



POSITION PAPER

Promoting Electrical Safety

The Electrical Safety Project is a focus group comprised of members experienced in different aspects of the electrical industry, who share a concern about safety in the industry.

Introduction

The Project seeks to promote and communicate common sense and practical ideas to improve electrical installations' compliance and electrical practices and safety in our industry.

The ESP supports activities and arrangements that improve the quality, standard and safety of electrical work practices and ensure electrical installations and their components are installed, tested, commissioned, diagnosed, altered, added, repaired, replaced, removed, disconnected, reconnected, and maintained in accordance with best practice.

This includes promoting processes and practices that ensure the ongoing competency of electrical workers and the safety of electrical installations for users (including the public).

We are particularly focussed on helping electrical workers, their employers and users to improve their understanding of their safety obligations in accordance with electrical legislation, the WHS Act, and any supporting regulation, standards, codes of practice and guidance advisories and resources. Also, the Project is interested in the role of regulatory bodies that administer and support electrical licensing arrangements related to such work.

We believe that the industry needs a coherent road map to facilitate proactive response to identified safety issues and to support the development and implementation of timely and effective solutions.

To improve electrical and worker safety as well as the standard of work quality, four broad initiatives have been identified as priority areas for the Project to focus on:

1. supporting electricians/employers/electrical contractors and those in training (e.g. apprentices) to meet their safety obligations;
2. supporting consumers and integrity of the electricity network;
3. promoting competency verification of electricians and assuring their continued competency over time; and
4. improving regulation of the industry.



The Project's main objectives are:

- To share learnings in best practice electrical safety practices and associated arrangements within the electrical industry.
- To establish positive and constructive relationships with regulatory bodies, authorities, agencies, Australian Standards' committees and employer/employee representative bodies in order to develop a common understanding of electrical safety issues and their management.
- To be recognised as a respected voice in research and identification of implementation problems and the development of policies and strategies to improve and maintain electrical installation compliance, electrical worker quality of work and competency, and electrical safe work practices through constructive relationships with related agencies, representative bodies, training providers and training authorities.

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Strategies to achieve our Charter objectives

The activities the Project will pursue to further the objectives, as set out in the Charter, include:

- Investigating safety issues in the electrical industry through discussions with industry representatives, conducting surveys and reviewing literature, including statistics generated by industry regulators.
- Developing and submitting policy papers on strategies and processes that aim to improve electrical safety and safe work practices, including:
 - advocating for an appropriate structure of regulatory authorities,
 - advocating for appropriate changes to electrical safety regulations,
 - advocating for appropriate changes to electrical safety standards, and
 - advocating for appropriate changes to training and competency standards.
- Supporting the safety of users of electrical installations by advocating for:
 - consumer education in electrical safety including the need to employ licensed electricians for electrical work and seeking confirmation that the work they perform has been tested to the relevant standards; and
 - RCDs to be installed in all premises' switchboard; and
 - inspection of older installations and the issuing of clearance certificates when premises/buildings are sold or leased; and
 - encouraging consumers purchasing a property and acquiring the title of a building (e.g. home), to seek evidence that the electrical installation is compliant, works as intended and is safe to those expected to dwell in it; and
 - one single energy regulator to protect consumers and workers on technical safety regulation and contractor and worker licensure.

For electrical work, the responsibilities for compliance with the [WHS Act](#) and [regulation](#), and with industry specific legislation¹ are considerable for both employers (e.g. electrical contractors) with management control of electrical installations and for electricians and electrical support workers who undertake permitted electrical work.

The members of the Electrical Safety Project consider that, at present, the regulatory structures and arrangements including support resources, fall short of the need to:

- assist electrical workers and electrical contractors with compliance,
- secure basic improvements to industry worker safety,

¹ [Home Building Act 1989 No 147](#), [Home Building Regulation 2014](#), [Gas and Electricity \(Consumer Safety\) Act 2017 No 15](#), [Gas and Electricity \(Consumer Safety\) Regulation 2018](#), [Electricity Supply Act 1995 No 94](#),



- secure safe and compliant electrical installations that ensure the integrity of the electricity network and improve consumer protection, and
- ensure currency of competence of electrical licensed workers and contractors is maintained.

Consumer Safety

1. Licence Renewal for Electricians

There is a legal requirement for any electrical work to be carried out by qualified and competently licenced electricians. Clearly, this requirement is to ensure the safety of end users and to ensure the installations are fit for purpose.

There is clear and growing evidence that there are varying levels of competence being exhibited amongst licensed electricians in NSW. Without ongoing verification checks of their current competency, the integrity and safety of the installations they work on may be compromised and consumers may be exposed to risk.

It could be many years since an electrician last received important information relating to safety compliance and/or technical standards and/or new technologies and/or updated training of techniques and practices. Their knowledge of current requirements or their obligations may be dangerously unsatisfactory.

Simply acquiring the initial licence and paying a tri-annual renewal fee is enough to maintain it for life. There are no requirements by the regulator for an electrician to present evidence of maintaining their currency of competence with the latest electrical work requirements.

There are many reasons for the need to maintain currency, including but not limited to:

- specialisation with the industry - an electrician may have little experience in areas outside their specialisation;
- new legislation, standards, codes, industry or regulatory guides, service and installation rules, compliance certificates, etc. introduced since gaining their licence;
- new equipment/technologies including test instruments introduced to the industry;
- new procedures, e.g. in the use of new equipment/technologies, work organisation, work processes, safety management systems; and
- new types of installations, e.g. the development of solar and grid-linked systems.

An employing electrical contractor or company may have no evidence that their licensed electrical worker has been made aware of or acquired knowledge of changes to relevant standards, service and installation rules, legislation, or latest changes impacting electrical installation practices and requirements affecting their trade. The regulator has no evidence of current competencies of a holder renewing an electrical licence.

Electrical colleagues also, are exposed to potential risk when working alongside licence holders who are not up to date with current safety practices. Consumers are exposed to the risk of unsafe installations.



These risks are perpetuated when such electricians are supervising apprentices and Trades Assistants (TAs) as their mentoring could be seriously out of date.

Given this situation, the Project supports the requirement for holders of an electrical supervisors' certificate to demonstrate their current competency at the point of renewal.

This should be a precondition to renewing their licence.

Principles for establishing a currency verification system

In this regard, the Project suggests a verification system needs to be established which should:

- be relatively easy to establish in terms of time and practicality;
- require at least direct evidence of an electrician's currency of knowledge of safety systems and safe work procedures;
- impose no mandatory time-consuming obligations on electricians (e.g. reading the latest industry literature over a period of 12 months [subjective], etc.);
- be relatively low cost, non-intrusive and provide NSW Fair Trading (OFT)² with a duty of care defence; and
- identify criteria related to assuring currency of essential technical skills and knowledge (The Gap²) which must be verified via a formal quality verification process.

The criteria applicable to the 'currency of essential technical skills and knowledge' should be comprised of two key components and target and address only the following matters:

Continuing Education (CE):

- 1.1. changes to relevant Australian/New Zealand electrical installation standards including allied and associated subsidiary standards, which have experienced frequent revisions/updates;
- 1.2. latest NSW and federal laws, regulations, codes of practice, compliance certificates, regulatory advisories and guidance, local service and installation rules, and any enquiries/impending changes governing electrical work;
- 1.3. changes in safe work practices for performing safe electrical work including testing for dead, isolation, testing; supervision of apprentices and associates; hazardous substances and materials such as asbestos, batteries as well as associated safe work procedures;
- 1.4. latest electrical Equipment Safety - products and appliances information (certification approvals and recalls) related to electrical installation equipment and components; and

² Criteria or the Gap – details to be determined through consultation with stakeholders, provided it did not aim to re-test or re-assess existing formally certified competencies and knowledge related to the original core qualities of the electrical qualification.



Continuing Professional Development (CPD³):

- 1.5. some formal evidence of basic Continuing Professional Development (CPD) activities undertaken since the previous renewal of the licence.

Context to Continuing Education (CE) and Continuing Professional Development (CPD)

Currently there is no compulsory CE or CPD in New South Wales for renewing an electrical licence. Any currency or refresher training is left to the responsibility of employers, including self-employed electricians. For many electricians, it may be many years since they qualified for their licence, and their ability to keep up to date with changes in the industry may be compromised.

There is considerable evidence in Australia and overseas that CE/CPD can contribute to maintaining professional competence in our industry. In this light, there is an increasing number of jurisdictions moving towards CE/CPD of electrical workers.

In almost all instances the essential core of these CE/CPD schemes is maintaining currency of information, competency and awareness of industry developments in terms of standards, technology, systems and processes.

Given the nature of electrical work and the regulatory aspects related specifically to electrical installation compliance that aims to assure the safety of the public, workers and premises, it is a sound duty of care risk mitigation strategy for regulators to implement CE/CPD schemes for electrical workers and contractors. This is evidenced by the many jurisdictions which support such and have implemented or in the process of implementing these arrangements, as alluded to above.

Implementation of a CE/CPD scheme in NSW would be a strategic investment for the regulator in NSW and importantly, also, a benefit for industry and the community.

Suggested action

The Electrical Safety Project (ESP) therefore, supports and advocates strongly for the NSW Government, and specifically the OFT, to expedite the implementation of a combined Continuing Education (CE) and Continuing Professional Development (CPD) system along the lines set out above, as a matter of urgency.

The Project submits that the criteria required for the 'currency of essential technical skills and knowledge' could be established relatively quickly, in consultation with industry, as could a verification system in consultation with OFT staff and industry stakeholders.

³ CPD - activities that increase and expand knowledge, skills and abilities and help maintain currency in the vocation and opportunities for advancing and progressing one's career.



2. Licence Renewal for Electrical Contractors

Typically, consumers requiring work related to their electrical installations engage electrical contractors in a contract for service.

Consumers are expected to be aware that it is illegal for unlicensed persons to undertake permitted electrical work, e.g. Do It Yourself (DIY) work.

Electrical contractors providing a contract for service are expected to be aware of their obligations under the Home Building Act, WHS Act, the WHS Regulations, relevant Codes of Practice (CoP) and Australian Standards (AS) and Australian Consumer Law.

In terms of safety, employers have a legal obligation to provide a safe workplace.

At a minimum, any electrical contractor providing a contract for service must have in place systems that ensure the safety of their workers. The electrical contractor's safe systems of work would be expected to be underpinned by a suite of relevant Safe Work Procedures (SWPs) and safe work method statements for electrical work.

At present there are no preconditions for renewing an electrical contractor's licence.

The Project supports the requirement for renewal of an electrical contractor's licence that the contractor demonstrates at the very least that it has a basic Safety Management System (SMS) in operation.

The SMS must comply with the requirements of the WHS Act, the WHS Regulations, other state regulations, relevant Codes of Practice (CoP), relevant standards and such, addressing at least the following criteria:

- policies in relation to safety in electrical work including electrical construction work;
- responsibilities of various officers in relation to safety systems including supervision of electricians, apprentices, electrical support workers, and associates;
- application of risk management procedures, including the use of Safe Work Method Statements (SWMS) typically for high-risk work activities and SWPs typically for general work activities;
- processes for verifying currency and competency of workers in work practices and safety procedures;
- workers compensation policy (policy number) in place or identification as a sole trader;
- confirmation of accesses to the latest version of AS/NZS 3000 and related standards as well arrangements for workers to access these Standards;
- the requirements for electrical work or inspection and test on an electrical installation; and
- the requirement for producing a CCEW for the client and, where applicable, to the OFT and/or DNSP before work is handed over to a client, including in-house clients;



Note 1- conformity with client's Safety Management System (SMS):

Electrical contractors/electricians providing a contract for service commonly undertake their work on client's premises. In the case of working for commercial clients, the contractor must also comply with the client's Safety Management System (SMS).

Note 2 - in-house-work Safety Management System (SMS):

Any organisation employing electricians for in-housework, must have a current Safety Management System (SMS) that addresses the use of SWMSs and CCEWs.

Safe Work Procedures

All workers in the electrical industry must follow safe work procedures. These must be documented by the employer – the electrical contractor – and supervisors must ensure that they have been read, understood, and complied with.

Safe work procedures apply to typical electrical tasks, the use of different equipment and tools and the different environments in which electricians are required to work.

The Project supports development and provision of support resources to assist electrical workers, Persons Conducting a Business or Undertaking (PCBUs), supervisors, Registered Training Organisations (RTOs) and advisors to use to maintain high standards of safety and workmanship. These should be easily accessible to employers, which they can utilise to develop their own resources and assist them to meet their legal obligations.

Supervision of electrical workers and apprentices

An essential part of providing a safe workplace is effective supervision.

A key role of supervision is to ensure that all electrical workers on the job are suitably qualified and competent to undertake the tasks they are given. They must also ensure that everyone on the job is complying with the Safety Management System (SMS), both for their own organisation and/or the SMS of the client organisation, where they may be working.

Supervisors have an additional responsibility when supervising apprentices. In this case they also have a mentoring role to ensure their learning and development in the trade.

The Project supports development and publication of industry supported guidance material in this regard and has initiated development of an **Electrical Apprenticeship Supervisor Guide** for formal release in early 2022.

Proposed action

The Project recommends that demonstrating that the contractor has a working SMS in place should be a pre-condition for licence renewal.

The Project proposes to assist in promoting understanding and use of SMS.



Also proposed, is the call for the development of an industry Electrical Apprenticeship Supervisor Guide to help the industry, employers/contractors and employees/apprentices to improve their understanding of their obligations and responsibilities and more importantly, safety practices, quality of workmanship and competency development of apprentices.

The Project recognises that OFT is currently in the process of exploring options to produce a supervision guide related to supervision of electrical workers in relation to electrical work. This development is welcomed and necessary and would be complementary to the call for a broader Electrical Apprenticeship Supervisor Guide that covers more than electrical installation work.

3. Other Consumer Safety Issues

The Project supports the current work and efforts of the 360Degree⁴ project in this regard but seeks, for consumers and public safety, a speedier process in decision making and processes for expediting implementation of administrative and legislative changes.

4. Electrical Testing

Customers are protected by Consumer Law that requires installations to be both safe and fit for purpose. Electrical contractors/electricians are regularly encouraged and advised by key industry bodies and technical practitioners to retain records of testing to provide evidence of the safety and compliance of their work.

There is a legal requirement for electrical contractors/electricians to ensure that any electrical installation is tested in accordance with AS/NZS 3000 (the Wiring Rules) and AS/NZS 3017 (Electrical Testing).

They are also required to provide the client, and in specific cases the OFT and/or the relevant DNSP with a copy of the CCEW showing that the installation has been tested and operates safely as intended.

There is growing evidence acknowledged by industry and regulators that, in many cases, CCEWs are not presented to clients and more importantly, where a load change on the circuit has resulted, not submitted to OFT or relevant DNSP in accordance with regulatory requirements. There are also recognised deficiencies in the current version of the CCEW form. The proposed electronic format requires more discussion with stakeholders to expedite its introduction.

⁴ 360 Degrees Electrical Safety working group comprised of key industry stakeholders and coordinated by the Better Regulation Division of the NSW Department of Customer Service



Suggested action

The Project suggests that the requirement to complete a Certificate of Compliance for Electrical Work (CCEW) for non-installation altering minor work (e.g. replacing like with like or not adding to the load on a switchboard and network) that is issued to the client but not OFT be simplified and digitised (electronic application) to improve reporting and record keeping for the client.

The current CCEW for these minor works seems to serve little purpose, and needs to be reviewed with a more practical and realistic solution provided, particularly given:

- there is no requirement to submit it to the OFT, and
- the consumer is protected in terms of consumer law, when the provider fails to provide a quality, fit for purpose and safe service under \$100,000 -
[Competition and Consumer Act 2010⁵, Part 3.3 Safety of consumer goods and product related services. ... A purchased service has a major problem when it:
 - ...
 - *does not meet the specific purpose the consumer asked for and can't easily be fixed within a reasonable time*
 - *creates an unsafe situation.*

For all electrical work covered by the relevant Acts and regulations the Project supports an enhanced best practice approach to testing and recording of results to substantiate that the installation is safe and fit for purpose as asserted in the CCEW. Industry stakeholders should be engaged in discussion as to the details pertaining to the best practice approach, and if necessary, legislation and the CCEW amended accordingly.

Further, the Project supports the proposition that the CCEW itself should be signed by both the tester and by the electrical contractor responsible for the job, and that the legislation should reflect this requirement where both are participants to a contract for service to a client.

To facilitate a more expedient and efficient outcome, the current paper based CCEW should be modernised to a digitised platform, as a matter of urgency, and records be made readily accessible to the PCBU and regulator.

Refer, "Note 3 - Regulation 37 (1)", which requires:

"the results of the test are to be notified by the tester".

EDUCATION CAMPAIGN

There should also be an education and compliance campaign to contractors, electricians and the community in the rules governing the use and submission of CCEWs in NSW.

⁵ [Competition and Consumer Act 2010](#)



It is understood the Office of Fair Trading (OFT) which manages the administration and oversight of CCEWs has had, and continues to have in place, a project to develop an electronic version of the CCEW. This is welcomed but a higher level of priority and urgency is called for in this regard to ensure improved opportunities for monitoring CCEW matters, accessibility to data and importantly, added safety for the community.

The Project recommends that a thorough review of the CCEW form, management and administration be expedited as a matter of urgency.

A Single Energy Regulator for NSW

It has been generally recognised that there have been serious deficiencies in self-regulation in the construction industry, including the electrical trades. There is need for a serious review of the way the electrical industry is regulated to provide leadership and compliance in our industry.

1. Regulation of Electrical Safety

The regulation of electrical safety is currently split between three authorities:

1. The Office of Fair Trading – mainly responsible for the safety of customers – those using the electrical installations.
2. SafeWork NSW – mainly responsible for safe workplaces – safety on the job.
3. Distribution Network Service Providers (DNSPs) – which have some responsibility for ensuring that electricity is not connected to unsafe installations.

Office of Fair Trading (OFT)

The Office of Fair Trading (OFT) is primarily responsible for consumer protection. This includes ensuring that an installation has been thoroughly tested before it is handed over to a client.

To monitor compliance and for quality assurance purposes to protect consumers it is understood OFT conducts both random and complaints-based inspections and/or audits of electrical installations. To execute this task for the entire state of NSW, OFT currently deploys a sum total of three (3) inspectors.

There appears to be evidence of considerable illegal electrical work being carried out by unqualified operatives. OFT along with SafeWork NSW are aware of this issue and it is understood that they have been undertaking a range of initiatives to address the matter.

The issue has pervaded the industry for some considerable time and alluded to in a number of parliamentary enquiry reports, most recently the NSW Legislative Councils, Public Accountability Committee's Report 6 (final), on regulation of building standards, building quality and building disputes' published April 2020, which encompassed a series of recommendations that included "creating a more robust inspection regime" with respect to electrical and other high-risk occupations.



It recommended, “the need for an independent examination of building trades before a licence is granted, especially for electrical trades”.

At page 13 of the Report, items 1.48 and 1.49, it stated,

“1.48 The inquiry also received compelling evidence of unlicensed workers, particularly electrical workers, and a small number of specialised inspectors within the Department of Fair Trading. The committee is concerned that these new inspectors will not have specialised expertise for electrical, gas or plumbing, or be conducting licence checks.

1.49 The committee believes that licencing and inspections, with the specialist expertise for these, should be centralised, under the supervision of the NSW Building Commissioner, within the newly created Building Commission. The committee also believes there should be additional licencing and specialist inspections across electrical, gas and plumbing in the New South Wales construction industry”.

OFT has a prosecutorial role as well as an educational role. There is a need to educate the public in procuring new and maintaining existing installations that should receive much greater attention. Education can be through a variety of mediums and specifically targeted to raise awareness or to involve a call to action or understanding.

SafeWork NSW

SafeWork NSW regulates safety in all workplaces – this includes electrical work whilst work is being carried out. They provide resources to support safe work and conduct inspections of work sites and investigate incidents related to work.

It is primarily responsible for the safety of workers on the job, ensuring the employers, typically electrical contractors and organisations employing electricians comply with their obligations under the WHS Act to provide a safe workplace.

It primarily works to:

- develop and evaluate policy and strategies,
- monitor and enforce compliance with the WHS Act including prosecuting breaches,
- develop and evaluate the model WHS legislative framework,
- undertake research,
- collect, analyse and report data, and
- promote and support education and training on matters relating to WHS.

It is supported by a federal body in Safe Work Australia, which is responsible for driving national policy on WHS and workers’ compensation matters.

As a national policy body, Safe Work Australia does not regulate WHS laws. The Commonwealth, states and territories fund it via an Intergovernmental Agreement, but retain responsibility for regulating and enforcing WHS laws in their jurisdictions.



DNSPs

Distribution Network Service Providers (DNSPs) are responsible for safe connections and integrity of the network.

It is understood much of the work that was undertaken in-house by DNSPs is being contracted out.

Both DNSPs and the OFT have an interest in CCEWs. The OFT's interest is in protecting users of electrical installations. The DNSPs' interest is in protecting their networks. They have the power to disconnect faulty installations and recommend the owners employ licensed electricians to carry out any remedial work.

It is evident that the DNSPs are shedding staff as they evolve to become asset managers rather than constructors and maintainers and thus, they are devolving and reducing their inspection regimes and responsibilities and transferring or relinquishing them to others such as in some instances to OFT, as they or other governing authorities no longer believe it is their core business.

Notwithstanding, DNSPs do have a role in developing and maintaining the skills and safety of electrical contractors; specifically in NSW in relation to Authorised Service Provider (ASP) scheme. A Scheme managed and administered by the Department of Planning, Industry and Environment (DPIE). The Scheme is undergoing a review at the time of release of this Position Paper. It may result in some changes once completed.

2. A Single Energy Regulator

Similar to the Electrical Safety Office in Queensland, Victoria and Western Australia, a single regulator with the resources to do the job can address many of the concerns industry and the community have about the current and emerging state of electrical safety and quality of electrically licensed persons in NSW.

A single Energy regulator providing unified leadership across a portfolio of common technical domain interests offers many benefits, advantages and level of certainty for all concerned. These include but are not limited to heightening safety assurance and implementing mechanisms for mitigating risk of injury and accidents to the community, public, workers and/or premises.

This can be accomplished by affirming permissible technical safety practices and techniques under authorisation, enunciating essential technical knowledge and skills capability requirements to be permitted to practice, and administering and managing risk-based audit and enforcement processes that assure compliance and quality outcomes.

Suggested action

In this light the Project recommends the establishment of one single energy regulator.



The regulator should be empowered with the responsibility, in the state of NSW, for electrical and gas safety as it pertains to:

- electricity production, transmission, distribution and utilisation (consumers' installations and appliances);
- gas distribution and production plants connected to gas distribution systems and gas utilisation (consumers' installations and appliances).

Regulator responsibilities

It should be in control of:

- technical safety regulation;
- technical contractor and workers' licensure encompassing technical contractor services and worker competency as well as supervision of electrical work;
- inspections and audits;
- enforcement; and
- educating the community, the public, other bodies and agencies as well as industry on the potential dangers of electricity and gas and best practice safeguards for protecting self and others including conducting campaigns and specialist activities.

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