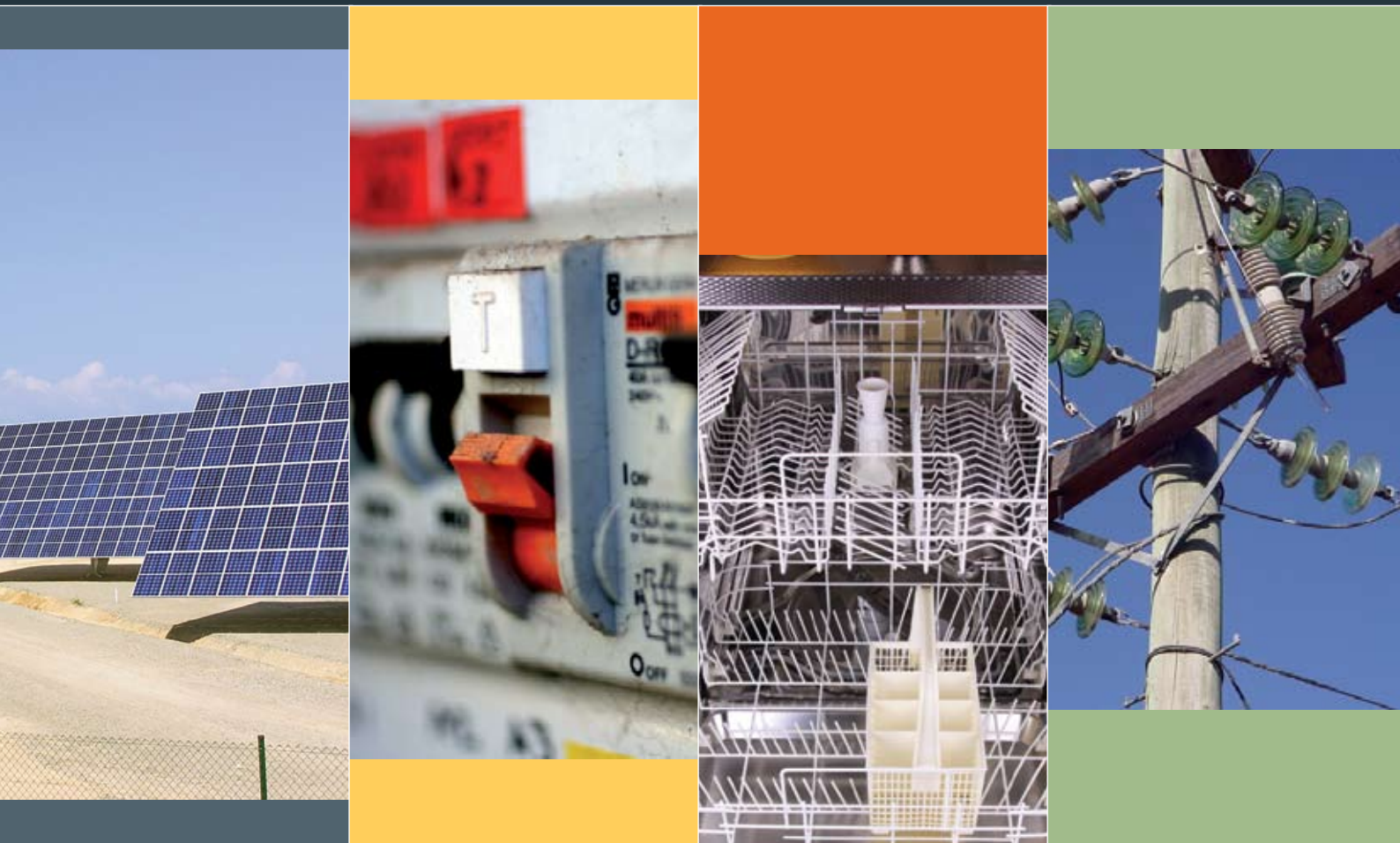


Electrical Safety Plan for Queensland 2009–2014



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Electrical Safety Board members



Mr Jack Camp
Commissioner for Electrical
Safety and Chair of the Board



Mr Peter Henneken
Director-General
Department of Employment
and Industrial Relations



Mr Malcolm Richards
Nominated by the Electrical
and Communications
Association
Representing employers



Mr Bruce Lancaster
Nominated by the Australian
Industry Group
Representing employers



Mr Richard Williams
Nominated by the Electrical
Trades Union
Representing workers



Ms Michelle Burgoyne
Nominated by the Electrical
Trades Union
Representing workers



Ms Cherie Dalley
Nominated by the Queensland
Register of Nominees
Representing the community



Ms Peta Frampton
Nominated by the
Queensland Consumers'
Association
Representing the community

Message from the Minister



Electrical safety is of paramount importance for all Queenslanders, whether in our workplaces, public areas, or at home.

A lot of hard work has gone into improving electrical safety in Queensland since the introduction in October 2002 of Queensland's first

stand-alone electrical safety legislation, the *Electrical Safety Act 2002* and *Electrical Safety Regulation 2002*.

This legislation, which also established the Electrical Safety Board and its committees, is directed at eliminating the human cost to individuals, families and the community of death, injury and destruction that can be caused by electricity.

The inaugural Electrical Safety Board developed the first Electrical Safety Plan for Queensland (2003–2008) which has informed strategies for reducing electrical incidents over the past five years, and I commend the Board on its commitment to driving changes during that period which continue to reduce the risk of incidents and injury from electricity.

Implementation of the strategies contained in this plan has seen improvement in electrical safety in Queensland on a number of fronts. Examples include more effective electrical licensing and related disciplinary options; more focused and transparent compliance and enforcement initiatives; strengthened electrical equipment approvals; extensive community engagement and education programs;

and the increasing integration of safety switches into Queensland homes and workplaces.

Laws and plans alone do not save lives. The welcome support from industry, unions, employers and the community have made Queenslanders far more aware of the dangers of working and living around electricity. However, there is more to be done, as too many Queenslanders are still being killed and injured from contact with electricity.

This work continues with the release of the *Electrical Safety Plan for Queensland 2009–2014*, developed by the Electrical Safety Board in consultation with industry and employers. This plan builds on achievements to date with the commendable goal of 'the elimination of all preventable electrical deaths'. To work towards attaining this goal, the plan identifies 'powerlines', 'electrical installations' and 'electrical equipment' as the future priority areas and establishes strategies under each of these.

Over the coming years, electrical entities, industry, unions, employers and householders will have the opportunity to work towards the plan's objectives and to contribute to making tomorrow's Queensland a safer place for all.

I thank everyone involved in improving electrical safety for their efforts so far and commend to you the *Electrical Safety Plan for Queensland 2009–2014*.

Hon. John Mickel MP

Minister for Transport, Trade,
Employment and Industrial Relations

November 2008

Message from the Director-General



The Department of Employment and Industrial Relations through the Electrical Safety Office (ESO) plays an important role in improving electrical safety in both workplaces and homes.

As Queensland's electrical safety regulator, the ESO undertakes a range of activities to support electrical safety, with the key objective to reduce the rate of electrical fatalities in Queensland.

The functions of the ESO range from the provision of advice to the Minister and statutory bodies including the Electrical Safety Board and its three committees; to the development of legislation and standards; and the management of the registration, licensing and approval regimes established under the Act. The ESO also develops and implements education and awareness activities to assist industry and the community and undertakes compliance and enforcement activities through a State-wide inspectorate.

The Department is committed to working closely with the Electrical Safety Board to achieve its goal of eliminating all preventable electrical deaths in Queensland.

Over the past five years there has been a high level of cooperation, not only between the Department and the Board, but also with employers, unions and other stakeholders. This collective effort towards improving electrical safety has been pivotal in making significant progress and it is this approach that is also reflected in the Electrical Safety Plan for Queensland 2009-2014.

Together we have identified three priority areas needing attention, and developed strategies to address these.

Powerlines — especially where people either work too close to them or accidentally come into contact with them.

Electrical installations — concerned mainly with fixed wiring and electrical accessories in workplaces and homes, electrical and non-electrical work practices and unlicensed electrical work. Additionally, options for expanding the coverage of safety switches will be explored to improve the safety of electrical installations.

Electrical equipment — in particular electrical appliances, flexible cords, cord extension sets and other electrical equipment not associated with an electrical installation or powerlines. Another key focus is the design stage of electrical equipment, in an effort to influence safety improvements.

This new plan is significant in establishing the future electrical safety strategic direction by setting out positive strategies and objectives aimed at improving electrical safety in Queensland workplaces and in Queensland homes over the next five years.

With the assistance and commitment of the ESO and all stakeholders, the strategies identified will have a positive effect on the lives of workers, their families and the community.

We will regularly revisit this document, to ensure our efforts remain focused on keeping tomorrow's Queensland electrically safe.

Peter Henneken

Director-General

November 2008

Message from the Commissioner for Electrical Safety



As Commissioner for Electrical Safety, I advise the Minister on electrical safety matters generally and on any proposed codes of practice to manage electrical risks.

My other functions include chairing and managing the activities of the Electrical Safety Board and its three committees, which are specifically concerned with licensing and disciplinary matters, electrical safety promotion and safety standards for electrical equipment.

The first strategic plan, the *Electrical Safety Plan for Queensland 2003–2008*, was developed by the inaugural Board in late 2003. Over the life of the first plan, we have seen many improvements in electrical safety, both in the increased awareness in electrical safety over the period and also in the range of programs and initiatives implemented to help combat electrical incidents. I believe some of the key achievements over the past five years have been:

- Electrical workers have a better understanding of their obligations.
- Electrical safety in homes and workplaces has been greatly improved through the progressive introduction of safety switches.
- A community engagement function has been established that seeks to communicate electrical safety messages to industry and the public more effectively.
- Compliance programs have been improved through evidence-based methodologies.
- Enforcement policies provide a better balance between pro-active and reactive interventions.
- Licensing policies and procedures are more effective and consistent, and the range of disciplinary actions available to the Electrical Licensing Committee has been improved.

- Queensland's influential role at the national level has also improved, with the appointment in 2005 of Queensland as the Co-coordinating Chair (and Secretariat) for the Electrical Regulatory Authorities Council.
- A new *Code of Practice Electrical Equipment—Rural Industry* was developed, to give practical advice on how to manage electrical risk in rural industry work.
- Electrical fatalities in Queensland continue to occur at below the national five year moving average.

In developing the new *Electrical Safety Plan for Queensland 2009–2014*, the Board aimed to ensure it could be easily understood, would help create a greater awareness of electrical safety issues, and encourage compliance with the legislation. I believe we have achieved this.

The plan states that the Board's vision is the 'elimination of the human costs to individuals, families and the community of deaths, injury and destruction that can be caused by electricity'. The five year goal is 'the elimination of all preventable electrical deaths'.

These are no easy tasks and were not established lightly. In order to achieve this we need to continue to reduce electrical fatalities over the life of the plan and also work towards achieving a sustained reduction in serious electrical incidents.

The Board looks forward to working with all key stakeholders to bring about these positive outcomes and work on changing the culture in workplaces and homes to ensure the dangers of electricity are clearly understood and that the provisions of the electrical safety legislation and codes of practice are known and practiced for the benefit of all Queenslanders.

I am pleased with our progress to date and look forward to continuing this important and potentially life-saving work with you in the future.

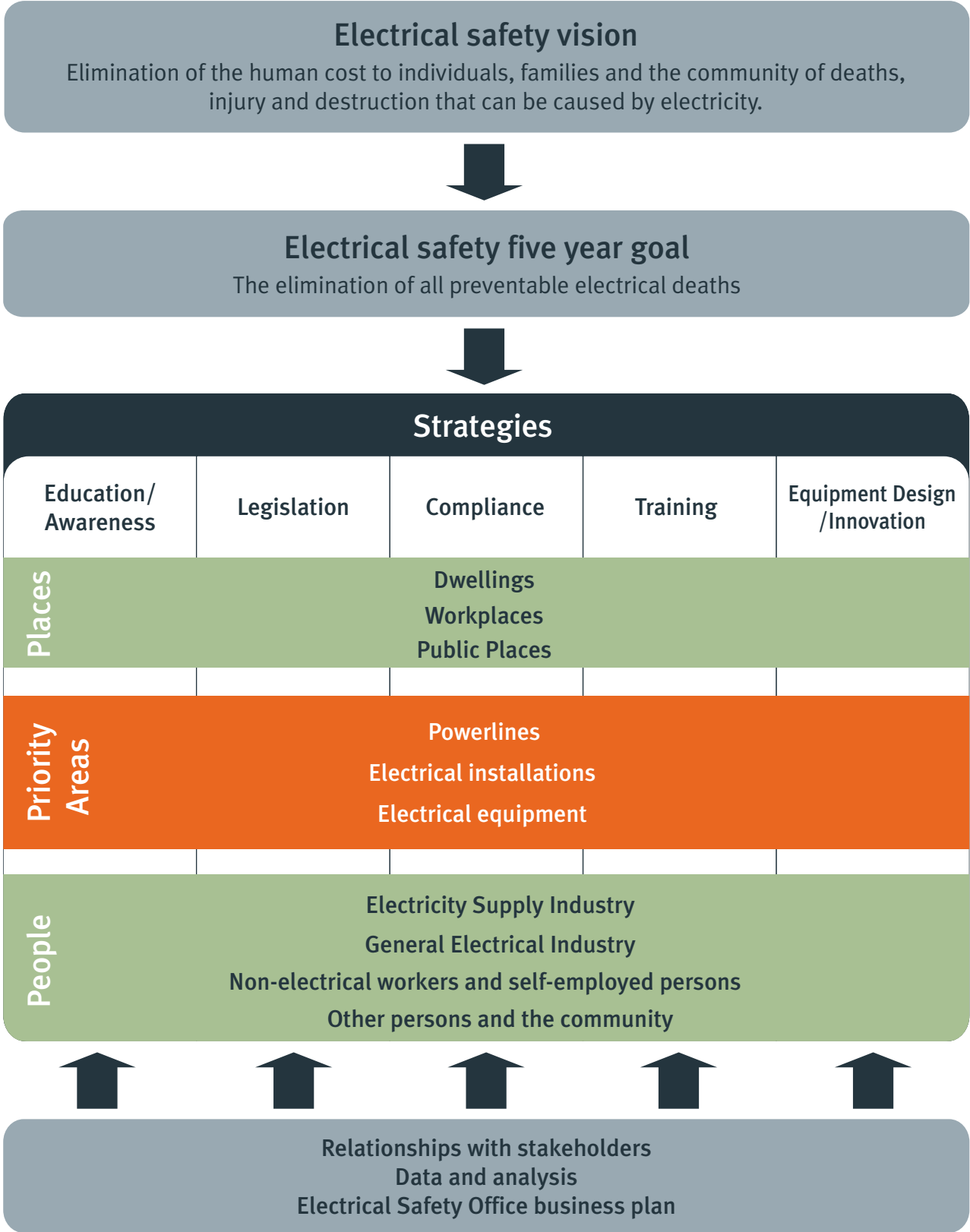
It gives me great pleasure to commend the *Electrical Safety Plan for Queensland 2009–2014* to you.

Jack Camp

Commissioner for Electrical Safety

November 2008

Summary of the Plan



Introduction

Recommendations from independent reviews into Queensland's electrical safety regime during 2001 were the main catalyst for change in electrical safety in Queensland and the driving force behind the development of the new *Electrical Safety Act 2002* (the Act) and *Electrical Safety Regulation 2002* (the Regulation).

The new stand-alone electrical safety legislation fundamentally changed Queensland's approach to electrical safety; establishing a Commissioner for Electrical Safety, an Electrical Safety Board and three Board committees to advise the Minister on electrical safety issues. Additionally, an independent State-wide electrical safety inspectorate was established to administer and enforce the new legislative requirements.

One of the responsibilities of the Electrical Safety Board is the development of a five year strategic plan for improving electrical safety in Queensland. The intent of the plan is to identify priority areas for improvement in electrical safety, and strategies to reduce electrical incidents and subsequent fatalities, serious injury and property damage in these priority areas.

The first such strategic plan, the *Electrical Safety Plan for Queensland 2003–2008*, was launched in late 2003. Implementation of strategies contained in the inaugural plan has seen an overall improvement in Queensland's electrical safety performance. Over the life of the first plan, the five year moving average rate of electrical fatalities has decreased from 1.97 electrical fatalities per million population as at June 2003 to 1.19 as at June 2008.

The *Electrical Safety Plan for Queensland 2009–2014* (the Plan), has been developed to build on the achievements of the past five years and to further improve electrical safety for tomorrow's Queensland. The Plan's goal over the next five years is the elimination of all preventable electrical deaths. The Plan uses an evidence-based approach to specifically target areas where past electrical fatalities have occurred and also increasingly focus on areas of concern related to serious electrical incident reports and possible emerging issues. This approach aims to reduce electrical fatalities by reducing serious electrical incidents, which are often precursors to fatalities.

Factors underpinning the Plan

Role of the Electrical Safety Board

The primary function of the Electrical Safety Board is to give advice and make recommendations to the Minister about policies, strategies and legislative arrangements for electrical safety in Queensland.

The Board's role includes:

- developing a five year strategic plan for improving electrical safety in Queensland;
- periodically evaluating and annually updating the five year strategic plan;
- advising the Minister about state, national and international electrical safety issues;
- considering and making recommendations on issues the Minister refers to it;
- reviewing the appropriateness of provisions of the Act, including any regulations, ministerial notices and codes of practice made under the Act;
- establishing working parties as appropriate and setting their procedures;
- ensuring industry has been adequately consulted on proposed codes of practice;
- promoting electrical safety in workplaces and the broader community; and
- giving advice and making recommendations to the regulator under the *Electricity Act 1994* about the energy efficiency and performance of electrical equipment.

Role of the Electrical Safety Office

The Electrical Safety Office is located within the Department of Employment and Industrial Relations. The Electrical Safety Office is responsible for the day-to-day implementation of strategies to improve electrical safety in Queensland.

The role of the Electrical Safety Office includes:

- development of the legislative framework, subordinate legislation and standards for electrical safety;
- strategic policy advice to the Minister on electrical safety matters;
- advice to statutory bodies including the Electrical Safety Board, the Electrical Safety Education Committee, the Electrical Licensing Committee and the Electrical Equipment Committee;
- inspection (including audits, incident investigations and some fire investigations), advisory and enforcement activities to promote compliance with electrical safety laws and standards;
- information, education and training activities to assist industry employees and the community reduce the risk of death and injury from electrocution, fire and explosion and improve electrical safety; and
- management of registration, licensing, approval (electrical equipment) and accreditation regimes required under the Act.

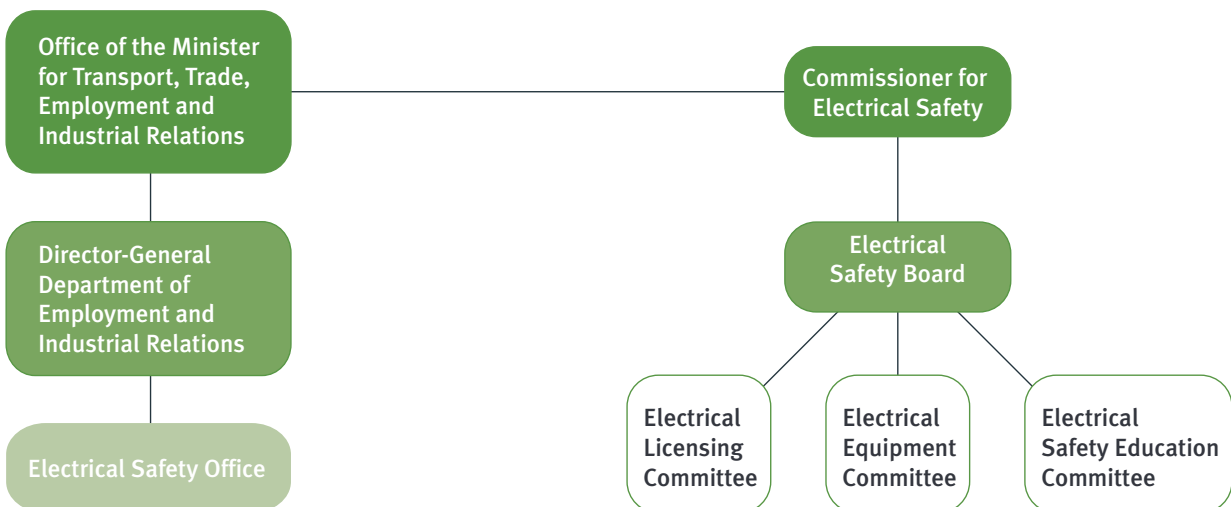
Electrical Safety Office business plan

There is no direct accountability relationship between the Electrical Safety Board and the Electrical Safety Office, but the priorities of the Electrical Safety Office are driven by the five year Electrical Safety Plan for Queensland developed by the Board.

This plan outlines the high level strategies, goals and targets to support improvements in electrical safety in Queensland over a five year period. It is supported by the business plan of the Electrical Safety Office, which describes the annual activities and milestones to be undertaken. The Electrical Safety Office's business plan will prioritise the implementation of five year strategies, taking into account available resources.

Further, the Electrical Safety Office supports the Board's strategy development and decision-making through the provision of data, information and analysis.

Relationship between the Electrical Safety Board and Electrical Safety Office



Relationships with stakeholders

The vision and goals of the Plan can only be achieved in cooperation with a wide range of stakeholders, including the electricity entities, industry associations, unions, community and consumer groups, and other government agencies. A key factor underpinning the implementation of the Plan is therefore the development and maintenance of relationships with these stakeholders.

- This will be achieved through a range of means, including:
- consulting with key stakeholders when developing significant policy or legislative initiatives
- maximising interaction with key stakeholders and better use their networks to promote electrical safety compliance
- working closely with stakeholders in implementing many of the strategies contained in the Plan
- holding forums with stakeholders to discuss issues relating to electrical safety

Data and analysis

The Electrical Safety Office compiles statistical reports on a range of issues relating to electrical safety, electrical incidents and electrical fatalities.

Information and data on electrical fatalities, serious electrical incidents and dangerous electrical events are recorded by the Electrical Safety Office. This, together with records of compliance and enforcement information including audit activities, electrical licence details, disciplinary actions and notices issued, forms part of the primary data source for subsequent analysis.

The Electrical Safety Office also accesses information from a variety of other sources including internal information such as worker's compensation claims and injury/occurrence data; external information including electricity entity reports and incident data; Queensland Injury Surveillance Unit data; and other statistical data including demographics.

In addition, emerging trends and issues that may introduce areas of electrical risk (not already evident through electrical incident data) are identified and assessed to supplement electrical incident information.

These records provide the core data and information for analysis and form the evidence base for a range of electrical safety service delivery strategies, ranging from education and training to compliance and enforcement activities.

The development of the Plan has identified a number of areas where more comprehensive data and information would assist in further improving strategic planning, informed decision making and effective allocation of available resources.

These areas include:

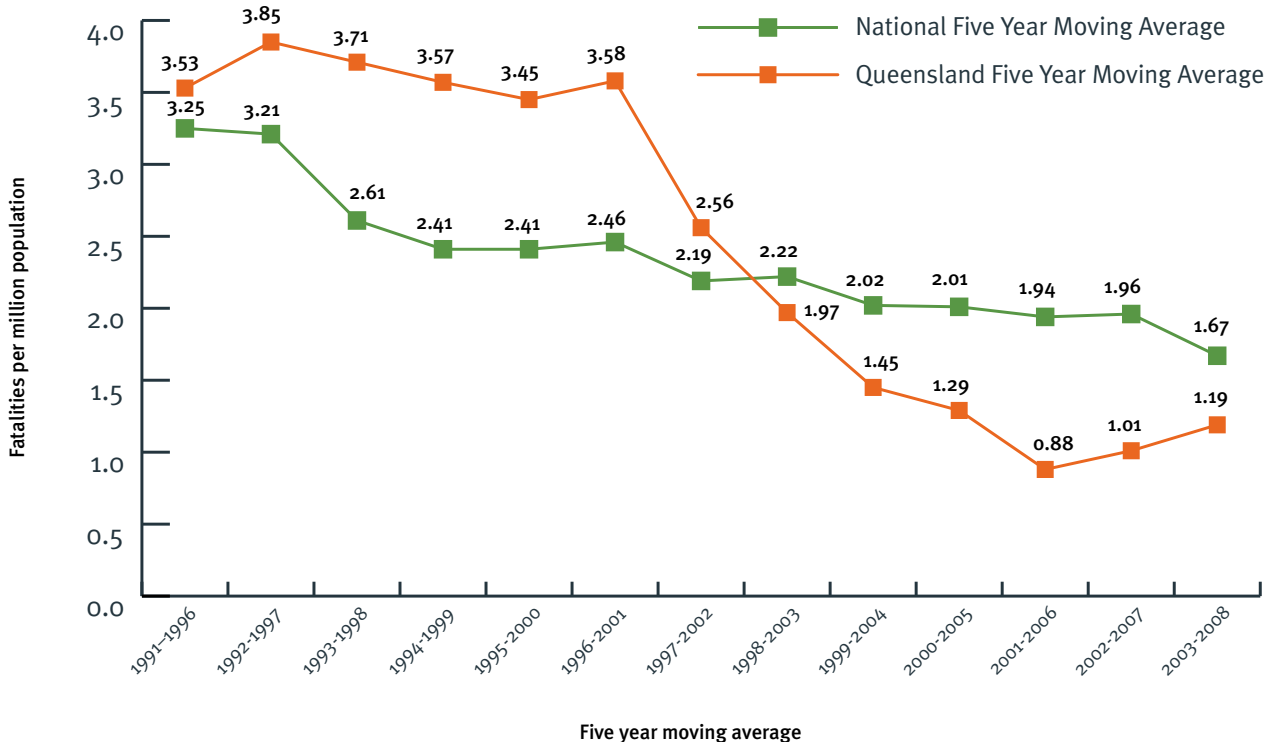
- improved supplementary information surrounding electrical fatalities to enable the development of incident profile data over time
- industry-specific data on electrical incidents and fatalities to enable targeting of education, audits and intervention strategies
- improved data on hospitalisations resulting from electrical incidents as a possible baseline data for future comparison
- more reliable statistics regarding fatalities, injuries or significant property damage resulting from fires caused by electrical faults
- other data and supporting information from industry stakeholders to help gauge industry attitudes towards electrical safety

Where are we now?

Since 2002, electrical safety legislation has been amended progressively to reflect emerging areas of electrical safety risk and to take into account technological advances in equipment and processes. Enhancement and strengthening of the investigation and enforcement protocols and capability have also been undertaken.

The key measure used to evaluate Queensland's electrical safety performance is electrical fatality data. Fatalities are expressed in 'per million population', to incorporate population growth, improve accuracy, allow for easier comparison with other jurisdictions, and account for fluctuations in annual results. This measure is presented as the 'five year moving average'. The results for Queensland and the national figures using this measure are shown below.

Queensland and National comparison of electrical fatalities per million population and five year moving average.



Queensland's five year moving average of electrical fatalities per million population has declined from 3.58 deaths for the five years to 30 June 2001, to 1.19 as at 30 June 2008.

The challenge ahead

Although Queensland's five year moving average of electrical fatalities has been below the national average for the past six years, there is no room for complacency. The slight upward trend of recent years needs to be addressed and strategies put in place to align with the five year goal of this Plan—to eliminate all preventable electrical fatalities in Queensland.

Analysis of risk is an integral part of strategic management and is an essential ingredient for achieving the outcomes of the Plan and, in turn, the business plan of the Electrical Safety Office. Rather than being viewed or practised as a separate program, risk analysis has been integrated into the philosophy, planning and preparation of this Plan.

The Plan's new priority areas and strategies were developed using an evidence-based approach. One of the main inputs was from an analysis of information surrounding electrical fatalities between 1998–99 and 2007–08. As part of the analysis, the type of equipment involved in the majority of electrical fatalities over that time was identified. The top three of these included:

- Fixed wiring 31% (18 fatalities)
- Powerlines (overhead) 29% (17 fatalities)
- Portable appliances 25% (14 fatalities)

These top three categories represent 85 per cent of the total electrical fatalities in Queensland over the past 10 years. In addition to electrical fatality data, serious electrical incident data was analysed as this can also be indicative of potential causes for electrical fatalities. Results showed that the three categories identified above, were also well represented in this data set.

In formulating the new priority areas, data from both these sources and other workplace incident and claims data were considered, together with fatality data from other Australian jurisdictions and New Zealand. Additionally, other potential sources of electrical risk relating to emerging trends and issues were also identified and assessed to supplement the existing electrical incident information.

As a result of this analysis three priority areas were identified which, while including the above three categories, also reflect wider electrical safety risk areas.

Priorities

The new electrical safety priority areas for the Plan are:

Powerlines — This relates to preventing contact with overhead or underground powerlines, whether as a result of working close to them, coming into contact with them accidentally while undertaking other activities, or contacting fallen powerlines. A key focus of this priority area will be the rural industry sector.

Electrical installations — This relates to reducing electrical incidents associated mainly with fixed wiring and related electrical accessories in workplaces and dwellings. Issues which will be a focus of this priority include the work practices of the general electrical industry, other industries which can affect the integrity of an electrical installation, unlicensed electrical work and examining options for improving the coverage of safety switches.

Electrical equipment — This relates to reducing electrical incidents associated mainly with portable and stationary electrical appliances, flexible cords and cord extension sets. Issues which will be a focus of this priority area include maintenance of electrical equipment and unlicensed electrical work. In addition this priority seeks to increase the proactive work towards influencing electrical safety improvements in the design stage of electrical equipment. This includes the above mentioned appliances and cords as well as electrical equipment associated with electrical installations.

Strategies

Under each of the three new priority areas, strategies have been developed to address identified issues by looking at the people, places and products most likely to contribute to, or be most affected by, an electrical incident.

These strategies have been grouped under the following common headings.

- education/awareness
- legislation
- compliance
- training
- equipment design/innovation

The strategies target people, places and products in each priority area and have been specifically chosen as many of these were identified as contributory or influential factors. This targeting is expected to make the greatest impact in reducing the overall number of electrical incidents. However, the people, places and products identified in each priority area are not exclusive and others may also be addressed as and when identified.

Performance measures

To ensure data and reporting integrity, the key performance measure used to evaluate Queensland's electrical safety performance is based on electrical fatality data reported to the Electrical Safety Office. Electrical fatality data also provides a reliable measure for comparative analysis of Queensland's performance against other jurisdictions. Additionally, this measure supports the Plan's five year goal of eliminating all preventable electrical deaths.

Key indicator	Target for 2014
Five year moving average of electrical fatalities per million population	Queensland electrical fatality rate to be below the national average

Fatality figures are however not the only measure of Queensland's electrical safety performance. Equally important is other trend data including serious electrical incidents and dangerous electrical events, both of which are reportable to the Electrical Safety Office and provide additional information to support evidence-based interventions. This data is not used as a key measure of performance as neither the Board nor the Electrical Safety Office can ensure the incidence or accuracy of reporting of such incidents. However, for the purposes of the following table it is assumed that there is a constant rate of reporting of these incidents and occurrences over time.

Trends drawn from this data provide a lower-level indicator of electrical safety performance and identify potential areas for future electrical safety interventions.

Trend indicators	Target for 2014
Number of serious electrical incidents/dangerous electrical events attributable to contact with powerlines	Reduction over the life of the plan
Number of serious electrical incidents/dangerous electrical events associated with electrical installations	Reduction over the life of the plan
Number of serious electrical incidents/dangerous electrical events associated with electrical equipment	Reduction over the life of the plan

Electrical safety priorities—Powerlines

Priority	Powerlines
Priority goal	Reduction in serious electrical incidents, injuries and property damage related to contact with powerlines and associated equipment.
Scope	
• People:	All persons associated with contact or potential contact with powerlines, including: <ul style="list-style-type: none">• electricity supply industry workers including electrical and non-electrical workers engaged to perform work by electricity entities;• non-electrical workers performing intentional work in the vicinity of powerlines;• persons performing non-work related activities in the vicinity of powerlines;• owners and persons in control of powerlines and associated equipment; and• members of the public.
• Places:	All places where powerlines and associated equipment are located, including: <ul style="list-style-type: none">• workplaces;• dwellings;• rural properties;• private property; and• public places.
• Products:	All overhead and underground powerlines and service lines, including those which form part of a consumer electrical installation. Additionally all associated equipment used for the transmission or distribution of electrical energy, including: <ul style="list-style-type: none">• supports, insulators and apparatus;• pole mounted equipment like voltage regulators, fixed capacitors and inductors, air breaks and reclosers; and• underground wiring enclosures.



Evidence base

Contact with overhead powerlines is associated with a significant number of electrical incidents overall; representing 29 per cent of all electrical fatalities over the past 10 years. Many of the fatalities involved people in a variety of settings.

Incidents resulting from contact with powerlines can be grouped into four main areas:

- intentional work on or around powerlines (e.g. electricity supply industry workers, vegetation management workers, agricultural workers, construction workers, landscapers, fencers, pool builders);
- non work-related activities around powerlines (e.g. home owners trimming trees, painting gutters);
- physical failure of the asset (e.g. powerlines coming down in storms); and
- defective powerlines creating electrical safety risks in electrical installations.

There have been 17 fatalities involving powerlines over the past 10 years. Ten of these involved unsafe work practices of non-electrical workers, four involved contact with fallen powerlines and three involved unsafe electrical work practices. Electrical fatalities involving contact with underground powerlines have also been an issue in recent years, and as such this has now been included in the powerlines priority area.

The electrical safety risk associated with powerlines is significant as Queensland has over 200,000 km of overhead and underground conductors and around 65,000 km of Single Wire Earth Return (SWER) conductors. Queensland's SWER network is the largest in Australia and one of the largest in the world. SWER operates at 11kv, 12.7kv and 19.1kv extending from coastal areas to remote inland rural areas and supplies approximately 26,000 customers.

Key stakeholders

- Workplace Health and Safety Queensland (including the Board and industry sector standing committees)
- Electricity entities (e.g. Ergon Energy, ENERGEX)
- Industry associations (e.g. agricultural, construction, crane)
- Professional associations (e.g. engineers)
- Unions
- Local Government
- Training industry
- Universities, research organisations and design organisations
- Developers
- Equipment designers, manufacturers, importers and suppliers

Electrical safety priorities—Powerlines

Strategy

Education/Awareness The need for increased awareness of safety issues and requirements (including exclusion zones) in respect of powerlines to both industry and the general public is ongoing, particularly in high risk areas.

This will be addressed by the continuing development of initiatives and information materials in association with industry stakeholders targeting high risk industry sectors and related behaviours. High risk industry sectors to be considered include:

- Rural/Agriculture
- Construction
- Transport
- Electrical industry

Interventions such as awareness activities or media campaigns will be improved by working more closely with key stakeholders and exploring options for more innovative and effective ways to reach target audiences.

Community engagement activities will also be enhanced to provide topical and timely information to a wider range of stakeholders. The use of ‘real life’ case studies will be explored to help promote and reinforce safety messages.

Similarly, public information initiatives targeting domestic activities and the general public will be further developed and coordinated with electricity entities.

Legislation

Specific legislation deals with requirements and prohibitions in the area of powerlines and includes provisions within the Act as well as the Regulation and code of practice references.

A comprehensive review of the adequacy and content of all such existing legislation and supporting materials to include evaluation of capacity for their enforcement will be undertaken in consultation with industry and stakeholders. The review will also look at ‘best practice’ nationally and consider the impacts of technological innovation on the regulatory framework for powerlines.

As part of the continuing development of a nationally consistent legislative regime impacting powerlines, contribution to the development of Energy Networks Australia standards will be maintained.

Monitor any national or Council of Australian Governments’ policy developments likely to have an impact on power line safety and address any issues as required to ensure safety standards are retained (e.g. in relation to electrical licensing or exclusion zones).



Compliance	<p>Maintenance of targeted proactive audit programs in cooperation with Workplace Health and Safety Queensland will continue, utilising an evidence-based approach from a range of inputs to determine target auditing activities. This evidence-based approach for determining auditing activities will evaluate inputs including:</p> <ul style="list-style-type: none">• Research of serious electrical incidents and dangerous electrical events• Assessment of the electricity entity quarterly reports• Emerging trends and issues• Community expectations <p>Compliance activities will also include analysis of audit results to identify specific areas of non-compliance for further response. Increased compliance and enforcement action in relation to powerlines is likely to concentrate on high risk industry sectors to get the electrical safety message through to these stakeholders. Activities will also focus on maintaining compliance with the electrical licensing regime.</p> <p>A strategy of comprehensive investigation of Type 1 incidents (fatalities, grievous bodily harm) and target events will support the compliance effort. The enforcement framework will continue to inform the response to such incidents and will be reviewed based on the outcomes of both the target audit and investigation strategies.</p>
Training	<p>The continuing development and promotion of electrical safety training for industry (including electrical and non-electrical - e.g. rural/agriculture) will be encouraged through involvement with electricity entities, industry associations and training organisations.</p> <p>The skills maintenance regime for electrical licence holders will also be enhanced to ensure skills and knowledge remains current in the areas of electrical safety legislation, risk management and testing. As a strategic response to industry skills shortages, this will also ensure ongoing and improving access to training for electrical supply industry workers.</p>
Equipment Design / Innovation	<p>The active monitoring and facilitation of research outcomes and innovations with the potential to improve the safety of powerlines, for both workers who interact with them and the general public will continue to be resourced. Also investigate/research any electrical safety implications of other industry technological developments and address these as appropriate.</p> <p>Seek to work with a range of stakeholders to encourage the identification and establishment of improved research capabilities in relation to electrical safety of powerlines.</p> <p>Utilise electrical incident data strategically and maintain contribution to the development of Energy Networks Australia standards to influence better safety performance in relation to powerlines.</p> <p>Continue to encourage the development, adaptation and evaluation of innovations or engineering controls and explore their application in the Queensland environment. Such innovations or engineering controls include:</p> <ul style="list-style-type: none">• warning devices• barrier systems• equipment design improvements• fail-safe systems

Electrical safety priorities — Electrical installations

Priority	Electrical installations
Priority goal	Reduction in serious electrical incidents, injuries and property damage related to electrical installations and associated equipment.
Scope	
• People:	All persons associated with electrical installations and related equipment, including: <ul style="list-style-type: none">• general electrical industry workers including persons assisting electrical workers in performing electrical work;• non-electrical workers who affect the electrical safety of an electrical installation;• persons performing unlicensed electrical work or electrical work outside the scope of an electrical work licence;• persons directly affected by the performance of electrical work;• owners and persons in control of electrical installations; and• members of the public.
• Places:	All places where electrical installations are located including: <ul style="list-style-type: none">• workplaces;• dwellings; and• public places.
• Products:	All fixed wiring, electrical equipment and electrical accessories associated with an electrical installation including: <ul style="list-style-type: none">• all wiring in which cables are fixed or supported in position;• all permanent electrical wiring of a building or structure;• all associated socket outlets, switchboards, hot waters systems, lamp holders, fittings, adaptors, ceiling roses;• all electrical equipment permanently electrically connected to an electrical installation (e.g. an oven or solar photovoltaic array installation); and• flexible cables exceeding the definition of a flexible cord.



Evidence base

Fixed wiring has been associated with the highest number of electrical fatalities in the past 10 years. This category represented 31 per cent or 18 fatalities during this time.

The major contributing factor associated with fixed wiring was unsafe electrical work practice, representing 39 per cent or seven fatalities (e.g. unsafe live work practices, failing to test).

The second highest contributing factor involved the work practice of non-electrical workers at 28 per cent or five fatalities (e.g. a worker replacing house stumps and placing a chain around a house bearer and adjoining electrical wiring).

Electrical fatalities involving electrical accessories have been an issue in recent years, and as such, this as well as fixed wiring has been included in the new electrical installations priority area.

It was identified that 72 per cent of the fatalities in this area could have been prevented had a safety switch been installed.

It is likely that in the future through the increased coverage of safety switches and the continuation of electrical safety awareness programs, the percentage of serious electrical incidents involving electrical installations is likely to decline over time.

Key stakeholders

- Workplace Health and Safety Queensland (including the Board and industry sector standing committees)
- Industry associations (e.g. electrical industry)
- Unions
- Professional associations (e.g. engineers)
- Community associations
- Local Government
- Training industry
- Equipment designers, manufacturers, importers and suppliers
- Building Services Authority
- WorkCover Queensland
- Insurers
- Emergency services
- Universities, research organisations and design organisations

Electrical safety priorities — Electrical installations

Strategy

Education/Awareness The number of incidents in recent years associated with electrical installations in workplaces and homes demonstrates the need for increased awareness of safety issues and requirements in respect of electrical installations for both industry and the general public.

This will be addressed by the continuing development of initiatives and information materials in association with industry stakeholders including electricity entities to raise awareness of electrical safety issues in workplaces and homes, and focus on improving attitudes towards electrical safety in some industry sectors.

Key initiatives in relation to electrical installations to be considered include:

- Improving community knowledge and understanding of electrical safety (e.g. the dangers of unlicensed electrical work) and continuing to promote the use of safety switches
- Targeting high risk industry sectors, especially in relation to live work practices and unlicensed electrical work (e.g. the electrical industry and industries associated with electrical work)
- Targeting peer groups and families to minimise injuries to workers in high risk industries
- Increasing the focus of education and safety awareness on workplaces, including small business

Interventions such as awareness activities or media campaigns will be improved by working more closely with key stakeholders and exploring options for more innovative and effective ways to reach target audiences.

Community engagement activities will also be enhanced to provide topical and timely information to a wider range of stakeholders. The use of ‘real life’ case studies will be explored to help promote and reinforce safety messages.

Similarly, public information initiatives targeting domestic activities and the general public will be further developed and coordinated with electricity entities and other key stakeholders where appropriate.

Legislation Electrical safety legislation outlines requirements and prohibitions in the area of electrical installations and includes provisions within the Act as well as the Regulation and code of practice references.

A comprehensive review of the adequacy and content of all such existing legislation and supporting materials to include evaluation of capacity for their enforcement will be undertaken in consultation with industry and stakeholders. The review will also look at ‘best practice’ nationally and consider the impacts of technological innovation on the regulatory framework for electrical installations. Additionally, examine options for improving the coverage of safety switches.

As electrical safety legislation defers to standards such as *AS/NZS 3000* for certain technical specifications and requirements, contribution to Australian Standards committees for the development of standards such as the *AS/NZS 3000* will be maintained.

Monitor any national or Council of Australian Governments’ policy developments likely to have an impact on electrical installations and address any issues as required to ensure safety standards are retained (e.g. in relation to electrical licensing).



Compliance	<p>Maintenance of targeted proactive audit programs in cooperation with Workplace Health and Safety Queensland will continue, utilising an evidence-based approach from a range of inputs to determine target auditing activities. This evidence-based approach for determining auditing activities will evaluate inputs including:</p> <ul style="list-style-type: none">• Research of serious electrical incidents and dangerous electrical events• Assessment of the electricity entity quarterly reports• Emerging trends and issues• Community expectations <p>Compliance activities will also include analysis of audit results to identify specific areas of non-compliance for further response. To assist in conveying the electrical safety message through to stakeholders, increased compliance and enforcement action in relation to electrical installations will be undertaken, focusing on the following:</p> <ul style="list-style-type: none">• Electrical industry• Industries associated with electrical work (e.g. air conditioning, plumbing, whitegoods repair)• Other industries that do not normally involve electrical workers (e.g. insulation, wider construction industry) <p>The electrical licensing regime will also be supported through activities focusing on maintaining compliance with electrical licensing requirements.</p> <p>A strategy of comprehensive investigation of Type 1 incidents (fatalities, grievous bodily harm) and target events will support the compliance effort. The enforcement framework will continue to inform the response to such incidents and will be reviewed based on the outcomes of both the target audit and investigation strategies.</p>
Training	<p>The continuing development and promotion of electrical safety training for industry (including electrical and non-electrical - e.g. wider construction industry) will be encouraged through involvement with electricity entities, industry associations and training organisations.</p> <p>The skills maintenance regime for electrical licence holders will also be enhanced to ensure skills and knowledge remains current in the areas of electrical safety legislation, risk management and testing. As a strategic response to industry skills shortages, this will also ensure ongoing and improving access to training for electrical workers.</p>
Equipment Design / Innovation	<p>The active monitoring and facilitation of research outcomes and innovations with the potential to improve the safety of electrical installations will continue to be resourced. Also investigate/research any electrical safety implications of other industry technological developments and address these as appropriate.</p> <p>Seek to work with a range of stakeholders to encourage the identification and establishment of improved research capabilities in relation to electrical safety of electrical installations. Continue to promote the use of safety switches and investigate the programmed replacement of safety switches at the end of their useful life.</p> <p>Utilise electrical incident data strategically and maintain contribution to Australian Standards committees to influence better safety performance for electrical installations and fixed wiring standards (e.g. encourage electrically safe design and maintenance capabilities).</p> <p>Continue to encourage the development, adaptation and evaluation of innovations or engineering controls and explore their application in the Queensland environment. Such innovations or engineering controls include:</p> <ul style="list-style-type: none">• warning devices• barrier systems• design improvements• fail-safe systems

Electrical safety priorities — Electrical equipment

Priority

Electrical equipment

Priority goal

Reduction in serious electrical incidents, injuries and property damage related to electrical equipment.

Scope

- **People:** All persons associated with electrical equipment including:
 - electrical industry workers;
 - persons directly affected by the performance of electrical work;
 - non-electrical industry workers;
 - owners and persons in control of electrical equipment;
 - designers, manufacturers, importers and suppliers of electrical equipment; and
 - members of the public.

- **Places:** All places where electrical equipment is located including:
 - workplaces;
 - dwellings; and
 - public places.

- **Products:** Electrical equipment, including:
 - portable electrical appliances;
 - stationary electrical appliances;
 - flexible cords and cord extension sets; and
 - other related electrical equipment not associated with electrical installations or powerlines.
 - Electrical equipment that is permanently electrically connected to an electrical installation or associated with powerlines is not considered part of this priority area (e.g. a wall oven or solar photovoltaic array installations)



Evidence base

Portable appliances have been associated with 14 electrical fatalities in the past 10 years. There were two main contributing factors each representing 36 per cent or five of the total 14 fatalities.

The first contributing factor involved unsafe work practices of non-electrical workers (e.g. a worker welding without protective gloves, clothes, etc).

The second such factor involved maintenance of consumer equipment, where the equipment was not maintained in a condition that a reasonable person would consider as electrically safe (e.g. damaged appliances exposing live conductors). The lack of maintenance of portable electrical appliances by consumers has contributed to fatalities and serious electrical incidents in Queensland, despite extensive community educational programs on maintaining electrical appliances.

Electrical fatalities involving stationary electrical appliances and flexible cords have also been an issue in recent years, and as such these have been included in the new electrical equipment priority area.

It was identified that 80 per cent of the electrical fatalities in this area could have been prevented with the use of a safety switch.

It is likely that through the increased coverage of safety switches and the continuation of electrical safety awareness programs, the percentage of serious electrical incidents involving electrical equipment is likely to decline over time.

Key stakeholders

- Workplace Health and Safety Queensland (including the Board and industry sector standing committees)
- Industry associations (e.g. electrical industry)
- Unions
- Professional associations (e.g. engineers)
- Community associations
- Local Government
- Training industry
- Equipment designers, manufacturers, importers and suppliers
- Manufacturers and suppliers
- Building Services Authority
- WorkCover Queensland
- Insurers
- Emergency services
- Universities, research organisations and design organisations

Electrical safety priorities — Electrical equipment

Strategy

Education/Awareness The need for increased awareness of safety issues and requirements in respect of electrical equipment to both industry and the general public is ongoing, particularly in relation to maintenance.

This will be addressed by the continuing development of initiatives and information materials in association with industry stakeholders to raise awareness of related electrical safety issues in workplaces and homes.

Key initiatives in relation to electrical equipment to be considered include:

- Improving community knowledge and understanding of electrical safety (e.g. look for approval number/markings, maintenance of electrical equipment, the dangers of unlicensed electrical work) and continuing to promote the use of safety switches
- Targeting high risk industry sectors (e.g. the electrical and construction industries)
- Increasing the focus of education and safety awareness activities on workplaces, including small business

Interventions such as awareness activities or media campaigns will be improved by working more closely with key stakeholders and exploring options for more innovative and effective ways to reach target audiences.

Again, community engagement activities will also be enhanced to provide topical and timely information to a wider range of stakeholders. The use of ‘real life’ case studies will be explored to help promote and reinforce safety messages.

Similarly, public information initiatives targeting domestic activities and the general public will be further developed and coordinated with electricity entities and other key stakeholders where appropriate.

Legislation Specific legislation deals with requirements and prohibitions in the area of electrical equipment and includes provisions within the Act as well as the Regulation and code of practice references.

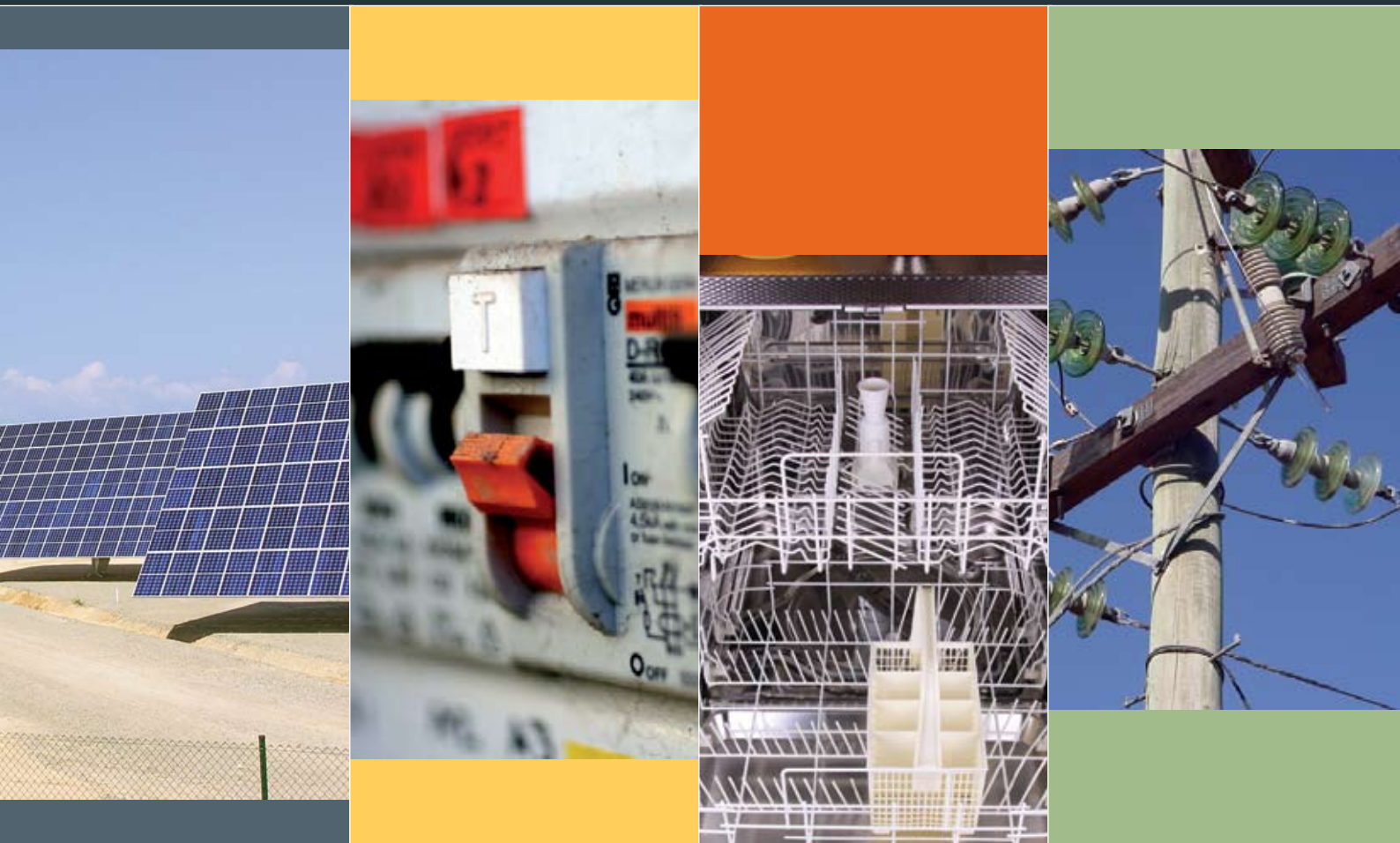
A comprehensive review of the adequacy and content of all such existing legislation and supporting materials to include evaluation of capacity for their enforcement will be undertaken in consultation with industry and stakeholders. The review will also look at ‘best practice’ nationally and consider the impacts of technological innovation on the regulatory framework for electrical equipment.

Monitor the implementation of recommendations from the Electrical Regulatory Authorities Council national review of the Electrical Equipment Safety System and address any subsequent legislative changes required from an agreed national electrical equipment approval model to ensure safety standards are retained.

Additionally, maintain contribution to Australian Standards committees for the development of standards under which approvals for electrical equipment are sought.



Compliance	<p>Maintenance of targeted proactive audit programs in cooperation with Workplace Health and Safety Queensland will continue, utilising an evidence-based approach from a range of inputs to determine target auditing activities. This evidence-based approach for determining auditing activities will evaluate inputs including:</p> <ul style="list-style-type: none">• Research of serious electrical incidents and dangerous electrical events• Assessment of the electricity entity quarterly reports• Emerging trends and issues• Community expectations <p>Compliance activities will also include analysis of audit results to identify specific areas of non-compliance for further response. To assist in conveying the electrical safety message through to stakeholders, increased compliance and enforcement action in relation to electrical equipment will be undertaken.</p> <p>A strategy of comprehensive investigation of Type 1 incidents (fatalities, grievous bodily harm) and target events will support the compliance effort. The enforcement framework will continue to inform the response to such incidents and will be reviewed based on the outcomes of both the target audit and investigation strategies.</p>
Training	<p>The continuing development and promotion of electrical safety training for industry (including electrical and non-electrical) will be encouraged through involvement with electricity entities, industry associations and training organisations.</p> <p>The skills maintenance regime for electrical licence holders will also be enhanced to ensure skills and knowledge remains current in the areas of electrical safety legislation, risk management and testing. As a strategic response to industry skills shortages, this will also ensure ongoing and improving access to training for electrical workers.</p>
Equipment Design / Innovation	<p>Seek to work with a range of stakeholders to encourage the identification and establishment of improved research capabilities in relation to electrical safety.</p> <p>Utilise electrical incident data strategically and maintain contribution to Australian Standards committees to influence better safety performance for electrical appliance and equipment standards (e.g. encourage electrically safe design and maintenance capabilities).</p> <p>Continue to encourage the development, adaptation and evaluation of innovations or engineering controls and explore their application in the Queensland environment. Such innovations or engineering controls include:</p> <ul style="list-style-type: none">• design improvements• extra low voltage equipment• fail-safe systems



For further information contact:

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