



# **Electrical Fatal Incident Data**

**Australia & New Zealand 2016 - 2017**

## **This Report Covers:**

- Definitions
- Summary of 2016-2017 year
- Trend Analysis
- Series of graphs & tables for data supplied covering the period 1 July 2000 to 30 June 2017
  1. Regional Fatalities
  2. Fatalities involving Network Assets
  3. Fatalities involving Consumer Installations and Equipment
  4. Tables - Fatal Electrical Accidents since July 2000
  5. Tables - Summary of Electrical Fatality Reports 2016-17

## **Definitions**

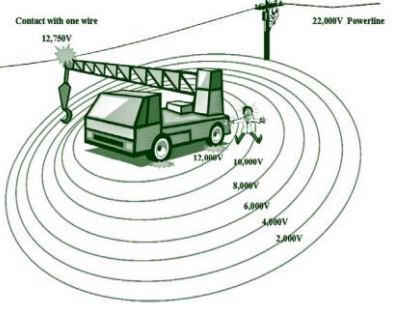


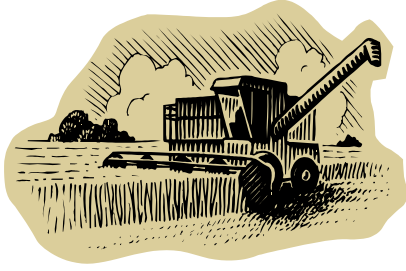
<b>"Consumer Installation"</b>	All parts of an electrical installation past the point of supply on the consumer side.
<b>"Distribution or Supply Equipment"</b>	Equipment used in the generation, transmission, supply or distribution of electricity.
<b>"Electrical Fatal Incident"</b>	Any fatal event that results from an electrical shock, electrical burn or electrical arc burn except if linked to the initial event of a natural disaster, criminal activity or suicide.
<b>"Electrical Worker"</b>	A person who carries out electrical work and is licensed or authorised to do so.
<b>"General Public"</b>	A person who is not doing any work as part of his or her employment or under a contract of work, or training at the time the incident occurs
<b>"Misuse/Interference"</b>	To damage, mishandle or use equipment in a way that it is not intended, or for what it is designed.
<b>"Non Electrical Worker"</b>	A person who is in the process of carrying out their occupation and is not an electrical worker.
<b>"Supply Worker"</b>	A person who is employed by a network operator.
<b>"Work Practice"</b>	The process or method by which work is carried out.

## Summary of 2016-2017 year

This report covers the 12 month period from 1 July 2016 to 30 June 2017. It is based on details of incidents reported to electrical safety regulators in Australia and New Zealand.

10 electrical deaths from 10 incidents were recorded in Australia and New Zealand in 2016-17. This is equivalent to 0.35 deaths per million people (dmp) which is 0.3 dmp lower the last year.

All of 10 deaths occurred in Australia.

 <p>Contact with one wire 22,000V Powerline</p>	<p><b>There were four distribution network related deaths caused by an electrical accident.</b></p>
	<p><b>90% (109 of 121) of the number of deaths associated with the electricity supply network from 2000-01 to 2016-17 (last 17 years) involved contact with overhead conductors.</b></p>
	<p><b>Six deaths caused by six incidents involving customers' installations, appliances or equipment.</b></p>
	<p><b>Of the 10 people who were electrocuted, 90% (9 of 10) were either non-electrical workers, or the general public.</b></p>

## **Trend Analysis**

Electrical fatality information from the last 17 years (2000-01 to 2016-17) has been analysed for trends and frequency.

The electrical deaths over 17 years continue to show a decrease from an average (three years) of 1.79 deaths per million people (dmp) in 2000-01 to 0.47 in 2016-17. An average rate of reduction is 0.08 dmp.

In Australia, the reduction is from 1.87 to 0.52 (0.079 per year) dmp, while for New Zealand the reduction is from 1.39 to 0.22 (0.069 per year).

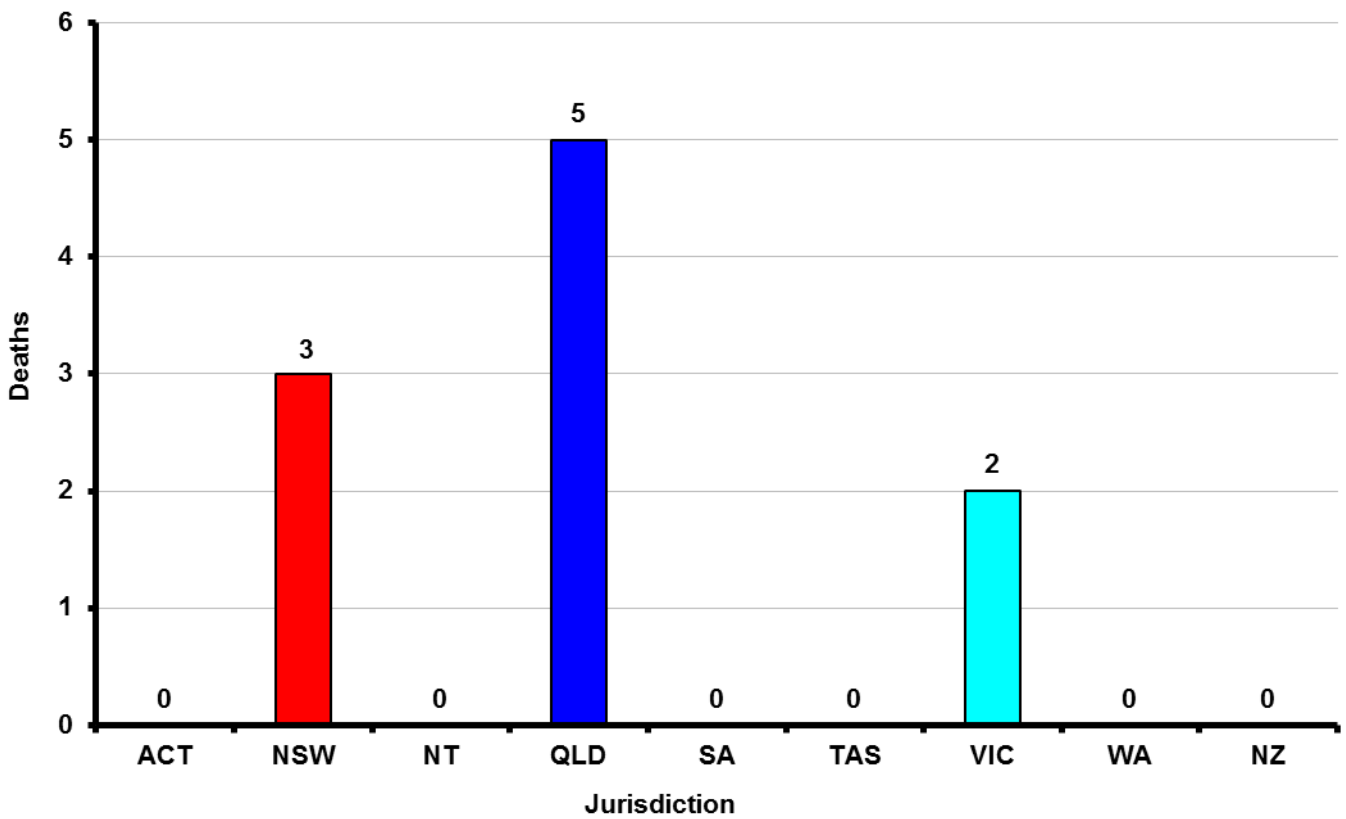
The most electrical deaths associated with electricity networks are as a result of working on or near energised overhead conductors. 90% (109 of 121) of electrical deaths associated with electricity supply networks involved overhead conductors.

Consumer appliances/equipment were involved in little over twice (247) the number of deaths than the electricity supplier assets (121). Also, there was a large variation in the number of deaths involving consumer equipment from one year to the next than in deaths involving electrical supplier assets. The dmp continued to decline over the last 17 years for both consumer and supplier assets.

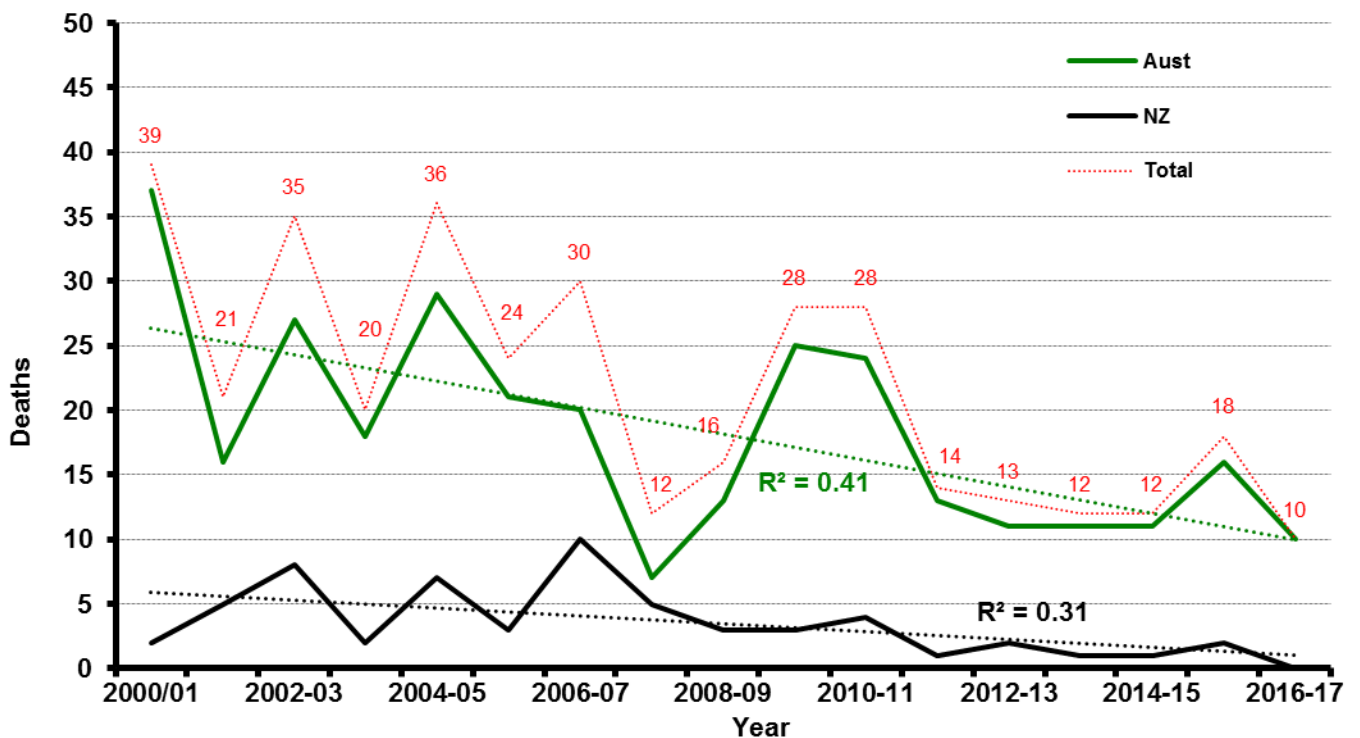
**This report presents the information in a series of charts and tables.**

# 1. Regional Fatalities

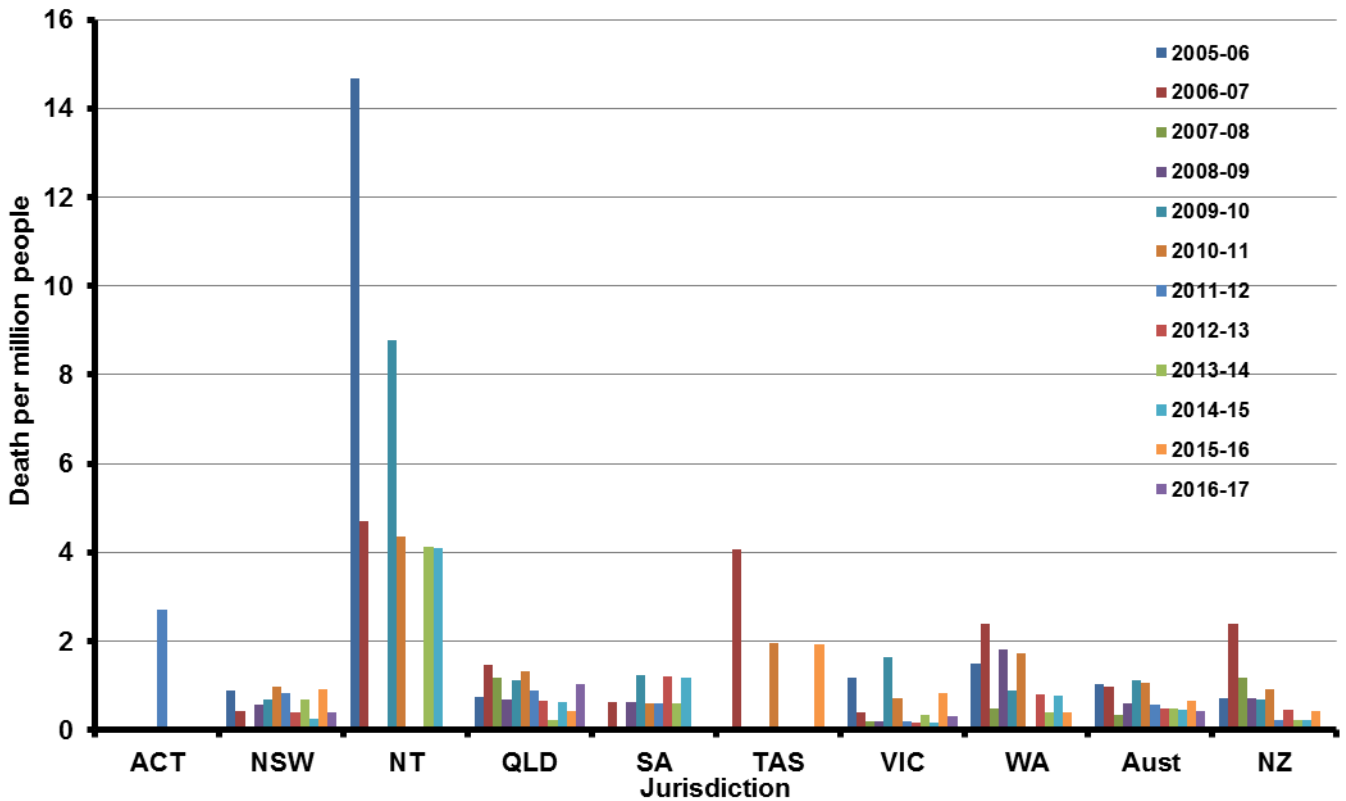
**GRAPH 1.1 Electrical Deaths in Australia and New Zealand – 2016-17**



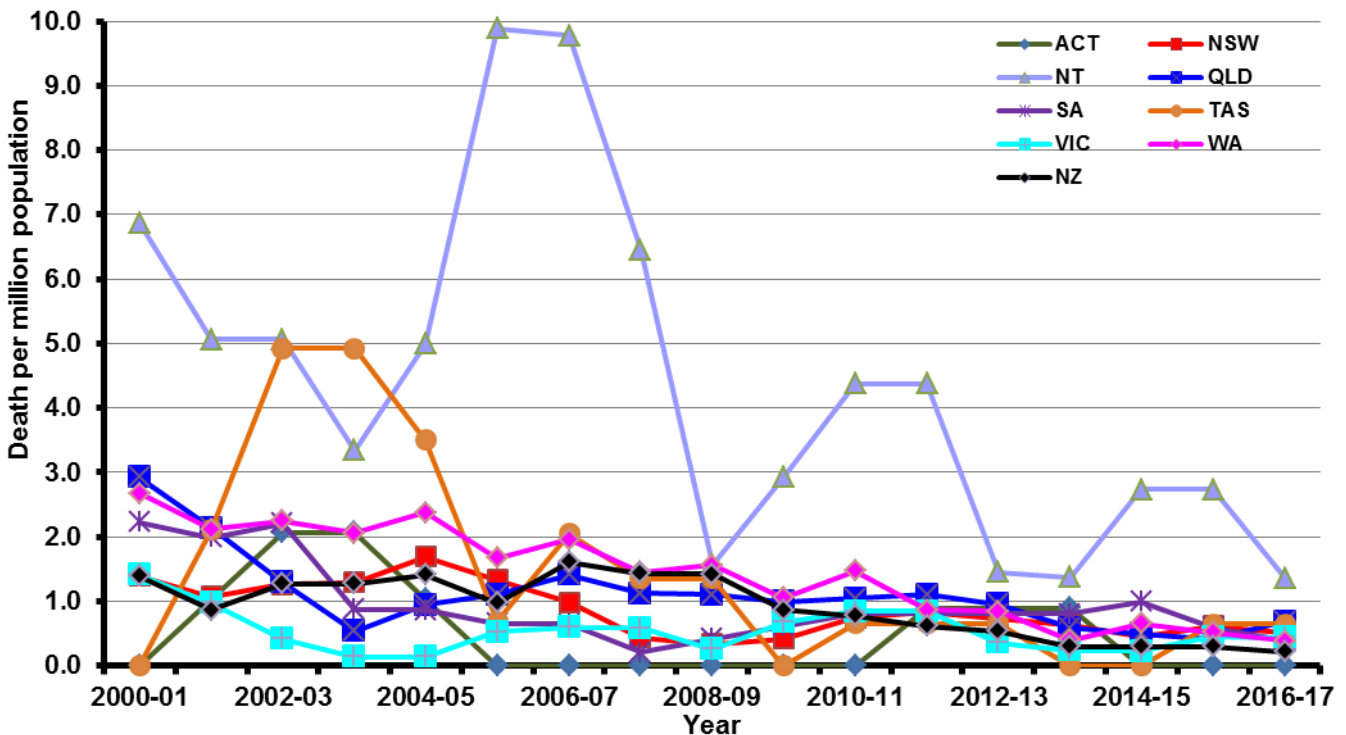
**GRAPH 1.2 Number of Electrical Deaths in Australia and New Zealand**



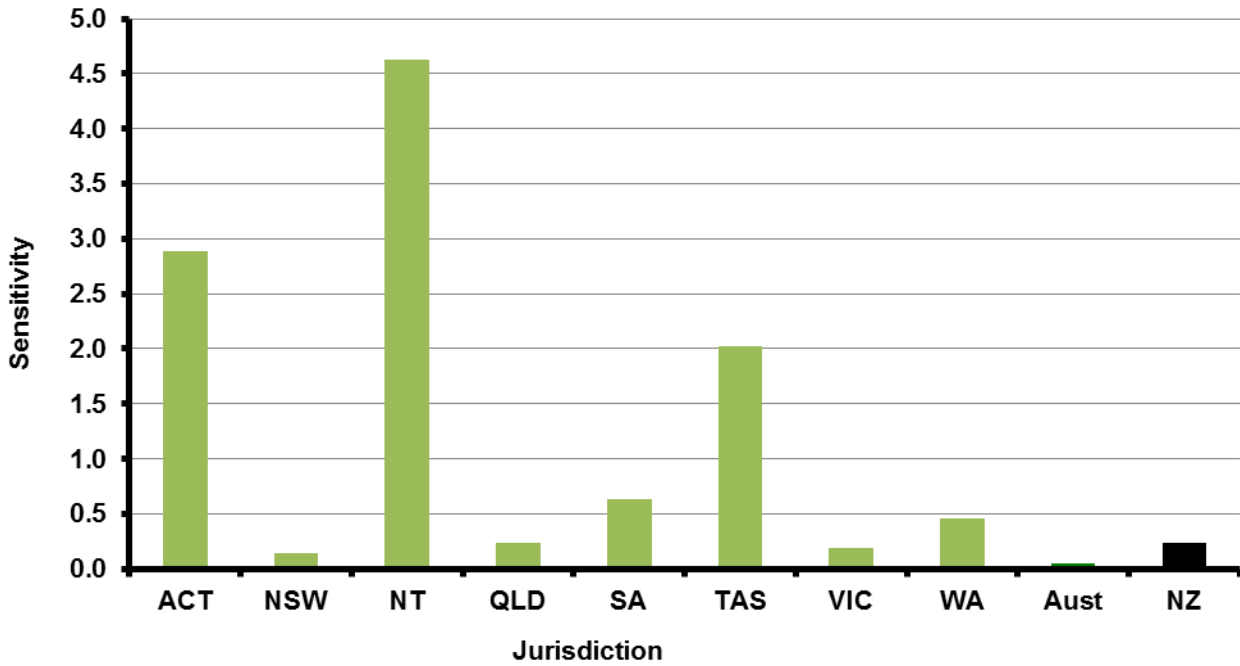
**GRAPH 1.3 Electrical Deaths per Million People from 2005-06**



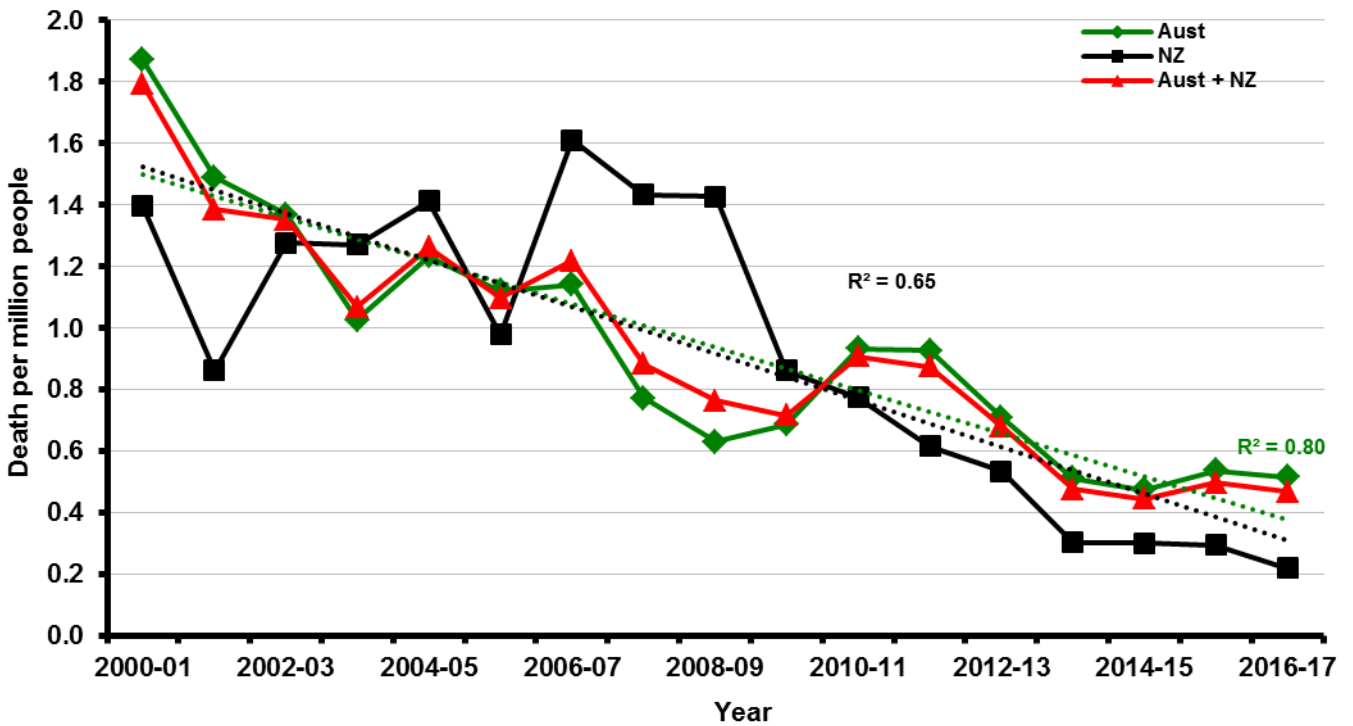
**GRAPH 1.4 Trend in Electrical Deaths (Three Year Moving Average per Million People)**



**GRAPH 1.5 Sensitivity Analysis for Fatality Rate**

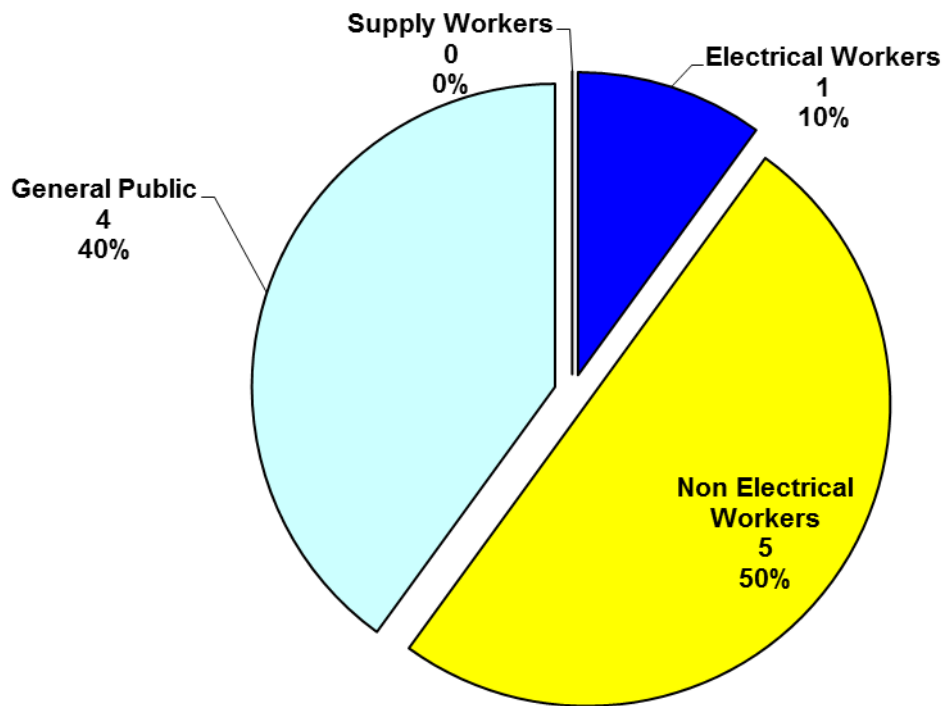


**GRAPH 1.6 Trend in Electrical Deaths (Three Year Moving Average per Million Population) in Australia and New Zealand**

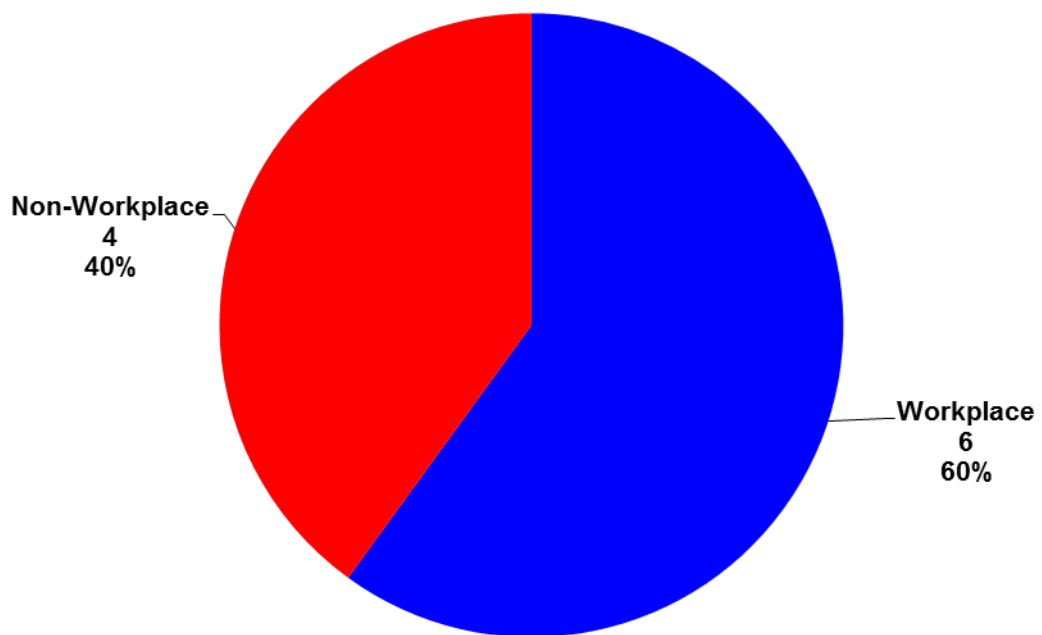




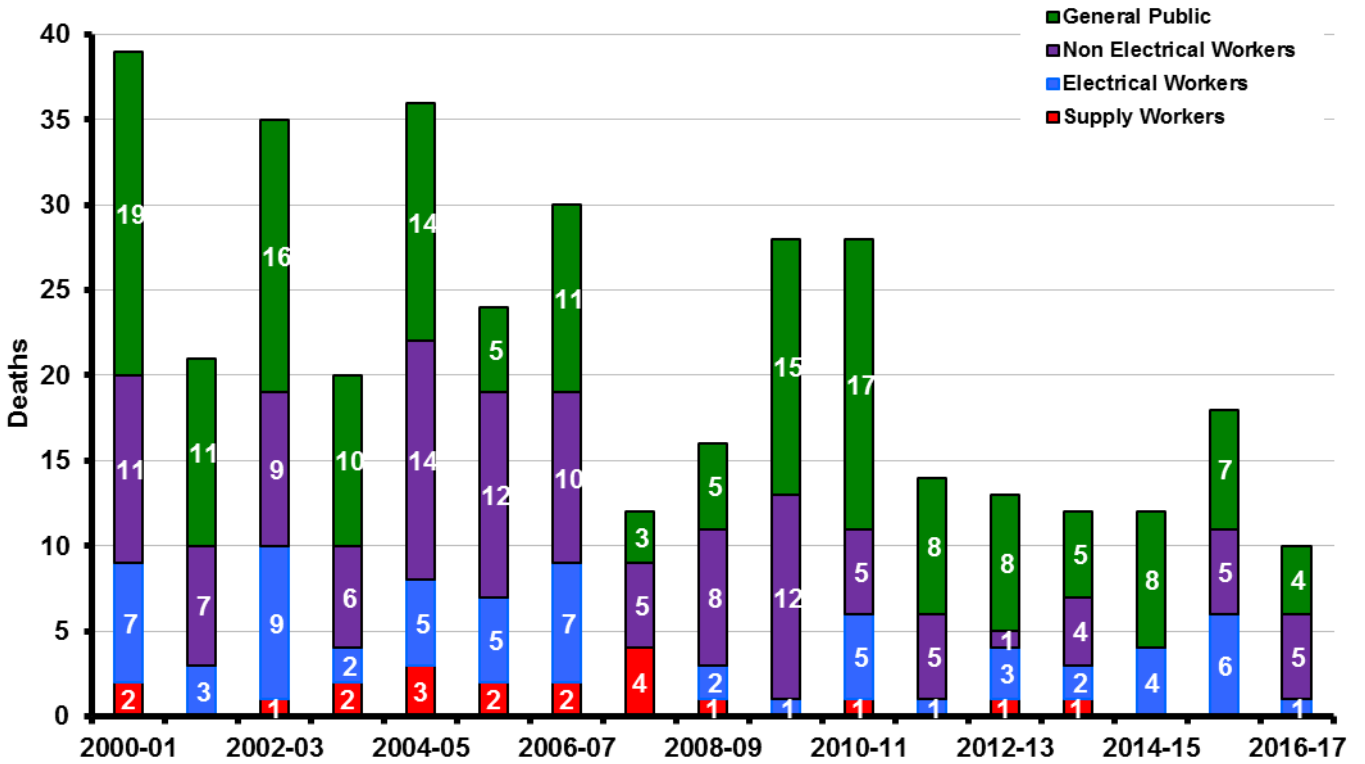
**GRAPH 1.7 Australia and New Zealand Victim Categories – 2016-17**



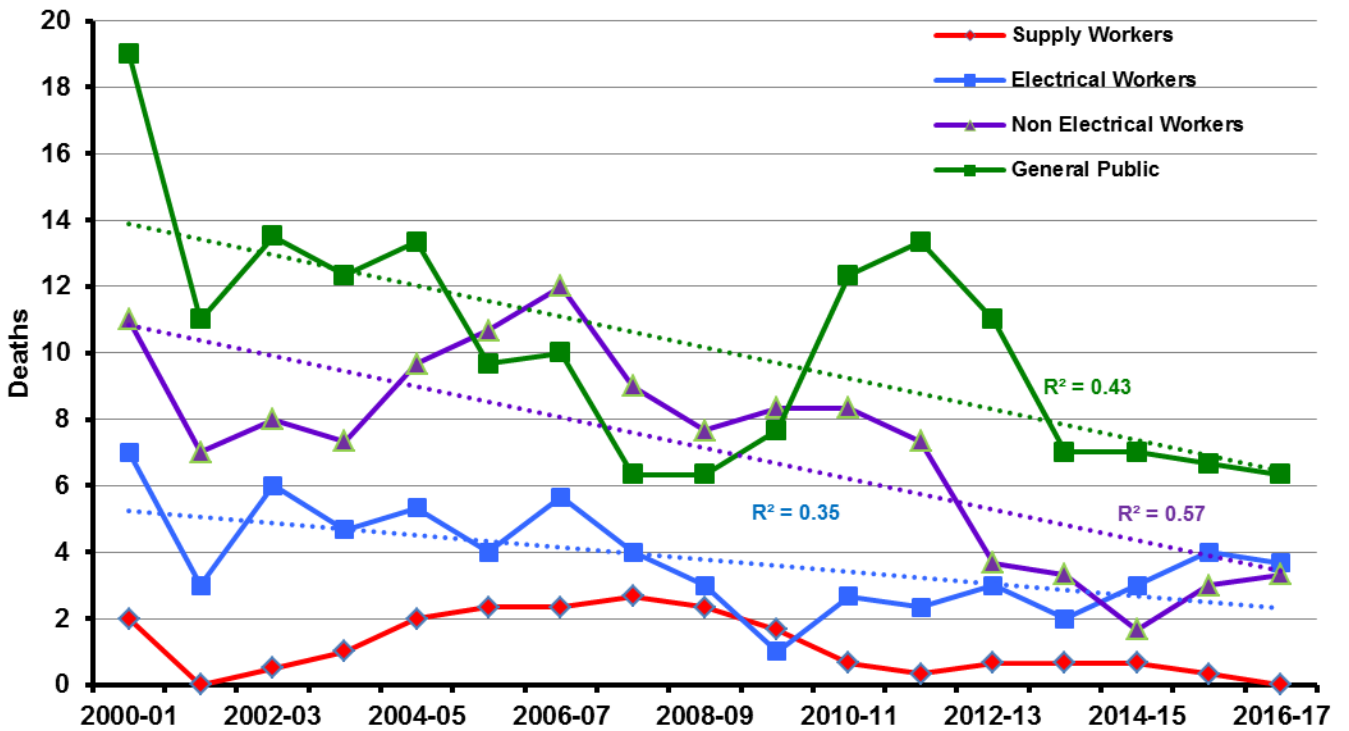
**GRAPH 1.8 Electrical Deaths: Workplace versus Non-Workplace – 2016-17**



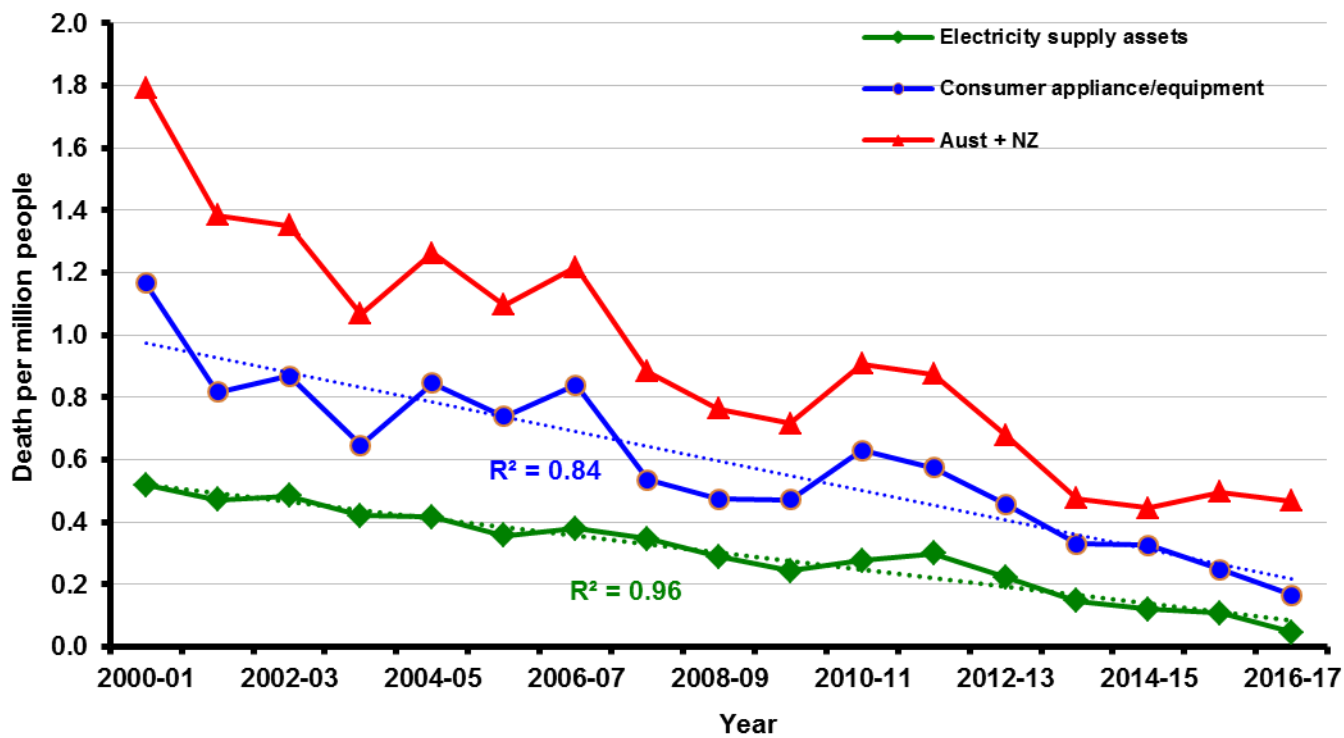
**GRAPH 1.9 Electrical Deaths Sorted by Victim Categories**



**GRAPH 1.10 Trends by Victim Categories with Three Year Moving Average**

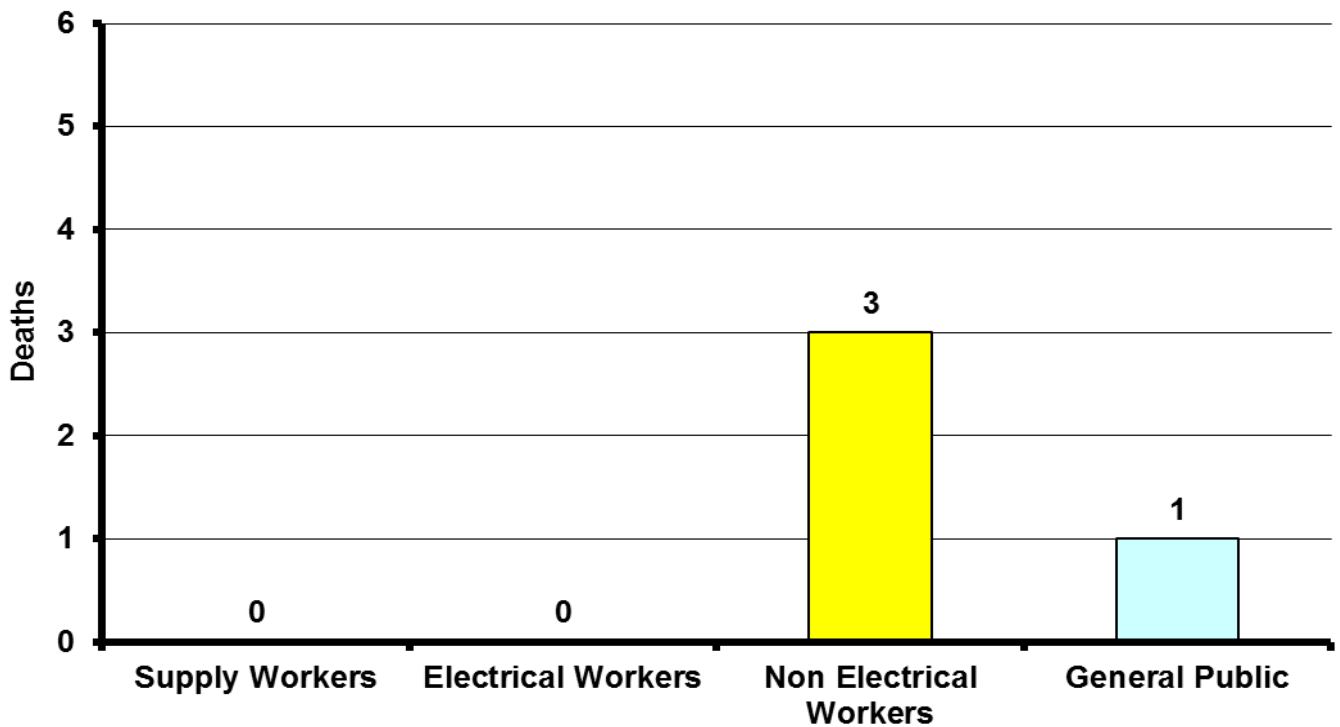


**GRAPH 1.11 Trends by Asset Type with Three Year Moving Average**

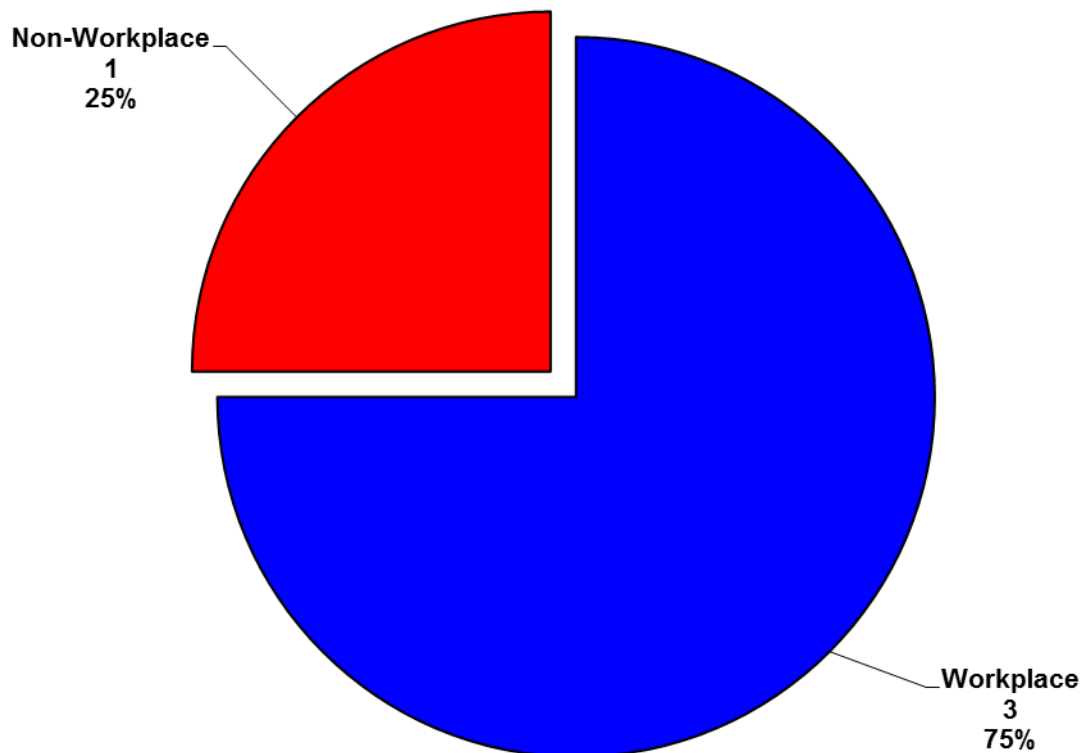


## 2. Fatalities involving Network Assets

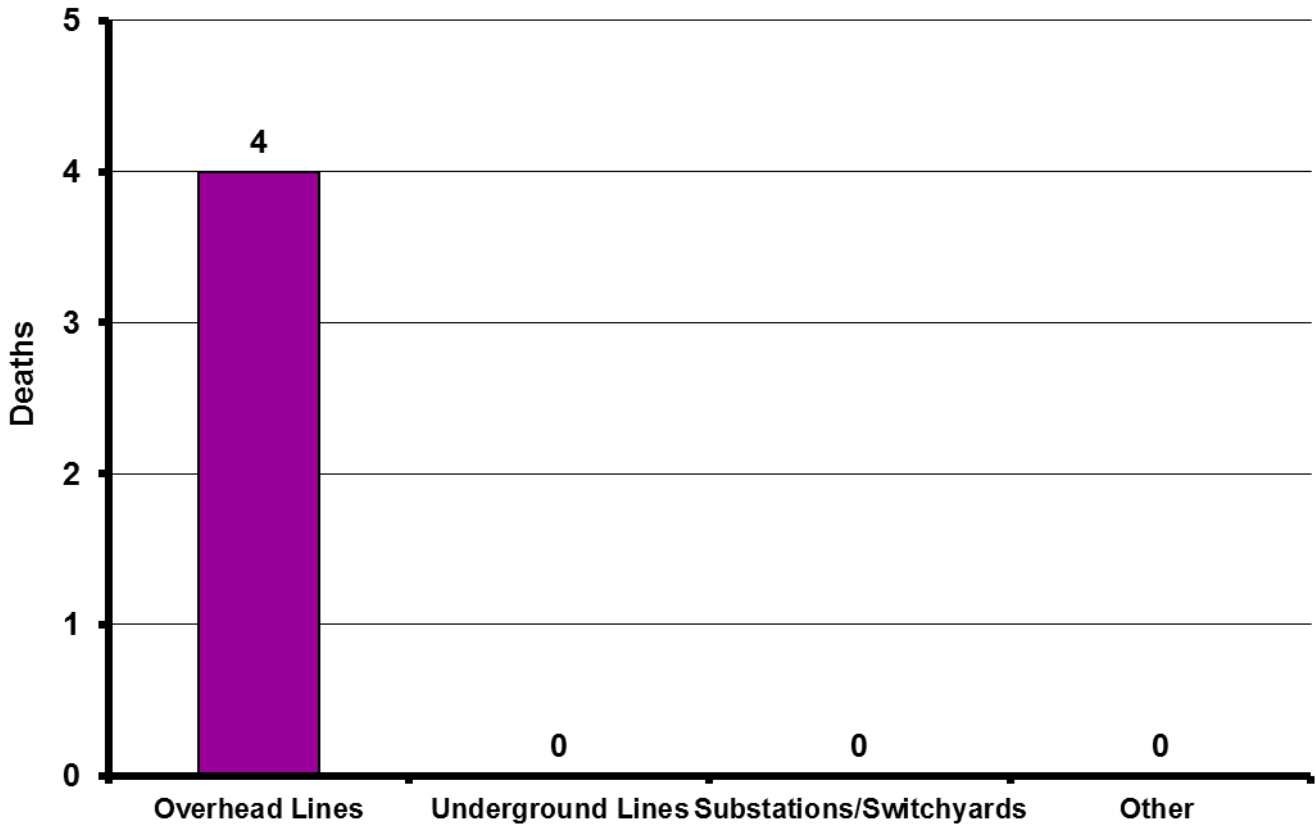
**GRAPH 2.1 Deaths Involving Electricity Supply Assets Sorted by Victim categories – 2016-17**



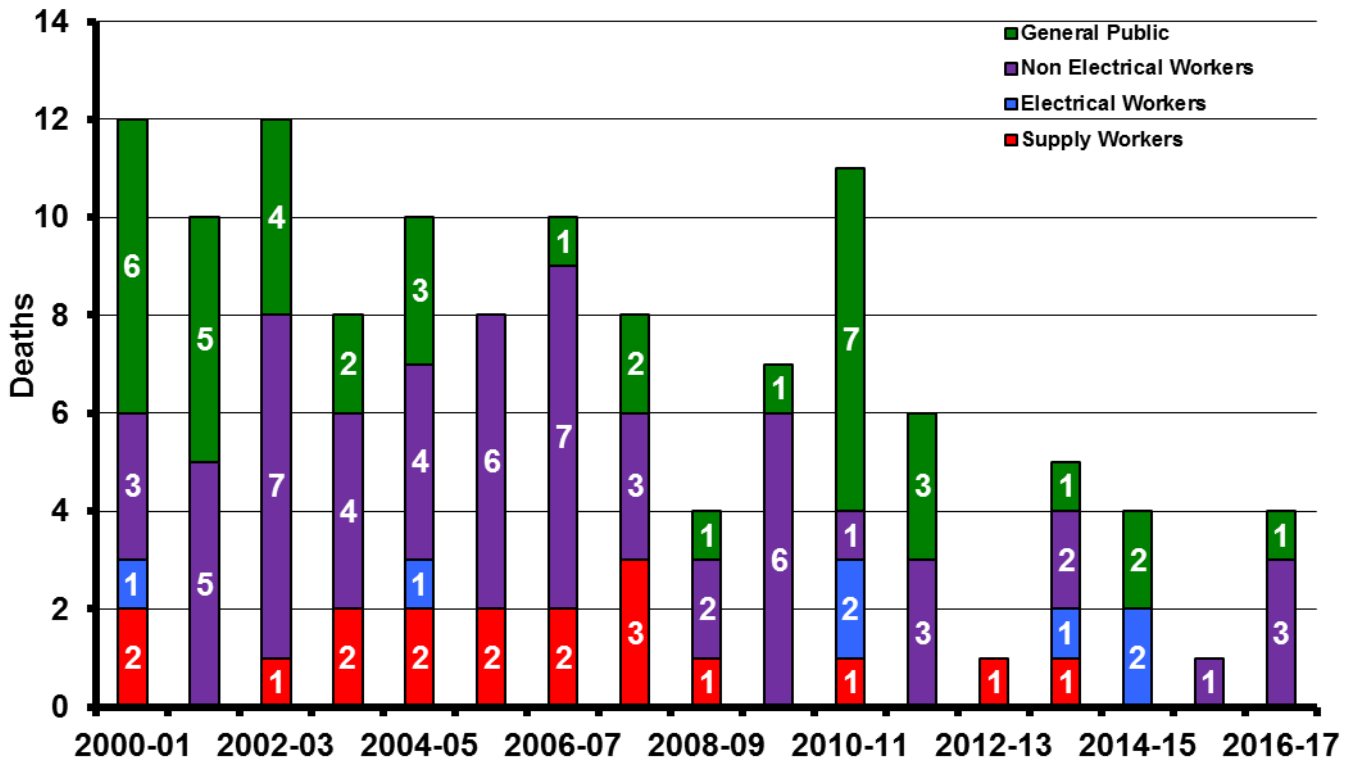
**GRAPH 2.2 Deaths Involving Electricity Supply Assets: Work Place versus Non-Workplace – 2016-17**



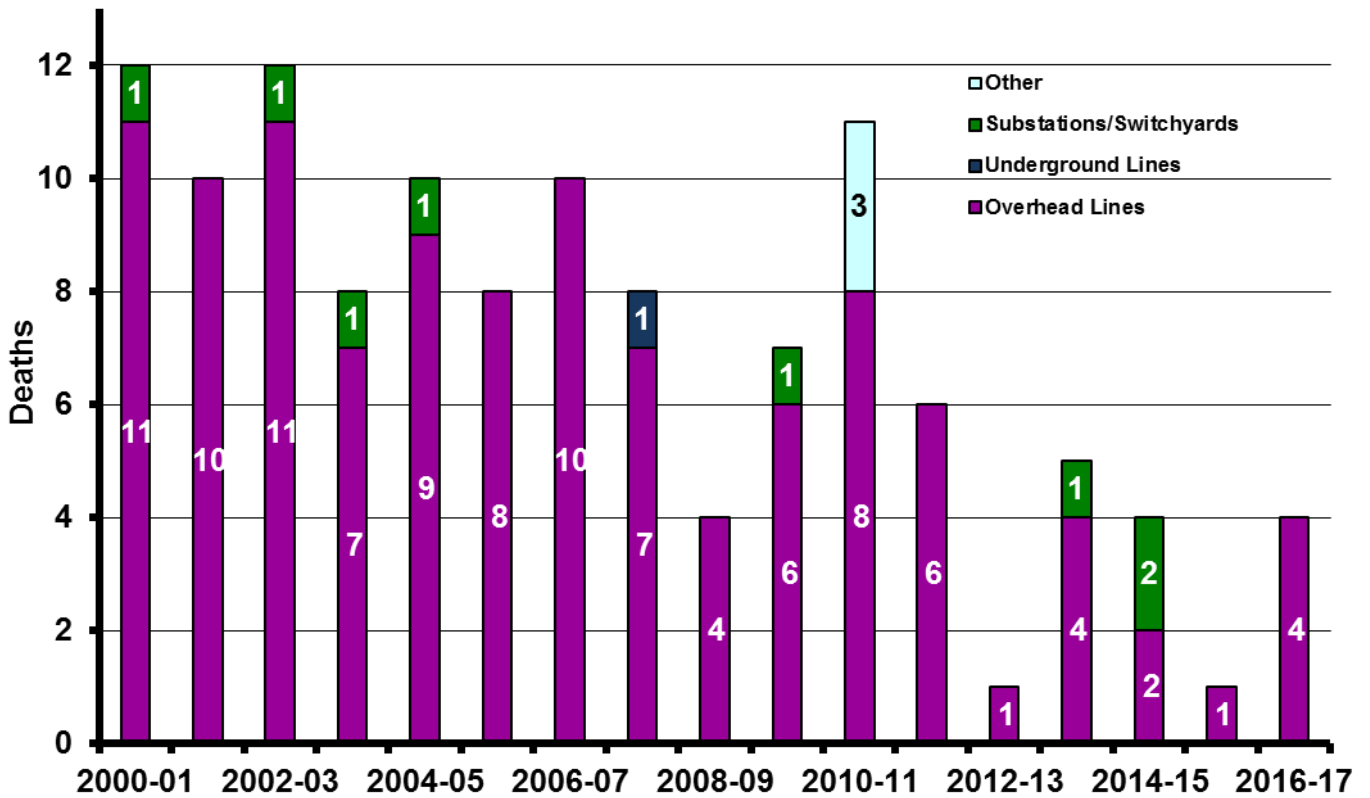
**GRAPH 2.3 Deaths Involving Electricity Supply Assets Sorted by Asset Types - 2016-17**



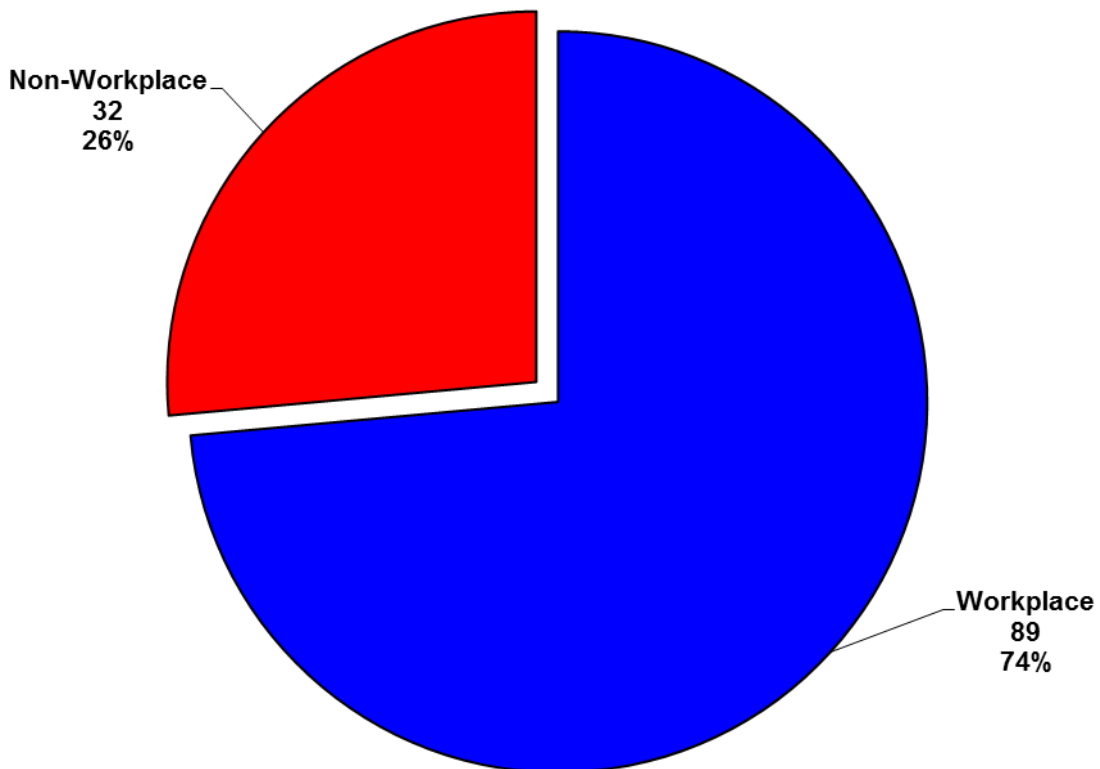
**GRAPH 2.4 Deaths Involving Electricity Supply Assets by Victim Categories**



**GRAPH 2.5 Deaths Involving Electricity Supply Assets Sorted by Asset Types**

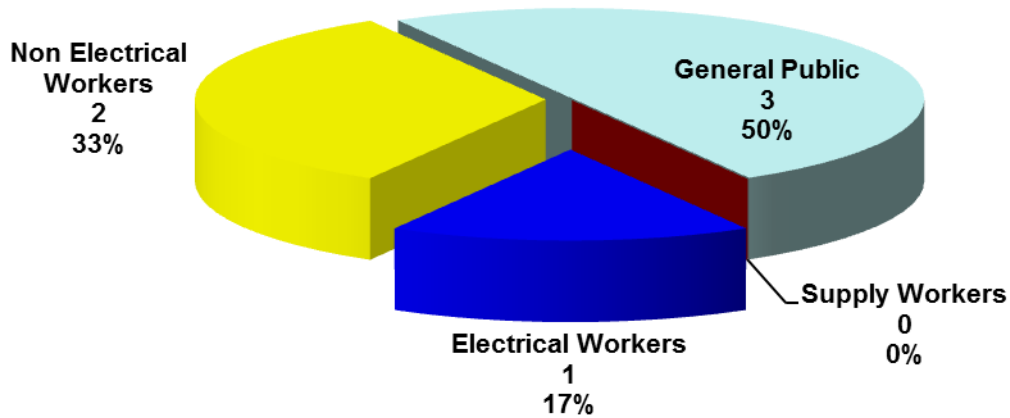


**GRAPH 2.6 Deaths Involving Electricity Supply Assets: Workplace versus Non-Workplace**

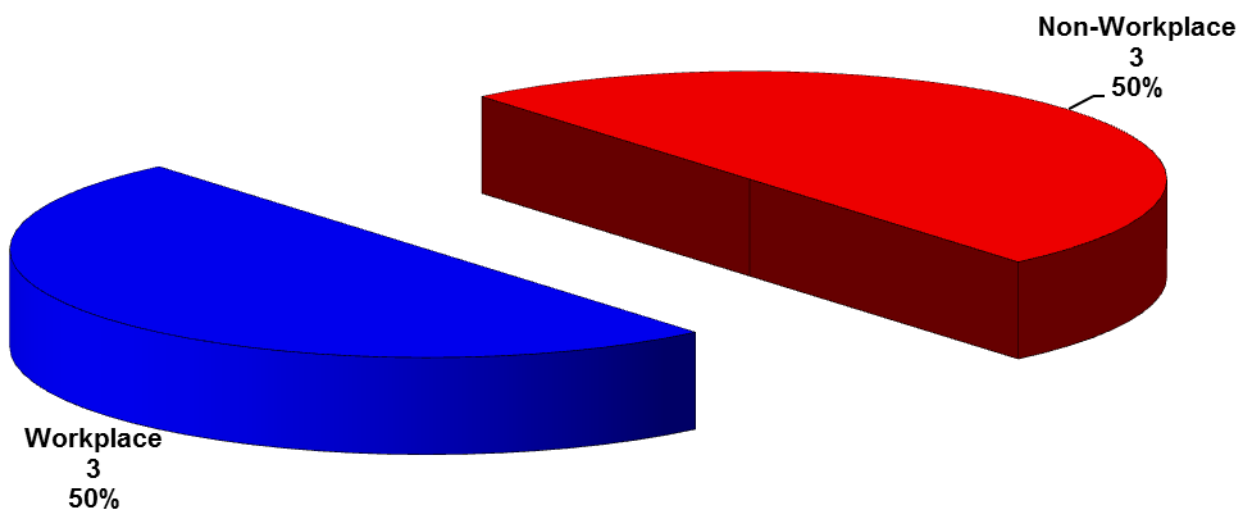


### 3. Fatalities involving Consumer Installations and Equipment

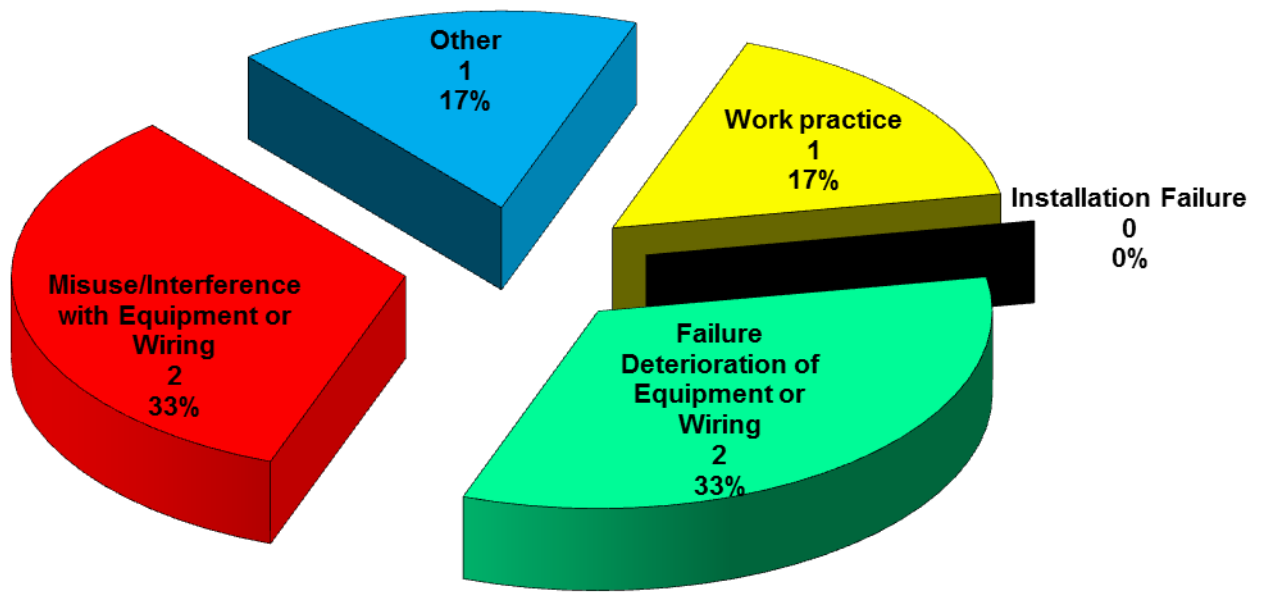
**GRAPH 3.1 Deaths Involving Consumer Installations, Appliances or Equipment Sorted by Victim Categories – 2016-17**



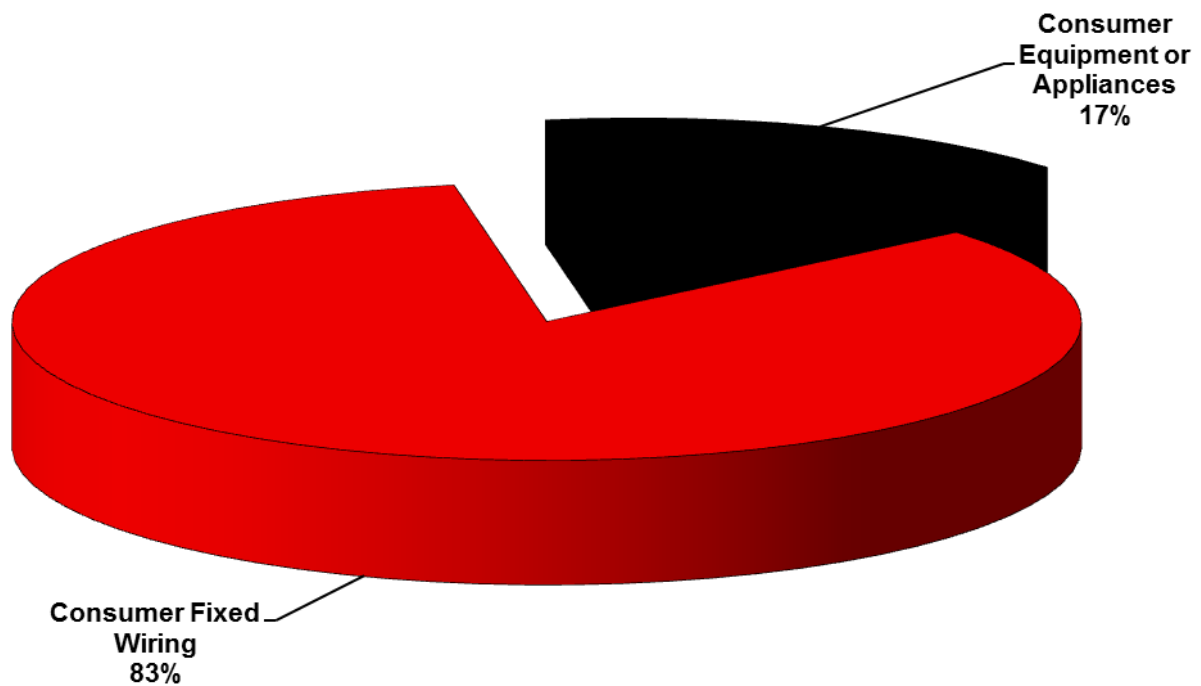
**GRAPH 3.2 Deaths Involving Consumer Installations or equipment at the workplace Sorted by Location – 2016-17**



**GRAPH 3.3 Contributing factors for Electrical Deaths Involving Consumer Installations or Equipment – 2016-17**



**GRAPH 3.4 Deaths Involving Consumer Installations (Fixed Wiring) or Equipment -2016-17**





#### **4. Fatal Electrical Accidents Since July 2000**

<b>YEAR</b>	<b>ACT</b>	<b>NSW</b>	<b>NT</b>	<b>QLD</b>	<b>SA</b>	<b>TAS</b>	<b>VIC</b>	<b>WA</b>	<b>AUST</b>	<b>NZ</b>	<b>TOTAL</b>
2000/01	0	9	2	10	7	0	5	4	37	2	39
2001-02	1	3	1	3	2	3	1	2	16	5	21
2002-03	1	13	0	1	1	4	0	7	27	8	35
2003-04	0	10	1	2	1	0	1	3	18	2	20
2004-05	0	11	2	8	2	1	1	4	29	7	36
2005-06	0	6	3	3	0	0	6	3	21	3	24
2006-07	0	3	1	6	1	2	2	5	20	10	30
2007-08	0	0	0	5	0	0	1	1	7	5	12
2008-09	0	4	0	3	1	0	1	4	13	3	16
2009-10	0	5	2	5	2	0	9	2	25	3	28
2010-11	0	7	1	6	1	1	4	4	24	4	28
2011-12	1	6	0	4	1	0	1	0	13	1	14
2012-13	0	3	0	3	2	0	1	2	11	2	13
2013-14	0	5	1	1	1	0	2	1	11	1	12
2014-15	0	2	1	3	2	0	1	2	11	1	12
2015-16	0	7	0	2	0	1	5	1	16	2	18
2016-17	0	3	0	5	0	0	2	0	10	0	10

## 5. Summary of Electrical Fatality Reports 2016-17

### ELECTRICITY DISTRIBUTOR/SUPPLY AUTHORITY EQUIPMENT

*Legend:*

- A Supply Worker
- B Electrical Worker
- C Non Electrical Worker
- D General Public

	ACT				NSW				NT				QLD				SA			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Overhead Line	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0
Underground Line	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Substation/Switchyard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>0</b>				<b>0</b>				<b>0</b>				<b>4</b>				<b>0</b>			

	TAS				VIC				WA				NZ				TOTAL				Total
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	
Overhead Line	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
Underground Line	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Substation/Switchyard	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>4</b>
<b>TOTAL</b>	<b>0</b>				<b>0</b>				<b>0</b>				<b>0</b>				<b>4</b>				

**CONSUMER INSTALLATIONS** (Installation of Fixed Equipment)

Legend:

- A Supply Worker
- B Electrical Worker
- C Non Electrical Worker
- D General Public

	ACT				NSW				NT				QLD				SA			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Work practice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Installation Failure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Failure Deterioration of Equipment or Wiring	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Misuse/Interference with Equipment or Wiring	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>0</b>				<b>3</b>				<b>0</b>				<b>0</b>				<b>0</b>			

	TAS				VIC				WA				NZ				TOTAL				Total
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	
Work practice	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Installation Failure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Failure Deterioration of Equipment or Wiring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Misuse/Interference with Equipment or Wiring	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>5</b>
<b>TOTAL</b>	<b>0</b>				<b>2</b>				<b>0</b>				<b>0</b>				<b>5</b>				

## CONSUMER EQUIPMENT (Appliance or Accessories)

### Legend:

- A Supply Worker
- B Electrical Worker
- C Non Electrical Worker
- D General Public

	ACT				NSW				NT				QLD				SA			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Work practice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Installation Failure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Failure Deterioration of Equipment or Wiring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Misuse/Interference with Equipment or Wiring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>0</b>				<b>0</b>				<b>0</b>				<b>1</b>				<b>0</b>			

	TAS				VIC				WA				NZ				TOTAL				Total				
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D					
Work practice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Installation Failure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Failure Deterioration of Equipment or Wiring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Misuse/Interference with Equipment or Wiring	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>TOTAL</b>	<b>0</b>				<b>0</b>				<b>0</b>				<b>0</b>				<b>1</b>				<b>1</b>				