

energy

Bulletin

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Electrical Safety Awards 2003

Energy Safety WA and co sponsor Siemens are pleased to acknowledge the winners of this year's Electrical Safety Awards for electrical contractors, as announced at the Electrical Contractors Association's Excellence Awards Gala Dinner held on Saturday 13 September 2003:

- ECA Systems P/L – in the category of less than ten employees
- Downer RML P/L – in the category of ten or more employees

These two companies were judged as having in place excellent safety management processes that deliver very good safe work outcomes. ECA Systems P/L is an electrical contracting business that provides electrical communications and automation services to the South West region of WA. Downer RML P/L is a well-established, substantial electrical contracting business that is prominent, particularly in the resources industry.

In presenting the awards to the winners Kevin Roshier, Energy Safety's Principal Engineer Electrical Installations & Appliances, emphasized the importance of all electrical contracting companies, whether large or small, adopting a company-wide structured approach to safety, in which every member of the organisation embraces and promotes safe work principles and actions.

Each winner received an Award Certificate and a voucher to purchase tools or equipment to the value of \$1,500, generously donated by Siemens.

Energy Safety encourages other electrical contractors to nominate for the safety awards next year, as it gives them an opportunity to have their commitment to safe work and outcomes recognised.



ALBERT KOENIG
DIRECTOR OF ENERGY SAFETY

Energy Safety, in its first year of operation as part of the Department of Consumer and Employment Protection, has had a busy year administering the technical and safety regulatory framework for the electrical and gas industries in Western Australia.

The past year's principal work is summarised in this edition of the Energy Bulletin.

Energy Safety



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Albert Koenig Director of Energy Safety

Report on Activities 2002–03

This report on activities overviews the work of Energy Safety during the last 12 months.

On 1 July 2002, the Technical & Safety Division of the Office of Energy was transferred to the Department of Consumer Employment and Protection (DOCEP), under the Machinery of Government reform recommendations. The title of Energy Safety was adopted for this new Directorate of DOCEP.

Energy Safety (through the statutory functions of the Director of Energy Safety) regulates to achieve:

- the safety of people (public, consumers, workers) and property in respect of electricity generation, transmission and distribution;
- the safety of people (public, consumers, workers) and property in respect of gas distribution systems (operating at up to 1.9 megapascals) and gas production plants connected to such systems;
- the protection of consumers (all types) through the need for electricity/gas supplies to comply with minimum standards of quality, reliability and metering accuracy;

- the safety of all consumers' electrical/gas installations (including all types of equipment and appliances); and
- the efficient use of energy (eg. the star rating scheme for electrical appliances).

Energy Safety also:

- promotes electricity/gas safety to the public, consumers and workers (particularly energy industry workers) in a variety of ways; and
- participates in the State's emergency management framework, where it has responsibilities for managing liquid fuel shortage emergencies, gas supply emergencies and energy infrastructure protection.

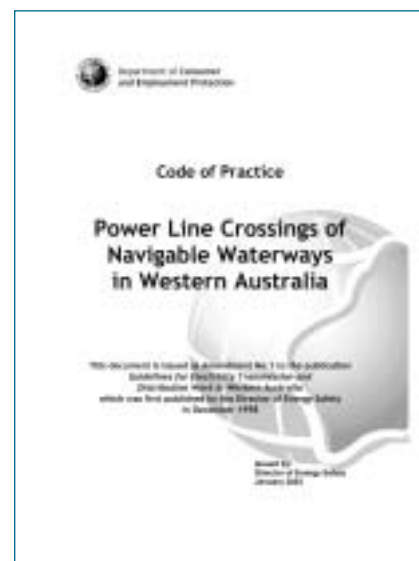
Major Policy Projects

Gas and Electricity Safety Legislation Amendment Bill 2003

During the year, amendments were made to the Gas Distribution Legislation Amendment Bill to include provisions that improve the order-making powers for electricity inspectors under the *Energy Coordination Act 1994*. Following these electricity related amendments, the Bill was retitled *Gas and Electricity Safety Legislation Amendment Bill 2003*. The Bill has been introduced into Parliament.

Gas Standards (Gasfitting and Consumer Gas Installations) Amendment Regulations 2003

An amendment to the Gas Standards (*Gasfitting and Consumer Gas Installations*) Regulations 1999 was made to update the technical requirements for consumers' gas installations. These regulations deal with the technical and safety aspects of consumers' gas installations and the work of gas fitters in Western Australia.



Code of practice – power line crossings of navigable waters

Following the recommendations by the Coroner in his report into the death of a man when the mast of a yacht made contact with a 22 kV overhead line, a Code of Practice – Power Line Crossings of Navigable Waterways was published by the Director of Energy Safety under the authority of Section 33AA of the *Electricity Act 1945*. It is expected to significantly improve public safety near waterway crossings.



Pictured at the Awards of Excellence 2003 are, from left to right, Terry Doyle of Siemens (co-sponsor of the Electrical Safety Awards), Graeme Scaddan of ECA Systems P/L (winner of the Category 1 Electrical Safety Award 2003), Bob Hatherley of Downer RML P/L (winner of the Category 2 Electrical Safety Award 2003), Rod Hale of the Electrical Contractors Association and Kevin Rosher of Energy Safety.

Review of Part IX of the Electricity Regulations 1947

An increasing number of serious electrical accidents involving electrical workers prompted a review of work practices currently used within the electrical industry and those existing work practices stated in the above regulations.

The review process included extensive industry consultation on proposed amendments to Part IX of the *Electricity Regulations 1947* that seek to achieve safer electrical work practices. The promulgation for the proposed amendments is planned to occur during late 2003–04.

Restricted electrical licence policy

Industry was consulted on various proposed improvements to the policy for granting restricted electrical worker licences. The feedback from general industry was clearly in favour of the changes, which will provide improved access to licences, better training and inter alia more realistic recognition of the electrical training by tradespersons in the refrigeration/air conditioning and instrumentation/process control area.

Future restricted licences will be endorsed with the 'scope of work' permitted, rather than the competence obtained.

(Note: The new policy was implemented in July 2003.)

Review of boards and committees

The functions and powers of the Electrical Licensing Board have been reviewed as part of the second stage of the Machinery of Government Review. The board will continue to grant electrical operative licences with a slightly modified membership to reinforce consumer representation.

Energy safety promotion

A series of gas presentations were delivered in partnership with the Master Plumbers' and Gas Fitters' Association at metropolitan and regional centres. The objective was to explain the regulation changes and new gas installation standards. Electrical seminars were also conducted at both metropolitan and country venues involving presentations on topical issues. Four editions of the Energy Bulletin, the major electrical and gas industry communication vehicle of Energy Safety, were produced and widely circulated across WA industry. A radio advertising

campaign alerted the community to the essential safety requirements of reporting all electric shocks and gas leaks and to 'switch off' the electricity when working in the roof space of dwellings. Energy Safety also sponsored electrical and gas industry safety awards in association with industry bodies.

State emergency management

Energy Safety maintained its involvement in the emergency management framework during the year through:

- Participation as a member of the State Emergency Management Committee, a policy setting body which is chaired by the Police Commissioner in his role as State Emergency Coordinator;
- Chairing of the Lifeline Services Group, which operates to maintain a high level of cooperation between lifeline organisations and between lifeline and emergency services organisations;
- Participation as a member of the Lifelines Operational Group, which maintains a valuable communication network between senior operational personnel of the Lifelines. This network is vital during emergencies; and
- Participation in a national simulation exercise coordinated by the Commonwealth through the National Oil Supplies Emergency Committee to test the National Liquid Fuel Shortage Operational Response Plan.

During the year, the State Emergency Management Committee established the Critical Infrastructure Project to review the vulnerability of critical infrastructure within the State. Energy Safety is a member of the project team which has been active in collecting data from industry on their critical infrastructure.

Energy Safety's regional inspectors now in DOCEP offices

During the year, the four country-based Energy Safety senior electrical inspectors were relocated to combined DOCEP offices at Bunbury, Geraldton, Kalgoorlie and Karratha. This change will result in better services to consumers and industry.

Electrical inspections by Energy Safety

Investigations Performed

Utilities	
– equipment and practice	40
Accidents – including fatalities	39
Breaches – Electricity Act and Regulations	181
Audits – contractor/refrig & aircond/appliance retailers	75
Appliances – prescribed and non prescribed appliances	58
Incidents	
– supply and community	42
Licensing	
– worker and contractors	43
Miscellaneous	216

Regulatory Enforcement Activities

Prosecutions completed:	
Licensed persons	46
Unlicensed persons	16
Warnings completed:	
Licensed persons	54
Unlicensed persons	22

Installation Inspections by Energy Safety

853

Electrical installation inspections by supply authorities

All electricity supply authorities such as Western Power inspect consumer installations supplied by their networks or supply systems, under statutory obligations that require them to develop and then comply with *Inspection System Plans and Policy Statements* after they are approved by the Director of Energy Safety. The supply authorities may carry out sample inspections in accordance with their approved Plan, rather than inspect all installations. The supply authorities' inspectors carry out many safety inspections across the State via this process. The inspectors are employed by the supply authorities but designated (given their powers) by the Director. They are required to work in accordance with not only the Inspection System Plans but also a Code of Practice issued by the Director.

During the year, new Inspection System Plans were approved and compliance audits were conducted by Energy Safety at Western Power Corporation (metro operations), Robe River Mining Co Pty Ltd (which services Wickham and Pannawonica), BHP Billiton Iron Ore (which services Newman), WMC Resources (which services Leinster), Hamersley Iron (which services Dampier, Tom Price, Paraburdoo) and Rottnest Island. This resulted in some corrective action requests being issued to improve compliance.

Electricity-related incidents

The following electrical incidents were reported to Energy Safety:

Electric shocks	1032
Electrical accidents ¹	30
Electrical fatalities	7

¹ Accidents where injury has been sustained requiring hospital treatment.

A brief description of the cause of each of the seven fatalities is:

- An electrician was electrocuted while attempting to repair a lighting circuit that was energised.
- A woman and a child were electrocuted while using a high-pressure water cleaner. The water cleaner's electrical cable was damaged and unsafe.
- A worker was electrocuted while installing a metal street light pole under a 132 kV high voltage power line.
- A man (unlicensed) was electrocuted while carrying out electrical work in a roof space at a domestic residence.
- Two children were electrocuted when they contacted a Western Power overhead electrical service cable termination at a house, while attempting to retrieve a toy frisbee via the roof of the building.

The increase in fatalities during the year is of serious concern.

The electrical accident rate for the reporting period was 19 accidents per 1,000,000 (million) population, also a disappointing result for the year.

Electricity supply investigations

During the year, Energy Safety carried out many investigations into electricity supply related safety incidents, tree-cutting complaints and supply quality/reliability concerns. Some prosecutions followed. Advice was also provided to the Minister in response to a number of specific requests.

Electricity supply complaints

Energy Safety received around 400 complaints dealing with electricity supply quality and reliability under the complaints investigations provisions of the *Electricity (Supply Standards and System Safety) Regulations 2001*.

Many of these complaints were from the Koorda, Narembeen and Corrigin area, the Toodyay, Northam and York area and Bremer Bay. An investigation was carried out and it was assessed that upstream, systemic factors such as excessive HV feeder lengths and inadequacies in the rural sub-transmission system are the cause of most of those complaints, as they result in problems with voltage control, load balance, protection system operation and performance under lightning conditions.

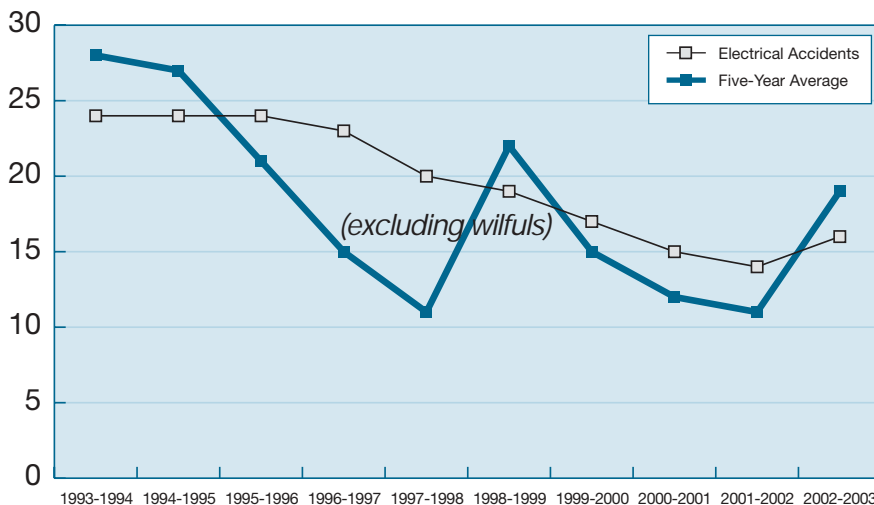
A report was published and Western Power was requested to provide options (conceptual designs and costing) to bring the reliability and quality of supplies in each of those areas up to the relevant benchmark standards. Western Power provided these designs and costing by the end of June 2003. The Director of Energy Safety is expected to shortly release his recommendations for remedial action.

Other complaints were identified as being of a more localised nature, requiring action such as tree control or local line reconstruction or other minor capital improvements. These complaints were progressively worked through, in liaison with Western Power. This work continues.

The remaining complaints were safety issues which were referred to the relevant electricity supplier (generally Western Power) for immediate investigation and corrective action.



Electricity Related Accidents per 1 Million Population



NOTE: These statistics include data published by the State Energy Commission of WA (SECWA) which had responsibility for electrical safety regulation up to 31 December 1994.

Gas inspections by Energy Safety

Investigations Performed	
Appliance audits	56
Mine sites	5
Authorisation holders	29
Gas suppliers	26
Regional inspections	154
Caravans/campervans	81
Autogas installations	60
Mobile food vending vans	55
Marine	10
Appliance retail outlets	13
Hire/camping company audits	37

Incident and Regulatory Breach Activities	
Total investigations (including fires)	215
Prosecutions resulting from investigations	10
Warnings resulting from investigations	6

Installation Inspections	
Number of Notices of Defect issued on gas installations	37
Number of Inspector's Orders written where gas installations required maintenance or repair	48

Gas supplier inspection plans and policy statements

The *Gas Standards Act 1972* requires gas suppliers (both Natural Gas and LP Gas) to inspect consumer installations prior to supplying gas. Six years ago, the Minister for Energy granted an exemption to certain gas suppliers (subject to the submission and approval of an *Inspection Plan and Policy Statement*) that allows them to conduct sample inspections complemented with other safety practices.

Gas suppliers therefore carry out sample inspections in accordance with their approved plan, rather than inspect all installations. Gas suppliers' inspectors carry out many safety inspections across the State via this process.

The inspectors are employed by the gas suppliers but designated (given their powers) by the Director. They are required to work in accordance with the Inspection Plans as well as a Code of Practice issued by the Director.

Every two years, gas suppliers review and resubmit their Inspection Plans and Policy Statements for the approval of the Director, in accordance with Guidelines issued by the Director.

During the year, the Director approved new Inspection Plans for BOC Gases and Origin Energy. Also, the Inspectors' Code of Practice was amended.

Incidents and Accidents

Number of reported gas incidents with completed reports	85
Number of gas accident reports	17
Gas-related fatalities	1

The following is a brief description of the cause of the single gas fatality:

- The gas fatality occurred from the consequences of a house fire, fuelled by a reticulated gas



supply, destroying the dwelling and leading to the victim suffering fatal injuries.

The gas accident rate for the reporting period was 9 accidents per 1,000,000 (million) population.

Gas quality

Energy Safety continued to monitor the quality of the natural gas entering gas distribution systems from the Dampier to Bunbury Natural Gas Pipeline, Parmelia Pipeline (both supplying the south west of the State) and the Goldfields Pipeline (supplying Kalgoorlie) to check for compliance with the specification contained in the *Gas Standards (Gas Supply and System Safety) Regulations 2000*.

Energy Safety witnessed the collection of natural gas samples for analysis for odorant content from the Alinta distribution systems throughout the State. Of the 25 samples analysed, three samples indicated insufficient odorant levels. Remedial action was immediately taken by Alinta to increase the odorant level to an acceptable level at the three locations.

Samples of Autogas and Heating Grade LP Gas were also taken at service stations and from LP Gas reticulation systems throughout WA to assess compliance of the gas composition and odorant level.

Licensing of industry operatives

Electrical licensing

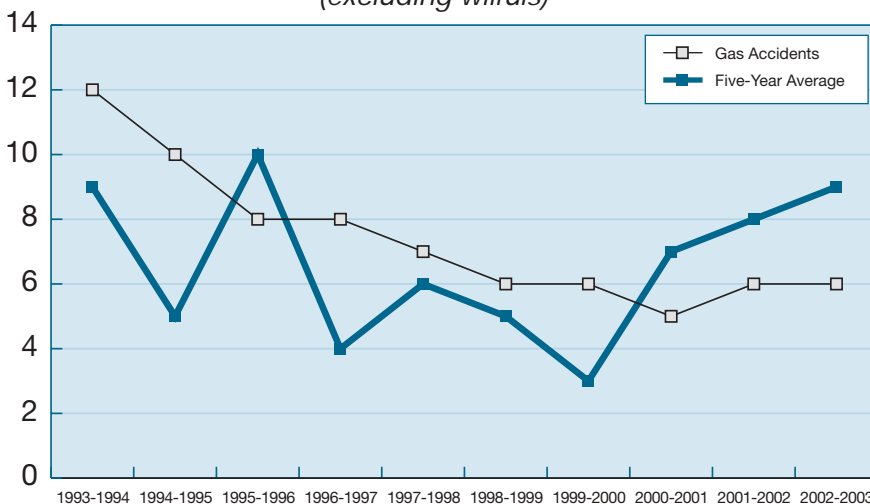
At 30 June 2003, there were **22,321** electrical workers, **3,059** electrical contractors and **240** in-house licence holders registered.

The Electrical Licensing Board grants licences to eligible electrical operatives and conducts formal disciplinary proceedings against errant operatives.

Members of the Electrical Licensing Board as at 30 June 2003 were:

- Mr R G Pritchard – Chairman, self employed consulting engineer
- Mr R Butterworth – nominated by the Department of Education and Training
- Mr J Murie – nominated by the Communications, Electrical, Plumbing Union
- Mr K Roshier – nominated by the Director of Energy Safety
- Mr J Sweeting – nominated by the Electrical Contractors Association WA
- Mr G Wrigley – nominated by the Chamber of Minerals & Energy and the Chamber of Commerce & Industry of WA (Inc)

Gas Related Accidents per 1 Million Population
(excluding wilfuls)



NOTE:

1. These statistics include data published by SECWA, which had responsibility for gas safety regulation up to 31 December 1994.
2. Gas related accidents are defined as accidents causing injury and assessed as having gas as their primary cause.

- Mr R Graham – appointed as a person with knowledge of restricted electrical work.



Members of the Electrical Licensing Board, from left to right, Rod Butterworth, Geoff Wrigley, John Sweeting, Jim Murie, Kevin Rosher, Bob Pritchard (Chairman) and Ross Graham, pictured with Peter Tuck, Executive Officer Electrical Licensing Board

The Electrical Licensing Board met **23** times during the year. The Board also conducted **19** investigations including **eight** formal disciplinary proceedings.

The outcomes were:	
Electrical contractor licences cancelled	2
Electrical worker licences cancelled	0
Electrical contractor licences suspended	0
Electrical worker licences suspended	10
Operatives required to undertake a competency assessment	13
Operatives censured	2
Operatives required to undertake further training	1

Gas licensing

At 30 June 2003, there were **6,297** persons registered for gasfitting work.

The Gas Licensing Committee, operating under the delegated authority of the Director of Energy Safety, interviewed 17 gas fitters. This resulted in five formal inquiries which were conducted by Kevan McGill Deputy Director Energy Safety, under the delegated authority of the Director.

The outcomes of the interview/inquiries were:	
Permits cancelled	0
Permits suspended	2
Certificates of Competency suspended	1
Certificates of Competency cancelled	3
Gasfitters required to undertake further training	2
Conditions placed on licence	1

Other policy work

Energy Safety is significantly involved in a number of national regulatory coordination and technical standards bodies, including:

- National Regulatory Coordination Bodies
 - Electrical Regulatory Authorities Council (ERAC)
 - Gas Technical Regulators Committee (GTRC)
 - National Appliance and Equipment Energy Efficiency Committee (NAEEEC)
 - National Oil Supply Emergency Committee (NOSEC)
- National Standards Councils, Boards and Committees
 - Council of Standards Australia (representing the Government of WA)
 - Standards Accreditation Board
 - Electrotechnology Sector Standards Policy Board
 - Gas Technical Standards Council
 - AG6 Gas Installations
 - AG9 Natural Gas Vehicle Technical Standards
 - AG10 Specification for Natural Gas Quality
 - AG11 Gas Component & Industrial Equipment Standards Committee
 - CH-038 Liquefied Petroleum Gas

- EL1 Wiring Rules and related sub-committees
- EL2 Electrical Appliance Safety
- EL4 Electrical Accessory Safety
- EL11 Electricity Metering
- EL42 Renewable Energy Power Supply Systems
- EL43 High Voltage Electrical Installations
- ME46 Gas Fuel Systems for Vehicle Engines.

Legislation administered by Energy Safety

To achieve Energy Safety's regulatory objectives, the Director of Energy Safety and staff administer a wide suite of legislation:

- *Energy Coordination Act 1994* (major parts)
- *Energy Coordination (Designation of Inspectors) Regulations 1995*
- *Electricity Act 1945* (most parts)
- *Electricity (Licensing) Regulations 1991*
- *Electricity Regulations 1947*
- *Electricity (Supply Standards and System Safety) Regulations 2001*
- *Gas Standards Act 1972*
- *Gas Standards (Gasfitting and Consumer Gas Installations) 1999*
- *Gas Standards (Gas Supply and System Safety) Regulations 2000*
- *Liquid Petroleum Gas Act 1956*
- *Liquid Petroleum Gas Act Regulations 1957*

Reporting accidents and incidents to Energy Safety and WorkSafe

Accidents and incidents that need to be notified to Energy Safety (the Director of Energy Safety) and WorkSafe may be reported by telephoning:

**Freecall 1800 678 198
(all hours)**

Incidents that need to be notified to WorkSafe can also be reported by faxing the prescribed form to WorkSafe on 9321 7989 or via the Internet site at www.safetyline.wa.gov.au.

The accident/incident site should not be disturbed, other than to make the installation safe, until clearance is obtained from an authorised person representing Energy Safety or WorkSafe.



*Kevin Rosher Principal Engineer
Electrical Installations & Appliances
speaking at the Electrical Safety
Awards 2003 presentations*

(a) What needs to be reported to Energy Safety?

The *Electricity (Licensing) Regulations 1991* and *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* require that incidents (electric shock, electrical accidents and gas incidents) that have caused or are likely to cause danger to life or property must be reported **immediately** to:

- the employer (if relevant);
- the electricity or gas supplier; and
- the Director of Energy Safety.

Reportable incidents (electric shocks, electrical accidents and gas incidents) include, but are not limited to:

Electrical

- All electrical fatalities and serious injury to persons
- All electric shocks or "flash" burns
- All damage to property due to a sudden discharge of electricity or which may have electrical origins
- All incidents where the electricity supply authority carried out work that has resulted in damage to property.

Gas

- All gas fatalities and serious injury to persons
- All damage to property due to gas or which may have been caused by gas
- All incidents relating to gas in a mobile engine or on a caravan or marine craft
- All incidents where the major gas supply authority is not identifiable.

(Note: Electricity and gas suppliers have special reporting obligations.)

(b) What needs to be reported to WorkSafe?

The *Occupational Safety and Health Act 1984* requires employers to notify the WorkSafe Western Australia Commissioner of prescribed accidents involving their employees.

The act also requires notifiable injuries and diseases to be reported immediately and without undue delay. Details of notifiable injuries and diseases are available from WorkSafe.

Everyone needs to be aware of their reporting obligations. Failure to report incidents and injuries is a breach of legislation and carries hefty penalties.

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