
Electrical
Regulatory
Authorities
Council

DRAFT

Electrical Incident Data

Australia & New Zealand 2003 - 04

Definitions

<i>“Consumer Installation”</i>	means all parts of an electrical installation past the point of supply on the consumer side.
<i>“Distribution or Supply Equipment”</i>	means equipment used in the generation, transmission, supply or distribution of electricity.
<i>“Electrical Worker”</i>	means a person who carries out electrical work and is licensed or authorised to do so.
<i>“General Public”</i>	means 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
<i>“Minor Electrical Incident”</i>	is an electrical incident involving electricity in which a person – makes accidental contact with any live high voltage electric line or live electrical equipment operated at high voltage; or receives an electric shock as a result of direct or indirect contact with any network assets or an electrical installation
<i>“Misuse/Interference”</i>	means to damage, mishandle or use equipment in a way that it is not intended or for what it is designed.
<i>“Non Electrical Worker”</i>	means a person who is in the process of carrying out their occupation and is not an electrical worker.
<i>“Serious Electrical Incident”</i>	is an incident involving electricity which causes -- (a) the death of or injury to a person; or (b) significant damage to property; or (c) a serious risk to public safety

“serious risk to public safety” includes -

- property damage that may directly or indirectly cause personal injury or significant damage to property
- property damage by high voltage injection or direct current voltage injection
- incident serious enough to warrant on site action to mitigate risk to the public by Police, Ambulance Service, Fire Authority, Emergency Service Authority, WorkCover Authority or a safety statutory body
- reverse polarity of an electrical circuit that has been in service or declared to be in service (eg. after a working crew left the site)

“significant damage to property” includes –

- fire damage > 0.3 hectares
- any live stock loss
- > \$5000 damage to property other than network assets. (This excludes damage to vehicles as a result of collision with network assets without electricity going astray)
- damage that has potential for significant media interest
- damage serious enough to warrant on site action to mitigate risk to the public by Police, Ambulance Service, Fire Authorities, WorkCover Authority, or an emergency service provider

“Supply Industry Worker” means a person who is employed by a network operator.

“Work Practice” means the process or method by which work is carried out.

Electrical Incident Data

This report covers the 12 month period from 1 July 2003 to 30 June 2004. It is based on details of incidents reported to electrical safety regulators in Australia and New Zealand.

It is important to realise that not all electrical safety regulators in Australia and New Zealand have legislative power to require all minor and serious electrical incidents to be reported. When such requirements are introduced or increased by any regulator (such as was the case in Victoria in 1999) then the number of incidents recorded will show a sudden increase. For these reasons the statistical data on minor and serious incidents is included in this report for information only and should not be used for any comparison purpose. However, the information may be used for promoting public awareness of electrical safety risks to reduce electrical incidents.

A total of 3845 electrical incidents were reported: 20 resulted in death; 193 were considered to be serious and 3632 were minor. Out of 20 fatalities, 8 (40%) were involving the electricity supply networks and 12 (60%) were involving consumers installations or equipment. . Out of 8 fatalities involving the electricity supply networks, 7 was associated with energised overhead conductors.

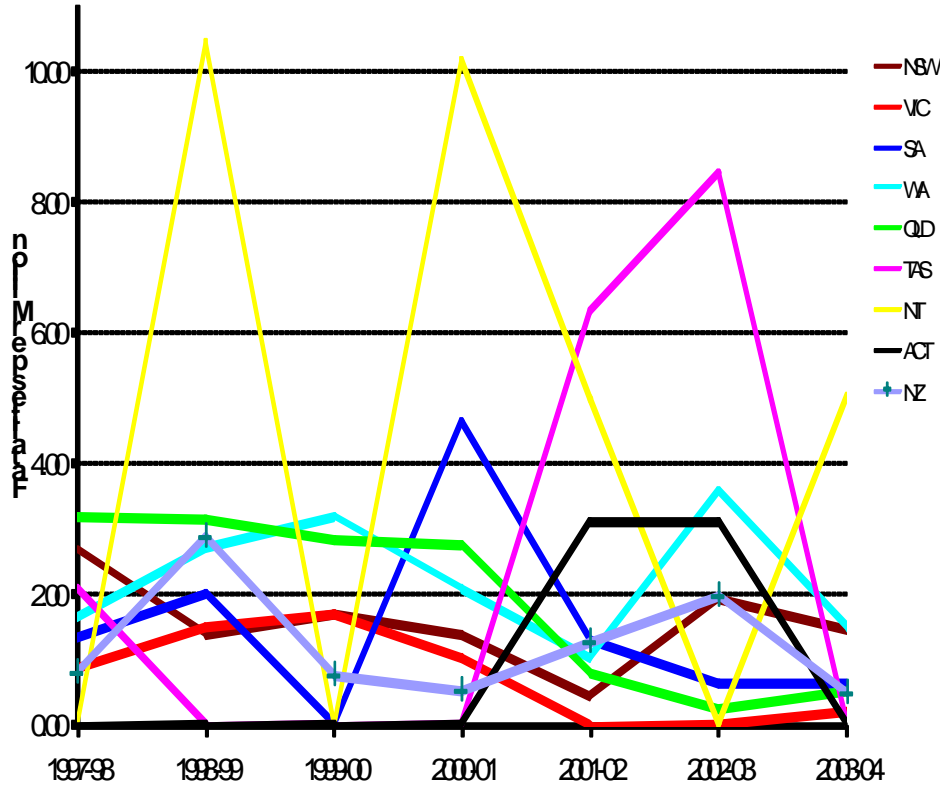
The statistics from 2000-01 to 2002-04 continue showing that most electrical fatalities associated with electricity networks are resulted of working on or near energised overhead conductors. 92.9% of electrical fatalities associated with electricity supply networks involved overhead conductors (Out of 42 fatalities involving the electricity supply networks over the last a four year period, 39 were due to contact with overhead conductors).

Over the period, the statistical data shows that a serious electrical incident is three times more likely to occur at a work place environment when comparing with serious incidents at a non-workplace environment.

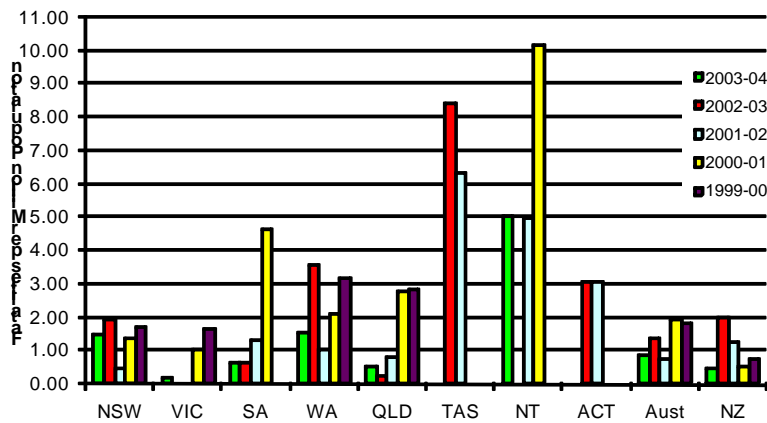
This report presents the information in a series of charts and tables.

1. Regional Fatalities 2003-04

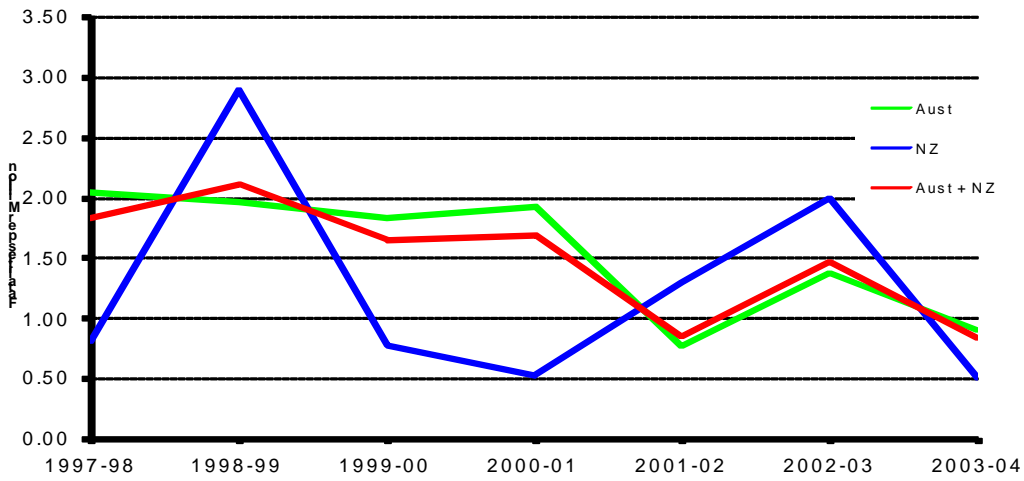
GRAPH 1.1 Australian & NZ Electrical Fatalities 2003-04



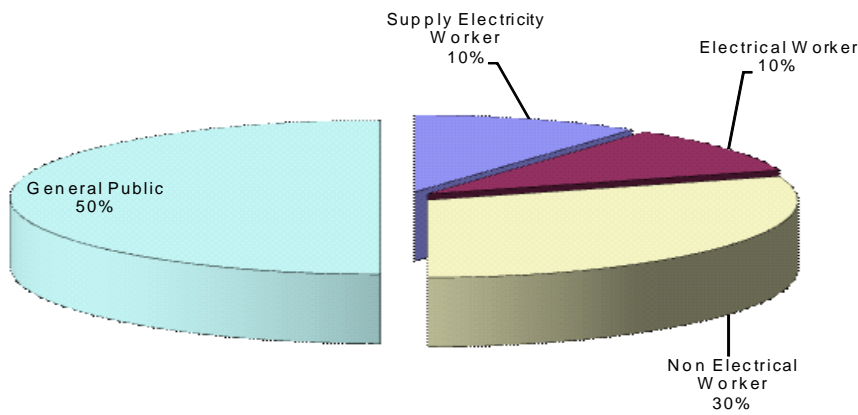
GRAPH 1.2 Electrical Fatalities per Million Persons 2003-04



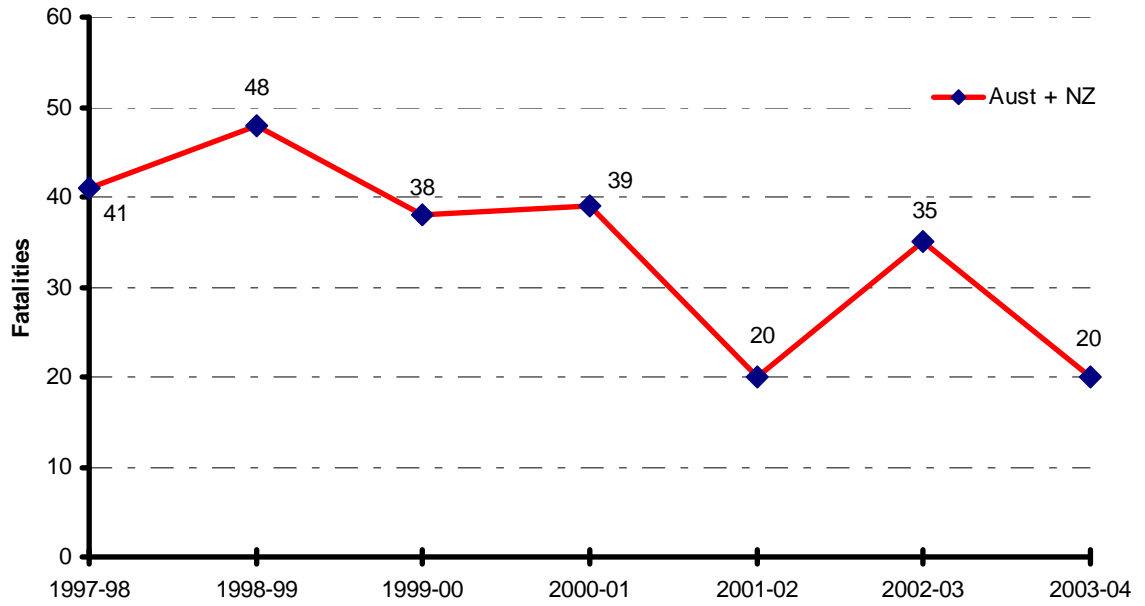
GRAPH 1.3 Regional Trend per Million Persons



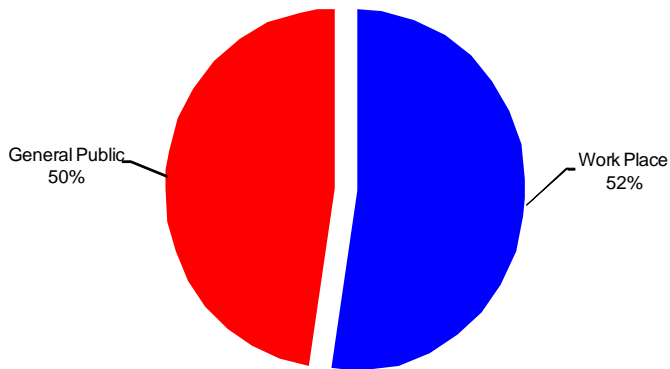
GRAPH 1.4 Trend per Million Australians and New Zealanders



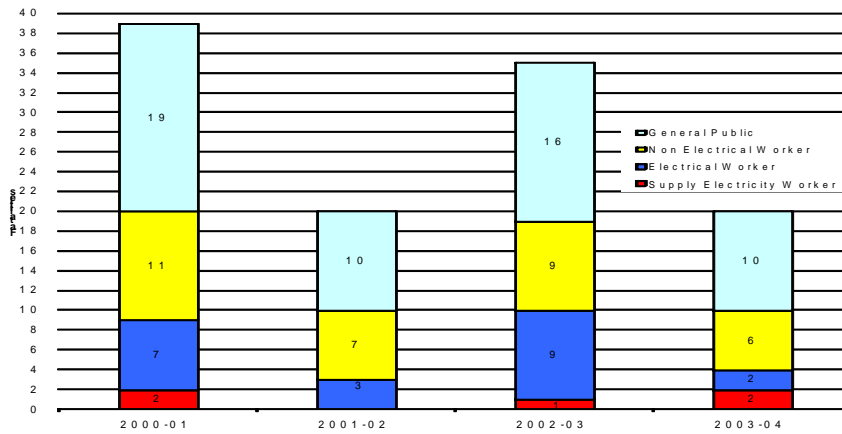
GRAPH 1.5 Total Number of Fatalities in Aust + NZ



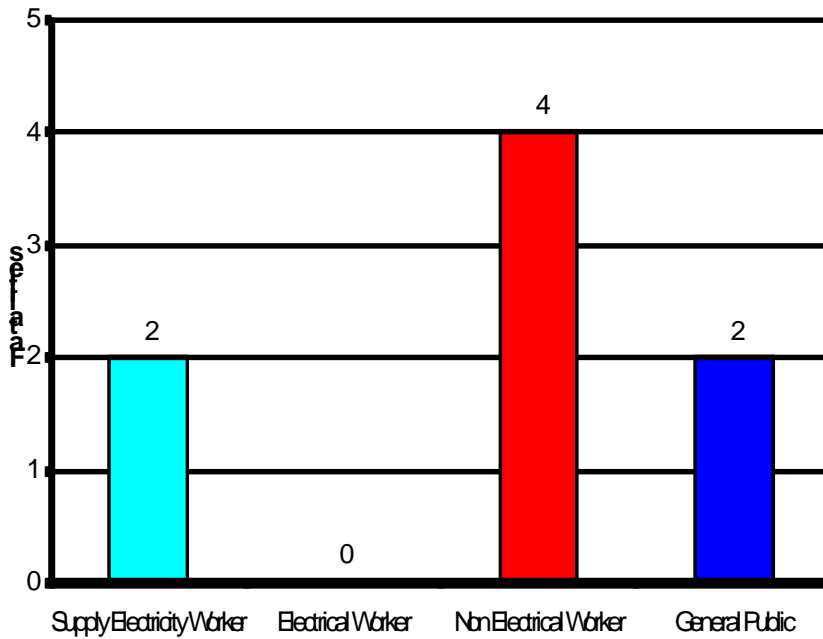
GRAPH 1.6 Aust & NZ Fatalities Victim Categories 2003-04



GRAPH 1.7 Electrical Fatalities Work Related Versus General Public

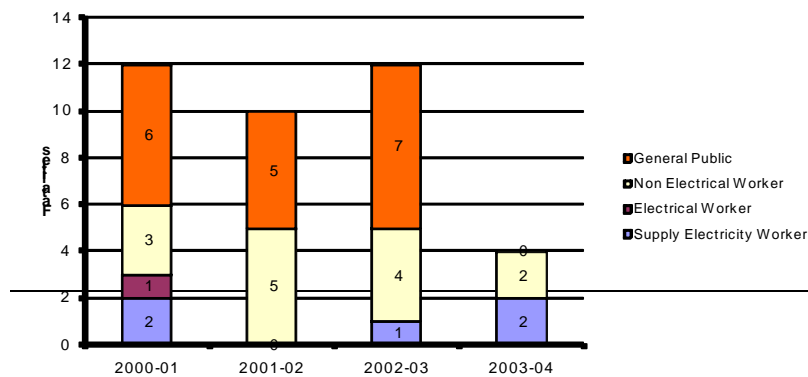


GRAPH 1.8 Electrical Fatalities Victim Categories



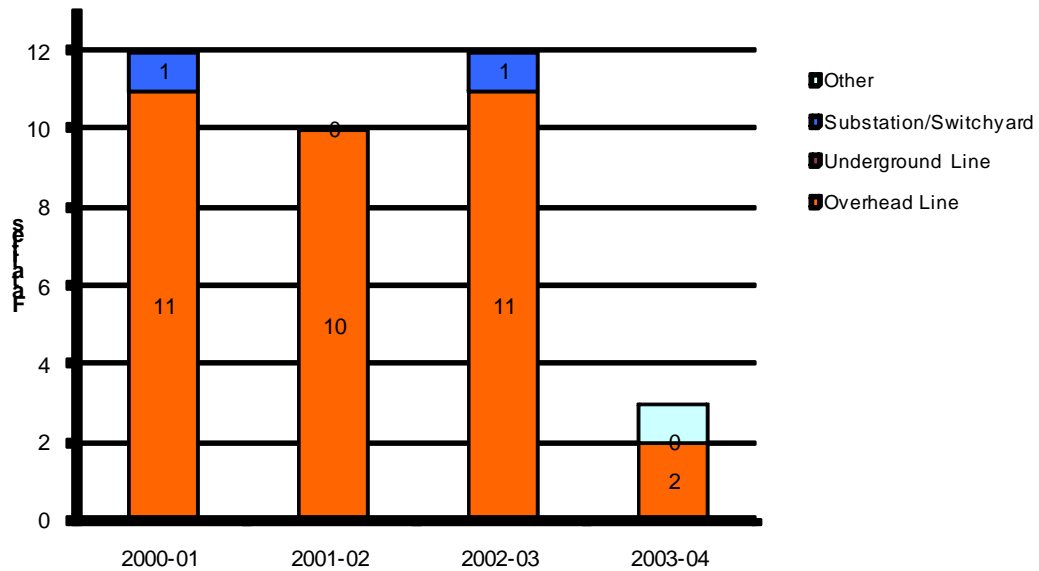
2. Fatalities involving Network Assets

GRAPH 2.1 Fatalities Involving Electricity Supply Assets 2003-04 Sorted by



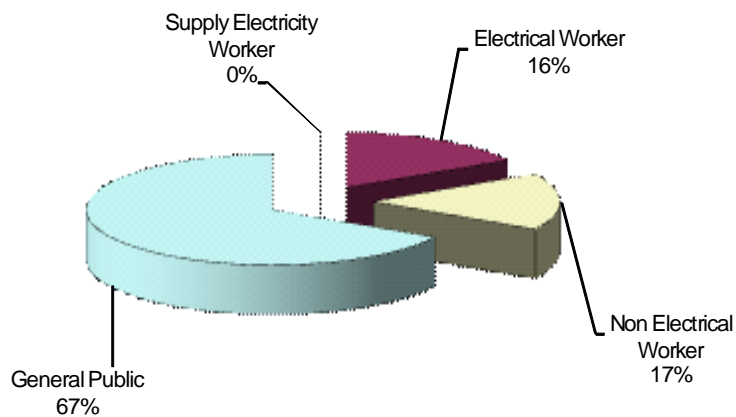
Victim category

GRAPH 2.2 Fatalities Involving Electricity Supply Assets 2003-04 Sorted by Asset Types

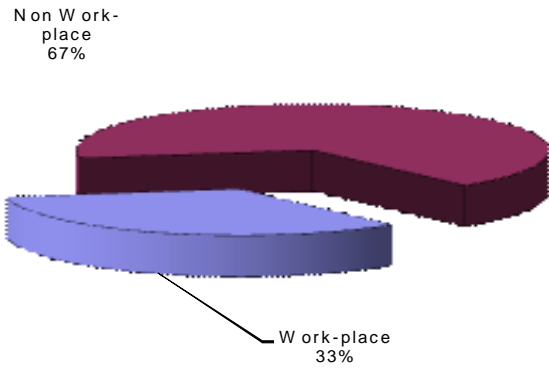


NB. 92% of fatalities associated with Network Assets over 4 years from 2000 to 2004 involved overhead conductors.

GRAPH 2.3 Fatalities Involving Electricity Supply Assets from 2000 to 2004 Sorted by Victim's Categories

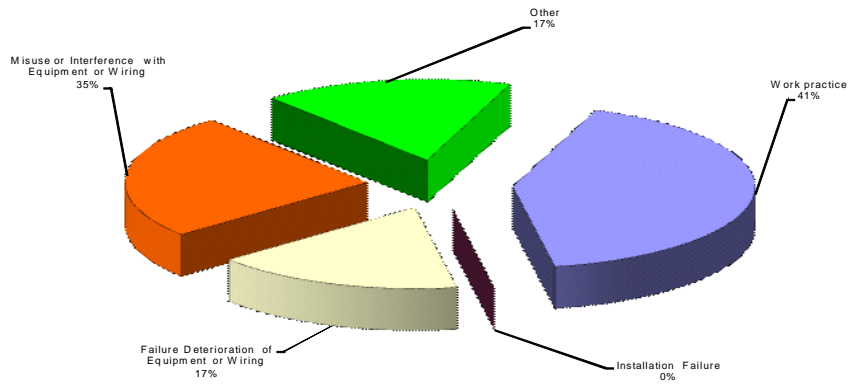


GRAPH 2.4 Fatalities Involving Electricity Supply Assets from 2000 to 2004 Sorted by Asset Types

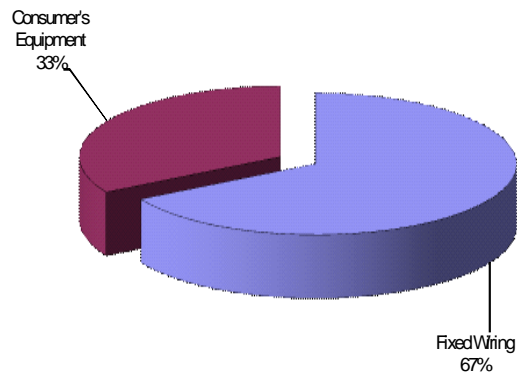


3. Fatalities involving Consumer Installation and Equipment.

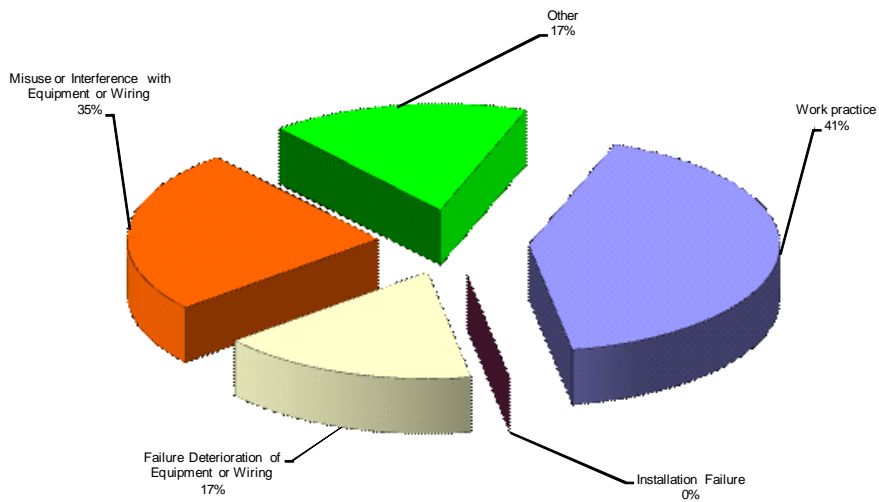
GRAPH 3.1 Electrical Fatalities Involving Consumer's Installation or equipment sorted by Victim's Categories 2003-04



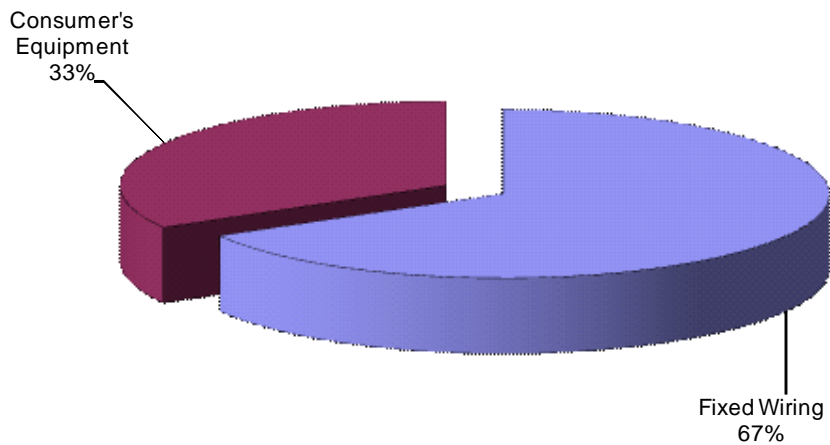
GRAPH 3.2 Electrical Fatalities Involving Consumer's Installation or equipment at work place in 2003-04



GRAPH 3.3 Circumstances of Electrical Fatalities Involving Consumer's Installation or equipment in 2003-04



GRAPH 3.4 Electrical Fatalities Involving Consumer's Installation or equipment in 2003-04



4. Fatal Electrical Accidents 2003-04

Region:	NSW	VIC	SA	WA	QLD	TAS	NT	ACT	NZ	TOTAL
Fatalities:	10	1	1	3	2	0	1	0	2	20

FATALITIES		
	AUSTRALIA	NEW ZEALAND
TOTAL	18	2
	TOTAL	
		20

YEAR	NSW	VIC	SA	WA	QLD	TAS	NT	ACT	AUST	NZ	TOTAL
2002-03	13	0	1	7	1	4	0	1	27	8	35
2001-02	3	0	2	2	3	3	1	1	15	5	20
2000/01	9	5	7	4	10	0	2	0	37	2	39
1999-00	11	8	0	6	10	0	0	0	35	3	38
1998-99	9	7	3	5	11	0	2	0	37	11	48
1997-98	17	4	2	3	11	1	0	0	38	3	41
1996-97	9	8	2	5	20	0	2	0	46	12	58
1995-96	13	10	2	6	9	4	0	0	44	3	47
1995	13	8	2	8	7	2	1	0	41	5	46
1994	23	6	1	4	11	1	2	1	49	5	54
1993	16	5	3	6	12	3	1	3	49	6	55
1992	19	7	7	5	12	1	1	0	52	7	59

5. Summary of ERAC Electrical Fatality Reports 2003-04

Legend:

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

ELECTRICITY DISTRIBUTOR/SUPPLY AUTHORITY EQUIPMENT

	AUSTRALIAN CAPITAL TERRITORY				NEW SOUTH WALES				NORTHERN TERRITORY				QUEENSLAND				SOUTH AUSTRALIA			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Overhead Line					1		3	1												
Underground Service																				
Substation/Switchyard								1												
Other																				
TOTAL	0	0	0	0	1	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0

	TASMANIA				VICTORIA				WESTERN AUSTRALIA				NEW ZEALAND				TOTAL			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Overhead Line								1									2		4	1
Underground Service																				
Substation/Switchyard																				1
Other																				
TOTAL	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	4	2

Electrical fatalities involving electricity distribution/supply authority equipment increased from 34.3% in 2002-03 to 40% in 2003-04

CONSUMER INSTALLATION OR EQUIPMENT

	AUSTRALIAN CAPITAL TERRITORY		NEW SOUTH WALES		NORTHERN TERRITORY		QUEENSLAND	
	Installation	Consumer Equipment (Appliances and Accessories)	Installation	Consumer Equipment (Appliances and Accessories)	Installation	Consumer Equipment (Appliances and Accessories)	Installation	Consumer Equipment (Appliances and Accessories)
Work practice			1					
Installation Failure								
Failure Deterioration of Equipment or Wiring			1					2
Misuse/Interference with Equipment or Wiring			1			1		
Other			1					
Total	0	0	4	0	0	1	0	2

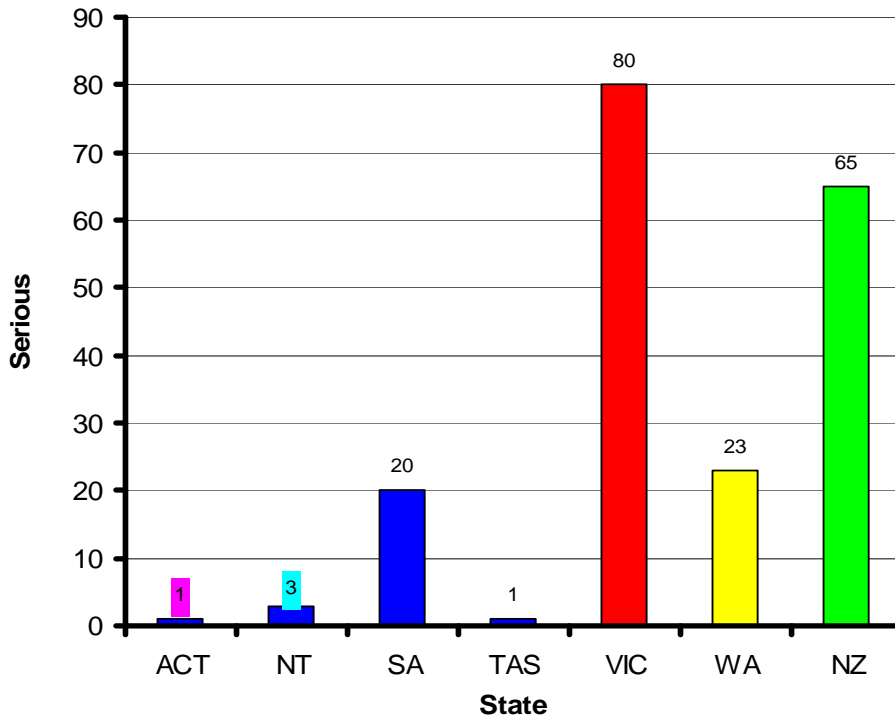
	SOUTH AUSTRALIA		TASMANIA		VICTORIA		WESTERN AUSTRALIA	
	Installation	Consumer Equipment (Appliances and Accessories)	Installation	Consumer Equipment (Appliances and Accessories)	Installation	Consumer Equipment (Appliances and Accessories)	Installation	Consumer Equipment (Appliances and Accessories)
Work practice							3	
Installation Failure								
Failure Deterioration of Equipment or Wiring								0
Misuse/Interference with Equipment or Wiring		1						
Other								
Total	0	1	0	0	0	0	3	0

	NEW ZEALAND		TOTAL	
	Installation	Consumer Equipment (Appliances and Accessories)	Installation	Consumer Equipment (Appliances and Accessories)
Work practice	1		5	0
Installation Failure			0	0
Failure Deterioration of Equipment or Wiring			1	1
Misuse/Interference with Equipment or Wiring			1	2
Other			1	1
Total	1	0	8	4

The number of deaths associated with consumer's electrical installations or equipment in was reduced from 23 in 2002-03 to 12 in 2003-04.

6. Serious Electrical Incidents

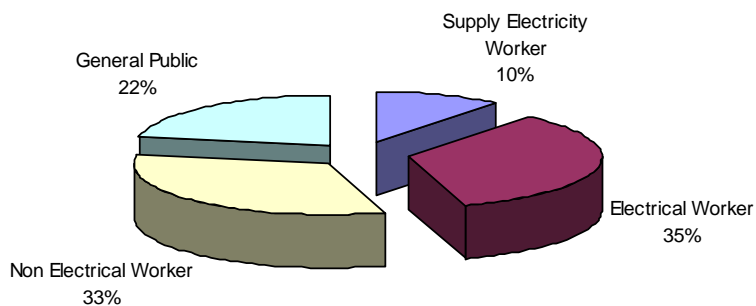
GRAPH 6.1 Australian and New Zealand Serious Incidents 2003-04



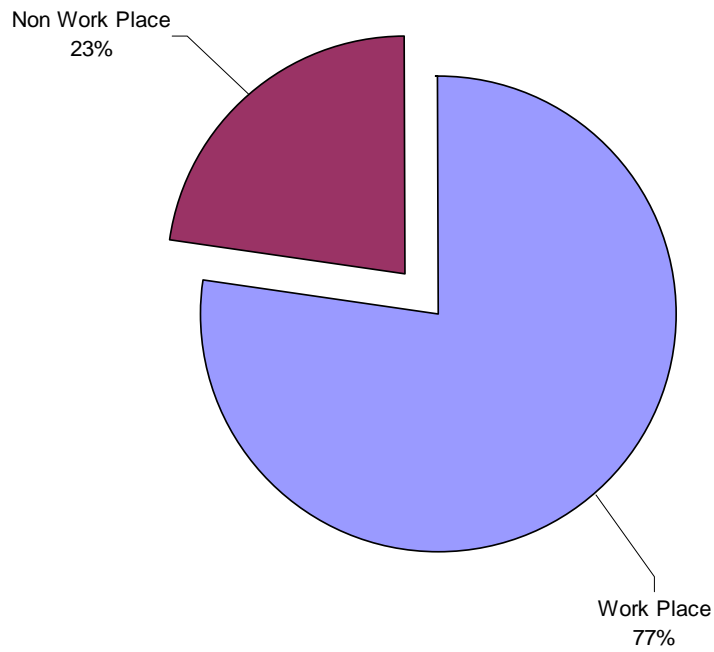
The total of 193 serious incidents were reported in 2003-04.

Graph 6.1 shows a considerable difference in the number of serious incidents recorded by States and Territories. This was due to inconsistency of reporting requirements throughout States and Territories.

GRAPH 6.2 Serious Injuries in Australia and New Zealand in 2003-04



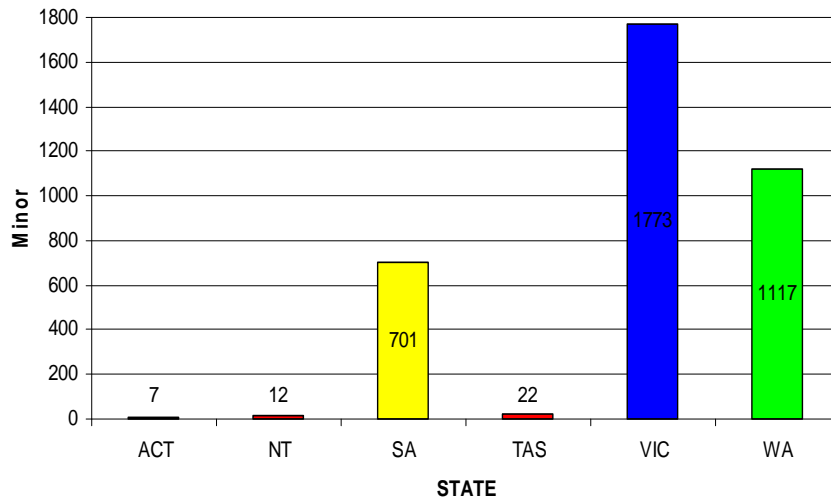
GRAPH 6.3 Work Related Serious Incidents in Australia and New Zealand 2003-04



Over the last financial year, the statistical data shows that a serious electrical incident is three times more likely to occur at work place when comparing with serious incidents at non-workplace.

7. Minor Electrical Incidents

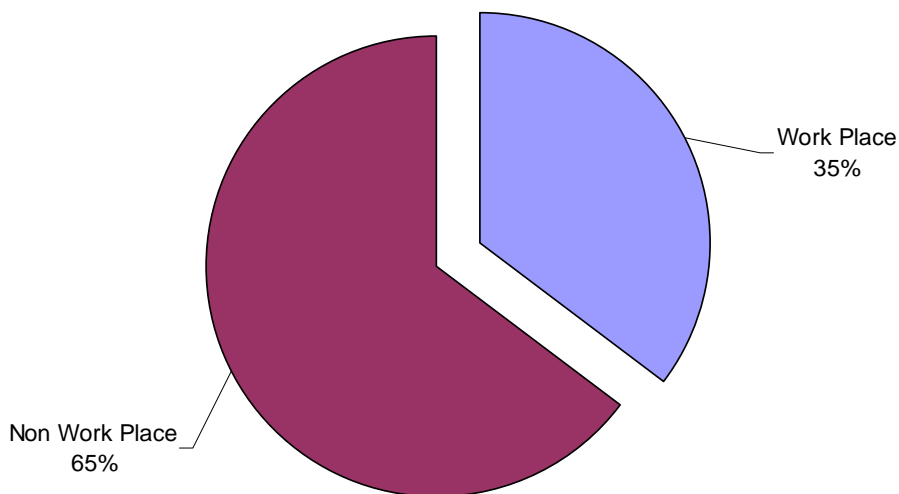
GRAPH 7.1 Minor Incidents in Australia in 2003-04



3632 minor incidents were reported in Australia in 2003-04.

As not all minor electrical incidents are reported to regulators and not all regulators keep records of minor incidents, the statistical data on minor incidents is included in this report for information only and should not be used for any comparison purpose.

GRAPH 7.2 Work Related Minor incidents in Australia 2003-04



GRAPH 7.3 Minor Incidents in Australia in 2003-04 Sorted by Victim Category

