



Government of **Western Australia**
Department of **Commerce**
Energy Safety

ENERGY SAFETY DIVISION BUSINESS PLAN 2011/12

December 2010

This Business Plan was approved under
Part 2 of the *Energy Safety Act 2006* by
the Hon Simon O'Brien MLC
Minister for Commerce
on 17 February 2011



**ENERGY SAFETY DIVISION
BUSINESS PLAN 2011/12**

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A brief outline of the 2009/10 year outcomes (the fourth complete year of the industry funding scheme), for information purposes only.

FOREWORD

This document sets out the Business Plan 2011/12 for the Energy Safety Division (*EnergySafety*) of the Department of Commerce (Commerce).

EnergySafety is Western Australia's technical and safety regulator for the electricity industry and most of the gas industry. Its principal functions are:

- administering electricity and gas technical and safety legislation;
- providing policy and legislative advice to the Minister;
- setting and enforcing minimum safety standards for electricity and gas networks;
- enforcing natural gas and LP gas quality standards;
- administering the regulatory scheme that determines the “higher heating value” of natural gas in distribution systems subject to the commingling (mixing) of gas from different sources;
- providing technical advice and support to the Office of Energy (OOE), Economic Regulation Authority (ERA) and the Energy Ombudsman;
- setting and enforcing minimum safety standards for consumers' electrical and gas installations;
- setting and enforcing safety and energy efficiency standards for consumers' electrical and gas appliances;
- licensing electrical contractors, electrical workers and gas fitters;
- investigating and reporting on electrical and gas-related accidents; and
- promoting electricity and gas safety in industry and the community.

The Director of Energy Safety is an independent statutory office (established 1 January 1995) and is the head of *EnergySafety*.

EnergySafety became industry funded from 2006/07 under the *Energy Safety Act 2006* and *Energy Safety Levy Act 2006*. This mirrored practice in other jurisdictions. The scheme is operating successfully and no changes are considered necessary.

The cost of *EnergySafety's* activities is met by those who benefit from them, through the combination of licensing revenue and an industry levy. The legislation provides for the levy to be subject to review by Parliament.

As required by the legislation, this Business Plan, for 2011/12 sets out:

- A statement of intent;
- The business environment and challenges, including major projects;
- The financial plan;
- Details of the proposed 2011/12 energy industry levy; and
- A brief outline in Appendix A of the 2009/10 year outcomes (the fourth complete year of the industry funding scheme), for information.

Once the Business Plan has been approved by the Minister, it will form (in accordance with the legislation) the basis for his determination on the amount to be levied on energy industry participants, and the manner in which it is to be allocated between participants, for the 2011/12 year.

Ken Bowron
**DIRECTOR OF ENERGY SAFETY and
EXECUTIVE DIRECTOR, ENERGYSAFETY**

December 2010

STATEMENT OF INTENT

1.0 INTRODUCTION

EnergySafety is the statutory technical and safety regulator for Western Australia's electrical industry and most of the gas industry. This Statement of Intent is part of the Business Plan 2011/12 required by the *Energy Safety Act 2006* setting out the requirements for the administration of the energy industry levy that, with revenue from electrical contractor, electrical worker and gas fitter licensing, provides EnergySafety with all its capital and operating expenditure for 2011/12.

1.1 DEPARTMENTAL OBJECTIVES

The Department of Commerce (Commerce), of which EnergySafety is a Division, has the following objectives:

Vision

A business environment that is productive, innovative, fair and safe.

Mission

To create a contemporary, diversified economy that provides for the growth, safety and protection of the community by:

- *Promoting innovation and science*
- *Enhancing capacity; and*
- *Ensuring a world class regulatory environment.*

Strategic Directions

The five Directions featured in Commerce's *Future Directions* document are:

1. *Influencing and shaping our commercial environment.*
2. *Empowering business and the community.*
3. *Developing a world class regulatory environment.*
4. *Enforcing the law.*
5. *Strengthening organisational capacity.*

EnergySafety, as part of Commerce, both contributes to and embraces these strategic corporate directions for its own area of business.

1.2 ENERGY SAFETY'S PROGRAMS

EnergySafety is undertaking a wide range of programs for Government. These include:

- Residual Current Devices awareness program: RCDs (safety switches) are the most effective way to prevent electrocutions and an advertising campaign is under way in 2011 to ensure consumers are aware of the safety benefits.
- Wood Pole Audit: EnergySafety is working with Western Power to identify old, untreated and unsupported jarrah poles in rural areas, and ensure they are replaced, because of the potential threat of fire.
- Bush Fire Investigations: EnergySafety carries out major investigations into significant wild fires allegedly caused by electricity distribution system failures.
- Inspections of domestic installations: EnergySafety encourages householders to have their electrical installations inspected for safety on a fee-for-service basis, using participating electrical contractors. A similar service for gas consumers is planned.
- Legislation is well advanced to set up a new regulatory regime to control vegetation near powerlines.
- LPG Cylinder Fire Evaluation: EnergySafety has tested automotive and residential cylinders, leading to an improved understanding of the behaviour of thin-walled LPG cylinders in fires and better standards and guidelines for residential cylinders.
- Gas Appliance Rectification Programme: EnergySafety is managing a major project to inspect and if necessary service or replace pre-1980 natural gas appliances, following advent of a broader gas specification into the market, thus allowing for more competition in the supply of natural gas.
- Gas tradeshow and roadshow: EnergySafety will run an awareness session for the gas industry in March 2011 to explain new gas fitting standards. The events will bring together suppliers and the trade.
- More efficient gas appliances: EnergySafety is part of a national program to improve the energy efficiency of gas appliances and equipment.
- Better gas safety: All Western Australian gas network operators are required to submit and have their safety cases approved by 3 August 2011. All networks will then be operated under a safety case regime which will be audited on a regular basis.
- Increased demand for licensing services: The Licensing Office at EnergySafety deals with a high volume of electrical and gas licence applications. The increased workload has been well managed by staff to produce timely issue of licences.
- Electrical Licensing: As at 30 June 2010, there were 32,682 electrical workers, 4,151 electrical contractors and 235 in-house licence holders registered.
- Gas Licensing: As at 30 June 2010, there were 7,282 persons registered for gas fitting work.

- Prosecutions: EnergySafety investigates and if necessary prosecutes breaches of the law regarding electricity and gas installation and repair.
- National Regulatory Reform Projects: Significant progress has been made in developing national regimes for electrical appliance safety approvals, gas appliance safety approvals, national electrical and gas occupational licensing, and the harmonisation of energy supply technical and safety regulation. This work continues to dominate the policy area and demands major commitments from senior EnergySafety staff.
- Standards development work: EnergySafety plays a significant role in the development of Australian Standards, covering subjects such as electrical installations (AS/NZS 3000 Wiring Rules), high-voltage installations including electricity substations, marina electrical installations, gas installations, industrial gas appliances and gas distribution networks.
- Committee participation: EnergySafety continues to be involved in a number of national regulatory coordination and other technical standards bodies.
- Safety statistics: In 2010, 1170 electric shock incidents were reported to EnergySafety. There were 18 serious electricity related accidents and two fatalities. Eighty-five gas related incidents and fatalities were reported. There were 15 serious gas related accidents, with individuals injured, and one fatality.

2.0 ENERGYSAFETY'S OBJECTIVES

The Director of Energy Safety ("Director") is a statutory office established under Section 5 of the *Energy Coordination Act 1994*. The Director is an independent regulator subject only to direction by the responsible Minister, who is required under the Act to table in Parliament any direction given to the Director.

EnergySafety seeks to ensure:

- the safety of people (the public, energy workers and consumers) and property affected by electricity and gas utility infrastructure;
- that consumers have safe electrical and gas installations at their premises;
- that electrical and gas appliances and equipment (for domestic, commercial and industrial purposes) purchased or hired are safe to use;
- that residential and business consumers receive gas supplies that are metered accurately and meet minimum standards of quality so appliances function safely;
- that common household appliances and certain types of electrical equipment perform and are labelled to satisfy prescribed energy efficiency standards;
- the safety of persons working on electrical and gas installations; and
- the safety of all persons using electricity and gas.

EnergySafety also provides electricity and gas-related technical advice and support to the Office of Energy (OOE), Economic Regulation Authority (ERA) and the Energy Ombudsman.

In addition to the above functions, EnergySafety develops policies concerning energy industry technical and safety issues, in some cases through membership of national technical standards and regulatory coordination forums. EnergySafety also provides advice to the responsible Minister, including proposals for improved technical and safety legislation.

A function closely associated with consumer and worker safety is licensing. EnergySafety carries out licensing for electrical contractors, electrical workers and gas fitters who meet defined competency requirements.

The statutory Electrical Licensing Board (which includes industry members appointed by the Minister) oversees licensing electrical workers and contractors and makes recommendations on disciplinary matters. The internal Gas Licensing Committee, operating under a delegated authority of the Director, deals with gas licensing matters and makes recommendations on disciplinary issues. The licensing activities will be affected by the National Occupational Licensing System, planned for mid 2012. Details of the changes will become clear during 2011.

There is no specific intention during the period ahead to vary the manner in which EnergySafety has approached its work to date. The policy and operational work will require decisions about priorities and the extent to which some activities, including compliance enforcement, are undertaken. These decisions will be affected by the human and financial resources available.

3.0 THE ROAD AHEAD FOR ENERGYSAFETY

3.1 INTRODUCTION

EnergySafety's functions have undergone significant expansion since its creation on 1 January 1995 to include major additional responsibilities such as gas network regulation (2000) and electricity network regulation (2001), equipment energy efficiency regulation (2000 and later) and gas heating value regulation in late 2007.

During the industry consultation of 2005/06 dealing with the then industry funding proposals, industry clearly indicated its support for EnergySafety's functions and work. Now that industry funding is in place, the major focus in the period ahead is to deliver the outcomes expected. This requires an appropriate balance between staff resource capacity and expertise and government, industry and community needs and expectations.

The issues confronting EnergySafety have been categorised as major new policy initiatives, regulatory operational matters and corporate development issues as follows:

3.2 POLICY PROJECTS

The following policy projects are in progress and expected to be completed during the next and subsequent financial years.

3.2.1 COAG National Regulatory Reform Initiatives

The Council of Australian Governments (COAG) has initiated a number of national regulatory reform projects relevant to EnergySafety. The outcomes affect EnergySafety's role, structure, funding and the legislation it administers.

During 2008, 2009 and 2010 EnergySafety made a significant commitment to the following COAG projects, representing an extra workload for staff and affecting project priorities and costs. This will continue for some years and funding has been included in the Business Plan.

Occupational licensing

Electrical and gas fitting licences have been chosen as part of the first group by COAG for a national licensing system that allows one occupational licence to be used in all Australian jurisdictions. This will require a national licensing authority, database and IT system.

Existing regulators' licensing offices (such as that of EnergySafety) will operate the national licensing system on a delegated basis.

Legislation has been passed in Victoria with most States working towards accepting it as model legislation. WA is developing its own legislation which is expected to be in place in autumn 2011.

National interim advisory committees (pending the passing of legislation in all States and Territories) will develop regulations on licensing and related enforcement of regulatory requirements. EnergySafety is represented on the committee for electrical licensing. This reform project will affect the current Western Australian regulatory regime, with a major effect on EnergySafety's legislation and functions. Licensing, conduct standards, compliance and enforcement are all part of a unified regulatory framework in WA.

The effect of this program on EnergySafety's licensing revenue is yet to be determined. New electricity licences required by existing operatives from other jurisdictions wishing to work in WA will not apply under the national system, thus reducing licensing fee revenue. The net effect is expected to become clear during 2011.

Energy Supply Industry Harmonisation

The Ministerial Council on Energy (MCE) is working towards an enhanced safety framework for the energy supply industry. The primary aim of this work is to ensure improved public and industry safety through regulatory and non-regulatory mechanisms. These mechanisms will contribute to the efficient delivery of energy network service by:

- Facilitating greater labour mobility;
- Lowering compliance burdens, while not reducing safety standards; and
- Facilitating increased safety system consistency across jurisdictions.

Safety regulation of the energy supply industry intersects the energy and safety portfolio responsibilities of a number of different government departments and agencies for the Commonwealth and most jurisdictions. The MCE has developed an Intergovernmental Agreement (IGA) to formalise the cooperation between the Commonwealth, State and Territory governments to develop a harmonised safety system.

To advise the MCE and to assist with the development and implementation of the nationally harmonised system, the MCE is establishing the Energy Supply Industry Safety Committee (ESISC). The ESISC will be a non-statutory advisory body and comprise an independent chair, officials from each state and territory and the Commonwealth, representatives from the gas and electricity industries, and representatives from training bodies, the unions and energy sector contractor businesses.

EnergySafety will represent Western Australia on the ESISC.

National Construction Code

A committee reporting to COAG is considering a proposal from the building industry to create a National Construction Code. Aside from the building standards presently in the Building Code of Australia, it has also proposed to include all electrical, plumbing and gas standards.

Electrical and gas standards (as currently developed by the energy industry through Standards Australia) have a much wider reach than just building construction. They cover all types of electrical and gas installations including mine sites, industrial installations and maintenance. Moving along the reform path suggested would create fragmentation of standards and could affect regulation enforcement.

Following strong representations, electrical and gas fitting regulations and standards will be excluded for the time being but EnergySafety will monitor closely the Code's development and proposed scope.

National OHS Review

In March 2008 the Australian Government appointed an advisory panel to conduct a national review of current Occupational Health and Safety (OHS) legislation across all jurisdictions,

and recommend to the Workplace Relations Ministers' Council (WRMC) the optimal structure and content of a model OHS Act.

In accordance with the Intergovernmental Agreement for Regulatory and Operational Reform in Occupational Health and Safety, agreed by COAG in July 2008, a model OHS Act and Regulations are to be fully implemented. Safe Work Australia (SWA) established a cross-jurisdictional Strategic Issues Group (SIG) to manage operational issues pertaining to development of the Model Bill and Model Regulations.

Four stages of model Regulations are planned, with model electrical safety regulations being part of Stage 4, and draft regulations are planned to be released for public comment for four months from December 2010.

Different proposals for these Regulations have ranged from an integration of all electrical safety regulations to a separate regulatory regime for the supply sector. Workplace health and safety representatives supported separating OHS provisions from "technical" provisions.

The outcome of the final model regulations may have a significant effect on EnergySafety's responsibilities and legislation. It may also affect its working relationship with WorkSafe and the two organisations are working cooperatively in monitoring the regulations.

3.2.2 Review of Legislation Administered by EnergySafety

Legislation administered by EnergySafety has, since commencing in 1945, been written and amended frequently.

Legislation produced by other parties and dealing with gas and electricity supply and utilisation can affect the functions of EnergySafety. The *Electricity Industry Act 2004* and its regulations and codes are an example. It is expected that the following will affect EnergySafety's legislation and functions:

- National Occupational Licensing System;
- Energy Supply Industry Safety Regulation;
- Electricity Appliance Certification Review;
- Gas Appliance Certification Review; and
- National Occupational Safety and Health Act – electricity regulation.

EnergySafety attempts to amend the legislation it administers when industry, technical and/or government policy changes occur. Amendments also simplify and remove:

- any provisions that are no longer EnergySafety's responsibility;
- any inconsistencies or conflicts;
- any overlaps; and
- inconsistencies in existing WA energy safety legislation.

The *Energy Acts Amendment Bill* will seek to amend selected Acts and parts of Acts for which EnergySafety has responsibility, to remove any inconsistencies between them and the suite of legislation associated with the *Electricity Industry Act 2004*. The Bill will also provide for:

- The requirements for the energy efficiency and labelling of gas appliances;
- The appropriate sharing of information with other energy-related safety agencies in Australia and New Zealand;

- The rationalisation of statutory responsibilities for the control of vegetation near power lines;
- Expiry dates for certificates of competency for gas fitting;
- Removal of duplication between and overlap between existing legislative provisions;
- Updating the systems for approval of electrical appliance to match national initiatives; and
- Giving EnergySafety the appropriate control of sites and ability to seek information in light of the lessons learnt from review of the Toodyay bush fire investigation.

3.2.3 Vegetation Control

Section 54 of the *Energy Operators (Powers) Act 1979*, dealing with the control of vegetation near power lines, will be replaced with a new regulatory regime under the *Electricity Act 1945*. This will give a more balanced approach to responsibilities for ensuring that vegetation is kept safely clear of overhead power lines by land occupiers, local authorities and electricity network operators. This is important for public safety, fire prevention and electricity supply reliability and quality.

Five years ago EnergySafety developed and issued a set of guidelines for network operators and land occupiers (including local government and other government entities). It specified responsibilities for keeping vegetation clear of power lines, based on rules developed during the mid 1990s and used by Western Power and Horizon Power since that time. These guidelines were well received and have shown that the new regulatory scheme (which is intended to be based on the same principles), once enacted, should work satisfactorily. It is proposed to obtain Government approval for the drafting work to take place during 2010/11 and it is expected that the implementation will carry over into 2011/12.

3.2.4 Electrical Equipment and Appliances

A complete review of Australia's regulatory regime for the safety of electrical equipment and appliances has occurred. EnergySafety is participating with other regulators in this national project. It is designed to ensure harmonious regimes are operated by each jurisdiction, which have the capacity to deal with the challenges of rapidly changing technology and global manufacturing. Most electrical products are now imported. This project is proceeding well and a final national regulatory impact statement has been issued, outlining options and related costs/benefits. The commencement date is proposed for 1 July 2011 and will require a national IT database, now under development.

EnergySafety does not approve appliances but recognises the approvals provided in other jurisdictions. This enhanced system will require implementation during 2011/12.

3.2.5 Unenclosed Joints in Ceiling Spaces

Many homes have unenclosed (bare) electrical cable joints in ceiling spaces, which are a serious safety hazard. Previous policy allowed joints simply to be taped if Residual Current Devices (RCDs) were fitted. This has produced an unintended safety problem because the tape has dried over time and fallen away from the joints, leaving them exposed. Such joints should be protected by covering them in insulated plastic junction boxes. EnergySafety will

negotiate a policy change with industry and the need for the change will require an education program for the general public.

3.2.6 Electrical Industry Safety Cases

Following the State Coroner's inquiry into the Tenterden fires fatalities, caused by clashing power line conductors, it is appropriate to encourage a more pro-active compliance management regime on network operators. Current regulations tend to cause a reactive approach, often relying on corrective action instructions from the regulator, following safety incidents. Amendments planned for the *Electricity (Supply Standards and Safety Systems) Regulations 2001* will require network operators to produce and follow a safety case, a recognised approach for evaluating all safety risks and assigning priorities for mitigation measures. This approach is used in most other Australian jurisdictions.

3.2.7 Distribution Overhead Powerlines

During recent years there have been concerns about the safety of overhead lines in the Western Power distribution system covering the south-west of the State. These concerns were confirmed by the findings of the 2008 audit of Western Power's distribution wood pole management systems. EnergySafety issued an order in mid 2009 requiring Western Power to correct the problems identified in the audit. EnergySafety also commenced a formal audit of two other recognised fire causes during 2009/10:

- Pole top fires; and
- Conductor clashing.

EnergySafety continues to work closely with Western Power on its mitigation strategies to ensure that all reasonable measures are employed to avoid such incidents in future, since their effect on the community can be severe. EnergySafety devotes significant attention and resources to this program to ensure the safety of local communities as far as possible.

This major project work in 2011/12 is in addition to day-to-day policy work including advice to the Minister, participating on Standards Australia committees for key technical standards, preparing and issuing guideline information to industry and the community, and safety promotion.

3.3 OPERATIONAL PROJECTS AND ISSUES

Apart from the policy development activities, operational work associated with administering the existing regulatory framework is growing rapidly.

Some of the operational work is relatively routine, such as responding to requests for advice, dealing with complaints, carrying out minor investigations and, as appropriate, making decisions on whether to warn, infringe or prosecute a person or business. There is also a routine level of installation inspection work carried out by EnergySafety's Inspection Branches, for electricity and gas installations not connected to a network¹ (e.g. boats, caravans, pastoralist's facilities, mine sites, and Rottneest, Christmas and Cocos Islands).

During recent years the State's economic activity has continued to expand, despite the global financial crisis. This has generated increased work for industry and thus also for EnergySafety, additional to that caused by the expanded regulatory framework.

¹ Installations connected to a network or pipeline are required to be inspected by the network operator or pipeline licensee, which is required to report results to EnergySafety.

Reorganisation of the State's electricity power industry has led to a much greater regulatory involvement with network operators, especially with Western Power. When Western Power was established in 2006, all outstanding regulatory matters involving its predecessor were not carried into the new body. This caused a partial regulatory hiatus in the following first two years or so, until EnergySafety conducted its 2008 audit of the Utility's wood pole distribution system. The spate of electricity-caused fires and other incidents since has demanded a greatly increased commitment of EnergySafety's staff resources.

EnergySafety has managed to cope with demands on its Licensing Office. The very high level of industry activity over recent years has resulted in a sustained influx of electrical and gas operatives seeking local work. The Licensing Office's staff resources were increased, leading to a substantial reduction in the average time required from application to issue of a licence. Nonetheless, considerable work pressure remains in this area and is kept under review.

The work of the Licensing Office has been affected by the introduction in October 2010 of the new corporate computer-based licensing system "CALs" which replaced the older computer systems developed in 1995. The new system serves several Commerce Divisions but has been customised for each and deliberately designed in a modular fashion so that should future organisation changes occur, a Division's system can be relocated with the Division. CALs is still undergoing minor changes and Licensing Office staff require training, following changes to routine procedures.

Some operational work has become more time consuming. For example, during 2009/10, the Government, acting on EnergySafety's advice, approved legislation to mandate the fitting of two RCDs to protect all socket outlets and lighting circuits in all homes before the land title is transferred and, for rental properties, before a new tenant takes up occupancy or before August 2011 for continuing tenancies. This requirement caused a flood of enquiries from the general public, the housing sector and electrical contractors. Many of the issues raised complex technical considerations requiring modifications to the legislation or changes to the relevant standards. Plans are being developed for a compliance program.

Some operational work can evolve into major projects.

Western Power's management of its extensive wood pole electricity distribution system to ensure poles in service are structurally sound is of continuing concern. Major compliance audits were completed in late 2006 and 2008. EnergySafety issued an Order on Western Power in October 2009 and is monitoring its response to ensure that it properly addresses the issues of concern. Audits have commenced on pole-top fires and clashing conductors, which also can cause wildfires.

EnergySafety has established panel contracts for technical personnel to be available for short term projects. This will allow some carefully targeted compliance audits to be conducted over the next two years, mainly involving the network operators working in the Pilbara and other remote locations. The Business Plan includes funding for this work.

The formal approval during late 2007 of amendments to the *Gas Standards (Gas Supply and System Safety) Regulations 2000*, developed with industry to accommodate gases of different heating values commingling in distribution systems, required an operational project to implement a suitable management regime. This work was delayed due to legal arguments by the operator of the Dampier – Bunbury Natural Gas Pipeline. These have been addressed and the implementation work is expected to be finished in 2011/12.

EnergySafety conducts programmed (and targeted) compliance audits on a sample of industry operatives including –

- electrical contractors;
- gas fitters including authorisation holders; and
- airconditioning and refrigeration contractors (working under restricted electrical licences).

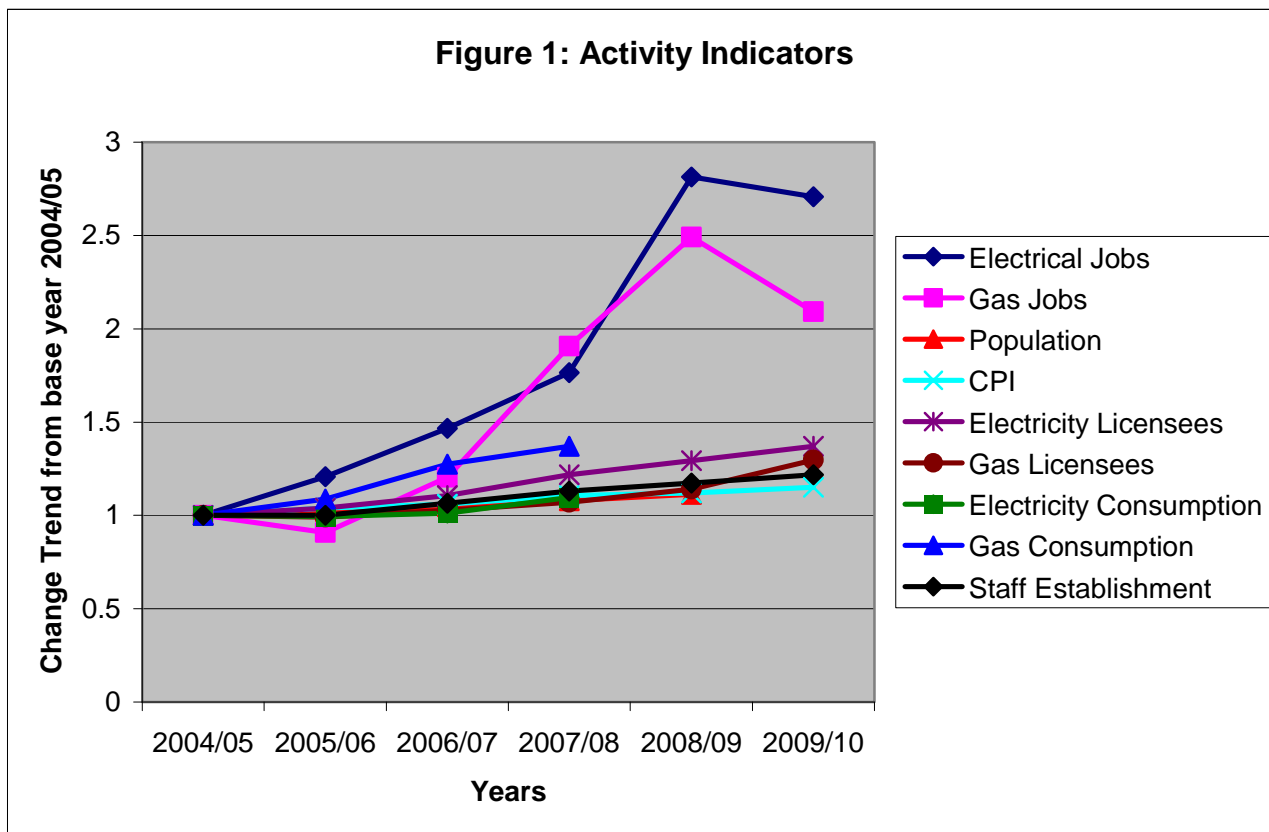
Also, a sample of retail premises selling electrical and gas products will be audited to check compliance required with –

- electrical safety approvals;
- gas safety approvals;
- energy efficiency labelling; and
- minimum energy performance standards (MEPS).

The performance of Installation Inspectors employed by network operators must also be monitored. These Inspectors are authorised ("designated") by the Director of Energy Safety and perform the vital function of checking the compliance of consumers' electrical and gas installations after work by electrical contractors and gas fitters. They report cases of non-compliance to EnergySafety for possible follow-up action. They are obliged, in accordance with the terms of their designation, to comply with a Code of Conduct. An audit of Western Power during 2008 and 2009 has shown a number of significant problems and resulted in the removal of the designation of one Inspector. EnergySafety will be committing resources to ensure improvements occur. Installation inspection is a front-line function to ensure public safety.

Targeted spot audits will be carried out to ensure that all Installation Inspectors are reporting defects as required by the statutory obligations.

The increase in EnergySafety's workload compared with other activity indicators is demonstrated in Figure 1.



Electrical jobs have increased by a factor of 2.70 (170%) and gas jobs by 2.09 (109%) in the period 2004/05 to 2009/10. The trend dropped from 2008/09 to 2009/10 because the investigation into the Toodyay Bush Fire dominated the electrical work, causing smaller jobs to be deferred. A drop-off of LPG vehicle conversions after removal of government incentives also occurred.

In the same period the number of electrical and gas licensees increased 1.37 (37%) and 1.30 (30%) times respectively. CPI increased by a factor of 1.16 (16%) and EnergySafety staff numbers increased by a factor of 1.22 (22%).

3.4 SAFETY PROMOTION

EnergySafety and energy suppliers must promote continually:

- gas and electricity user safety;
- community safety awareness about electricity and gas infrastructure; and
- how to work safely near electricity and gas facilities (aimed at all types of workers in various industries).

EnergySafety deals with this need through a combination of industry-specific activities (including safety sessions during regional visits), publications aimed at industry and the public, (Energy Bulletin and the EnergySafety website), and through television, radio, newspaper advertisements and articles in industry publications.

Safety statistics and safety promotion show a clear correlation. Television has proven to be the most effective medium for reaching the general community. But, a substantial campaign

is required to have any worthwhile impact. Given that the cost of such campaigns is significant, EnergySafety has usually run a major TV campaign approximately every two years. In the future, consideration needs to be given to annual campaigns to ensure that public awareness is high and to improve the State's gas and electrical safety performance compared with other jurisdictions.

3.5 CORPORATE PROJECTS AND ISSUES

3.5.1 *Attraction and Retention*

EnergySafety, as a regulator, needs staff who understand the business and technical aspects of the electrical and gas industries. They must evaluate and negotiate safety and performance issues with their industry counterparts.

This requires a competent grasp of industry-specialist technical practices (including safe field work practices), the energy legislation and occupational health and safety obligations, industrial relations implications and economic effects. Some staff, particularly engineers, also need strong skills in policy development and written communication.

Staff of this capability are difficult to recruit and retain, especially while WA's economy remains so strong and competition for suitable staff is high.

To assist, the Minister approved in early 2007 a proposal for EnergySafety to offer more competitive employment packages to its engineers and inspectors. This "Attraction and Retention Benefit" (ARB) supported a major new recruiting campaign by EnergySafety, for various types of vacant technical positions. This had modest results. Overseas recruiting was largely unsuccessful and some key positions remain vacant. The ARB has however been very helpful in retaining staff in some areas.

The ARB is time limited and cannot be offered beyond a specified expiry date. Banks will not take it into consideration in home loan applications, for example. This has proved to a serious impediment to attracting younger inspectors and professional engineers.

Further recruiting is required during 2010/11 and is expected to continue through to 2012/13, especially as some staff are approaching retirement age. Part-time work and part-time contract work options are also utilised to supplement EnergySafety's core of full time, permanent personnel. With EnergySafety's older workforce, this has serious implications for an effective succession plan.

The 2008/09 global financial problems clearly affected the State's economy, especially in the resources sector. While the general labour market eased, recruiting specialist technical personnel did not become any easier. EnergySafety competes for staff with the gas and electricity network operators, major consultancies and large construction contractors. Hence it is expected that the ARB or its replacement Attraction and Retention Incentive (ARI) arrangements will need to continue and the financial forecasts have been cast accordingly. The ARI will have to reflect salary realities in the booming WA economy or EnergySafety will not succeed in attracting and retaining its critical technical staff.

3.5.2 Compliance Management Program

A new Complaints and Licensing System (CALs) was commissioned in October 2010 replacing aging legacy systems. CALs can be expected to improve the efficiency of licensing work during 2011/12.

During 2010 Commerce further reviewed its approach to developing a Compliance Management System (CMS). Due to the significant differences in compliance legislation and processes between agencies, it was agreed to develop an individual solution for EnergySafety. EnergySafety processes (including inspection processes) have been mapped to ensure consistency between directorates and to ensure efficient processes. Requests for information have been sought from vendors, in order to develop a recommendation on the preferred way forward. At this stage it is anticipated that a six-month tender period will be called in early 2011 and the new computer system (and processes) progressively delivered by end 2012/13. The review has delayed this project but the existing budget has been retained until formal tenders can be assessed.

3.5.3 National Licensing System

COAG's national licensing initiative will affect Commerce's IT systems very significantly.

It is unclear how existing IT systems in each jurisdiction will integrate with the new national register. The options range from developing a simple linkage between Commerce's systems and the national register (so that data can be uploaded and downloaded) to dispensing with the Department's systems and adopting the new national register.

In either case, Commerce will be called upon to allocate funds and staff to keep pace with the national licensing initiative. These allocations have begun already and are likely to gather momentum during 2011 and 2012.

Because the final approach to the IT issues remains unclear, EnergySafety is not justified in making a specific provision in this Business Plan. More funds may be needed but the amount and timing of expenditure cannot be determined yet with satisfactory precision. The IT issues are likely to be resolved during the first half of 2011, permitting, if required, a proper assessment of the funds and staff resources EnergySafety will be expected to contribute.

Meanwhile, the national licensing system is the source of significant uncertainty and risk for EnergySafety's IT system development.

3.5.4 Gas Appliance Rectification Programme

Cabinet approved the development of legislation to enable natural gas of a broader quality range to be supplied into the domestic market. This is expected to increase security of supply, increase pricing competition and enable producers to choose the most efficient method of developing gas fields.

In 2008 EnergySafety surveyed a sample of residences and estimated that there are approximately 20,000 pre-1980 gas appliances that may be damaged or pose a safety risk if operated on lower energy-content gas. These appliances must be identified and disconnected before such gas can be supplied.

Cabinet decided that the owners of these appliances will be given the opportunity to have them serviced to make them safe or replaced at no cost. The estimated cost of this work is approximately \$35m. The gas producers supplying lower energy content gas over a period of ten years are to pay the cost. There will be no State or levy monies used.

The *Gas Supply (Gas Quality Specifications) Act 2009* provides legal backing for these policies to be developed. EnergySafety administers Part 5 Division 2 that deals with the Gas Appliance Rectification Programme.

A project office has been established in EnergySafety. All costs incurred during this program will be separately identified. They will be met directly by the gas producers and not from Business Plan funding for normal EnergySafety activities.

To date, advertisements have been run to advise the community of the program and to assess the quantity and type of appliances that need to be replaced or serviced. During 2011 contracts will be let to replace the appliances, with all work planned for completion by mid 2012, when it is planned the lean gas will be introduced to the domestic distribution system.

4.0 ENERGY SAFETY'S ACTIVITIES

4.1 LEGISLATION ADMINISTERED

The Director of Energy Safety and his staff administer the following legislation:

- *Energy Safety Act 2006*
- *Energy Safety Regulations 2006*
- *Energy Safety Levy Act 2006*

- *Energy Coordination Act 1994* (other than Parts 1A, 2A, 2B, 2C and 2D)
- *Energy Coordination (General) Regulations 1995*

- *Electricity Act 1945*
- *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) Regulations 1999*
- *Gas Standards (Gas Supply and System Safety) Regulations 2000*
- *Gas Standards (Infringement Notices) Regulations 2007*

- *Gas Supply (Gas Quality Specifications) Act 2009* (Part 5, Division 2)

EnergySafety also assists the Economic Regulation Authority (ERA) and the Energy Ombudsman's office in the enforcement of prescribed standards for electricity supply reliability and quality, in accordance with the provisions of the following legislation:

- *Electricity Industry (Licence Conditions) Regulations 2005*
- *Electricity Industry (Ombudsman Scheme) Regulations 2005*
- *Electricity Industry (Network Quality and Reliability of Supply) Code 2005*

4.2 SPECIFIC ACTIVITIES

The legislation provides for EnergySafety to:

- Ensure the safety of consumers' electrical installations and appliances, by:
 - licensing electrical workers and electrical contractors (through the functions of the associated Electrical Licensing Board);
 - enforcing prescribed technical standards for electrical installing work;

- requiring electricity network operators to conduct consumer installation safety inspections in accordance with prescribed requirements and auditing this work to ensure compliance;
 - conducting safety inspections of consumers' electrical installations that are not connected to utility networks; and
 - auditing electrical appliances and equipment offered for sale, to check compliance with prescribed safety and energy efficiency requirements (star rating labelling scheme).
- Ensure the safety of consumers' gas installations and appliances (including industrial gas appliances), by:
 - licensing gas fitters;
 - enforcing prescribed technical standards for gasfitting work;
 - requiring gas network operators, gas pipeline licensees and LPG cylinder distributors to conduct consumer installation safety inspections in accordance with prescribed requirements and auditing this work to ensure compliance;
 - overseeing the work of external inspectors approving industrial gas appliances;
 - conducting safety inspections of consumers' gas installations that are not connected to utility networks or are not supplied with LPG directly from a gas distributor; and
 - auditing gas appliances and equipment offered for sale, to check compliance with prescribed safety and efficiency requirements.
 - Ensure the safety and acceptable performance of electricity transmission and distribution infrastructure by:
 - auditing electricity network operators' design standards and constructed networks for compliance with prescribed safety requirements;
 - monitoring the safe work practices of network operators' employees and contractors, including attendance to incidents;
 - investigating failures in service of network operators' assets, accidents causing injury or death and wildfires ignited by network operator assets; and
 - investigating unsatisfied consumers' complaints about unacceptable electricity supply reliability and quality, when referred by the ERA or Ombudsman.
 - Ensure the safety and acceptable performance of gas distribution infrastructure by:
 - auditing gas network operators' design standards and constructed networks for compliance with prescribed safety requirements;
 - monitoring the safe work practices of network operators' employees and contractors, including attendance to incidents;
 - monitoring the quality of gas provided to consumers generally, for compliance with prescribed requirements;
 - investigating unsatisfied consumers' complaints about gas supply reliability and quality; and
 - auditing network operators' compliance with prescribed meter management requirements, to ensure acceptable meter accuracy.

- Appoint and monitor the performance of all inspectors in the State (including those of network operators).
- Ensure the safety of electrical and gas workers by enforcing prescribed safety requirements and providing guidance in respect of safe work practices.
- Issue exemptions or variations to certain regulatory requirements (electrical and gas).
- Investigate electrical and gas safety incidents (incidents associated with electricity or gas network operator customers, are usually inspected first by the network operators' inspectors).
- Enforce statutory requirements through advice, warnings, infringements, prosecutions and, in the case of licence holders, also through disciplinary action.
- Respond to consumer complaints involving electrical and gas technical and safety matters.

Furthermore *Energy Safety*:

- provides energy-related policy advice and support to the Minister, Government and Commerce's Director General; and
- promotes electricity and gas safety to the public and industry operatives.

5.0 PERFORMANCE TARGETS

The following performance indicators provide an overview of the type and volume of EnergySafety's regulatory work, as well as the influence of this work on safety outcomes.

MEASURES	09/10 Target*	09/10 Actual	10/11 and beyond Target
GAS			
Gas related deaths	0	1	0
Gas related accidents ² (including fatalities)	12	13	8
Gas installations inspected and found non-complying (includes matters not directly affecting safety)	13%	10.2%	11.3%
No. of EnergySafety audits of gas distributors' Inspection Plans ³	3	0	2
No. of Type B gas appliance variations assessed	70 [∞]	58	66 [∞]
Investigations under Acts and Regulations	200	251	300
Presentations to Industry or other Groups	10	17	15

[∞] Target based on current edition of AS 3814-2009 and known future gas turbine installations in power stations

MEASURES	09/10 Target*	09/10 Actual	10/11 and beyond Target
ELECTRICITY			
Electricity related deaths	3	2	2
Electricity related accidents ² (including fatalities)	25	14	15
Electrical installations inspected and found non-complying (includes matters not directly affecting safety)	7.0%	6.9%	7.0%
No. of EnergySafety audits of electricity distributors' Inspection Plans ³	2	1	1
Investigations under Acts and Regulations	650	672	650
Presentations to Industry or other Groups	10	15	10

* Trend analysis is used to set the targets

² Accidents are defined as serious safety incidents where a person has received some type of medical treatment (other than just precautionary assessment tests) from a health professional, in a hospital or similar.

³ Inspection Plans of energy distributors have a life cycle of several years and hence compliance audits are timed to fit with that cycle.

6.0 INFORMATION AND ADVICE TO THE MINISTER

EnergySafety provides advice and support to the Minister for Commerce.

Interaction between the Minister's office and EnergySafety takes place through the Director of Energy Safety and the Director General, Department of Commerce. However EnergySafety's Director Gas and Director Electricity are available to liaise directly if required.

Advice and information provided to the Minister by EnergySafety includes the following:

- Proposals for major policy projects, such as new legislation or amendments;
- Reports on the status and management of major policy projects;
- Advice on proposed regulatory actions that may affect the public or businesses;
- Advice on information releases dealing with subjects relevant to this Ministerial portfolio;
- Reports on the status of major investigations or audits;
- Advice to assist with responses to enquiries (verbal or written) to the Minister's office, if requested to do so by the Minister or his staff. This may involve correspondence and/or meetings;
- Advice on resource requirements and work programs; and
- Advice on nationally significant energy issues (e.g. major regulatory reform projects).

BUSINESS ENVIRONMENT AND CHALLENGES

7.0 WA'S ENERGY INDUSTRY ENVIRONMENT

WA's energy industry is now extensively restructured, following the disaggregation of Western Power into separate generation (Verve Energy), networks (Western Power), retail (Synergy) and the integrated regional business (Horizon Power) on 1 April 2006.

The gas industry was substantially restructured in 2000 with the sale of AlintaGas. This allowed the progressive opening of the market to full retail competition. The competitive gas supply market from these changes is generally viewed favourably by industry, especially in the resources sector. There is continuing pressure to introduce additional natural gas capacity to the State's industry, through further expansion of the Dampier – Bunbury natural gas pipeline and new sources of supply. The unfortunate Varanus Island gas facility disruption in mid 2008 highlighted the critical importance of supply diversity.

Western Power can now use its revenue for network reinvestment and maintenance as would any independent business, contrary to the situation when the network was part of a vertically integrated utility. This is a positive change, but it will take a number of years for the shortcomings of the last twenty years (evidenced by the continuing fires resulting from pole failures, clashing conductors, equipment failure and pole-top fires) to be corrected by the new Western Power. A major distribution wood pole audit in 2008 demonstrated deficiencies in Western Power's processes and resulted in EnergySafety placing Order No 01-2009 requiring remedial work.

Horizon Power, also a successor to the old Western Power, supplies electricity at many remote towns of the State including Esperance, and parts of the Pilbara and Kimberley regions.

Rio Tinto and BHP Billiton own and operate electricity networks in the Pilbara and Goldfields. These networks are generally maintained in a manner consistent with the resources sector's standards that seek to minimise safety problems and supply interruptions.

Looking ahead during the next five years, existing shortcomings with Western Power's electricity supply network will continue to require major attention as will, to a lesser extent, the networks of Horizon Power. The younger age and generally better state of the gas distribution networks operated by WA Gas Networks and others should mean they require comparatively less regulatory attention from safety and performance perspectives.

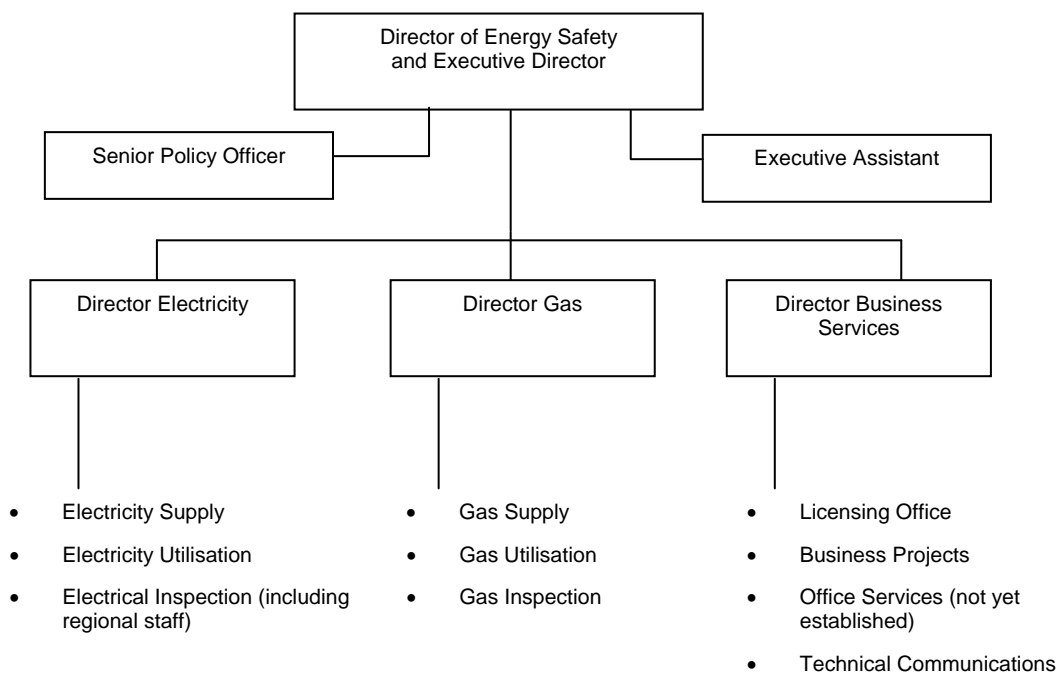
For electrical contracting and gasfitting, it is largely a case of continuing with current regulatory initiatives which appear to be efficient and effective.

New enforcement measures during 2007/08 (larger fines and the introduction of Infringement Notices) encouraged substantial improvement in electrical and gas industry compliance during the period, although there is a trend to challenge the higher infringement fines and take the matters to court. This increases costs for both EnergySafety and the defendant.

7.1 ENERGYSAFETY STRUCTURE, RESOURCES AND POWERS

7.1.1 Introduction

The Executive Director, Energy Safety Division ("EnergySafety"), heads the Division. The incumbent also holds the statutory office of Director of Energy Safety.



This structure has functioned successfully and allowed for the development and maintenance of critical technical expertise relevant to each industry sector. Necessary changes to the structure are discussed in section 7.1.5. The EnergySafety Division is located at offices on the corner of Sevenoaks St and Grose Ave in the Perth suburb of Cannington.

7.1.2 Electricity Directorate

This Directorate is headed by the Director Electricity and is responsible for –

- All electricity-related technical and safety policy work, including ministerial advice, new legislation, regulatory reform proposals, technical standards development, industry liaison and assessment of requests for variations to regulatory requirements; and
- All electricity related operational work.

The following two Branches:

- ❖ The Electricity Supply Branch, headed by a Principal Engineer; and
- ❖ The Electricity Utilisation Branch, also headed by a Principal Engineer;

each deal with policy work, including ministerial advice, new legislation, regulatory reform proposals, technical standards development, industry liaison and requests for variations to regulatory requirements. They also provide specialist direction and assistance to the Electrical Inspection Branch, when the latter is carrying out complex investigations (such as

those dealing with electricity industry work practices, or complaints about electricity supply standards) and corporate compliance audits of electricity network operators and licensed contractors.

The Directorate's Electrical Inspection Branch, headed by the Chief Electrical Inspector, is responsible for the following key activities:

- Conducting corporate compliance audits of electricity suppliers concerning network safety;
- Guiding and approving electricity supplier Inspection Plans, which set out electricity consumer installation inspection practices and commitments, and conducting audits to ensure compliance;
- Inspecting electricity consumers' installations in remote locations (not connected to networks);
- Conducting compliance audits of electrical equipment retailers for compliance with safety and energy efficiency (labelling and MEPS) requirements;
- Recommending to the Director of Energy Safety the appointments of all electrical inspectors in the State, monitoring their performance, maintaining codes of conduct, monitoring compliance;
- Carrying out investigations into serious accidents (injury and damage) and incidents (supply interruptions), and recommending safety promotion, warnings, prosecutions, disciplinary actions etc, as appropriate.
- Advising consumers and industry operatives about energy safety and compliance matters;
- Technical and investigative support to the Electrical Licensing Board and the Licensing Office;
- Monitoring safe work practices used in industry;
- Participating in industry safety promotion campaigns (e.g. regional presentations); and
- Assisting the Director with appeals against network operator inspector's rulings.

The Electrical Inspection Branch is based at the Cannington Office, but also has senior electrical inspectors at Geraldton, Kalgoorlie and Bunbury. The NW and far north of the State are covered by a senior electrical inspector based in the Perth office, who conducts regular programmed inspections in these areas. The branch operates on a 24/7 basis to respond to electrical incidents (fires, injury, fatalities).

7.1.3 Gas Directorate

This Directorate is headed by the Director Gas and is responsible for –

- All gas-related technical and safety policy work, including ministerial advice, new legislation, regulatory reform proposals, technical standards development, industry liaison and assessment of requests for variations to regulatory requirements; and
- All gas related operational work.

The following two Branches:

- ❖ The Gas Supply Branch, headed by a Principal Engineer; and
- ❖ The Gas Utilisation Branch, also headed by a Principal Engineer;

each deal with gas industry policy work, including ministerial advice, new legislation, national policy issues, regulatory reform proposals, and requests for variations to regulatory requirements. They also provide specialist direction and assistance to the Gas Inspection Branch, when the latter is carrying out complex investigations and corporate compliance audits of gas utilities (e.g. Western Australian Gas Networks) and licensed gasfitting contractors, as well as enforcement activities;

The Directorate's Gas Inspection Branch, headed by the Chief Gas Inspector is responsible for the following key activities:

- Conducting corporate compliance audits of gas suppliers concerning network safety and quality (composition) of NG and LPG supplied;
- Guiding and approving gas supplier Inspection Plans, which set out gas consumer installation inspection practices and commitments, and conducting audits to ensure compliance;
- Inspecting gas consumers' installations in remote locations (not serviced by networks), with special focus on industrial installations such as mine sites with industrial gas appliances;
- Conducting compliance audits of gas appliance retailers, and gas appliance re-conditioners, for compliance with safety requirements;
- Recommending to the Director of Energy Safety the appointments of all gas inspectors in the State, maintaining codes of conduct, monitoring compliance, especially in relation to the approval of industrial gas appliances;
- Carrying out investigations into serious accidents (injury and damage) and incidents, and recommending safety promotion, warnings, prosecutions, disciplinary actions etc, as appropriate;
- Advising consumers and industry operatives about energy safety and compliance matters;
- Technical and investigative support to the Gas Licensing Committee and the Licensing Office;
- Monitoring safe work practices used in industry;
- Participating in industry safety promotion campaigns (e.g. regional presentations); and
- Assisting the Director with appeals against external inspector's rulings and requests for variations from prescribed requirements.

The Gas Inspection Branch is based at the Cannington Office. Support is provided from senior electrical inspectors at country locations, where practicable.

The branch operates on a 24/7 basis to respond to gas incidents (fires, injury, major gas supply interruptions).

7.1.4 Business Services Directorate

This Directorate is headed by the Director Business Services and, in brief, is responsible for the operation of the Licensing Office, the development and maintenance of electrical and gas licensing policies, support to the statutory Electrical Licensing Board and the Gas Licensing Committee, especially for dealing with disciplinary proceedings against licence holders, the operation of EnergySafety's administrative and office systems, the provision of a

wide range of business planning, business performance measurement, financial planning and management accounting functions, plus communication with industry.

The Directorate has three Branches, as follows:

- ❖ Licensing Office
- ❖ Business Projects
- ❖ Technical Communications

These Branches deal with the following key activities:

- the development and maintenance of licensing policies covering the licensing of electrical contractors, electricians, restricted electrical workers and the various types of gas fitters;
- administering the Licensing Office, which deals with all electrical and gas licensing enquiries, applications, renewals, and manages the licence holder databases and related applications;
- supporting the Electrical Licensing Board in the discharge of its statutory functions (including provision of Executive Officer);
- supporting the Gas Licensing Committee in its discharge of the statutory functions delegated by the Director (the Director Business Services is chair);
- managing formal disciplinary proceedings against electrical operatives for the Electrical Licensing Board, and for gas fitting operatives, for the Director of Energy Safety. Serious proceedings are forwarded to the State Administrative Tribunal;
- administration of the Division's industry levy scheme, including data collection and modelling, licence revenue forecasting, expenditure budget development;
- internal audit, expenditure tracking and projection, performance indicator development and progress monitoring;
- overseeing the development of the annual Business Plan and maintenance of the Division's Operational Plan;
- overseeing and coordinating office services, including records management, FOI, IT services, building services, fleet management; finance and administration services (as provided by Corporate Services Division);
- statistical analysis and reporting in respect of electricity and gas-related incidents, and EnergySafety's key performance indicators; and
- industry technical (regulatory) communication, annual reporting and safety promotion.

7.1.5 EnergySafety's staff resources

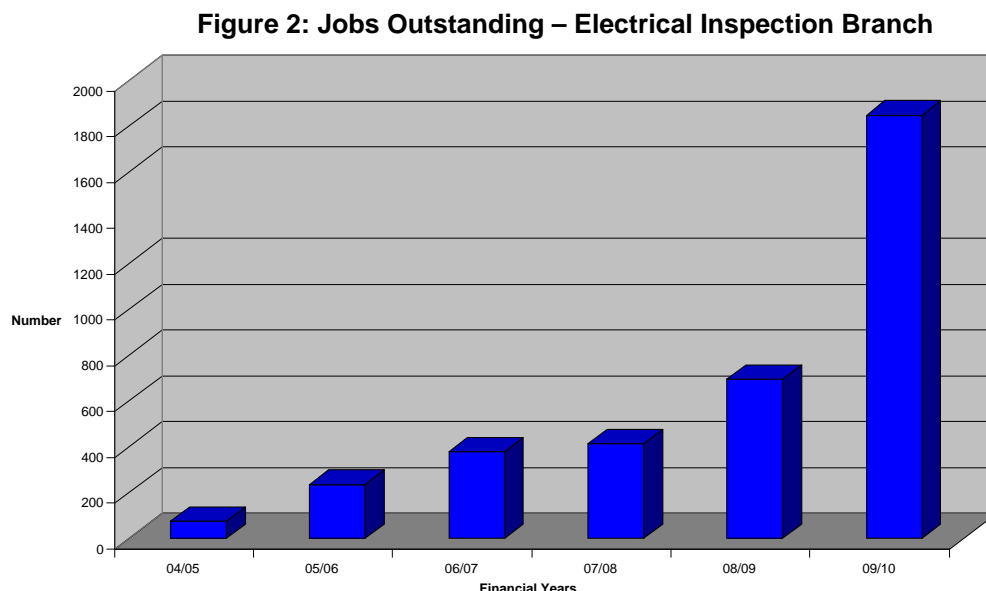
As Figure 1 in Section 3.3 demonstrates, there has been a very large increase in the number of electrical investigations over the past few years. This has been due to:

1. changes in legislation;
2. the need to undertake complex network operator audits ;
3. the reorganisation of the State's electrical power industry;
4. greater regulatory responsibility for network operators;

5. aging network infrastructure (eg: wood poles);
6. the extreme growth in construction activities resulting in significant growth in the number of electrical contractors and workers, coupled with a deterioration in work standards in the rush to complete work;
7. national and COAG initiatives such as licensing and energy supply industry safety harmonisation;
8. the increase in legal defences as penalties have increased (many used to plead guilty when the penalties were small but as these have increased over time, there has been an increase in the type and sophistication of defences); and
9. response to electrical safety promotion measures such as changing the laws concerning RCDs.

At the same time it has been difficult to fill the vacant inspector positions and to hold onto experienced staff. Recently, EnergySafety has filled many of the vacant inspector positions but only with junior people who, typically, will need 2-3 years to gain sufficient experience to carry out complex investigations.

As a result, investigations (Figure 2) are taking up to 18-24 months to complete. A number of prosecutions have been dropped as the two year statute of limitations has expired. This situation continued to deteriorate and a review was planned in 2010 to confirm the required skill sets, look at the structure and responsibilities in the Electricity Directorate and, most important, seek ways to increase the number of experienced inspectors.



During 2009 and 2010 the government conducted its Value for Money Audit. The major issue observed for EnergySafety was that it has a growing backlog of electrical investigations and many are taking 18 to 24 months to complete; which puts the Electricity Directorate at risk of writing-off inspections which exceed the two year statute of limitations.

The audit recommended that EnergySafety explore long term solutions to address staff attraction and retention challenges; and review the electrical inspection process in light of the difficulty in attracting skilled staff, to determine whether there is scope for implementing lean process improvements (ie improve efficiency).

The review of the Compliance and Management System (CMS) described in section 3.5.2 has ensured that all processes have been reviewed and made common between gas and electricity. The new CMS will streamline notifications, auditing, inspection and investigation processes, by reducing manual processes and therefore allowing inspectors to be deployed more effectively. In particular, the new CMS will enable the introduction of an effective sampling system to manage the growing number of installation inspections.

The Electricity Directorate's practice is to refer electrical workers committing serious safety breaches to the Electrical Licensing Board for its consideration of whether or not it will require the offender to undergo a competency assessment. Because these referrals occur up to two years after the offence in question, the Board has complained in writing, expressing strong concern about the delay. The Board justifiably points out the need to retrain (or remove as a last resort) incompetent persons from the industry without delay to prevent further safety breaches. Such persons need retraining and possibly a period of working under supervision, before resuming unrestricted electrical work. The delay is unacceptable and a major concern to Electricity Directorate staff, who do their best but cannot cope with the volume of investigation work which necessarily must precede referral to the Board.

Despite the new CMS's streamlined processes and the ARB, there remains the need to have extra staff to meet the workload. Additionally, most of the senior positions are filled with older people who enjoy the work, still want to contribute to the community but are happy to take a lesser salary and different work/life balance. There is a need for an additional Director-level position to provide experience, assist in succession planning and to ensure appropriate senior coverage at all times. This will also match the Electricity Directorate's needs and will allow it to develop without creating bottlenecks.

The resulting structure will see four directorates rather than the existing three:

- Gas (unchanged);
- Business Services (unchanged);
- Policy, Planning & Electrical Engineering (taking the electrical engineering from the Electricity Directorate and combining it with EnergySafety's policy and planning functions); and
- Electricity Compliance (an enhanced compliance directorate).

At this stage it is necessary to establish the critical aspects of the new framework and new reporting lines, which require four reclassified positions and eight new positions, bringing the approved FTE level to 64. Due to the attraction difficulties it expected to take some years to fill all positions. Recognising this and to constrain cost increases, it is has been estimated to fill these positions over the five year budget period. The financial forecasts have been cast accordingly.

7.2 ELECTRICAL AND GAS SAFETY OUTCOMES

7.2.1 General

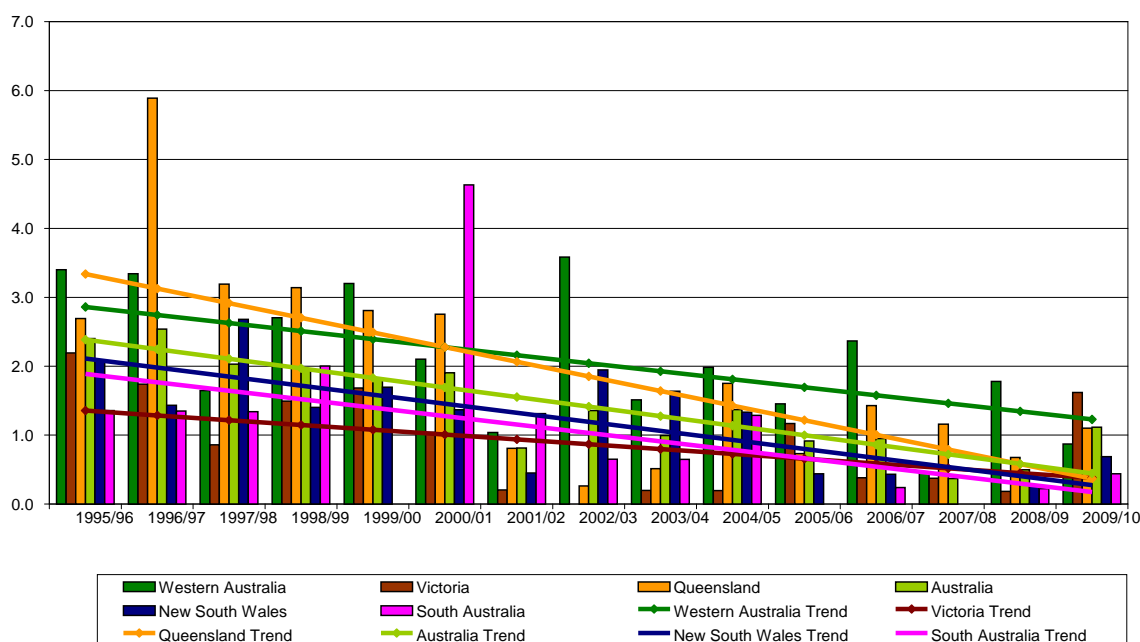
The following graphs summarise electrical and gas safety outcomes in Western Australia. They reflect Western Australian electrical and gas safety incidents reported by industry and the public, and recorded in EnergySafety's Electrical Inspection and Gas Inspection Systems⁴. Some incidents are not reported by people who experience them.

These outcomes do not include any statistics for gas and electricity networks. These have experienced rapid workload growth during recent years, especially in the electrical networks, with the re-organisation of the State's electrical power industry exposing many legacy issues and leading to much greater regulatory involvement. When Western Power and Horizon Power were established in 2006 all outstanding regulatory matters involving their single predecessor were not carried into the new bodies. This caused a partial regulatory hiatus in the subsequent two years. However, issues such as pole failures, clashing conductors, conductor transpositions and pole top fires create very dangerous situations in public places and will be reported in next year's Business Plan.

The data for other States and Territories have been obtained from their respective regulatory authorities.

7.2.2 Electrical Safety

CHART A: ELECTRICAL FATALITIES PER MILLION POPULATION



Note: The number of fatalities for 2009/10 for Australia overall does not include the Northern Territory as this information was not available when preparing this report. Data for Western Australia reflects information available in the Electrical Inspection System as of 5 October 2010.

⁴ These information systems are limited in terms of data quality and detail. They are expected to be replaced by new and improved systems during 2011-12.

Traditionally Western Australia has been compared with Victoria and Queensland. Chart A includes New South Wales and South Australia for comparative purposes. As the chart shows, the long term trend for electrical fatalities across Australia as a whole is declining. Western Australia has also experienced improvement, but this has been slower than that of the national average

Victoria has consistently sustained a lower fatality rate compared with other States and the national average. This is believed to be due to its extensive public advertising promoting electrical safety in that State. EnergySafety is looking to increase its advertising to improve WA's electrical safety.

Although WA's fatality rate is above the national average, the figure is sensitive to the actual number of fatalities, given WA's relatively small population. Unfortunately, WA suffered two fatalities in 2009/10. If this were only one, the result would closely align with that of Queensland.

One reason for declining fatality (electrocution) rates since 1992 is the mandatory installation of RCDs (residual current devices or "safety switches") in new electrical installations, and in additions/alterations. In some States (e.g. Queensland) the retrofitting into older installations has been more effective, as it has been enforced as a condition of sale and leasing of residential premises. The Western Australian Government introduced a similar requirement in October 2009 and this is expected to improve safety as the program takes hold. EnergySafety is developing a media campaign to encourage the voluntary installation of RCDs to further enhance this program. The installation of RCDs is the single best way to improve electrical safety in WA.

Electrical Fatalities

In 2009/10 there were two electrical fatalities reported in Western Australia where electricity was found to be the cause. An RCD was not fitted in either case.

The fatalities relate to:

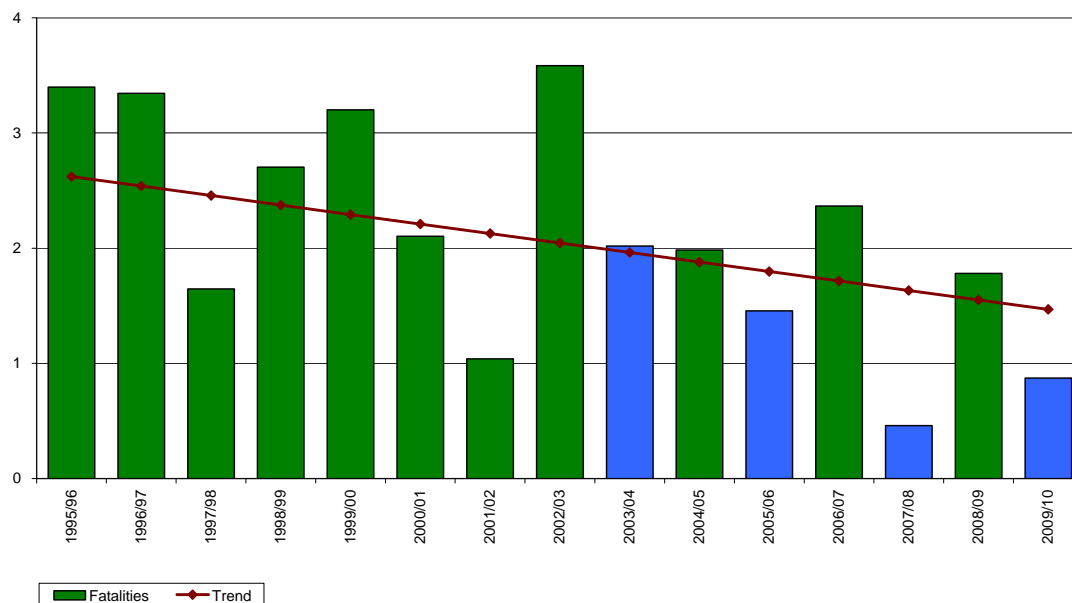
- A child crawling through a void in the wall between the carport and the kitchen when contact was made with an earthed metallic exposed wall frame and a damaged flexible cord;
- The deceased accessing a switchboard at a building demolition site when contact was made with the live conductors and the earthed metal enclosure.

Chart B shows that there was a decrease in the number of fatalities in the 2009/10 financial year. Western Australia's trend continues to move steadily downward and has done so for the past 15 years.

Whenever EnergySafety carries out an awareness campaign there is a corresponding reduction in the number of electrical accidents and fatalities. This is demonstrated in the above graph for 2003/04, 2005/06, 2007/08 and 2009/10 where an awareness campaign has been followed by a noticeably lower rate of fatality.

It would therefore be prudent to continue regular safety awareness campaigns - taking into account the WA experience and that in Victoria - as regular campaigns materially improve community electrical safety. The benefit of conducting annual campaigns will be assessed following the forthcoming 2011 campaign.

CHART B: WA ELECTRICAL FATALITIES PER MILLION POPULATION - 1992/93 to 2009/10
(Blue Indicates a Safety Campaign was Conducted)



Note: Data reflects information available in the Electrical Inspection System as of 5 October 2010.

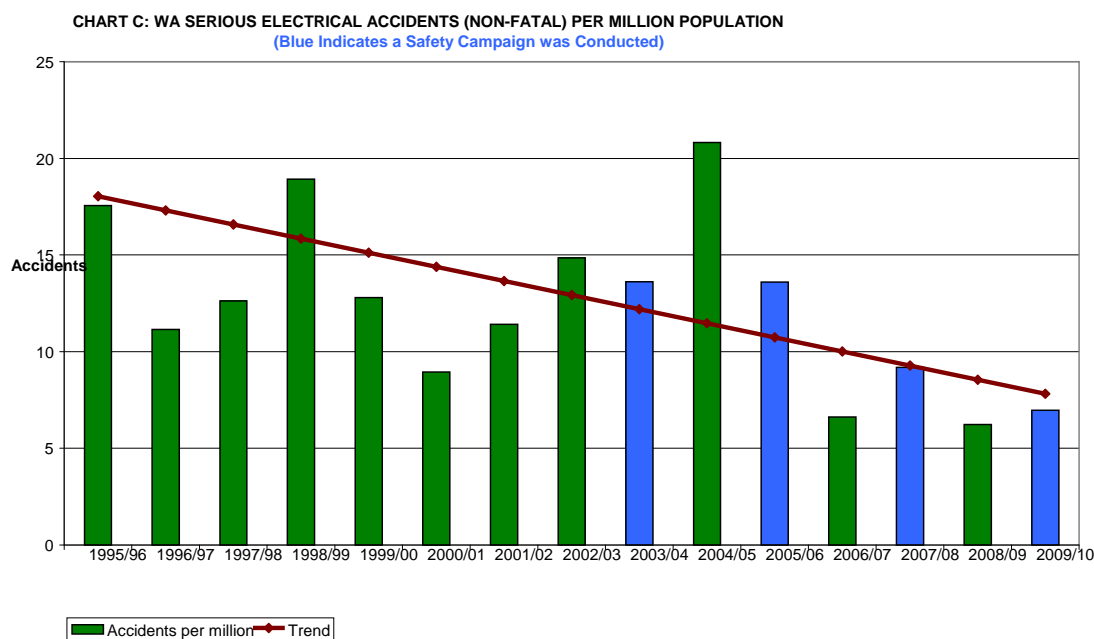
Serious Electrical Accidents – Non fatal

Chart C below demonstrates a decreasing trend in the number of serious electrical accidents per million population. Serious accidents are those requiring persons to be treated by health professionals, but do not include incidents resulting in persons receiving only precautionary electrocardiograph (ECG) assessments (i.e. when treatment is not necessary).

In 2009/10 there were 15 non-fatal serious electrical accidents reported compared with 14 the year before. 86% of these occurred in workplaces, compared with 92% in 2008/09, indicating that there is a need for continuing emphasis on workplace electrical safety.

Of the workplace electrical accidents reported for 2009/10, 38% involved electricians. Trends relating to incidents involving electricians have been analysed further in the section on electrical and gas worker safety.

Although there was a slight increase in electrical accidents in 2007/08 compared with the previous year, 2008/09 and 2009/10 have had consistent results. The last four years have recorded the lowest number of accidents in the 15 year reporting period.



Note: Data reflects information available in the Electrical Inspection System as of 5 October 2010.

Electric Shocks

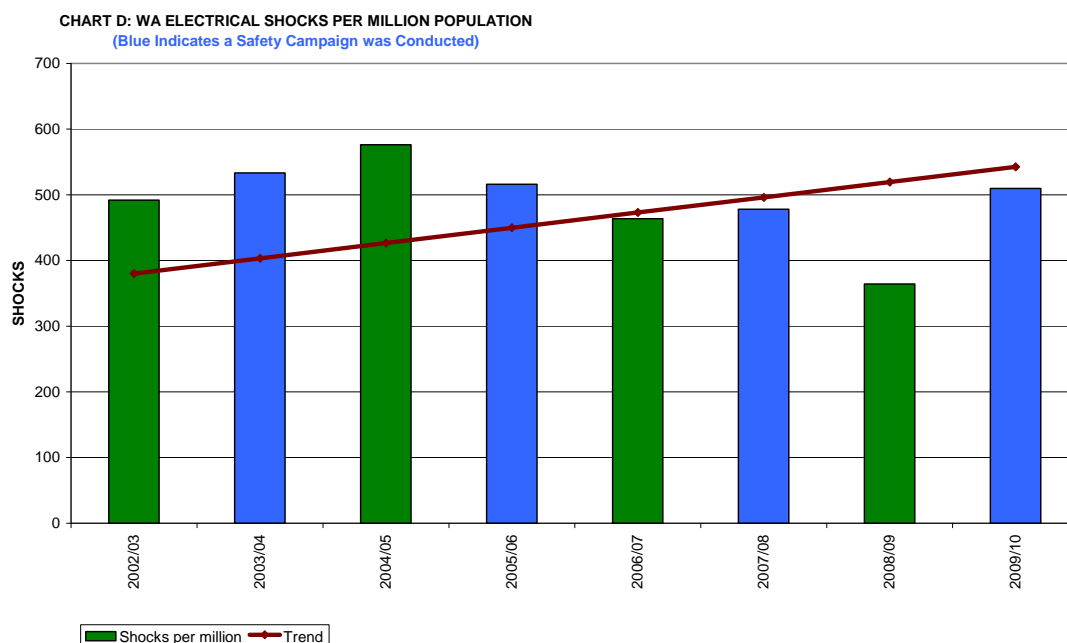
The incidence of electric shocks is an indicator of community electrical safety. However, many electric shocks are not reported if the person involved does not require medical or par-medical treatment.

In general terms, an electric shock not causing injury or harm may be experienced by a person due to an error by that person (e.g. touching something “live” while carrying out some work) or another person, or due to faulty equipment in the home or workplace, or due to a fault or deficiency with the electricity supply network.

The reporting of shock incidents is valuable, as sometimes the difference between a shock and an electrocution can be a matter of luck – meaning that shock incident reporting can often identify a real safety hazard, so that it can be fixed.

Chart D below demonstrates the number of electrical shocks per million persons over the past 15 years. While the chart shows an increase, the trend is relatively flat overall. The increase is assessed as being mainly due to industry and public being more aware of the mandatory reporting requirements where previously some shocks had not been reported. This analysis is supported by a corresponding drop in the number of serious electrical accidents.

During 2009/10 financial year there were 1170 electrical shocks reported compared with 818 in 2008/09, which represents a 43% increase. Chart D shows that the number of shock incidents per million persons since 2002/03 has increased from 492 to 509.



Note: Data reflects information available in the Electrical Inspection System as of 5 October 2010.

Western Power's and Horizon Power's commitment to replacing all of their aerial service cables can be expected to improve the declining shock rate trend. Creating more awareness among the general public and industry from publications or advertisements about dangers of minor electric shocks will help promote disciplined reporting of shocks, which leads to the identification of potential hazards.

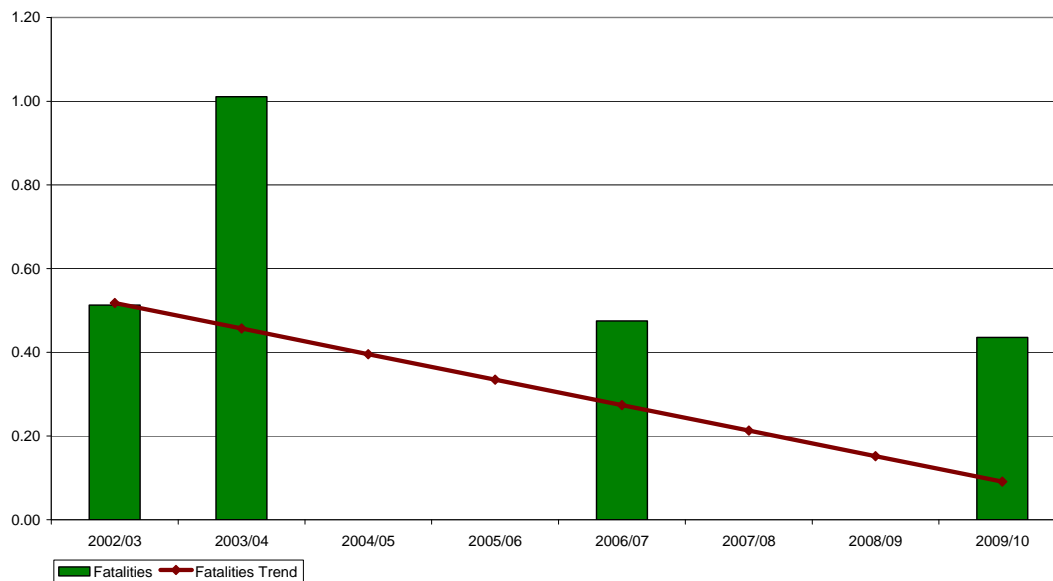
7.2.3 Gas Safety

Chart E below shows the number of fatal incidents per million in population. Despite a fatality in WA during 2009/10, the line shows a downward trend in the number of fatalities since 2002/03 financial year due to the Gas Directorate's proactive approach to the gas industry.

The gas fatality was the result of a flashover occurring during the process of changing a gas bottle to a barbeque. The flashover caused serious burns to the person that required hospitalisation. A serious infection resulted and the person subsequently died.

The number of gas fatalities per million population has been less than one each year with the exception of 2003/04.

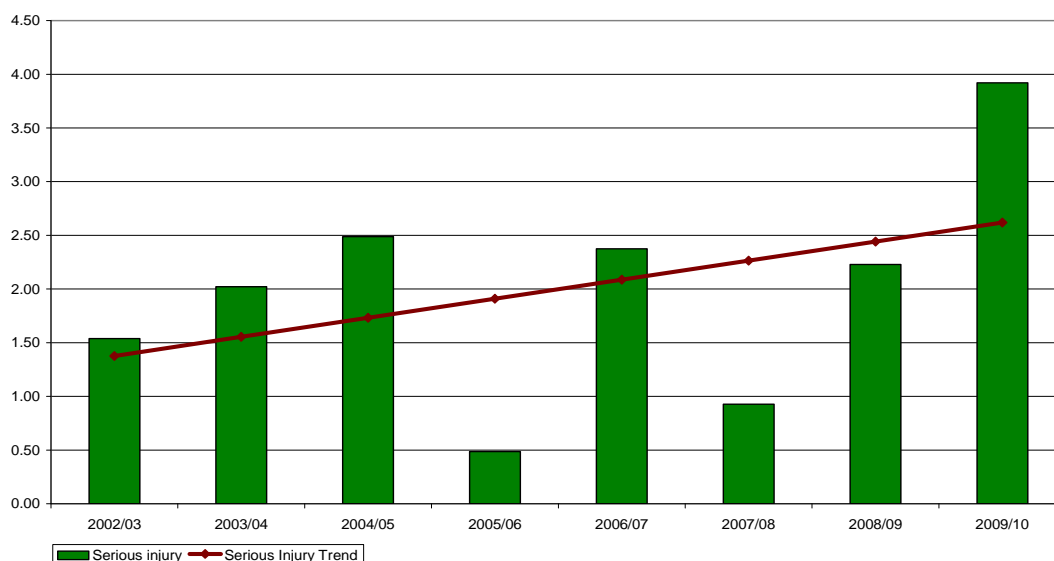
CHART E: WA GAS INCIDENTS RESULTING IN FATALITY PER MILLION POPULATION 2002/03 TO 2009/10



The data for Charts F & G have been critically reviewed and amended for consistency since the last Business Plan. Primarily the incidents have been re-assessed to ensure they are notifiable under the *Gas Standards Act 1972*.

Chart F below shows that over the eight year period the number of serious gas injuries per million population has increased from approximately two serious injuries in 2008/09 to four in 2009/10. These results have pushed the trend line upward and above the mean average. A review of the serious accidents shows they mainly relate to unskilled interference, which indicates that a campaign needs to be conducted to make people aware of the dangers of gas.

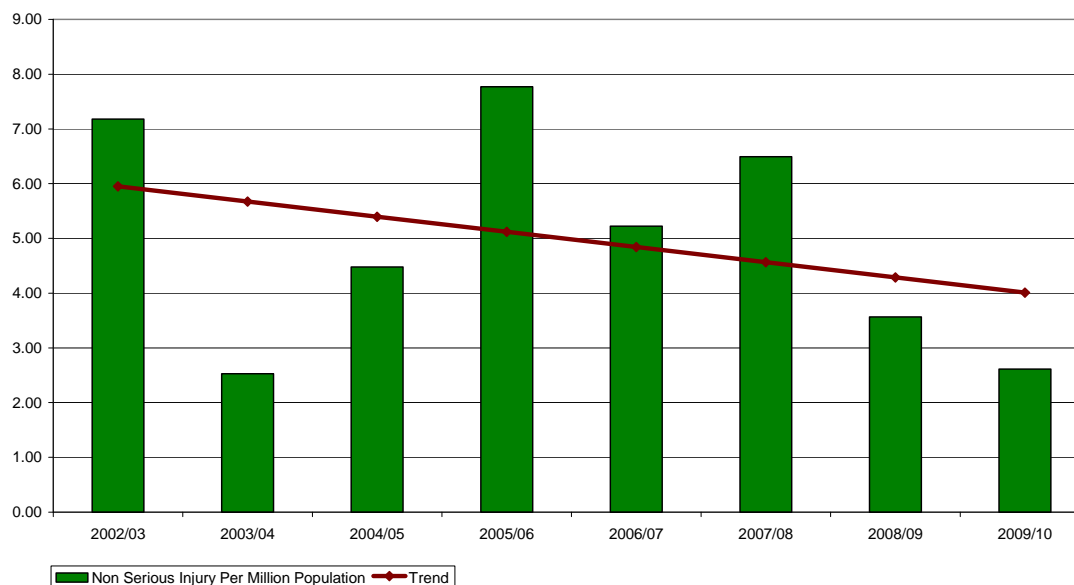
CHART F: WA GAS INCIDENTS RESULTING IN SERIOUS INJURY PER MILLION POPULATION 2002/03 TO 2009/10



Note: Data in Charts E and F reflect information available in the Gas Inspection System as of 5 October 2010.

The trend line is upward, due mainly to accidents experienced in 2009/10 and as a reflection of better reporting by industry and the general public.

CHART G: WA GAS INCIDENTS RESULTING IN NON SERIOUS INJURY PER MILLION POPULATION - 2002/03 TO 2009/10



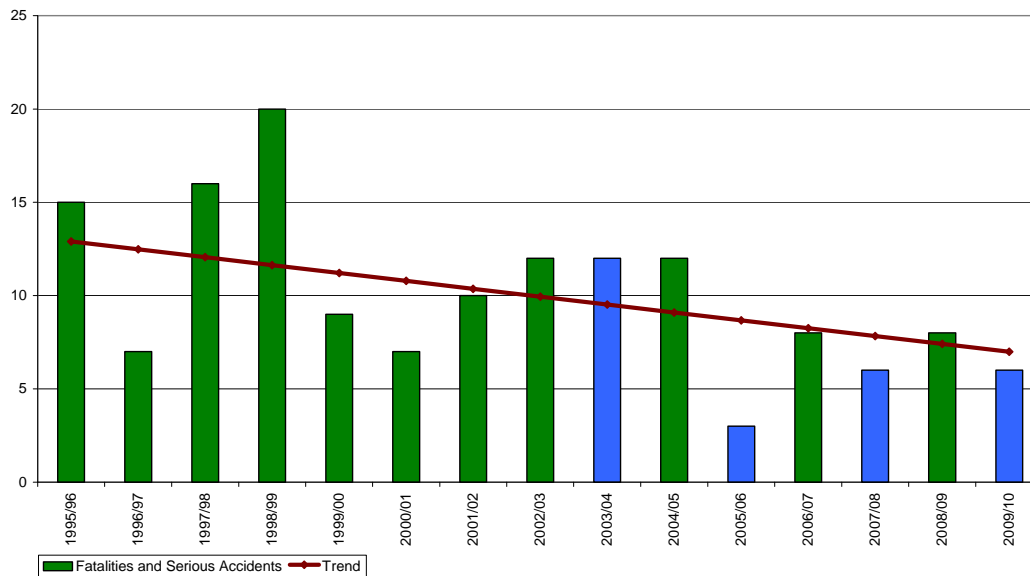
Note: Data reflects information available in the Gas Inspection System as of 5 October 2010.

Incidents that do not result in a fatality and/or do not require the victim to be hospitalised have been categorised as those resulting in 'non serious injury'. As shown in Chart G, the trend of this type of incident prior to 2008/09 indicates a slight increase and may be attributed to greater awareness of mandatory reporting requirements. The trend since 2007/08 has been descending.

7.2.4 Electrical & Gas Worker Safety

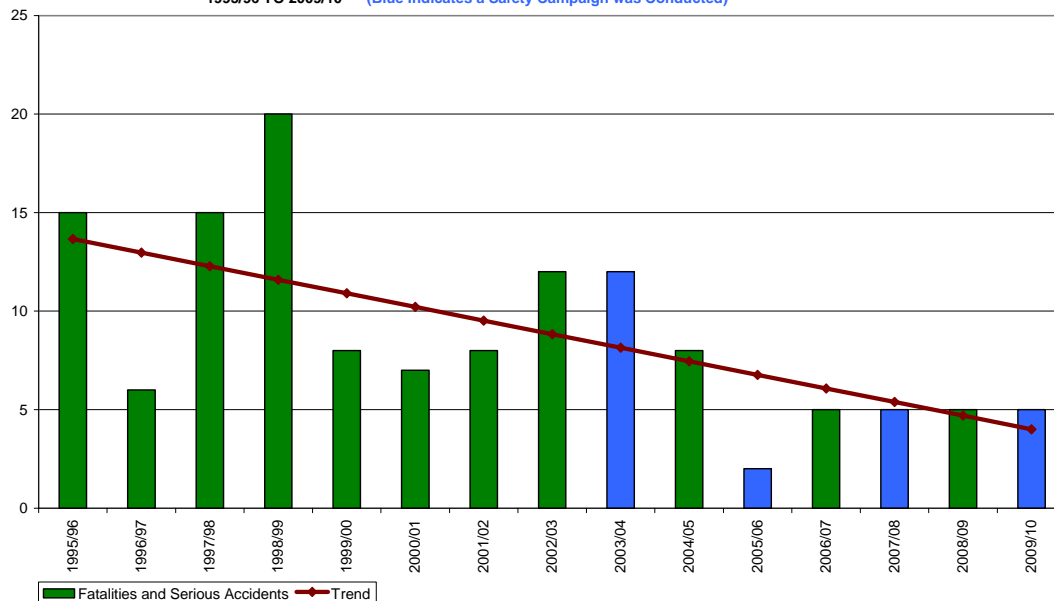
Electrical workers are at greater risk of electrocution than members of the general public or workers in other occupations.

CHART H : FATALITIES AND SERIOUS ACCIDENTS INVOLVING QUALIFIED ELECTRICIANS IN WA - 1995/96 TO 2009/10
(Blue Indicates a Safety Campaign was Conducted)



A comparison between charts H and I indicates that despite their skills, which provide them with the knowledge of working with electricity, most of the incidents involving electricians result from performing tasks on 'live' equipment.

CHART I : FATALITIES AND SERIOUS ACCIDENTS RESULTING FROM 'LIVE' WORK BY QUALIFIED ELECTRICIANS - 1995/96 TO 2009/10
(Blue Indicates a Safety Campaign was Conducted)

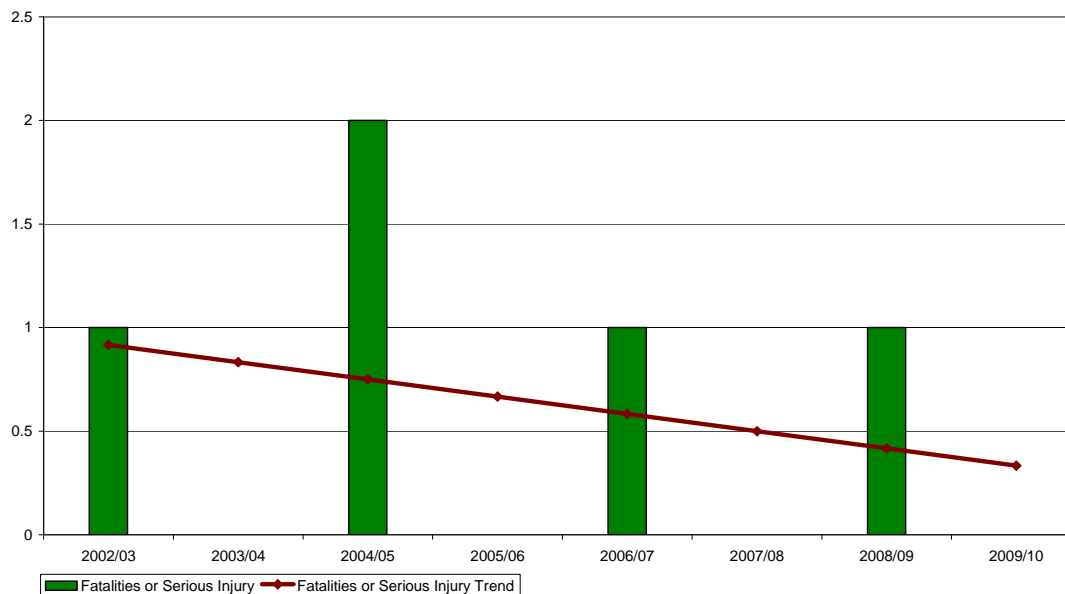


Note: Data in Charts H and I reflect information available in the Electrical Inspection System as of 5 October 2010.

The trend of both Charts H and I is downward, suggesting EnergySafety's focus on stopping live work is being effective.

No fatality involving a gas worker has occurred since 1984. The incidents in Chart J below reflect incidents resulting in serious injury.

CHART J : WA GAS INCIDENTS RESULTING IN FATALITY OR SERIOUS INJURY INVOLVING GAS WORKERS



Note: Chart J reflects data available at EnergySafety. The data could not be verified for accuracy due to limitations of the capabilities of the existing Gas Inspection System. This system and the electrical equivalent are due to be replaced during 20011/12.

Serious injuries involving gas workers are fewer compared with electricians, indicating the different hazards and practices associated with gas work.

7.2.5 Concluding Remarks

The electricity and gas safety statistical trends largely reflect positive outcomes. There are clear indications that TV advertising to promote electrical and gas safety produce an increased awareness in the community and reduce safety incidents. RCDs remain the best initiative to improve electrical safety in Western Australia.

7.3 MEASURES TO IMPROVE SAFETY OUTCOMES

7.3.1 General

Human error on the part of the person affected, such as:

- assuming something was disconnected when in fact it was 'live', or
- making unintended contact with 'live' parts when using a tool, or
- failing to clear an area of gas before attempting to relight a gas appliance

rather than the failure or incorrect installation of electrical or gas equipment causes many safety incidents. But the frequency of such incidents can also be reduced by improving technology, safety devices and compliance with prescribed installation and work practices standards.

Aside from the use of specific requirements or controls on industry workers, other measures to improve safety outcomes (for both the worker and the end user) include greater Inspector visibility.

A survey conducted by Donovan NFO in 2001 for WorkSafe WA supported the need to increase the visibility of Inspectors in the workplace to motivate businesses to focus on occupational safety and health.

This observation equally applies to energy safety regulation. Such a proactive approach, however, places competing demands on Inspectors' available time.

7.3.2 Installation compliance inspections

EnergySafety oversees and manages an electrical and gas consumer installation safety inspection regime. This regime engages some 170 (100 full-time equivalent) Inspectors across WA, employed by the various electricity and gas network operators, LPG suppliers or pipeline licensees, or operating on a fee-for-service basis for these entities. They inspect the work of licensed operatives at consumers' electrical and gas installations of all types (commercial, institutional, industrial and residential) either on an individual basis or, if the network operator (or LPG supplier) has an approved inspection system plan, on a sample basis.

This work continues as a key part of the enforcement regime. Comparisons with the installation inspection regimes of other jurisdictions have shown the WA system delivers very good results. These will be improved further through the new enforcement powers now available, including Infringement Notices.

7.3.3 Retro-fitting of RCDs

RCDs (Residual Current Devices) save individuals from serious shock or electrocution in about 90% of cases in homes or small businesses. They also have extensive application in industrial plants and premises, albeit in different forms to suit the equipment and work environment.

One of the most common forms of serious electrical accident in residential premises is through persons entering the building's roof space to carry out some type of work, then making contact with exposed live parts (due to wiring damage or insulation deterioration) while simultaneously touching some earthed metalwork (e.g. a copper pipe). If the wiring installation has RCD protection, such contact will not cause a serious shock or electrocution.

Unfortunately, the promotional work carried out by EnergySafety during the 1990s did not result in significant voluntary retrofitting of RCDs by householders in pre-1991 homes (since then RCDs have been mandatory in new homes when constructed).

The Government has therefore approved the retro-fitting of RCDs as a mandatory requirement on the vendors of residential premises at the time of sale and the landlords of residential premises. Similar initiatives are being pursued or have already been undertaken by regulators in other jurisdictions. This is the most acceptable way of ensuring that the purchasers of a home can be confident the electrical installation is safe, while requiring only a minor outlay for the vendor. The measure should achieve a significant penetration of RCD protection over a 15 year period. The regulations came into operation on 9 August 2009. During 2009 and 2010 there were numerous enquiries and issues raised concerning the new regulations. This required many technical interpretations and some minor regulatory changes that increased the workload of the Electricity Directorate.

RCDs are the single best initiative to reduce serious electrical incidents. The Minister approved a major advertising campaign to begin January 2011 to encourage people to

install RCDs in all homes. An analysis of the campaign will determine the need for further campaigns or other initiatives to ensure all homes have these vital protective devices.

7.3.4 Residential installation safety assessments

The Minister for Commerce has approved development of a scheme under which individuals may select and engage an electrical contractor to carry out an assessment and furnish a report on the safety and functionality of a dwelling's electrical installation, based on a standard, structured plan developed and approved by EnergySafety.

Energy Safe Victoria has already implemented a similar scheme.

The need for this type of service, which is proposed to operate on a fee-for-service basis (with payment directly to the contractor), has become increasingly evident in WA, as dwellings age and the persons either proposing to purchase them or renovate them, or simply properly maintain them, need better information.

Each electrical contractor undertaking such a service would be held accountable for the accuracy and quality of their reports to clients, which must comply with the minimum requirements set down in the approved EnergySafety format.

Once the electrical installation assessments become available in 2011, a similar scheme is expected to be developed for the gas industry. In the meantime, under the Gas Appliance Rectification Programme, approximately 20,000 household installations would have been leak tested and had safety inspections completed by the end of the inspection phase in early 2011.

7.3.5 Electrical and gas safety promotion

EnergySafety aims to be proactive in reminding the community of the hazards associated with unsafe electrical and gas installations and appliances through regular safety promotion activities.

Experience here and elsewhere shows campaigns should be aimed at both the public and energy workers in industry, to improve safety awareness concerning electricity and gas use, infrastructure, and the hazards of working with energy. Campaigns need to continue, as the message requires constant reinforcement to be effective.

Public safety and similar campaigns aimed at the general community rely on media advertising. Surveys have shown that TV advertising is most effective compared with other media. EnergySafety's 2008 campaign for example had good awareness recall by the public.

However, TV advertising is expensive and requires substantial planning and funding to be effective. For this reason, TV campaigns have been planned hitherto to run approximately every two years to limit costs. The campaign on RCDs described above is the major initiative for 2010/11.

In the future, as budgets allow, EnergySafety will look to annual campaigns to help improve public awareness and to reduce electrical incidents to levels comparable with other states.

7.4 ENERGY EFFICIENCY REGULATION OF APPLIANCES AND EQUIPMENT

Much electrical equipment used in residential premises and industry is already subject to energy efficiency requirements, including labelling and minimum energy performance standards (MEPS).

During 2011/12 EnergySafety will continue to participate actively in the “E3 Committee”, the Equipment Energy Efficiency Committee which operates under the Ministerial Council for Energy and is chaired by the Australian Greenhouse Office.

This will ensure that EnergySafety remains up to date about the directions and latest steps of Australia’s energy efficiency program (a key component of national efforts to minimise greenhouse gas emissions).

It is also expected that EnergySafety will become a participant in the national check testing program for products and equipment subject to energy efficiency regulation.

Gas appliances and equipment are planned to become subject to energy efficiency requirements during 2010/11. The form of the legislation is yet to be determined but is expected to be similar to the approach used for electrical equipment and appliances.

FINANCIAL PLAN

8.0 INTRODUCTION

The Financial Plan that follows on the next page details the forecasts for the various components that make up EnergySafety's revenue and expenditure budgets (both capital and operating) over the 2011/12 year and beyond.

Each of the components in the Table is explained in the text of Section 8.1.

8.1 FINANCIAL PLAN, NOTES AND EXPLANATIONS

EnergySafety's Financial Plan provides details of –

- (1) estimated revenue from electrical and gas licence fees and other minor revenue-generating activities;
- (2) planned operating and capital expenditure; and
- (3) the energy industry levy required to make up the shortfall between (1) and (2).

Estimates are provided for the next financial year 2011/12, and subsequent four years. Projections for the out-years are less accurate and subject to review prior to each year.

SPECIAL EXPENDITURE ITEMS

- a) National regulatory reform projects:

The Commonwealth Government has instigated via COAG the following national, major regulatory reform projects relevant to EnergySafety:

- Occupational licensing
- Energy supply industry safety harmonisation
- National Construction Code
- National Work Health and Safety Act

The final outcomes are expected to affect materially EnergySafety's role, administrative functions, structure and funding.

During 2011/12 EnergySafety will make a significant commitment to the following projects, which represent an extra workload affecting staff resources, project priorities and costs. This will continue for several years and hence special funding has been provided under the Business Plan [Item 1(a)].

- b) Major advertising campaigns for electricity and gas safety:

It is proposed to have one campaign every two years as shown. Industry presentations and safety material (e.g. safe work practices videos) are covered under Recurrent Expenditure. Special funding is therefore allowed in the Business Plan [Item 1(b) P43].

(Notes continued after Table on next page)

\$ Million

FINANCIAL FORECASTS:

	10/11	11/12	12/13	13/14	14/15	15/16
OPERATING EXPENDITURE:						
1) <u>Special Expenditure Items</u>						
a) National regulatory reform projects	0.190	0.150				
b) Major safety campaign (TV etc)	0.500		0.500		0.500	
c) Audits of electricity networks	0.400	0.250	0.150			
TOTAL SPECIAL ITEMS:	1.090	0.400	0.650		0.500	
2) <u>Recurrent Expenditure</u>						
a) Corporate services levy (to Commerce)	1.140	1.440	1.440	1.440	1.440	1.440
b) Legal services (mainly to SSO)	0.250	0.150	0.150	0.150	0.150	0.150
c) Labour costs (incl ARB/ARI)	6.998	7.381	7.682	7.983	8.284	8.585
d) Other recurrent expenditure	3.340	3.320	3.245	3.245	3.245	3.245
TOTAL RECURRENT:	11.728	12.29	12.51	12.81	13.11	13.42
TOTAL OPERATING EXPENDITURE:	12.818	12.69	13.16	12.81	13.61	13.42
CAPITAL EXPENDITURE:						
a) Desktop IT hardware/software renewal	0.090	0.095	0.095	0.095	0.095	0.095
b) IS Software replacements CALS	0.400					
c) IS Software replacements CMS	1.260	1.500	0.775			
d) Office restructure		0.057	0.057			
TOTAL CAPITAL:	1.778	1.652	0.927	0.095	0.095	0.095
TOTAL EXPENDITURE:	12.279*	14.34	14.09	12.91	13.71	13.51
SOURCE OF FUNDS:						
a) Estimated licensing revenue		5.647	5.409	5.530	4.922	5.705
b) Other minor income		0.130	0.130	0.130	0.130	0.130
c) Indian Ocean Territories service		0.058	0.058	0.058	0.058	0.058
d) Base energy industry levy		8.508	8.497	7.195	8.604	7.622
e) Adjustment to equalise levy		-2.064	-2.053	-0.751	-2.160	-1.178
f) Net levy**	6.272	6.444	6.444	6.444	6.444	6.444
g) Carry forward to next year	8.205	6.141	4.088	3.338	1.178	0.000
h) Funds from previous year		8.205	6.141	4.088	3.338	1.178
AVAILABLE FUNDS FOR EACH YEAR:		14.34	14.09	12.91	13.71	13.51
		3	4	3	4	5

** total levy over the 5 forward years = 32.221 or 6.444 average p.a.
after allowing for carry forward of 8.205 from 10/11

Notes:

- (1) *The total amount shown for 2010/11 is the expected actual expenditure, whereas the figures above it are the original budget.
- (2) **Proposed 2010/11 levy at \$6.444m is equal to the 2009/10 levy plus forecast CPI of 2.75%
- (3) All forward estimates are in 2010/11 dollars

c) Audits of electricity networks:

Electricity transmission and distribution safety compliance audits will be conducted, mainly on the network operators working in the Pilbara and remote locations. Western Power is already being audited in various areas but additional issues may arise. Technical labour resources are expected to be available through a newly established multi-year consultants panel contract. Special funding is therefore provided for this work under the Business Plan [Item 1(c) P43].

RECURRENT EXPENDITURE

- a) EnergySafety requires central departmental corporate services (covering finance, HR and IT/IS) to be provided by Commerce and the Office of Shared Services. The amounts shown are the estimated costs. Costs have increased since the introduction of Shared Services in 2010.
- b) Legal Services are provided by the State Solicitor's Office and charged to EnergySafety.
- c) Labour costs include all expenditure associated with permanent, contract and temporary employees, known salary increases under awards and direct on-costs such as leave entitlements, employee entitlements and superannuation. This includes the costs for the restructure spread over five years.
- d) Other recurrent expenditure includes all rent and related outgoings associated with EnergySafety's Cannington offices and a minor Inspector's Store nearby for operational equipment, plus other costs such as energy and communications services charges, various consumables and services necessary for operating an office, travel, training, printing, vehicles, technical services, recruitment services and FBT.

CAPITAL EXPENDITURE

- a) IT hardware and software replacement covers only the routine replacement of desktop PCs, local printers and related equipment. All general Commerce IT network infrastructure costs and software user licence costs are covered by the Corporate Services charge to EnergySafety.
- b) & c) Information Systems (IS) replacement: EnergySafety's current corporate IS are –
- ❖ the Electrical Inspection System (EIS) which supports the operational work of the Electrical Inspection Branch and records vital data;
 - ❖ the Gas Inspection System (GIS) which supports the operational work of the Gas Inspection Branch and records vital data;
 - ❖ the Electrical Licensing Application (ELA) that handles all electrical worker / contractor licensing transactions and records; and
 - ❖ the Gas Licensing Application (GLA) that handles all gas fitter licensing transactions and records.

These systems are in the process of being replaced.

- In the case of the ELA and GLA systems this was completed during late 2010, with the EnergySafety's capital share of the replacement CALS having been identified as the \$1,250,000 shown in the previous Business Plans. The final \$400,000 of this commitment is shown in 2010/11.
 - In the case of the EIS and GIS systems the work for the new CMS should be completed in 2012/13 with the capital cost estimated as \$2.625.
- d) Office restructure covers the office, furniture and tool costs associated with the eight new positions required in the EnergySafety restructure.

SOURCE OF FUNDS

- a) Licensing revenue: is derived from electrical worker, electrical contractor, and gas fitter licence fees. The total revenue per year varies on a five year cyclical basis, as the electrical worker fees are for a five year term and renewals are not equally distributed over the period. Licence fees may only be set to reflect the cost of administering a licensing system. Most fees are within 5-10% of full cost, with regular steps taken to increase fees beyond CPI adjustments, so as to close the gap and reflect full cost recovery. All fees are expected to be at full cost recovery within five years.
- b) Other minor income: covers the sale of publications to industry.
- c) Indian Ocean Territories (IOT) services: Commerce has a service agreement with the Commonwealth's Department of Regional Australia (DOAR) to provide regulatory services to the IOT as it does on the WA mainland, but at full cost to DOAR. EnergySafety is providing electricity and gas regulatory services under this agreement and the expected reimbursement is shown.
- d) Base industry levy: this is the "unadjusted" energy industry levy that would be necessary to make up the difference between each year's total expenditure and the sum of the revenues of (a), (b) and (c) above. In other words, it is the raw amount of the levy needed to make EnergySafety fully funded.
- e) Adjustment to equalise the levy: the figures at (d) show that over the five year period the combination of varying expenditure needs and varying licence revenue is such that it requires considerable variation in the levy itself. This is not desirable from a levy administration perspective. The Financial Plan at lines (f), (g) and (h) contains an averaging mechanism of the levy over the five year forecast period. This reduces year-to-year fluctuations (this averaging is carried out on a yearly, rolling basis). The quantity shown at line (e) is the variation from the average levy, which is calculated at the foot of the page and for completeness shown at line (f).
- f) This line shows the net actual (or equalised, or averaged) industry levy over the five year forecast period. This levy is comparable with the amounts applied in other jurisdictions, for similar purposes.
- g) Carry forward to next year: the equalisation scheme referred to in (e) and (f) above necessarily provides excess income in some of the five years of the forecast period, which is carried forward. Similarly, in some years the income from the equalised levy and other revenue may be insufficient to cover all expenditure. In such cases a

temporary credit facility (from the Department of Treasury & Finance) could be required. This is not the preferred strategy as it could put additional pressure on the Consolidated Fund. It has not occurred in this five year forecast.

- h) Underestimates of revenues (the effect of the WA boom was underestimated and the effect of the Global Financial Crisis was overestimated), the underspend of the budget (mainly due to the inability to recruit required staff resulting in continuing vacancies and the subsequent inability to complete projects), deferral of advertising and the delay in implementing the CMS system has resulted in an anticipated closing balance of \$8.205m at the end of 2010/11. It is proposed to use this as a source of funds over the next five years and to reduce the carry over in keeping with (g) above.

8.2 INDUSTRY LEVY QUANTUM

The quantum of the levy proposed for 2011/12 is \$6.444m, which is 2.75% (forecast CPI) more than the 2010/11 levy of \$6.272m.

The levy allows for the significant restructure of *EnergySafety* and the increased costs for the provision of Corporate and Shared Services. The restructuring is described in Section 7.1.5. Although the additional staff are required urgently, the costs have been spread over the five year budget to minimise the effect on the levy and to reflect the difficulties in attracting staff to *EnergySafety*.

The manner in which the levy of \$6.444m is to be applied across various industry participants is outlined in Section 9.

INDUSTRY LEVY STATEMENT

9.0 INTRODUCTION

This Statement is produced in accordance with section 6 (1) of the *Energy Safety Act 2006* – “the Act”.

The Act makes provision for the collection of a levy from energy industry participants. A similar contribution scheme levied on the gas and electrical industries operates in Victoria and Queensland.

For 2011/12, the proposed Industry Levy, in accordance with the *Energy Safety Act 2006* section 6 (1) (c) and the related *Energy Safety Levy Act 2006*, will be \$6.444m. This legislation allows the responsible Minister to determine the levy for the financial year, for notice of this amount to be published in the Gazette and for Energy Safety to issue notices of assessment accordingly. In accordance with the legislation, all revenue raised from the Levy will be used solely for energy safety-related activities.

The proposed \$6.444m levy compares favourably with the levy raised in other states, although it is difficult to make detailed comparisons as the various regulators offices have considerable variation in the scope of their work and in their types of income (e.g. through electrical equipment approvals).

As required by the governing legislation, the next section of the Business Plan details the methodology for the calculation and allocation of the appropriate portions of the Levy to the individual industry participants.

9.1 APPORTIONMENT OF LEVY BETWEEN ENERGY SECTORS

One of the key steps in the levy assessment process requires Energy Safety to recommend to the Minister levy proportions applied to the electricity and gas sectors. This was done initially in the 2006/07 Business Plan. The *Energy Safety Act 2006* allows that it may be varied in the sixth Business Plan (2011/12).

The policy work and enforcement programs of the electricity and gas sectors of Energy Safety's office have much in common in a regulatory strategy context. Hence there is no benefit in carrying out detailed cost estimates to ascertain the split between Energy Safety's electricity and gas related expenditures, either historically or as forecasts, to determine a formula for apportioning the levy.

Instead it is recommended to continue with the original apportionment based on the numbers respectively of electricity and gas staff.

In the first 2006/07 Business Plan the electricity/gas ratio for proportioning the levy was assessed as 67/33.

In the five years following the introduction of the levy Energy Safety's staff numbers increased from 46 FTEs to 56 FTEs, with a greater proportion working in gas. However, over the next five years it is proposed to increase the electricity focussed staff by eight FTEs. The average electricity gas ratio during the next five years has been calculated to be 67/33 – consistent with the initial five years.

On this basis it is proposed that for 2011/12 and the subsequent four years, the breakdown will remain as for the first five years, with 67% of the total levy applied to the electricity section and 33% to the gas section. At the end of this five year period the proportions may be reviewed and, if appropriate, adjusted.

The total Levy contribution received from participants in the Electrical Industry will therefore be \$4.317m.

The corresponding figure for the Gas Industry will be \$2.127m.

9.2 MODEL FOR ALLOCATION OF LEVY WITHIN EACH ENERGY SECTOR

To allocate the Levy within each industry sector, EnergySafety will continue to use the model devised for the allocation of the 2006/07 Levy after consultation with industry. The model is based on the following:

- a) Levy allocation across the gas sector to be based on the number of gas consumer sites supplied by each gas distribution system licence holder and LPG distributors supplying LPG in bulk and in portable 45kg cylinders in WA, subject to a minimum aggregate total of 500 sites⁵. The aggregate may be based on multiple networks.
- b) Levy allocation across the electricity sector to be based on the aggregate number of consumer sites served by each network operator subject to a minimum aggregate total of 500 sites. The aggregate may be based on multiple networks.

In mid 2010 the Director of Energy Safety wrote to all participants in both energy sectors requiring them to confirm, in accordance with regulation 4(5) of the *Energy Safety Regulations 2006*, the number of LPG and consumer sites connected. Responses were received from all participants.

On the basis of the information received, EnergySafety calculated the proportion of all consumers supplied by each supplier within both industry sectors. This proportion was then used to calculate the annual levy contribution payable by each participant.

A similar survey will be carried out prior to 2011/12 to determine the levy contributions for each supplier in that fiscal year.

9.3 ADMINISTRATION OF THE LEVY SCHEME

EnergySafety maintains a confidential database of industry site or operator-specific information that provides an audit trail in support of the levy calculations for each participant.

Although the total levy amount falls due for payment at the beginning of each financial year, as in the initial year 2006/07, it is proposed to invoice industry participants at quarterly intervals.

The formal assessment for the year will be communicated to individual participants concurrently with an invoice for the first payment. In accordance with section 17(3)(b) of the Act, if an instalment is not paid at or before the time due for payment of that instalment then the whole of the annual levy unpaid becomes due and payable immediately. There will be

⁵ The addition of a minimum of 500 sites for gas suppliers is a variation (since 2007/08) on the original model, based on experience gained through 2006/07.

no reductions in liability for departures from the industry during the year, or back accounts for arrivals into the industry during the year.

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APPENDIX 'A'

A brief outline of 2009/10 year outcomes for information purposes only

The following are highlights of the work during 2009/10

Operational work including compliance enforcement activities

Residual Current Devices

EnergySafety implemented the compulsory fitting of residual current devices (RCD) in a dwelling (house or unit) prior to the sale of the premises and within two years in the case of leased premises. A successful media advertising campaign was carried out to inform the public about the benefits of installing an RCD. EnergySafety continues to address responses to technical issues raised by electrical contractors, property owners and managers.

Wood Pole Audit

EnergySafety published in May 2009 an audit review of Western Power's management of its wood pole assets used for electricity distribution throughout the south west interconnected system. The Chief Electrical Inspector issued Order No. 01-2009 on Western Power in September 2009 to correct major deficiencies identified in the review. To date Western Power has complied with the terms of the Order but EnergySafety remains concerned about the condition of the old, untreated and unsupported jarrah wood distribution poles in rural areas.

Toodyay bushfire

A major bushfire occurred at Toodyay on 29 December 2009 causing significant loss of homes and other property damage. The area of origin was in the vicinity of a Western Power wood pole power line. EnergySafety investigated whether electricity had started the fire but, from the initial available evidence, was not able to reach a definitive conclusion. A report on this finding was released in February 2010. Subsequently, new witnesses were identified and investigations continued to check all the available evidence and conduct technical investigations as necessary. A second and final report was released in the 2010/11 financial year.

Bush Fire Investigations

EnergySafety carried out major investigations into significant wild fires allegedly caused by Western Power's electricity distribution system. The investigation reports will be published on EnergySafety's web page during 2010/11.

Inspections of domestic installations

Steady progress has been made to implement a scheme, developed by EnergySafety, whereby homeowners may voluntarily choose to have their electrical installations inspected for safety on a fee-for-service basis, using participating electrical contractors. A similar service for gas consumers is planned subject to approval from the Government.

Energy Acts Amendment Bill

Legislation is under preparation to replace simplistic provisions of Section 54 of the *Energy Operators (Powers) Act 1979* (dealing with the control of vegetation near powerlines) with a new regulatory regime under the *Electricity Act 1945*. The Bill will also provide for:

- The requirements for the energy efficiency and labelling of gas appliances
- The appropriate sharing of information with other energy related safety agencies in Australia and New Zealand
- Removing any inconsistencies between Acts
- Expiry dates for certificates of competency for gas fitting
- Removal of duplication between and overlap between legislation
- Updating the systems for approval of electrical appliance to match national initiatives
- Giving EnergySafety the appropriate control of sites and ability to seek information in light of the lessons learnt from review of the Toodyay Bush Fire Investigation.

LPG Cylinder Fire Evaluation

An LPG cylinder fire behaviour research and testing programme of automotive and residential cylinders was undertaken during the year. This has led to an improved understanding of the behaviour of thin walled LPG cylinders in fires. These outcomes can now be used to help validate revision of relevant standards in the future as well as provide interim guidelines for securing residential 45kg cylinders, particularly in bushfires as well as normal residential house fire situations.

Improved Safety for Gas Network Operators

A safety gap analysis on networks concerning their compliance with AS4645-2008 Gas Distribution Networks was performed leading to improved work procedures for network personnel.

Gas Appliance Rectification Programme

The strategic objective of this project is to facilitate the rectification and/or removal of pre-1980 domestic natural gas appliances to assist the Western Australian Government introducing a broader gas specification into the market, thus allowing for more competition in the supply of natural gas. A broader gas specification will have ramifications for some pre-1980 domestic natural gas appliances still operational in homes around the State. EnergySafety launched an advertising campaign to encourage owners of pre-1980 gas appliances to get a free safety check of those appliances. Appliances will be inspected and those requiring it will be serviced or replaced free of cost to the owner.

Gas Fitter Training Standards

EnergySafety recognised that compliance with national competency standards for gas fitter training complies also with the requirements to obtain a Class G gas fitting permit in Western Australia. The introduction of the CPC08 competency training package provided the opportunity to evaluate all existing gas fitting training in Western Australia. It was determined that the current training was not to a standard required by EnergySafety for applicants to be awarded a gas fitting permit. EnergySafety, in consultation with the gas fitting training providers, has subsequently developed significant improvements in such training.

Guidelines

A guideline on the 'Use of gas appliances in public venues' was prepared and published by EnergySafety to assist event organisers, venue organisers, asset managers and catering vendors to comply with the requirements for the use of gas appliances in public venues. The 'Guidelines for approval of Type B (Industrial) gas appliances in Western Australia' and the 'Code of Practice for Inspectors (Gas) in Western Australia' were extensively reviewed, amended and published.

Regulatory model for energy efficiency of gas appliances

There has been continued participation at a national level to progress improvements to the energy efficiency of gas appliances and equipment. Agreement on the regulatory model to be used has been delayed and is estimated to be completed by end 2010. It is anticipated that the proposed model will provide for each jurisdiction to regulate gas efficiency through existing legislation. Changes to the *Gas Standards Act 1972* will be required.

Improved regulatory compliance through application of a safety case

To comply with amendments to the *Gas Standards (Gas Supply and System Safety) Regulations 2000*, which came into effect on 8 January 2010, all Western Australian Gas Network operators are required to submit and have their safety cases approved by 3 August 2011. All networks will then be operated under a safety case regime which will be audited on a regular basis.

Increased demand for licensing services

Once again the Licensing Office at EnergySafety experienced a high volume of electrical and gas licence applications. The increased workload has been well managed by staff to produce timely issue of licences.

Electrical Licensing

As at 30 June 2010, there were **32,682** electrical workers, **4,151** electrical contractors and **235** in-house licence holders registered.

The Electrical Licensing Board grants licences to eligible electrical operatives and conducts competency assessments of operatives when necessary. It also recommends disciplinary action when appropriate.

Members of the Electrical Licensing Board as at 30 June 2010 were:

- Mr K McGill – Chairman
- Mr J Murie – representing the interests of electrical workers
- Mr P Beveridge – representing the interests of electrical contractors
- Mr G Grundy – representing the interests of electrical workers with restricted licences
- Mr G Bryant – representing the interests of large businesses, who are consumers of electrical services
- Mr P Mittonette – representing the interests of small businesses, who are consumers of electrical services
- Mr D Saunders – nominated by the Director of Energy Safety
- Ms L McGuigan – a residential consumer of electrical services

The Electrical Licensing Board met 22 times during the year.

Gas Licensing

As at 30 June 2010, there were **7,282** persons registered for gas fitting work.

The Gas Licensing Committee operates under delegated authority of the Director of Energy Safety and considers applications for licences for gas operatives. Routine applications are dealt with by licensing staff under delegated authority, as in the case of electrical licences.

The Gas Licensing Committee met 24 times during the year.

Prosecutions

The following tables provide summaries of prosecutions finalised during 2009-10. Prosecutions follow investigations by inspectors and review and authorisation by senior management of EnergySafety. The investigations are often initiated by inspectors of the electricity and gas distributors, as part of their consumer electrical or gas installation inspection work.

Summary of prosecution actions for breaches of electricity related legislation

Legislation	Breach	Number of offences	Penalties
<i>Electricity Act 1945</i>	EA Section 25 – Failed to ensure service apparatus was in a safe and fit condition for supplying electricity	2	\$100,000
<i>Electricity (Supply Standards & System Safety) 2001</i>	E(SS&SS)R, 10(1)- Allowing work to proceed on the cable ends in an unsafe manner	1	\$15,000
<i>Electricity (Licensing) Regulations 1991</i>	E(L)R, 19(1) – Carried out electrical work whilst not authorised by a licence or permit	18	\$22,800*
	E(L)R, 33(1) – Carried out business as an electrical contractor without a licence	8	\$5,600*
	E(L)R, 49(1) – Carried out substandard electrical work	16	\$13,600
	E(L)R, 50A – Permitted unsafe wiring or equipment to be connected to an electrical installation	4	\$1,600
	E(L)R, 50(1) – As an employed, failed to ensure effective supervision of an apprentice	2	\$3,500
	E(L)R, 51(1) – Failure to submit a Preliminary Notice to the relevant Network Operator	3	\$3,300
	E(L)R, 52(1) – Failed to submit a Notice of Completion for completed electrical work	102	27,300
	E(L)R, 52(3) – Submitted a Notice of Completion to the relevant Network Operator when the electrical installing work was not complete	9	\$13,000
	E(L)R, 63(1) – Not providing effective supervision for a third year apprentice, which resulted in receiving an electric shock and burns.	1	\$2,000
	E(L)R, 45(1) – Failed to include the EC licence number in an advertisement.	1	\$450
E(L)R, 59(1)(c) – Wrongfully representing himself as being the person referred to in an electrical licence	1	\$500	
	TOTAL	168	\$208,650

Summary of prosecution action for breaches of gas related legislation

Legislation	Breach	Number of Offences	Fines \$	Court Costs \$
<i>Gas Standards Act 1972</i>	<i>Section 13A(2)</i>	8	26,000.00*	2936.50*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 8</i>	1	*	*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 18</i>	1	3,500.00*	114.20*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 18(2)(a)(ii)</i>	1	2,500.00	671.70*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 26(1)(a)</i>	1	*	*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 28(2)</i>	1	*	*
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	<i>Regulation 32</i>	1	*	*
TOTALS		14	32,000.00	3,722.40

* Global Penalty (more than one offence)

Summary of Infringement notices issued for breaches of electricity related legislation

Legislation	Breach	Number of offences	Penalties
<i>Electricity Act 1945</i>	EA 33B(2) – sold a prescribed electrical appliance without Australian approval	3	\$9,000
	EA 33F – exposed for sale/hire electrical apparatus without an energy efficiency label	3	\$4,500
<i>Electricity (Licensing) Regulations 1991</i>	E(L)R, 19(1) – carried out electrical work without holding an electrical workers licence	1	\$500
	E(L)R, 45(1) – Failed to ensure electrical contractor's number appeared in advertisement	1	\$1,000
	E(L)R, 52(1) – failed to submit a Notice of Completion for completed electrical work	5	\$4,000
	E(L)R, 52(3) – submitted a Notice of Completion to the relevant Network Operator when the electrical installing work was not complete	29	\$40,000
	TOTAL	42	59,000

Summary of Infringement Notices issued for breaches of gas related legislation

Legislation	Section / Regulation	Number of Offences	Fines (\$)
<i>Gas Standards Act 1972</i>	13A(2)	4	8,000.00
<i>Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999</i>	18(2)(a)	30	12,200.00
	20(1)(b)	8	3,200.00
	23	1	400.00
	26(1)(a)	14	6,000.00
	28(2)	13	5,200.00
	28(3)	11	4,400.00
	34(1)	1	250.00
	34(4)	1	250.00
TOTAL		83	39,900.00

MAJOR POLICY WORK

National Regulatory Reform Projects

Significant progress has been made in developing national regimes for electrical appliance safety approvals, gas appliance safety approvals, national electrical and gas occupational licensing, and the harmonisation of energy supply technical and safety regulation. This work continues to dominate the policy area and demands major commitments from senior staff.

Standards development work

During the year, the EnergySafety Division played a significant role in the development of Australian Standards, covering subjects such as electrical installations (AS/NZS 3000 Wiring Rules), high-voltage installations including electricity substations, marina electrical installations, gas installations, industrial gas appliances and gas distribution networks.

The first major revision of AS5601 since 2004 has now been completed and is expected to be published in December 2010. EnergySafety had significant input into the revisions. This standard is the primary compliance requirement for domestic and commercial gas installations. AS 3814 industrial and commercial gas-fired appliances was reviewed, amended and released during 2009. This standard is the primary compliance requirement for large commercial and all industrial gas appliances. Work on important revisions to gas appliance standards was commenced.

Committee participation

Aside from major work on several key technical standards committees, EnergySafety continued to be involved in a number of national regulatory coordination and other technical standards bodies. The following is a summary list:

- National Regulatory Coordination Bodies
 - Electrical Regulatory Authorities Council (ERAC)
 - Gas Technical Regulators Committee (GTRC)
 - National Equipment Energy Efficiency Committee (Committee E3)
 - Ministerial Council of Energy Technical Safety Working Group
- National Standards Councils, Boards and Committees
 - Council of Standards Australia (representing the Government of WA)
 - Electrotechnology Standards Sector Board
 - AG 001 Gas Appliances
 - AG6 Gas Installations
 - AG5 Industrial Gas Appliances
 - AG8 Gas Distribution
 - 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.

SAFETY STATISTICS: SERIOUS ACCIDENTS AND FATALITIES

The following were reported to the Energy Safety Division during the year:

Electricity related incidents and fatalities

Electric shocks:	1170
Serious electricity related accidents	18
Fatalities (included in serious electrical accidents):	2

Serious electricity related accidents notified per million population*

Year	The number of electricity caused serious injuries per million population	Five Year Average
1997-98	14	20
1998-99	22	20
1999-00	16	17
2000-01	11	15
2001-02	12	15
2002-03	18	16
2003-04	15	14
2004-05	22	16
2005-06	15	16
2006-07	9	16
2007-08	10	14
2008-09	8	13
2009-10	8	10

Note: In the above table, some of the numbers of serious electricity related accidents notified per million population differ from the figures given in previous reports on activities. These corrections resulted from a comprehensive review of statistics of serious electricity related accidents notified.

* Fatalities plus Electrical shock incidents resulting in the person requiring treatment at a medical facility.

The serious electricity related accidents included two fatalities in which electricity was found to be the cause:

- A child crawled through a void in the wall between the carport and the kitchen when contact was made with an earthed metallic exposed wall frame and a damaged flexible cord; and
- The deceased was assessing a switchboard at a building demolition site when contact was made with the live conductors and the earthed metal enclosure.

Gas related incidents and fatalities

The following were reported to Energy Safety during the year:

Incidents:	85
Serious gas related accidents (persons injured)	15
Fatalities	1

Serious gas related accidents notified per million population (including fatalities)

Year	The number of gas caused injuries per million population	Five Year Average
1997-98	5	5
1998-99	5	4
1999-00	3	5
2000-01	7	5
2001-02	7	6
2002-03	10	7
2003-04	7	8
2004-05	7	8
2005-06	8	8
2006-07	9	8
2007-08	8	8
2008-09	8	7
2009-10	7	8

The gas fatality was the result of a flashover occurring during the process of changing a gas bottle to a barbeque. The flashover caused serious burns to the person that required hospitalisation. A serious infection resulted and the person subsequently passed away.

Financial Outcome

The surplus available for "carry forward" at the end of 2009/10 exceeded expectation.

It had been forecast that \$6.420m would need to be carried forward into 2010/11 as part of the levy equalisation scheme. However, the amount carried forward was \$8.740m, principally due to increased licensing revenues, the delay in implementing the new Compliance Management System and reduced expenditure due to staff vacancies and recruitment delays in the 2009/10 year.