

energy

Bulletin

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Increase in gas fired generation of electricity

In August 2005, Western Power announced a commitment to a new high efficiency gas-fired combined-cycle power station at Kwinana.

Wambo Power Ventures Pty Ltd (Wambo) was declared the successful proponent to construct the new power station, "NewGen Power". Wambo successfully competed against two coal-fired options, offering the lowest total delivery cost.

The new power station will be built adjacent to Western Power's Cockburn power station and provide an additional base load of 320 megawatts for the South-West Interconnected System.

This contract represents a further successful gas power station development by Babcock & Brown with its joint venture partner ERM Group. Babcock & Brown has existing generation capacity in the order of 2,000 MW and also has some significant wind energy projects.

Expansion of gas pipeline

Following Western Power's commitment to a 320 megawatt gas-fired combined-cycle power station, Diversified Utility & Energy Trusts (DUET), the listed infrastructure investment trust, has announced planning for a phase five of the Dampier-to-Bunbury natural gas pipeline.

The Dampier to Bunbury pipeline is already the subject of a \$430 million phase four expansion package. This expansion program comprises eight new compressors and over 200 kilometres of looping. The expansion is expected to increase the pipeline's capacity by over 100 Terra Joules per day.

The first stage of the phase four expansion program involves the installation of gas turbines at compressor stations 3 and 9 and is planned to be completed in time for the peak of summer in 2006.

Dampier Bunbury Pipeline (DBP) is the trading name of the group of companies, ultimately owned by the consortium that purchased the Dampier to Bunbury Natural Gas Pipeline in October 2004 from Epic Energy. DBP is 60% owned by DUET – Diversified Utilities and Energy Trusts - with Alcoa and Alinta each owning 20%.



ALBERT KOENIG

DIRECTOR OF ENERGY SAFETY

EnergySafety



Report on Activities 2004–05

This report on activities overviews the work of EnergySafety during the financial year 2004–05.

EnergySafety is a Division of the Department of Consumer and Employment Protection. Albert Koenig is the Executive Director of EnergySafety and has the statutory title of Director of Energy Safety.

EnergySafety comprises three Directorates:

1. Electricity – headed by Doug Ayre (in an acting capacity);
2. Gas & Emergency Management – headed by Geoff Wood; and
3. Regulatory Services – headed by Ian George (in an acting capacity).

EnergySafety's functions include:

- administering electricity and gas technical and safety legislation and providing policy and legislative advice to Government;
- setting and enforcing safety standards for electricity and gas networks;
- monitoring reliability and quality of energy supplies and investigating consumers' related complaints;
- setting and enforcing safety and energy efficiency standards for consumers' electrical and gas installations and appliances;
- licensing electrical contractors, electrical workers and gas fitters;
- carrying out accident investigations; and
- managing liquid fuel and gas supply emergencies and promoting energy infrastructure security and resilience.

Major policy work

Gas and electricity safety legislation amendments bill

Amendments to gas and electricity safety legislation have been reintroduced into Parliament. Although the Bill was initially introduced into Parliament during the term of the previous government, it failed to gain assent. As part of the Bill's planned reintroduction, the general penalties under the *Energy Coordination Act 1994*, the *Gas Standards Act 1972* and the *Electricity Act 1945* have been increased to \$50,000 for individuals and \$250,000 for corporations.

Safety of the electricity network

EnergySafety is conducting an audit of Western Power's wood pole management systems in accordance with the provisions of the *Electricity (Supply Standards and System Safety) Regulations 2001*. The audit was initiated due to increasing concerns about failures of wood poles and the associated risks to the public. The outcome of the audit is expected to be available by December 2005.

EnergySafety staff have provided input into the Inquiry by the State Coroner into the deaths of two

people during a bushfire at Tenterden in December 2003. This incident was caused by clashing of conductors on a Western Power overhead power line which resulted in hot debris falling to the ground and becoming the source of ignition of the fire.

As a consequence of the bushfire at Tenterden, and a similar previous incident at Mount Barker, EnergySafety has issued an order on Western Power to undertake a program of remedial work throughout the South West interconnected power system. The network operator is required to identify long spans of conductors on rural overhead lines and take appropriate action to prevent them from clashing. This program will take some years to complete.

Safety of the natural gas supply system

EnergySafety has conducted a major audit of the activities of Alinta Network Services relating to the gas distribution system. Like other network operators, Alinta Network Services is required to comply with the *Gas Standards (Gas Supply and System Safety) Regulations 2000*, to ensure that the distribution system is constructed, operated and

maintained in a safe manner. A number of improvements that need to be undertaken have been identified, including the need for Alinta Network Services to install marker tape during the construction of gas mains to aid their detection when third parties work on the mains at a later date.



General activities

Electrical and gas safety promotion

EnergySafety has conducted a television advertising campaign to promote the safe use of electricity and gas during the year. Three 'electrical safety' advertisements promoted the benefits of safety switches and the need to always use a licensed electrical contractor (as opposed to 'doing it yourself'). Three 'gas safety' advertisements promoted the need to maintain gas appliances (in particular, barbecues and space heaters) and the importance of an appropriate person being in attendance when gas hotplates are operating.

The advertising campaign began in June 2005 and continued into July 2005.

Electricity Safety Awards 2004

EnergySafety, in conjunction with the Electrical Contractors' Association and Siemens, has sponsored and conducted the annual Electrical Safety Awards. The awards recognise electrical contracting companies that have excellent safety management processes which deliver good safe work outcomes. The winner of the award in the '10 or more employees' category was Downer RML. In the category of 'less than 10 employees', a special commendation was awarded to K9 Electrical of Geraldton.

Gas Safety Awards 2004

EnergySafety has presented its annual Gasfitting Award for the most

outstanding apprentice in gasfitting to Sean Richardson. This award is held each year in conjunction with the Master Plumbers and Gasfitters Association's plumbing industry awards.

Electrical safety improvements in older dwellings

EnergySafety has worked closely with electrical industry organisations and representatives to develop a strategy to deal with unenclosed joints in electrical cables in roof and ceiling spaces of homes in Western Australia. People working in these areas of homes may be exposed to additional electrical hazards from unenclosed joints. The new program will require home owners to have remedial work carried out within a defined period of time, to make the situations safe.

Electrical and gas licensing information online

EnergySafety has launched a new 'licensing information' product with its new-look website. The new facility allows members of the general public, licensed operatives, employers, training organisations and network operators to check online if a person is licensed as an electrical contractor, electrical worker or gas worker.

The online licensing information facility is currently being trialled by training organisations, network operators and other licensing jurisdictions. Members of the general public, who do not require a

password to gain access, can view limited licensing information. Licensed operatives, who require a password for access, will be notified when they are able to fully utilise the facility. This is planned to occur early in 2006.

Energy supply security and resilience

EnergySafety has continued its work at the national level through representation on the National Oil Supplies Emergency Committee and the Energy Infrastructure Assurance Advisory Group (EIAAG). The EIAAG is part of the national framework known as the Trusted Information Sharing Network established by the Commonwealth Attorney General to share information on critical infrastructure protection. This has included hosting a series of energy infrastructure workshops in Perth on behalf of EIAAG and the Commonwealth Department of Industry Trade and Resources. The workshops were designed to map Western Australian energy supply chains to determine strengths and identify possible vulnerabilities, as part of a national project on energy supply chain mapping. The workshops have proved to be successful in achieving their aims with Geoscience Australia¹ using the outcomes as part of a national supply chain-mapping project.

¹ *Geoscience Australia is Australia's national agency for geoscience research and geospatial information. In this context, one of its planned outcomes is to provide safer communities and transport.*

National regulatory uniformity committees

EnergySafety has participated in the Electricity Regulatory Authorities Council and the Gas Technical Regulators Committee. These committees comprise technical and safety regulators from all States and Territories of Australia and from New Zealand. They seek to ensure uniformity in regulatory measures



The gas and electricity TV advertisements

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covering electricity or gas networks, consumers' installations, appliances and licensing of industry personnel.

Energy efficiency labelling and Minimum Energy Performance Standards (MEPS)

EnergySafety has been involved in developing and enforcing legislation for electrical and gas Energy Efficiency Labelling and Minimum Energy Performance Standards (MEPS) for certain electrical and gas appliances, including popular single-phase air conditioners. New requirements

became law in Western Australia during November 2004 with respect to energy efficiency labelling and minimum energy performance standards applicable to electrical appliances and equipment. These new requirements are an important contribution to improving Australia's overall efficiency of energy use, and to minimising greenhouse gas production through reduced electricity consumption.

Vehicles powered by hydrogen fuel cells

EnergySafety has certified the hydrogen fuel cell installations fitted

in metropolitan buses, so that the trial of the use of hydrogen as a vehicle fuel could proceed.

Remote area safety inspections

In conjunction with the Department of Fisheries, 161 gas installations in camps situated on the group of northern islands of the Abrolhos Islands have been inspected. Inspector orders have been issued to gas consumers to improve the standards of safety of LP Gas installations throughout the islands. Significant improvements in installations are expected before the start of the next fishing season.

Serious accidents and fatalities

Electricity related serious accidents and fatalities

The following were reported to EnergySafety during the year:

Electric shocks:	1037
Serious electrical accidents ¹ :	41
Fatalities (included in serious electrical accidents):	4

¹ Electrical shock incidents resulting in the person requiring assessment and/or treatment at a medical facility

Serious electricity related accidents notified per 1,000,000 (million) population (not including wilful incidents)

Year	Number	Five year average
1995-96	21	24
1996-97	15	23
1997-98	11	20
1998-99	22	19
1999-00	15	17
2000-01	12	15
2001-02	11	14
2002-03	19	16
2003-04	15	14
2004-05	21	16

EnergySafety obtains results by monitoring the number of reported accidents involving electricity within Western Australia. Regulation 63(1) of the *Electricity (Licensing) Regulations 1991* requires every



member of the community, consumer or industry to report electricity caused accidents that have resulted in or are likely to cause danger to life or property, to the Director of Energy Safety and the relevant supply authority.

The electrical accident rate for the reporting period was 21 accidents per one million population, a significant increase above 15 per million in the previous year. This figure is unacceptably high.

The serious electrical accidents included four fatalities in which electricity was found to be the cause. Briefly:

- An electrical worker was electrocuted when he accidentally picked up live fallen

415 volt aerial street supply cables from the street verge.

- A person received a fatal electric shock from a portable generator when he mistakenly plugged a homemade two-core direct current battery charging lead into the 240 volt alternating current outlet instead of the 12 volt direct current outlet.
- A person received a fatal electric shock from a steel rope touching a clothesline which had become live via metallic buildings due to an active to earth fault on a water cooler. There was also an open circuit on the earthing circuit.
- A person was electrocuted when he made contact with a gas heater which was plugged into a socket outlet and had become

live due to the fixed wiring earth conductor coming into contact with an active conductor at an unenclosed cable junction.

There was also an open circuit on the earthing circuit.

Gas related incidents and fatalities

The following have been reported to EnergySafety during the year:

Incidents:	96
Accidents (persons injured):	14
Fatalities:	0

Gas related accidents notified per 1,000,000 (million) population (not including wilful incidents)

Year	Number	Five year average
1995-96	20	8
1996-97	4	8
1997-98	6	7
1998-99	5	6
1999-00	3	6
2000-01	7	5
2001-02	8	6
2002-03	9	6
2003-04	8	7
2004-05	7	8

Regulation 42 (1) of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* requires any incident involving gas that causes or is likely to cause injury to a person or damage to property to be reported to the Director of Energy Safety or gas supplier. Such accidents are defined as those resulting in injury and assessed as having gas as the primary cause.

The gas accident rate for the reporting period was seven accidents per one million population, a decrease from eight per million in the previous year.

There were no gas related fatalities.

Licensing of industry operatives

Electrical licensing

At 30 June 2005, there were **23,524** electrical workers, **3,150** electrical contractors and **244** in-house licence holders registered.

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

Members of the Electrical Licensing Board as at 30 June 2005 were:

- Mr P Jensen – Chairman
- Mr J Murie – Representing the interests of electrical workers
- Mr J Sweeting – Representing the interests of electrical contractors

- Mr R Butterworth – Representing the interests of electrical workers with restricted licences
- (Vacant position) – Representing the interests of large businesses, who are consumers of electrical services
- Mr R Forrest – Representing the interests of small businesses, who are consumers of electrical services
- Ms V Buckley – A residential consumer of electrical services
- Mr K Rosher – Nominated by the Director of Energy Safety

The Electrical Licensing Board met **25** times during the year with the following outcomes:

Interview and enquiry outcomes – electrical disciplinary activities

Electrical contractor licences cancelled	3
Electrical worker licences cancelled	5
Electrical contractor licences suspended	2
Electrical worker licences suspended	4
Operatives required to undertake a competency assessment	10
Operatives censured	2
Operatives required to undertake further training	7

The following table provides a summary of prosecutions finalised during 2004-05:

Summary of prosecution action for breaches of Legislation

Legislation	Breach	Number of offences	Fines \$	Court Costs \$
Electricity Coordination Act 1994	Section 20(3)	1	500.00	288.45
Electricity Regulations 1947	Regulation 242	6	88,000.45	3557.25
Electricity (Licensing) Regulations 1991	Regulation 19(1)	6	5,750.00	1,578.80
Electricity (Licensing) Regulations 1991	Regulation 49(1)	9	11,750.00	2,930.05
Electricity (Licensing) Regulations 1991	Regulation 50A	1	650.00	420.70
Electricity (Licensing) Regulations 1991	Regulation 52(3)	2	1,400.00	601.15
Electricity (Licensing) Regulations 1991	Regulation 63	2	200.00	495.50
Electricity (Supply Standards and System Safety) Regulations 2001	Regulation 10	1	10,000.00	7,500.00
Totals			118,250.45	17,371.90

Gas licensing

At 30 June 2005, there were **5,329** persons registered for gasfitting work.

The Gas Licensing Committee operates under delegated authority of the Director of Energy Safety and considers applications for licences for gas operatives.

The Gas Licensing Committee met **25** times during the year with the following outcomes:

Interview and enquiry outcomes – gas disciplinary activities

Certificates of Competency cancelled	2
Permits suspended	1
Gas fitters required to undertake further training	0
Operatives censured	0
Licences with conditions placed upon them	0

The following table provides a summary of prosecutions finalised during 2004–05:

Summary of prosecution action for breaches of Legislation

<i>Legislation</i>	<i>Breach</i>	<i>Number of Offences</i>	<i>Fines \$</i>	<i>Court Costs \$</i>
Gas Standards Act 1972	Section 13A	2	750.00	521.90
Gas Standards Act 1972	Section 13A(2)	2	1,500.00*	444.00*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 18(1)	2	2,500.00	653.90
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulations 18(2), 19(a)	1	*	*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 26(1)	1	*	*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 27(2)	1	600.00	233.45
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 28(2)	5	4,800.00*	1,570.35*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 28(3a)(b)	5	*	*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 28(3a)(c)	4	*	*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 30(1)(b)	1	*	*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 38(1)	1	*	*
Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999	Regulation 602(1)(a)	1	*	*
Gas Standards (Gas Supply and System Safety) Regulations 2000	Regulation 21(1)(b)	1	300.00	328.45
Totals			10,450.00	3,752.05

* Global Penalty (more than one offence)

State Administrative Tribunal (SAT)

The State Administrative Tribunal (SAT) legislation was passed by Parliament enabling the SAT to operate from 1 January 2005. Appropriate administrative and procedural changes have been implemented to support the transfer of licensing responsibilities for Debt Collectors, Credit Providers, Employment Agents and Travel Agents to the Commissioner for Fair Trading.

The SAT deals with disciplinary matters that may result in loss or suspension of licences of electrical contractors, electricians, restricted electrical workers, gas fitters and holders of an authorisation.

The Electrical Licensing Board and Director of Energy Safety (per the Gas Licensing Committee) continue to deal with lesser disciplinary matters that will not result in a loss of licence. These are referred to as "summary discipline" matters.



Other policy work

EnergySafety 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

The Director of Energy Safety and EnergySafety officers assist the Minister for Energy to administer the following Acts of Parliament and associated regulations:

Electricity Act 1945 – covers the safety and performance of electricity networks, the safety of consumers' electrical installations (including the licensing of operatives) and the safety and energy efficiency of electrical appliances.

Energy Co-ordination Act 1994 – provides inter alia for the statutory office of the Director of Energy Safety and establishes the powers of Inspectors.

Fuel, Energy and Power Resources Act 1972 provides for the conservation and utilisation of

the present and future sources and supplies of fuel, energy and power in and to Western Australia.

Gas Standards Act 1972 – covers the standards of purity, pressure and safety of gas supplied, the safety of gas networks, the safety of consumers' gas installations (including the licensing of operatives) and the safety of gas appliances.

Electricity (Licensing) Regulations 1991 – provides for the licensing of electrical operatives and standards of electrical installing work.

Electricity (Supply Standards and System Safety) Regulations 2001 – covers the quality and reliability of supply of electricity to consumers and electricity supply network safety and apply to electricity network operators.

Electricity Regulations 1947 – covers the safety of electrical appliances.

Gas Standards (Gasfitting and Consumer Gas installations) Regulations 1999 – provides for the licensing of operatives and standards of gas installation work.

Gas Standards (Gas Supply and System Safety) Regulations 2000 – covers gas supply quality.

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