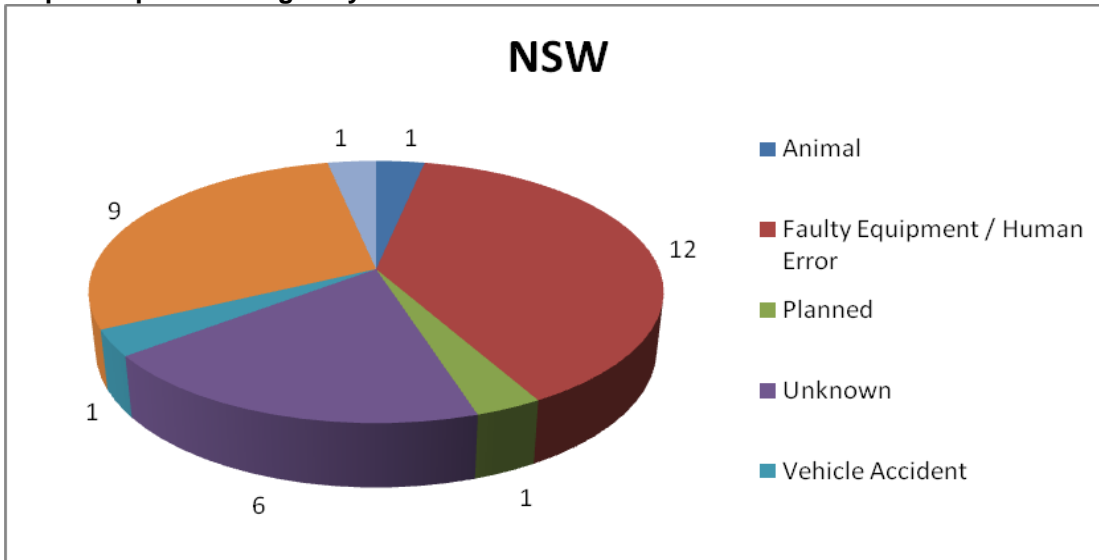
### Outage summary

Total number of people affected by outages	428,195
Total duration of outages	1,623 minutes (more than 27 hours)
Total number of outages	31
Average number of people affected per outage	13,813
Average duration of outage	52 minutes

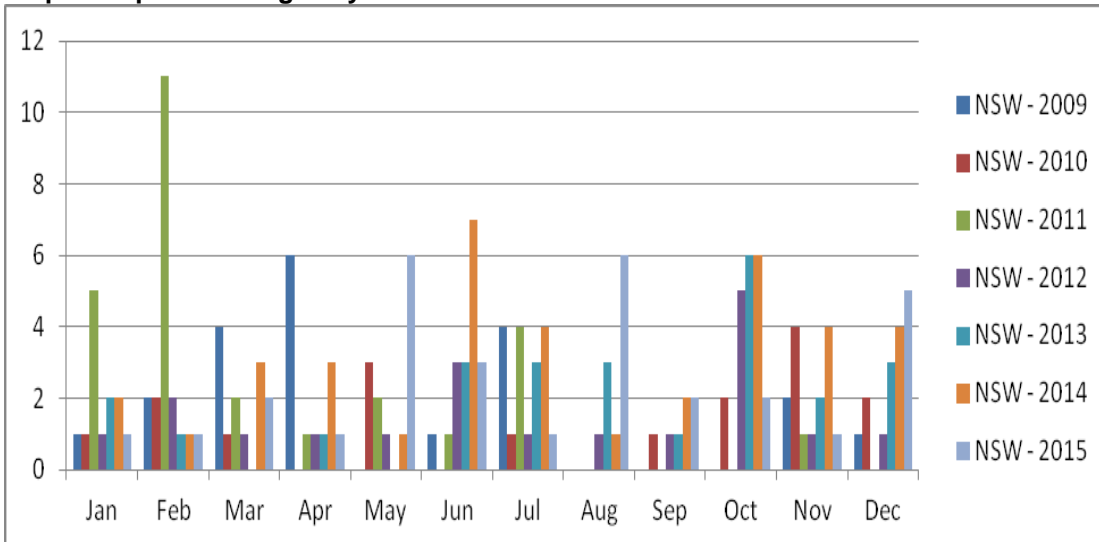
*Note: Total number of people affected (and average) based on 25 (81%) of the total reported outages. Total duration of outages (and average) based on 6 (19%) of the total reported outages.*

**Outage fact:** On Sept. 10, electricity to 30,000 customers in Ryde, West Ryde, Meadowbank, Eastwood, Putney, Denistone and Rhodes was cut off for five hours after a construction crew dug into a power line.

### Reported power outages by cause



### Reported power outages by month



## Queensland – Australia

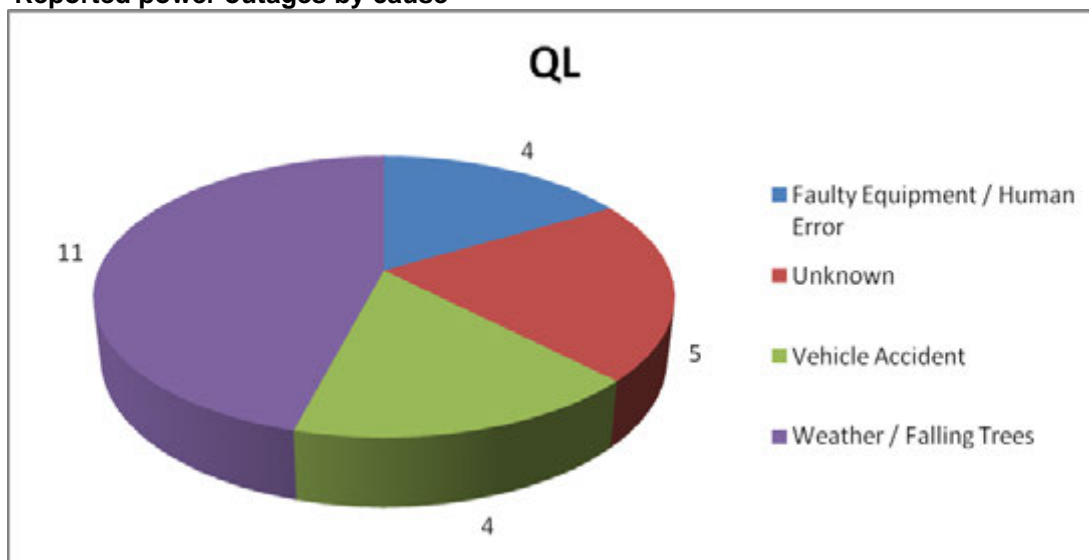
### Outage summary

Total number of people affected by outages	115,789
Total duration of outages	4,869
Total number of outages	24
Average number of people affected per outage	4,825
Average duration of outage	203

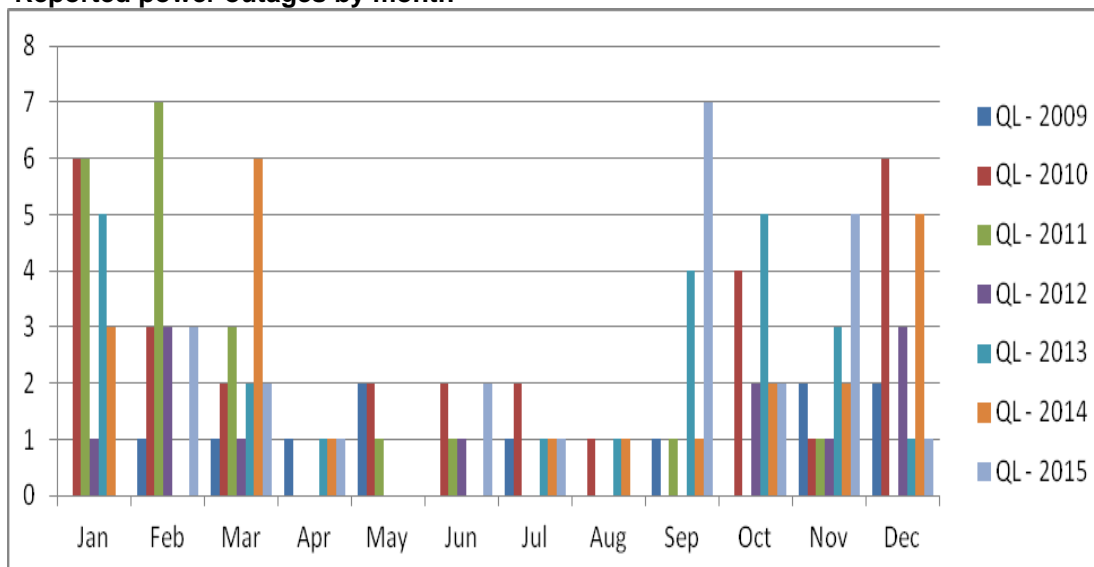
*Note: Total number of people affected (and average) based on 19 (61%) of the total reported outages. Total duration of outages (and average) based on 6 (19%) of the total reported outages.*

**Outage fact:** On Feb. 24, a four-wheel-drive crashed down an embankment, flattening a tree and causing power lines to fall across a trailer. Nearly 1,500 Clagiraba customers were left in the dark for an hour, while three passengers were trapped in the car.

### Reported power outages by cause



### Reported power outages by month



## South Australia

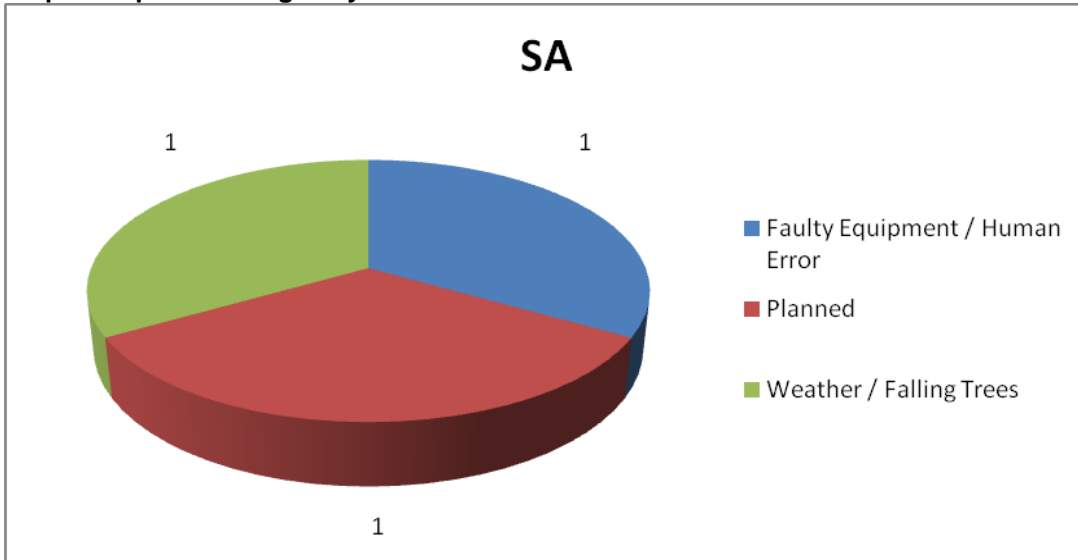
### Outage summary

Total number of people affected by outages	60,000
Total duration of outages	420
Total number of outages	3
Average number of people affected per outage	20,000
Average duration of outage	140

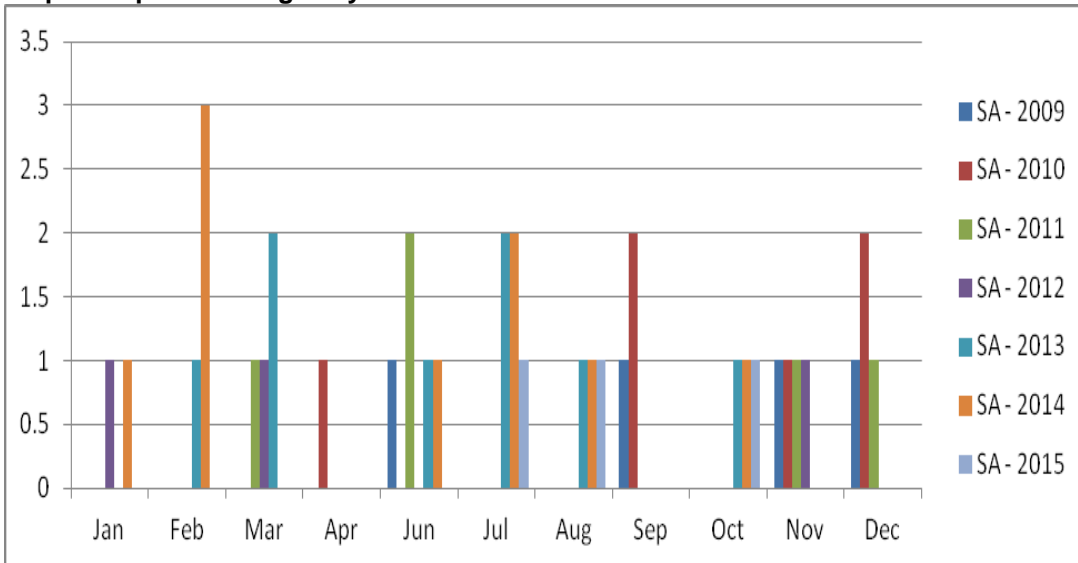
*Note: Total number of people affected (and average) based on 2 (67%) of the total reported outages. Total duration of outages (and average) based on 1 (33%) of the total reported outages.*

**Outage fact:** On August 11, a strong cold front led to 15,000 power outages across Port Augusta. Winds topping 95 kilometres per hour were reported.

### Reported power outages by cause



### Reported power outages by month



# Tasmania

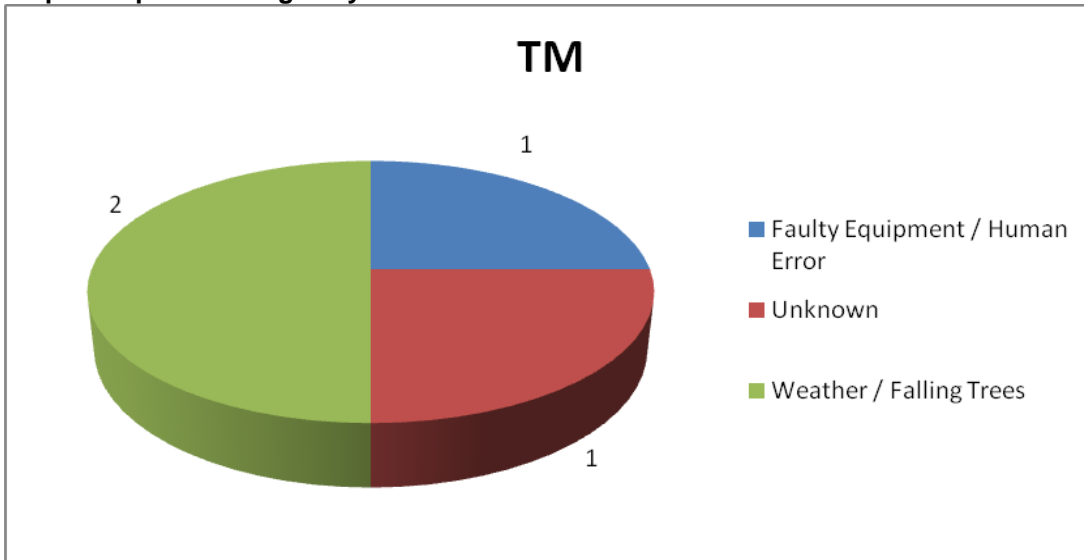
## Outage summary

Total number of people affected by outages	1,418
Total duration of outages	0
Total number of outages	4
Average number of people affected per outage	355
Average duration of outage	0

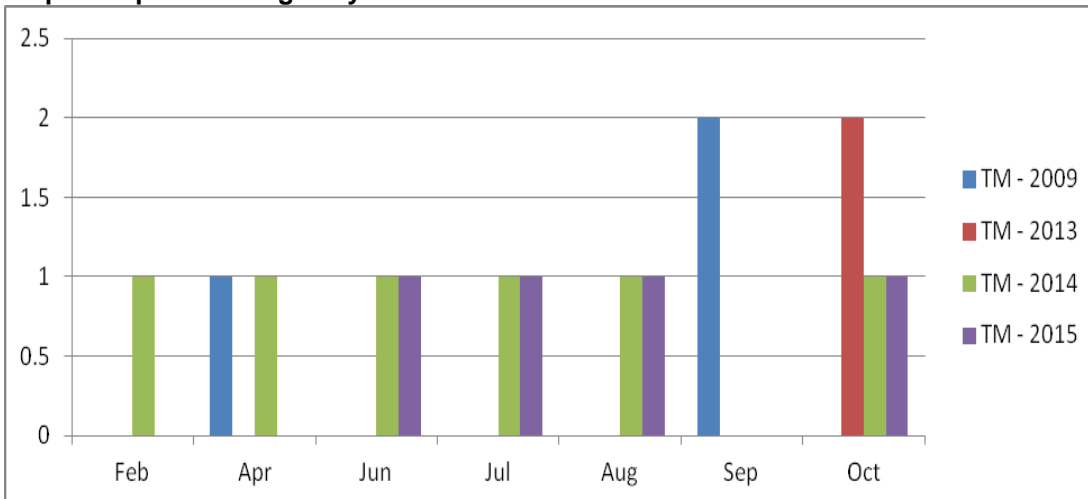
Note: Total number of people affected (and average) based on 1 (25%) of the total reported outages. Data was unavailable to calculate the total duration and duration average of outages.

**Outage fact:** On August 2, lightning knocked out power to Maatsuyker Island, including the weather forecasting station. Parks and Wildlife had to send staff by helicopter to the remote island to assess the damage.

## Reported power outages by cause



## Reported power outages by month



## Victoria – Australia

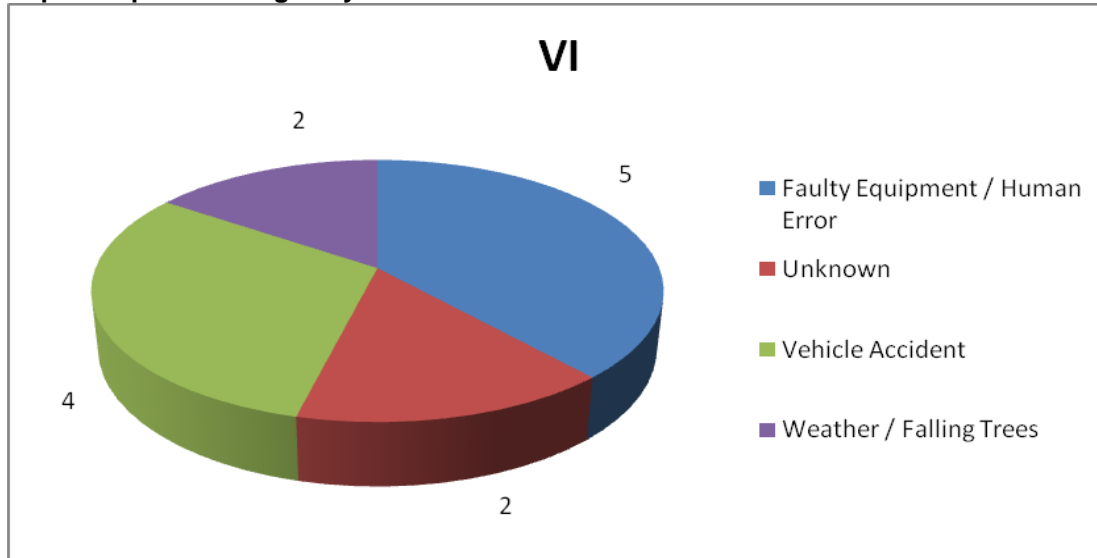
### Outage summary

Total number of people affected by outages	12,771
Total duration of outages	510
Total number of outages	13
Average number of people affected per outage	982
Average duration of outage	39

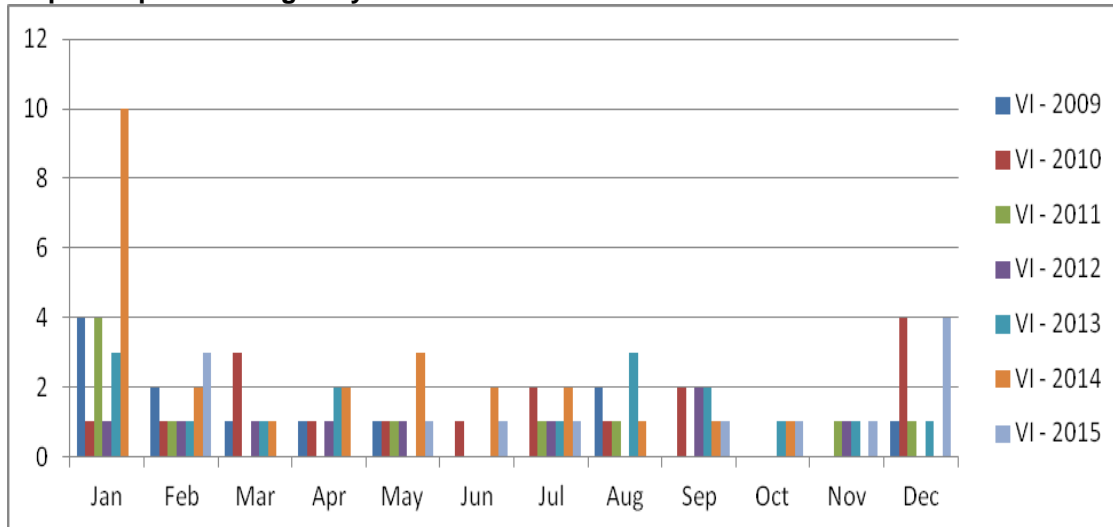
*Note: Total number of people affected (and average) based on 7 (54%) of the total reported outages. Total duration of outages (and average) based on 3 (23%) of the total reported outages.*

**Outage fact:** On Dec. 26, a car crash in Portland left residents powerless for up to six hours, as Powercor crews had to replace the badly damaged pole.

### Reported power outages by cause



### Reported power outages by month





## Western Australia

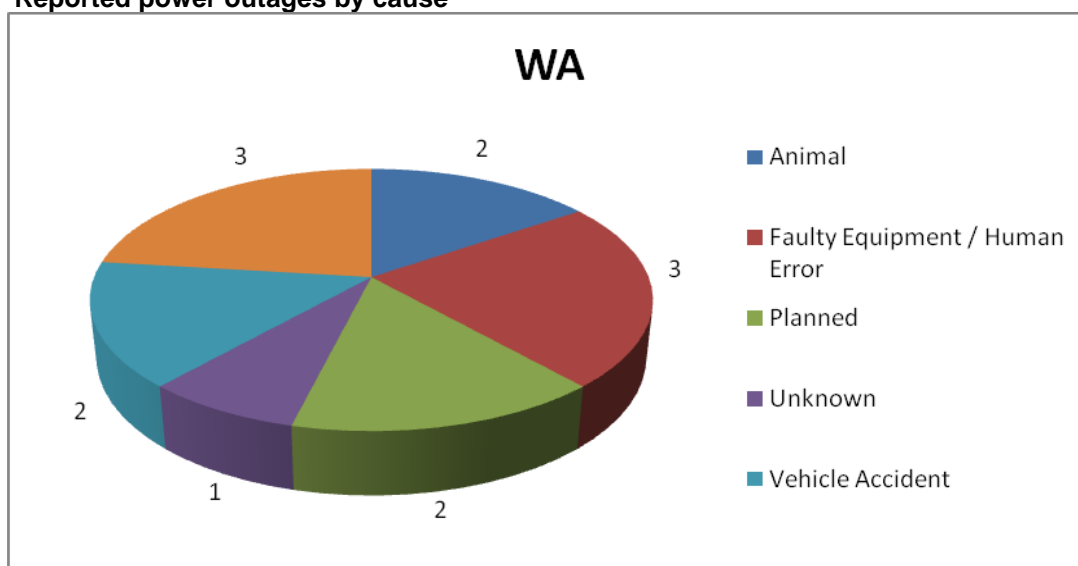
### Outage summary

Total number of people affected by outages	10,112
Total duration of outages	3,900 minutes (more than 2.7 days)
Total number of outages	13
Average number of people affected per outage	778
Average duration of outage	300 minutes (5 hours)

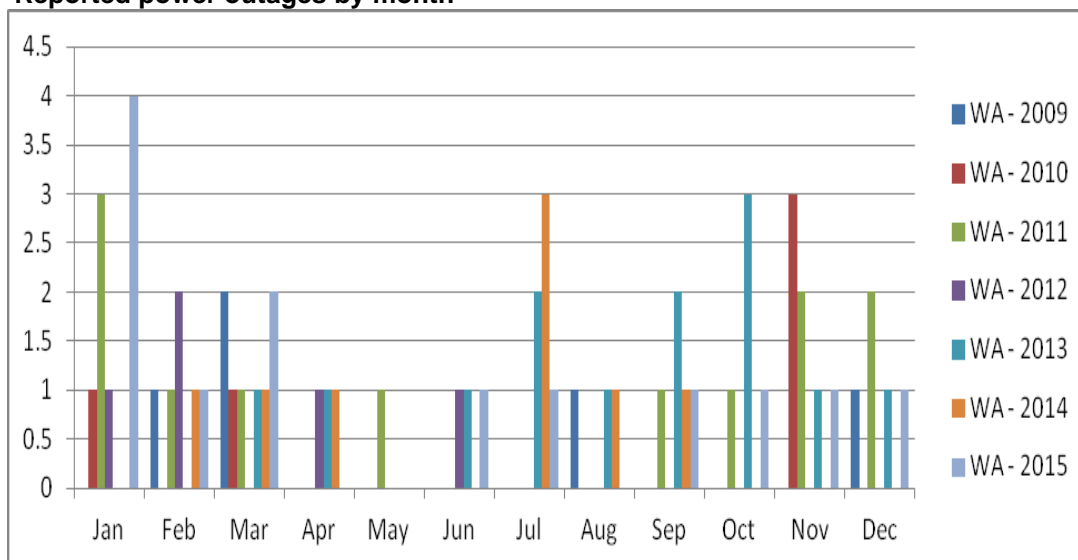
*Note: Total number of people affected (and average) based on 5 (38%) of the total reported outages. Total duration of outages (and average) based on 5 (38%) of the total reported outages.*

**Outage fact:** On March 9, crows sparked an outage to 3,000 Midland customers, including the Midland Gate shopping centre. Two birds were reportedly locked in a scuffle between power lines.

### Reported power outages by cause



### Reported power outages by month



## North Island – New Zealand

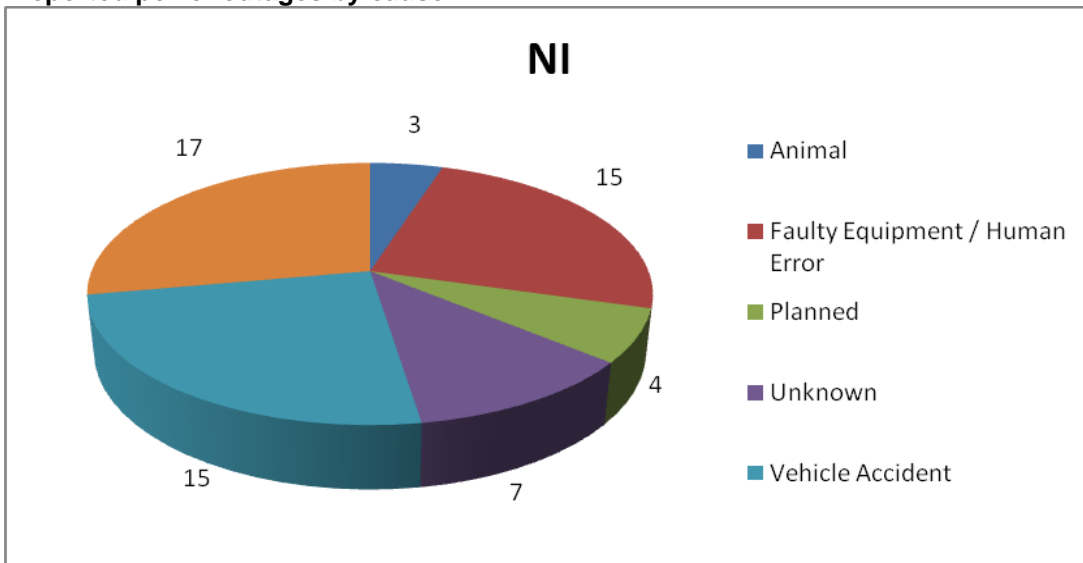
### Outage summary

Total number of people affected by outages	215,931
Total duration of outages	4,505 minutes (more than 3 days)
Total number of outages	61
Average number of people affected per outage	3,540
Average duration of outage	74 minutes

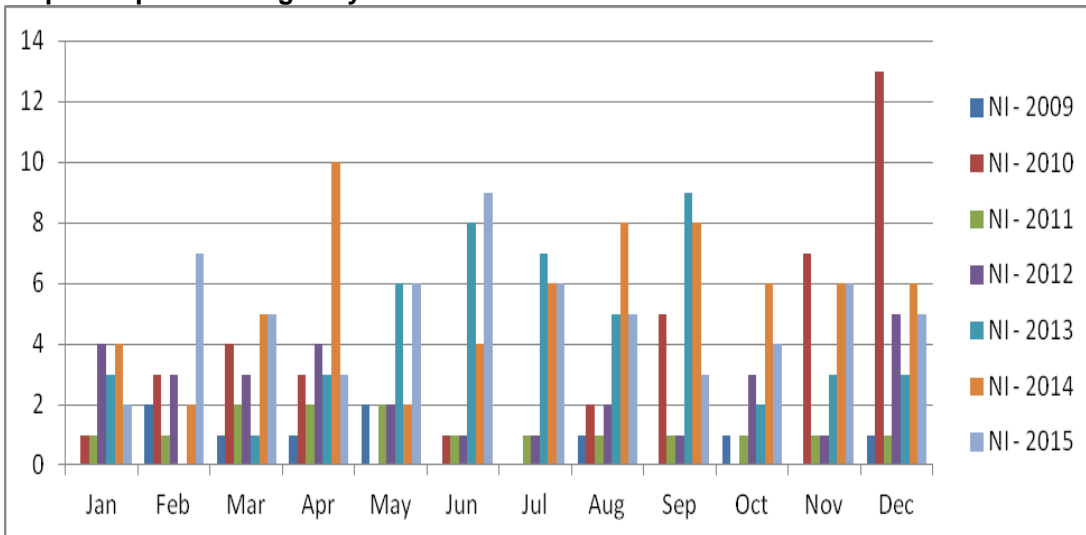
*Note: Total number of people affected (and average) based on 42 (69%) of the total reported outages. Total duration of outages (and average) based on 17 (28%) of the total reported outages.*

**Outage fact:** On Jan. 20, a "young, dumb" seagull left a large part of Welcome Bay without power after making its last-ever landing on the insulator at the top of a pole. The power was back on 45 minutes later but the bird could not be revived.

### Reported power outages by cause



### Reported power outages by month



## South Island – New Zealand

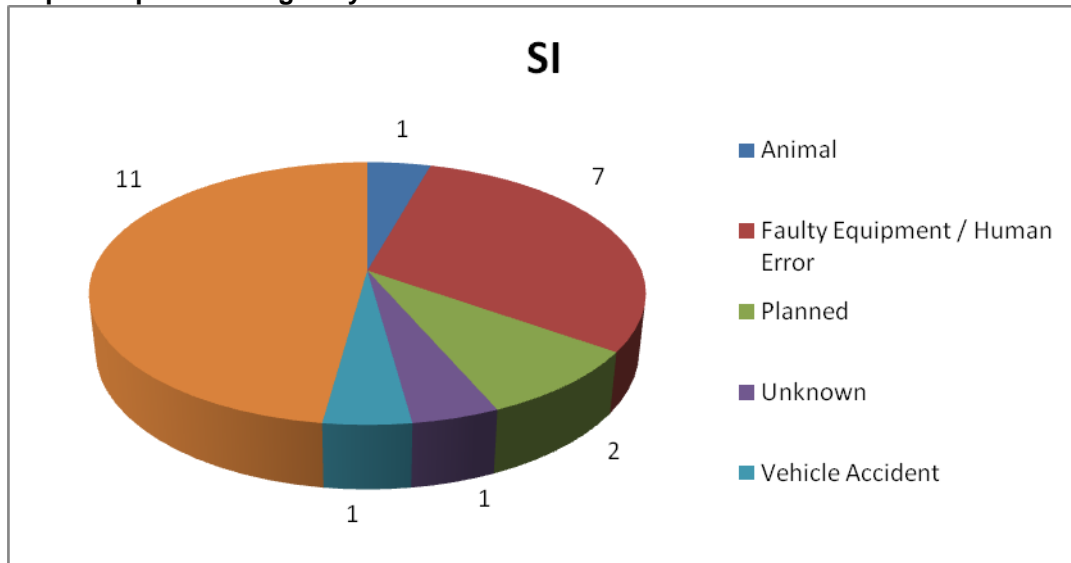
### Outage summary

Total number of people affected by outages	57,398
Total duration of outages	1,250 minutes (nearly 21 hours)
Total number of outages	23
Average number of people affected per outage	2,496
Average duration of outage	54 minutes

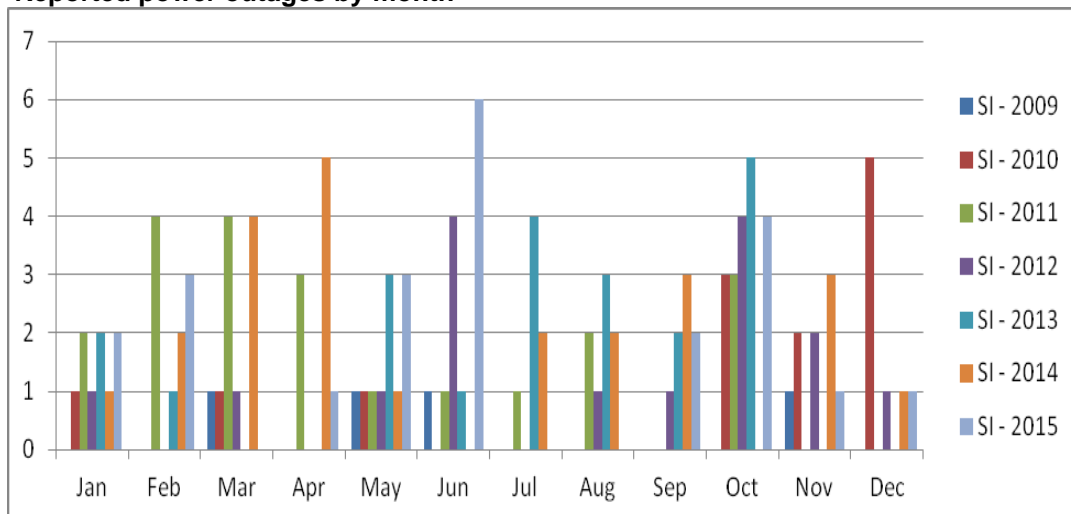
*Note: Total number of people affected (and average) based on 14 (61%) of the total reported outages. Total duration of outages (and average) based on 9 (39%) of the total reported outages.*

**Outage fact:** On Oct. 10, a bird flew into an electric fence in Canterbury, causing a small explosion in the equipment and knocking out power to 15,000.

### Reported power outages by cause



### Reported power outages by month





**Eaton Industries Pty. Ltd.**  
Electrical Sector  
10 Kent Road Mascot,  
NSW 2020 Australia  
1300 UPS UPS (1300 877 877)  
[Eaton.com/powerquality](http://Eaton.com/powerquality)

© 2016 Eaton  
All Rights Reserved  
Printed in USA  
MZ153031EN  
February 2016

Eaton is a registered trademark.  
All other trademarks are property  
of their respective owners.