

Regulatory Impact Statement

Electricity Safety
(Registration and
Licensing)
Regulations 2020



August 2020

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This report was prepared for Energy Safe Victoria by Regulatory Impact Solutions Pty Ltd.

Glossary

the Act	<i>Electricity Safety Act 1998</i>
the current Regulations	Electricity Safety (Registration and Licensing) Regulations 2010
the industry	The 'industry' in this document refers to both electrical employees and employers
the proposed Regulations	Electricity Safety (Registration and Licensing) Regulations 2020
AS/NZS	Australian Standard/New Zealand Standard
BRV	Better Regulation Victoria
COES	Certificate of Electrical Safety
CPD	Continuing Professional Development
dmp	Deaths per million people
ERAC	Electrical Regulatory Authorities Council
ETU	Electrical Trades Union
ESV	Energy Safe Victoria
FTE	Full-time equivalent
HV	High voltage
LEI	Licensed Electrical Inspector
LEW	Licensed Electrical Worker
LV	Low voltage
MCA	Multi-criteria analysis
MEC	Major electricity company
NPV	Net present value
OCEI	Office of the Chief Electrical Inspector
PLI	Public liability insurance
PV	Present value
REC	Registered Electrical Contractor
RIC	Registered Inspection Company
RIS	Regulatory Impact Statement
VGR	Victorian Guide to Regulation
VSL	Value of a statistical life
Wiring Rules	Australian/New Zealand Standard AS/NZS 3000:2018, <i>Electrical installations</i>

Executive Summary

What is being proposed?

The Electricity Safety (Registration and Licensing) Regulations 2010 (the current Regulations):

- improve electrical safety for the general public, electricity customers and electrical workers
- ensure that all electrical installation work, electrical inspection work and electrical contracting is undertaken only by qualified persons
- recover the costs of Energy Safe Victoria (ESV) activities related to regulating electrical professionals through setting fees.

The current Regulations lapse on 31 December 2020. The Electricity Safety (Registration and Licensing) Regulations 2020 (the proposed Regulations) will replace the current Regulations when they lapse. The proposed Regulations largely continue the same requirements as the current Regulations, but there are a number of important changes—see below.

This Regulatory Impact Statement (RIS) assesses the impacts of the proposed Regulations.

Why is the Government considering action?

Electricity is inherently hazardous. It can cause death or serious injury through electrocution, or death, injury or property damage through fires ignited by electricity. In addition to the immediate impacts on life and wellbeing, electrical incidents can have other consequences such as higher healthcare and downtime costs. Economic losses from electrical fires can be significant.

Given the inherently hazardous nature of electricity, a comprehensive safety approach is needed. Working safely with electricity requires special knowledge, skills and procedures. Therefore, a robust safety framework should ensure the expertise and conduct of people working with electrical wiring and installations. Occupational rules and standards, and associated penalties, that seek to protect people working with electricity are an essential part of a modern regulatory approach and are a common feature of regulatory approaches in other jurisdictions.

The field of electrical work has seen significant changes since the current Regulations were made in 2010, including much wider use of solar power and battery electricity storage systems, changes to work practices and changes in the structure of the industry. These changes warrant adjustment of the regulatory framework, but do not remove the need for a comprehensive approach to safety.

Further, specific risks and anomalies have been identified in the current Regulations. There is currently no regulatory requirement for electrical workers to ensure their skills remain current. Some electrical workers, such as lineworkers and cable jointers, are not required to be licensed.

What are the expected outcomes of the proposed Regulations?

The objectives of the proposed Regulations are to:

- improve electrical safety for the general public, electricity customers and electrical workers
- ensure that all electrical installation work is undertaken only by competent persons with up to date skills
- ensure that electrical inspection work and linework is being undertaken by competent persons with up to date skills
- recover the costs of regulating electricity safety in an efficient and equitable manner, while not undermining the achievement of safety objectives.

What are the possible different courses of action that could be taken?

Options for continuing professional development (CPD) for licensed electrical workers

Four broad options were considered for CPD. The four options considered were:

- Option 1: Continue with current licensing requirements with no CPD—this option represents the status quo. Currently there is no structured requirement for licensed electricity workers to maintain or develop their skills.
- Option 2: Introduce mandatory requirements for skills maintenance—licensed workers would complete a refresher course of skills learnt in their original training, updated to current requirements. CPD for skills maintenance training would be required by 2023.
- Option 3: Introduce mandatory requirements for skills maintenance and skills development, phased over time—licensed electrical workers would be required to complete both the skills maintenance requirements above, and a second round of skills maintenance and skills development after five years. A phased approach would see skills maintenance training required by 2023 and skills development training required by 2028.
- Option 4: Introduce requirements for both skill maintenance and skills development components (full CPD) by 2023—this option is similar to the above option, however, skills maintenance training and skills development training would be introduced together, with both required by 2023.

ESV engaged with industry stakeholders to develop a number of design options for CPD (e.g., delivery of training, quality of training, hours of training, funding arrangements).

Options for licensing of lineworkers

The Victorian Government has previously determined to establish licensing for lineworkers through the introduction of the *Energy Safety Legislation Amendment (Victorian Energy Safety Commission and Other Matters) Act 2020*. This RIS considers options to give effect to those legislative amendments, focusing on licence requirements. Design options for lineworkers were considered in each of the following four areas: scope of work covered, design of the licence, minimum qualification standards, and rules for foreign workers.

Other regulatory options considered for electrical workers

The current Regulations were reviewed by ESV in consultation with industry stakeholders. A number of options were considered to improve the regulatory framework (see below).

Options for setting fees

The fees in the proposed Regulations were reviewed in accordance with Victoria's *Cost Recovery Guidelines*. The Guidelines recommend consideration of three options:

- No cost recovery—no additional costs on electrical workers; ESV would need to increase levies charged to distribution companies to ensure it remains self-funded.
- Full cost recovery—the full cost of ESV's regulatory activities related to the Regulations are reflected in fees paid by registered and licensed electrical workers; no additional costs to distribution companies.
- Partial cost recovery—a proportion of ESV's costs are reflected in fees paid by registered and licensed electrical workers, with some additional costs to distribution companies.

Different options for the grouping of registered and licensed classes into different fee categories are also discussed in this RIS.

What options are included in the proposed Regulations?

Continuing Professional Development

A multi-criteria analysis (MCA) tool was utilised to assess the CPD options. Under this type of analysis, each option is scored against the criteria (effectiveness and costs to industry) relative to the current position. The scoring of the costs in the MCA takes the cost calculations over the life of the Regulations (the Net Present Value of the costs) and transforms them into scores, so that they can be compared to benefits, which are more difficult to quantify. The table below presents the results of the MCA assessment. See section 4.4 for details of the MCA.

Table 1: Summary of MCA Results

Option	Description	MCA Score
1	Status quo – the current arrangements with no CPD	0.00
2	Skills maintenance training only	+0.75
3	Skills maintenance training and phased in skills development training	+1.50
4	Skills maintenance and development introduced together	+1.00

The MCA suggests that all options to introduce CPD are superior to not having CPD at all. Stakeholder consultation undertaken during the preparation of this RIS supported the introduction of CPD.

Of the options to introduce CPD, the MCA indicated that Option 3 is preferred – the introduction of skill maintenance training initially following by the introduction of skills development training. Option 3 is preferred over skills maintenance alone (Option 2) because it combines a learning system of skills maintenance and skills development, which will improve skills more and reduce electrical safety risks. This later introduction of skills development will allow a smoother transition of CPD and is therefore preferred over Option 4.

On this basis, CPD will be introduced in the proposed Regulations, commencing with skills maintenance training by 2023 and requiring skills development training by 2028. ESV has committed to reviewing the proposed CPD scheme to ensure that it is meeting its objectives. Skills maintenance training and skills development will each require an 8-hour commitment.

Licensing of lineworkers

The proposed Regulations give effect to Victorian Government policy to license lineworkers. The preferred design option of a lineworker licence was based on extensive consultation. ESV considers that the scope of linework should include prescribed work on transmission, distribution, and traction networks (e.g., the installation, maintenance, modification, stringing, tensioning, terminating and securing of overhead electrical conductors and associated electrical distribution, transmission and traction equipment). Certain cable jointing work will also be permitted under this licence.

The minimum qualification for a lineworker licence will be a Certificate III in ESI¹ Power Systems, or equivalent. Interstate lineworkers will be able to work in Victoria during significant outage events provided that they are appropriately qualified.

Existing lineworkers, who currently do not have to renew their registration, will transition to a licensing arrangement under the proposed Regulations. The proposed Regulations will exempt the requirement for fees for the initial transition to the new licence, but licensed lineworkers will be required to pay for renewal of their licence in future years.²

¹ Electricity Supply Industry (ESI)

² Renewal will in general be every five years, however the transition will stagger the initial licence length across licences to avoid a peak in renewals every five years.

Other regulatory changes

ESV reviewed each requirement in the current Regulations and made changes where this would clarify, simplify and update the regulations. A number of changes were also made to reduce the regulatory burden, where such changes did not compromise safety. The following changes were adopted into the proposed Regulations:

- Removing the requirement that an electrical contractor business supervisor or nominee must have completed a training course or have equivalent experience
- Considering the level of public liability insurance (PLI) required to be held by Registered Electrical Contractors (RECs)
- Ensuring that an electrician’s licence is required for work on battery and generation systems that operate at extra low voltage (>12VDC and 1 Kilowatt hour)
- Requiring currency of assessment as a condition of licence (e.g., must have passed the Licensed Electrician’s Assessment (LEA) within last five years)
- Requiring qualification for Licensed Electrical Inspectors (LEIs)
- Using lineworkers in a significant outage event.

The following options were considered but are not included in the proposed Regulations:

- Requiring electrical inspection companies to become registered inspection companies
- Expanding the ‘Fit and proper person’ test.

Other Incremental changes to update the regulations and make other complementary and technical changes were also made. (The proposed changes are outlined in the body of this RIS.)

Fees

Consistent with Government policy on cost recovery, the proposed fees reflect recovery of all costs to ESV associated with the regulation of registered and licensed electrical workers and contractors. Based on an assessment of the costs of regulating registered and licensed electrical workers and contractors, it is proposed to reduce the fees prescribed in the Regulations by 1.8 per cent.

Table 2: Changes to the fees as prescribed in the proposed Regulations

Fee group/Classes	Type	Current Regulations (fee units)	Proposed Regulations (fee units)	Percentage change
Registered electrical contractors	<i>New</i>	43.3	42.52	-1.8%
	<i>Renewal</i>	20.8	20.42	-1.8%
Licensed Electrical Inspector				
Restricted Electrical Worker’s licence (Disconnect/Reconnect)				
All other licences	<i>New</i>	27.8	27.30	-1.8%
	<i>Renewal</i>	13.9	13.65	-1.8%

** Fees are expressed as a number of fee units, as defined in the Monetary Units Act 2004. The Treasurer determines the value of a fee unit, which is used to calculate the dollar amount of fees. For 2020-21, the value of a fee unit is \$14.81.*

However, the fees currently charged by ESV are 2.5 per cent below the fees as prescribed in the current Regulations. This is due to ESV deferring increases to fees in 2019, which was then further deferred as a result of the Victorian Government’s decision to freeze all government fees in response to the Covid-19 pandemic. This means that while the fees prescribed in the Regulations are being reduced, the actual fees charged by ESV may increase by 0.6 per cent, however whether the fees currently charged are adjusted during the remainder of 2020-21 will be considered in light of

government policy in relation to its response to the ongoing Covid-19 pandemic. See page 53 of this RIS for further information.

[Summary of impacts of the preferred option](#)^{Error! Reference source not found.} outlines the costs associated with the proposed Regulations where these could be readily quantified. These costs also include the amount of fees charged. The costs of the proposed changes over a 10-year period are around \$154.7 million (PV), or around \$15.4 million per year.

Table 3: Costings of proposed Electricity Safety (Regulation and Licensing) Regulations 2020

Regulation	Description	Discounted cost (\$)
8, 21, 33	Fees	36,882,811
8	Application for registration	574,464
12	Prescribed PLI insurance	40,555,979
14	Obligations of registered contractors	6,256
15	Cancellation of registration	11,373
21	Electrician's licence	19,298,614
23	Supervised worker's licence	65,698
26	Electrical switchgear worker's licence	12,043
27	Restricted electrical worker's licence (Class 1)	518,420
28	Restricted electrical worker's licence (Class 2)	1,341
29	Electrical inspector's licence	873,016
31	Electrical lineworker's licence	6,806,074
33	Renewal of licence	1,284,548
34	Continuing Professional Development	47,859,982
35,37,38	Cancel licence, etc	9,831
		154,760,450

ESV reviewed each requirement in the current Regulations and made changes that would clarify, simplify or update them. A number of changes were also made to reduce regulatory burden, where such changes did not compromise safety. ESV proposes to continue key elements of the current Regulations, namely the current requirements for certain type of work to be licensed (at a cost of \$28.8 million over 10 years) and the requirement for RECs to take out a minimum of \$5 million in public liability insurance. This insurance requirement is estimated to cost \$40.5 million, however, ESV's view is that at least half of RECs would take out public liability insurance voluntarily to manage business risks and it is often a contract requirement to hold PLI.

The regulatory costs of CPD over the life of the regulations are calculated at around \$47.85 million (PV), or around \$4.7 million (PV) annually. While these costs appear large, they are spread over 47,000 licences. Of this cost, \$11.35 million is attributable to direct training costs, while \$36.5 million represent income forgone from attending training. These costs consist of \$220 for the cost of an 8-hour course (\$200 teaching costs and \$20 for training resources). Around 76 per cent or \$530 of this cost is the notional cost of forgoing income or productivity. If a self-employed electrical worker undertakes an 8-hour training course of CPD then that represents one day's absence from income earning activities, while a day's absence for an employee of an electrical contractor imposes a day's lost productivity on the employer. Taken together, skills maintenance training per electrical worker is around \$750 per day, and \$1,500 per electrical worker for skills maintenance and development training.

The proposed fees (see Table 2) will enable revenue of up to \$4.1 million per annum (in real terms, ignoring yearly variation due to uneven renewal cycles), a reduction of 1.8 per cent compared to the fees prescribed in the current Regulations. Although this change is a decrease in the fee units for licences, it allows ESV to charge higher fees than it currently does. Due to the Covid-19 pandemic, ESV may decide to continue to charge fees lower than the prescribed fees as it does now.

Lineworkers will be required to pay licence fees for new applications and renewals. Around 1,800

existing active lineworkers will be automatically transitioned to licences on 1 January 2021, with a staggered licence duration to smooth out renewals over time. This will mean there is around 360 lineworker licence renewals each year from 2023 onwards, however the renewal fee will be reduced for renewals occurring between 2023 and 2025 (see footnote 59 on page 49). This will result in additional fee revenue (according to the fees prescribed in the proposed Regulations) of \$29,000 in 2022-23 rising to \$72,000 per year from 2025-26 onwards.

The benefits of the proposed Regulations are difficult to measure. This is because:

- electricity safety regulations have been around for many decades and unsafe electrical events are relatively rare
- the safety benefits of the regulations are not observable—that is, avoided deaths, injuries, and property damage.

These benefits are also difficult to measure in monetary terms. Government guidance is that the value of a statistical life is \$4.5 million in 2020 dollars. This means that if licensing and regulating electrical workers saves three lives per year, then the proposed Regulations result in a positive outcome for the community. ESV believes that more than three lives are saved per year by having a licensing system for electrical workers in place. The proposed Regulations are integral to that system.

Small business impacts

Electrical installation work is primarily carried out by small businesses. Most RECs and LEIs, for example, are sole traders or businesses with fewer than 20 employees (i.e., around 96 per cent). Accordingly, the impact of the proposed Regulations will fall almost entirely on small business.

However, the proposed Regulations do not disproportionately fall on small business. The licensing arrangements primarily focus on the individual not the organisation, and there are no administrative economies of scale associated with licence applications or other requirements. Competencies and qualification requirements apply equally to licensees from small or larger businesses and other requirements are set at a level affordable to small business.

Competition Assessment

Any regulatory proposal needs to be scrutinised carefully to assess whether it may have an adverse impact on the ability of firms or individuals to enter and participate in the market. The proposed Regulations may affect competition in several ways.

The proposed Regulations give effect to a licensing regime that imposes requirements that increase the difficulty for new firms and individuals to enter the market by establishing minimum qualifications or levels of experience thresholds. This, in turn, results in a reduced number of electrician workers that could enter this market in the absence of these requirements. This RIS assesses that the costs of such restrictions are outweighed by the safety benefits of the proposed Regulations.

The proposed Regulations will also make it more difficult for a for new firms or individuals to enter the industry after the imposition of the proposed measure. This is because without the regulations no licences would be required to undertake electrical work. The proposal restricts electrical work to only those who hold licences.

The quality of service levels is implicitly imposed by the regulations than would be case if the regulations did not exist (e.g., service delivery must be competent and safe; that is, a higher quality of service than if there were no regulations). These are likely to impose incremental costs on the industry and consumers, but it is assessed that these costs are outweighed by the safety benefits.

Overall, ESV considers that it is necessary to impose these restrictions on competition in order to achieve the policy objectives of electrical safety.

How will the preferred option be put into place?

ESV will implement the proposed Regulations through established well-understood processes. Changes from the current Regulations will be highlighted online, and information will be sent to all current registered contractors and licensed workers through existing communication channels.

The proposed Regulations include transitional provisions.

- Skills maintenance requirements of CPD will be introduced in 2023, with skills development training required from 2028.
- Lineworkers registered with ESV before the proposed Regulations commence will be automatically transferred to the new lineworker licence from 1 January 2021 without the need to apply for the licence or pay the new licence fee for this transfer.
- CPD training for lineworkers will not be required until 2028.

ESV will establish a CPD Industry Steering Committee to enable industry, trainers, employee groups to contribute and provide advice on the implementation and ongoing delivery of CPD in Victoria.

ESV is currently in discussions with Service Victoria to improve digital communication processes to support the implementation of the proposed Regulations.

Evaluating the proposed Regulations

ESV will implement an evaluation strategy for the proposed Regulations. The evaluation will be assessed against the objectives of the proposed Regulations, which can be summarised as:

- improving electrical safety outcomes for the general public, electricity customers and electrical workers
- ensuring fees are levied in a simple, equitable and efficient manner to recover ESV costs.

Given that the proposed Regulations impose a relatively high impact on the industry, a mid-term review (in 3 to 5 years) of the Regulations will be conducted. In particular, new proposals and options for continuing professional development will be evaluated. An Industry Steering Committee will be established in 2020 to, among other things, monitor and review the CPD requirements. ESV will also conduct the review into the other aspects of the Regulations. It will rely on incident data, inspection and enforcement data, and complaints and safety reports. This data is collected on a monthly basis.

In addition, ESV announced in May 2020 that it will conduct a broad-based, independent review assessing the electrical inspection regime. The review will begin with an examination of the inspection and certification of solar system installations. It will then encompass the entire inspection regime. The review will engage industry and representative groups, government including agencies such as Solar Victoria, trade unions and inspectors. A final report from the review is due by December 2020.³ This review may have consequences for the Regulations in the future, such as administrative changes to ESV's regulatory approach.

Who has been consulted?

There has been extensive engagement with industry on the proposed Regulations. Eight workshops were held with stakeholders from the industry, including representatives of the Electrical Trades Union (ETU), the distribution businesses, the tram and train franchisees, and other stakeholders. An issues paper was released in March 2020, seeking stakeholder feedback. The stakeholder submissions are summarised in this RIS.

³ ESV to review electrical inspection regime: <https://esv.vic.gov.au/news/review-electrical-inspection-regime/>.

Engagement to date suggests that the proposed Regulations are well targeted and are likely to deliver a positive net benefit to the community. With respect to specific regulatory proposals:

- there was broad support for introducing a regime of skills maintenance/CPD for electricians. There were differing views on the amount of skills and professional development required, which are considered in this RIS
- there were also differing views regarding the ideal number of lineworker licence categories—one suggestion was to have a single licence category that could cover one or more classes of linework depending on the qualifications and training of the licence holder.

The release of the proposed Regulations and this RIS now provides a further opportunity for interested stakeholders to provide comment on any element of the proposed Regulations. All submissions will be considered before the proposed Regulations are made.

Questions for stakeholders

In general, do you agree the proposed Regulations are relevant and likely to be effective?

Do they adequately reflect changes in the electrical supply and installations industry?

Do they represent good practice in comparison to other jurisdictions?

Are they likely to cause unintended consequences?

Do you have any other general comments on or views about the costs, benefits or impacts of the proposed Regulations?

Do you support introduction of skills maintenance and development requirements for electricians in Victoria?

What do you consider would be the main benefits and impacts of such skills requirements?

Is skills development, in addition to skills maintenance, important for electrical safety?

Is the proposed scope of work for linework appropriate? Should other licence categories be considered?

Can stakeholders suggest ways to streamline or improve licence application or renewal process?

Should the decision to take out Public Liability Insurance be left to the licence holder to make, rather than making it compulsory through the regulations?

Do you have any views or comments on the other options considered, and/or the associated regulatory change proposals?

Do you agree that ESV should recover its costs through fees on electrical workers? If not, how else should ESV recover these costs?

Does the fee structure balance the need to tailor fees for individual classes against maintaining a simple fee structure?

Is there merit in recovering some costs through an annual fee on electrical workers? Could this be administered easily?

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1 Background

1.1 Why we regulate electrical workers

Electricity is inherently hazardous. It can cause death or serious injury through electrocution, or death, injury or property damage through fires ignited by electricity. Inappropriate electrical work can also damage appliances and affect network reliability and safety.

Injuries caused by electricity include burns, trauma injuries, damage to tissues (from electricity entering the body), brain injuries, and organ failure, including cardiac arrest.

The specific nature and extent of these risks is discussed further in Chapter 2.

1.2 Legislative framework

The primary legislation that regulates electrical safety in Victoria is the *Electricity Safety Act 1998* (the Act).⁴ The Act takes a comprehensive approach to promote end-to-end safety when dealing with electricity.

The primary objective of the Act relevant to this RIS is the regulation of *who can be an electrical contractor or worker*. Without prescribing specific provisions in the Regulations, electrical contractors and workers would effectively be unregulated (i.e., to promote electricity safety the Act envisages regulations be made to give operational effect to the legislation, and thus the electricity safety regime).

The Act also sets out:

- rules for carrying out electrical work
- standards for electrical equipment
- requirements for electrical lines on public land and underground electrical lines
- bushfire management requirements and electrical line clearances
- safety management duties for major electricity companies
- reporting of incidents
- systems for the checking, audit, compliance, and enforcement of safety requirements.

While the Act establishes most of the high-level safety obligations, finer details are set out in associated statutory rules (or 'regulations') made under the Act.⁵ There are currently eight sets of regulations in place:

- Electricity Safety (General) Regulations 2019
- Electricity Safety (Registration and Licensing) Regulations 2010
- Electricity Safety (Bushfire Mitigation Duties) Regulations 2017
- Electricity Safety (Bushfire Mitigation) Regulations 2013
- Electricity Safety (Cathodic Protection) Regulations 2019
- Electricity Safety (Electric Line Clearance) Regulations 2020
- Electricity Safety (Equipment Safety Scheme) Regulations 2019

⁴ There are also other Acts that promote electrical safety, such as the *Occupational Health and Safety Act 2004*.

⁵ Sections 152, 156 and 157 provides the authority to make regulations under the Act.

- Electricity Safety (Management) Regulations 2019.

The proposed Electricity Safety (Registration and Licensing) Regulations 2020 (the subject of this RIS) would replace the Electricity Safety (Registration and Licensing) Regulations 2010 (the current Regulations), which are due to lapse on 31 December 2020.⁶ The current Regulations, among other things, prescribe:

- the classes of electrical installation work, electrical contracting and electrical work, which define the types of registration or licensing
- the requirements for applying for registration or licences
- the qualification requirements for registration or licensing
- minimum insurance requirements
- conditions of registration
- fees for application and renewal of registration/licence.

1.3 Energy Safe Victoria

Energy Safe Victoria (ESV) was created in 2005 through the merger of the former Office of the Chief Electrical Inspector (OCEI) and the Office of Gas Safety. The rationale was to establish a single, integrated, energy safety regulator and to streamline its work and improve efficiency, without compromising the high-quality safety outcomes achieved by its predecessor organisations.

ESV is an independent statutory authority responsible for electricity, gas and pipeline safety in Victoria. A technical regulator, it licenses electricians; manages the Certificate of Electrical Safety (COES) program; conducts community safety campaigns; ensures electrical and gas products are approved and safe for use; and investigates gas and electrical incidents.

ESV's role is broad and ranges from accepting industry's safety cases and safety management schemes for the design, construction, operation and maintenance of electricity, gas and pipeline networks across the state, to enforcing standards and administering regulations covering gas and electrical appliances and installations, pipelines and energy efficiency.

In relation to electrical safety, ESV's objectives include:

- ensuring the safety of electrical generation, transmission and distribution systems, electrical installations and electrical equipment
- controlling the safety standards of electrical work.

Of particular relevance to this RIS, ESV performs a number of regulatory functions in relation to electrical work. ESV staff:

- handle complaints relating to electrical work
- carry out investigations and prosecutions arising from complaints and incidents
- respond to electrical incidents involving injury or death, or damage to property
- undertake electrical safety-related advocacy and awareness raising at industry forums.

⁶ Regulation 3 of the Subordinate Legislation (Electricity Safety (Registration & Licensing) Regulations 2010) Extension Regulations 2020.

ESV is led by the Director of Energy Safety (the Director), who is appointed under the *Energy Safe Victoria Act 2005*.⁷ This Act is administered by the Minister for Energy, Environment and Climate Change (the Minister).

ESV's activities are fully funded by industry, through a combination of fees for services and a levy on distribution companies. In 2018-19, ESV had a total income from transactions of \$40.9 million. This was made up of:

- \$21.9 million (54 per cent) from levies on distribution companies (\$9.2m from electricity companies)
- \$18.1 million (44 per cent) from fees for services
- \$0.7 million (2 per cent) for other income (such as interest).

Around 21 per cent of ESV's income from fees (\$3.8 million) came from the fees from the registration and licensing of electrical workers.⁸

1.4 Industry context

The Act and the current Regulations define the key participants in the industry in connection with electrical installations:

- licensed electrical installation workers
- Registered Electrical Contractors (RECs)
- Licensed Electrical Inspectors (LEIs)
- owners and operators of high voltage and complex electrical installations
- owners and operators of domestic and commercial electrical installations
- owners and occupiers of patient treatment areas.

In 2018-19 there were over 47,000 Licensed Electrical Workers (LEWs) and registered electrical contractors, who carried out work on over 768,000 electrical installations.

Key sector trends over the past five years include:

- greater use of battery storage
- wider use of solar power and panels, particularly in domestic dwellings
- power over Ethernet and other IT-related electrical technologies
- other economic and technological trends that are changing how people and businesses use electricity.

The adoption of solar panel and battery systems is enabling traditional consumers of power to now generate, store and trade their own electricity. Australia has one of the world's highest rates of rooftop solar photovoltaic systems and integration of photovoltaic systems with home battery storage.

Power over Ethernet is becoming widely used to support scalability of networks through the transmission of power through network cables. These networks include video, point-of-sale devices, security access control, building automation and lighting and industrial automation.

⁷ From the commencement of the Energy Safety Legislation Amendment (Victorian Energy Safety Commission and Other Matters) Act 2020, the office of the Director of Energy Safety will be abolished, with ESV to be led by the newly established Victorian Energy Safety Commission (expected 1 January 2021).

⁸ Energy Safe Victoria, 2018-19 Annual Report, pp. 73-79

New products and services in process and home automation are regularly coming to market. Packaged home automation systems are now being offered that include smart plugs, door, window and motion sensors to conserve energy and finely control household devices. Industrial process automation services and devices are also becoming commonplace.

Further specific trends, including solar power and battery storage, are discussed later in this RIS.

1.5 The purpose and structure of this RIS

The *Subordinate Legislation Act 1994* (the Subordinate Legislation Act) requires that all statutory rules in Victoria automatically lapse after ten years. This is to ensure that the need for continued regulation is regularly re-examined and regulations remain fit for purpose.

Accordingly, the Subordinate Legislation Act requires that proposals for regulations that impose a ‘significant economic or social burden on a sector of the public’ must be formally assessed in a Regulatory Impact Statement (RIS), whether for new regulations or replacing existing ones. The RIS assessment process aims to ensure that the costs of the regulations are outweighed by the benefits, and that the regulatory proposal is superior to alternative approaches. Stakeholder consultation is also required.

The Electricity Safety (Registration and Licensing) Regulations 2010 expire on 31 December 2020.⁹ This RIS is being prepared to facilitate public consultation on the proposed Electricity Safety (Registration and Licensing) Regulations 2020, which will replace the current Regulations.

As required by the Subordinate Legislation Act, the assessment framework of this RIS:

- examines the nature and extent of the problem to be addressed
- states the objectives of the proposed Regulations
- explains the effects on various stakeholders
- assesses the costs and benefits of the proposed Regulations and compares their impacts to other feasible alternatives.

Reflecting the scope of the proposed Regulations, this RIS is set out in the following sections:

- **Chapter 2** outlines the problem being addressed by the proposed Regulations—that is, the reasons for requiring electrical workers to be registered or licensed
- **Chapter 3** states the objectives of the proposed Regulations
- **Chapter 4** outlines and assesses the various approaches to regulating electrical workers, and examines proposed specific technical changes to the Regulations
- **Chapter 5** is concerned with determining the appropriate fees for registration and licence applications and renewals
- **Chapter 6** summarises the preferred approach
- **Chapter 7** examines impacts on small business and competition
- **Chapter 8** outlines the intended approach to enforcement, implementation and review of the proposed Regulations

⁹ The operation of the Electricity Safety (Registration and Licensing) Regulations 2010 was extended from 27 April 2020 to 31 December 2020 to provide appropriate time for consultation on some of the new proposals contained in this RIS and to align the commencement of the proposed Regulations with the commencement of the *Energy Safety Legislation Amendment (Victorian Energy Safety Commission and Other Matters) Act 2020* which includes new provisions for the licensing of lineworkers.

- **Chapter 9** documents consultation undertaken to inform the development of the proposed Regulations.

2 The problems addressed by the Regulations

2.1 The problems sought to be addressed

Electricity is inherently hazardous.¹⁰ The main hazards are:

- proximity to or contact with live lines and parts (including batteries) can cause electric shock and burns
- electrical installations (with and without faults) can be the source of ignition for fires and explosions.

Electric shock accidents and electrical fires in homes, workplaces and elsewhere present major health and safety risks to people. In the extreme, electrical accidents can cause death. (Formally, the Electrical Regulatory Authorities Council (ERAC) defines a ‘fatal electrical incident’ as any fatal event that results from an electrical shock, electrical burn or electrical arc burn except if linked to the initial event of a natural disaster, criminal activity or suicide.)

When working with electricity, safety is paramount. Exposure to electricity can result in a range of injuries, including:

- damage to the cardiovascular system (e.g., cardiac rhythm disturbances)
- skin injuries and burns
- nervous system disruption
- respiratory arrest
- head injuries, fractures and dislocations caused by being thrown due to the severe muscle contractions induced by the current.

The severity of electrical injury varies according to the strength of the current, the length of time the current passes through the body, the method of transmission (direct or indirect), the point at which electricity enters and leaves the body, the pathway the current takes through the body, and the physical conditions under which the event takes place.

Electrical incidents have consequences beyond the immediate impacts on life and wellbeing. Serious injuries entail healthcare and downtime costs. Incidents also involve damage to property. Economic losses from electrical fires can be significant.

Construction industry: electrical safety snapshot

The construction industry includes building-related electrical installation work, which is a key area of risk for electrical workers.

According to the Safe Work Australia construction industry snapshot (June 2018)¹¹: Construction and mining labourers accounted for the highest proportion of worker fatalities (22 per cent or 27 fatalities over the four-year period), followed by electricians (11 per cent or 14 fatalities), bricklayers, carpenters and joiners (8 per cent or 10 fatalities) and mobile plant operators (8 per cent or 10 fatalities).

¹⁰ A **hazard** is a source or a situation with the potential for harm in terms of human injury or ill-health, damage to property, damage to the environment, or a combination of these. Electricity is an example of a hazard. A **risk** is the chance of something happening that will have a negative effect. The level of risk reflects the likelihood of the unwanted event and the potential consequences of the unwanted event.

¹¹ <https://www.safeworkaustralia.gov.au/doc/construction-priority-industry-snapshots-2018>.

2.1.1 Incident data

This section provides evidence of the risks associated with electricity. These risks are commonly managed by government through licensing. The licence provides a point of contact with government and allows the government to manage these risks by ensuring that minimum levels of skills and competence have been attained. Without licensing it is likely that the number of deaths, serious injuries and property damage would be much higher.

The ERAC report covers the 12-month period from 1 July 2018 to 30 June 2019. It is based on details of incidents reported to electrical safety regulators in Australia and New Zealand. In summary, 14 electrical deaths from 13 incidents were recorded in Australia and New Zealand in 2018-19. This is equivalent to 0.43 deaths per million people (dmp) which is 0.26 dmp higher than the prior year. Of the 12 deaths that occurred in Australia, four of them occurred in Victoria. The ERAC results are summarised in Table 4. The table distinguishes between work-related electrical injuries, and injuries involving customers and members of the public.

Table 4: Incidents 2018-2019 (Australian and New Zealand) by source

Type	Incidence	Affected persons
Distribution-network-related deaths	There were 7 deaths caused by electrical accidents involving contact with an overhead line; 3 members of the public; 3 non-electrical workers; and 1 electricity supply worker.	Of the 14 people in total who were killed, 70% (10 of the 14) were either non-electrical workers, or members of the general public.
Customers' installations, appliances or equipment	There were five deaths caused by separate incidents involving customer installation and 2 involving electrical equipment.	

About 90 per cent (113 of 127) of the number of deaths associated with the electricity supply network from 2000-01 to 2018-19 (the last 19 years) involved contact with overhead electrical conductors (power lines).

Table 5 presents data on the number of deaths and serious injuries arising from electrical accidents in Victoria since 2003-04 (in 2001-02 it became mandatory for electrical safety switches to be installed to both the power and lighting circuits of new residential dwellings, and in established dwellings where significant electrical work was undertaken). To adjust for Victoria's rising population, the table also shows deaths and serious injuries per million people.

Over this period, there have been 40 deaths and over 700 serious injuries in Victoria. While there is no apparent trend in the number of electrical-related fatalities since 2003-04, there has been a marked downward trend in the number of serious injuries.

Table 5: Number of deaths and serious injuries from electrical accidents in Victoria since 2003-04

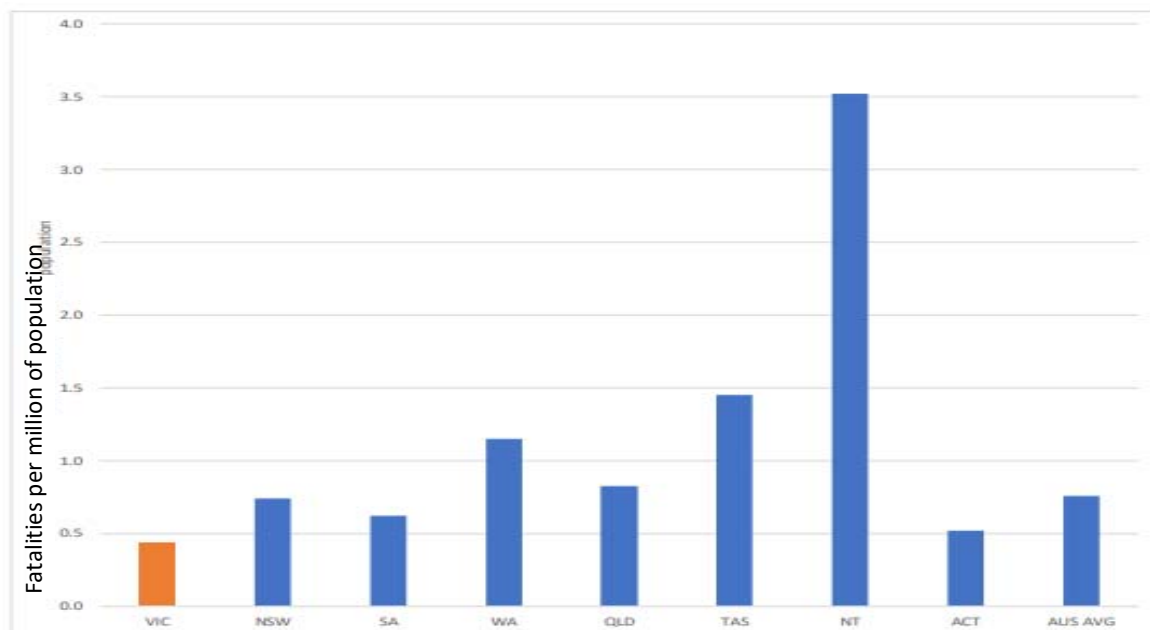
	Deaths	Serious Injuries	Deaths per million people (dmp)	Serious Injuries per million people
2003-04	1	138	0.20	28.01
2004-05	1	156	0.20	31.37
2005-06	6	67	1.38	13.24
2006-07	2	44	0.78	8.54
2007-08	1	69	0.19	13.13
2008-09	1	56	0.19	10.42
2009-10	9	45	1.83	8.24
2010-11	4	37	0.72	6.68
2011-12	1	40	0.18	7.08
2012-13	1	38	0.17	6.58
2013-14	2	9	0.34	1.53
2014-15	1	9	0.17	1.49
2015-16	5	7	0.81	1.13
2016-17	2	7	0.32	1.11
2017-18	3	2	0.46	0.31
2018-2019	4	2	0.43	0.01
Total	44	726		

Note: Excludes wilful events.

Sources: ESV, ABS.

Figure 1 compares the electrical safety performance of each jurisdiction in Australia, as measured by the average number of electrical fatalities per million of population over the period from 2001-02 to 2018-19. It reveals that Victoria has the lowest rate of electrical death in Australia over this period.

Figure 1: Interjurisdictional comparison of electrical deaths, 2001-02 to 2018-19



Sources: ESV, Electrical Regulatory Authorities Council, Australian Bureau of Statistics

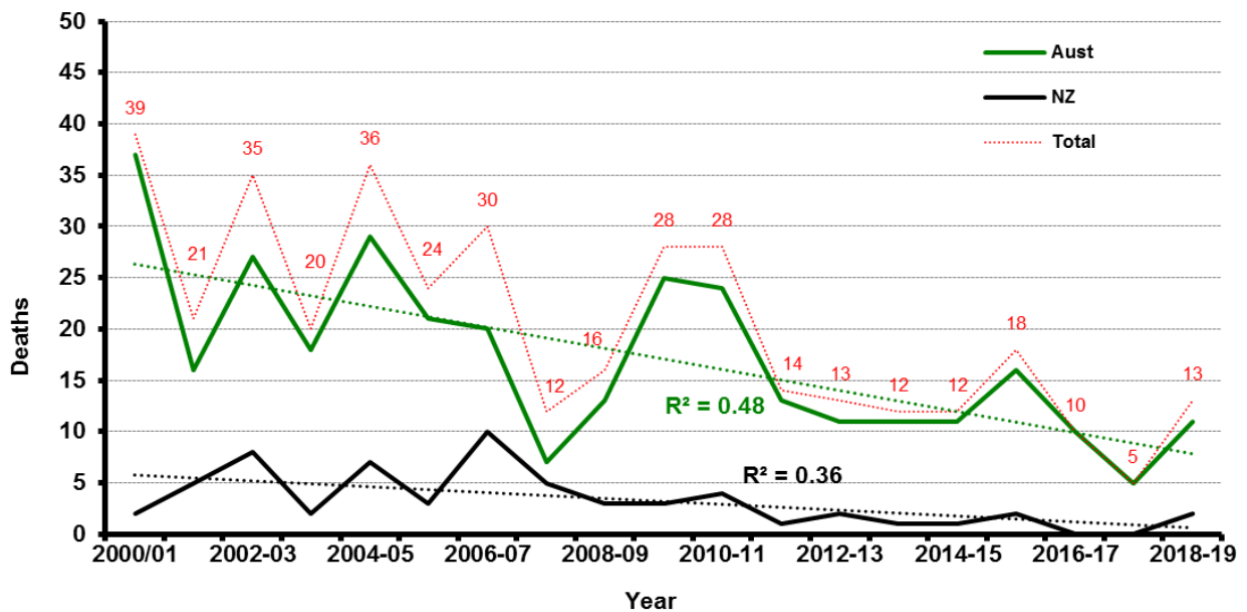
2.1.2 Trend analysis

ERAC analysed electrical fatality information from the past 19 years (2000-01 to 2018-19) for trends and frequency. In summary, ERAC found:

- electrical deaths continued to show a decrease from an average (three years) of 1.79 dmp in 2000-01 to 0.39 in 2018-19. The average rate of reduction was 0.08 dmp per year
- in Australia, the reduction was from 1.87 to 0.43 (0.08 per year) dmp, while for New Zealand the reduction was from 1.39 to 0.14 (0.07 per year)
- the highest proportion of electrical deaths associated with electricity networks were as a result of working on or near energised overhead conductors: 90 per cent (113 of 127) of electrical deaths associated with electricity supply networks involved overhead conductors
- consumer appliances and equipment were involved in a little over twice the number of deaths than electricity supplier assets. There was large variation in the number of deaths involving consumer equipment from one year to the next, compared to deaths involving electrical supplier assets. The dmp continued to decline over the 19 years for both consumer and supplier assets.

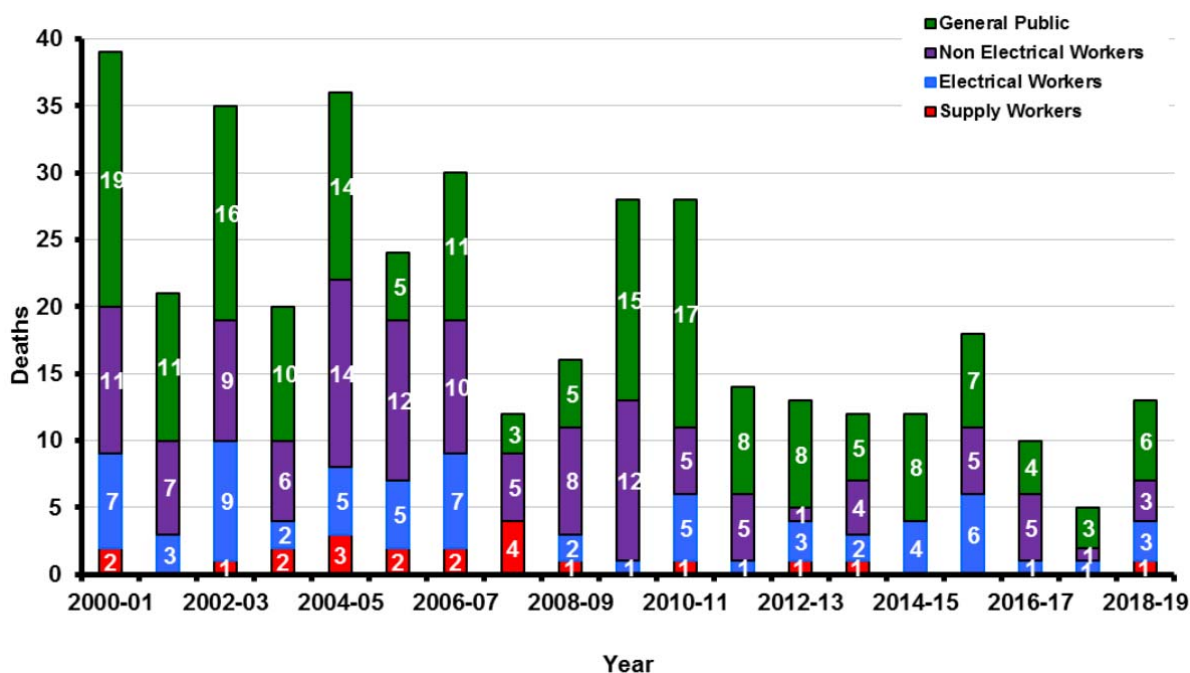
The following figures from ERAC provide a breakdown of the electrical deaths according to the states and territory and by category of victim. The figures show that, while deaths have broadly declined over the past two decades, there are significant differences in the location and nature of the fatal incidents.¹²

Figure 2: Number of electrical deaths in Australia and New Zealand



¹² Source of figures: Electrical Regulatory Authorities Council, Electrical Fatal Incident Data, Australia & New Zealand 2017–2018, Item 2.9.

Figure 3: Electrical deaths classified by category of victim



2.2 Data on the sector workers

Table 6 below shows that since 2010-11 (since the regulations were last remade) the total number of licences have increased from 39,522 to 68,820 in 2018-19, or by 74 per cent, while the number of registrations over this period have increased from 10,522 to 24,873, or by 136 per cent. There are currently 4,043 lineworkers (see note), an increase of 50 per cent since 2010-11.

Table 6: Total number of registered and licensed practitioners

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-2018	2018-2019
Total number of licences	39,522	40,767	41,839	48,093	51,798	56,125	60,153	64,229	68,820
Electrician licences (A grade)	30,072	31,511	32,910	37,313	40,330	43,886	47,202	50,553	54,495
Disconnect/reconnect licences	7638	7425	7188	8629	9212	9849	10,457	11,075	11,608
Supervised worker's licences	1417	1419	1305	688	786	918	958	1031	1125
Inspector's licences	364	383	410	519	526	561	596	631	653
Occupiers licences	31	29	26	23	23	23	22	21	21
Total number of registrations	10,522	11,132	11,975	17,504	18,508	19,629	21,351	23,115	24,873
Registered spotters	9257	11,225	12,537	14,160	16,085	17,673	20,211	22,982	26,997
Registered lineworkers	2702	3065	2962	3107	3474	3507	3934	3995	4043*

* Note: ESV believes that there are around 1,800 active lineworkers. Because lineworker registration does not expire, it is likely that more than half of the current registrations are no longer active.

2.3 The costs of regulating electrical workers

In 2020-21, the costs to ESV of administering the registration and licensing of electrical contractors and workers under the current arrangements is estimated to be around \$4.1 million, with the cost in future years being between \$3.9 million and \$4.6 million each year in real terms.¹³ Changes to requirements considered in this RIS, such as the introduction of CPD and licensing of lineworkers, may involve additional costs to ESV.

ESV's costs in relation to electrical workers encompasses:

- assessing applications for registration or licence
- compliance and audit activities to ensure workers are working in accordance with their registration or licence
- investigating complaints against electrical workers
- disciplinary activities
- data collection and management
- processing transactions, including payments
- information and engagement.

These activities are necessary for ESV to meet its legislative functions, and to ensure the objectives of the Act are met in an efficient and effective manner.

In particular, these activities are required to fulfil ESV's statutory role to:

- ensure the electrical safety of electrical installations and electrical equipment
- control the electrical safety standards of electrical work carried out by electrical workers
- maintain public and industry awareness of electrical safety requirements.

ESV is a self-funded authority. Its activities are funded through a combination of fees for services and a levy on distribution companies. In 2018-19, ESV had total operating expenses of \$38.8 million; around \$3.8 million, or 10 per cent, of these expenses were met from revenue from the fees charged in relation to the registration and licensing of electrical contractors and workers.

The fees charged by ESV in 2019-20 and 2020-21 are less than what is prescribed in the current Regulations. This is because:

- despite the current Regulations allowing for an increase in fees on 1 July 2019 (by virtue of the automatic increase to fees across government each year¹⁴), ESV decided to not increase the dollar amount of fees in 2019 in recognition of other transitions that were occurring in the administration of licences. That is, the fees charged in 2019-20 were below the fees prescribed in the current Regulations. This reduced fee revenue from electrical registrations and licensing by 2.5 per cent (around \$100,000) in 2019-20. At that time, it was anticipated that the fee increase would be delayed, and 'catch up' in July 2020
- in April 2020, the Victorian Treasurer determined that the value of fee units across government would not be increased for 2020-21, reflecting an intention to freeze all government fees in response to the Covid-19 pandemic. This 'freezing' applied to the fees prescribed in the current

¹³ The range is due to the variability in the number of new registration and licence applications each year, and the pattern of renewals being not smooth. See Chapter 5 for further detail on these costs.

¹⁴ Most fees across government are expressed in terms of a number of 'fee units'. Pursuant to section 6 of the *Monetary Units Act 2004*, the Treasurer sets the value of a fee unit each year.

Regulations only, meaning that ESV could still increase the actual fees charged to match the level in the Regulations. However, ESV took the decision to not increase fees again from 1 July 2020, consistent with the objective of the Government decision to not increase costs to business during the present situation.¹⁵ As such, the fees being charged in 2020-21 remain 2.5 per cent below the fees prescribed in the current Regulations.

The following table compares the prescribed fees with the fees charged over the past three years.

Table 7: Current prescribed fees

Registration/licence type	Fee amount based on prescribed fee units in current Regulations			Fee actually charged in 2018-19, 2019-20 and 2020-21	
	Fee units ¹⁶	2018-19	2019-20		2020-21
Electrical contractor – new registration	43.3	\$625.69	\$641.30	\$641.30	\$625.69
Electrical contractor – renewal	20.8	\$300.56	\$308.00	\$308.00	\$300.56
Electrical inspectors and Restricted Electrical workers – new licence	43.3	\$625.69	\$641.30	\$641.30	\$625.69
Electrical inspectors and Restricted Electrical workers – renewal	20.8	\$300.56	\$308.00	\$308.00	\$300.56
All other licences – new	27.8	\$401.71	\$411.70	\$411.70	\$401.71
All other licences – renewal	20.8	\$200.86	\$205.90	\$205.90	\$200.86
Supervised Workers licence	27.8 x 60% ¹⁷	\$241.03	\$247.00	\$247.00	\$241.03

The lapsing of the current Regulations on 31 December 2020 provides an opportunity to reassess ESV costs and reset the fees to be prescribed in the new Regulations.

2.3.1 The principle of cost recovery

Cost recovery can be defined as the Government recouping costs of a service it provides or activity it undertakes through fees.¹⁸ Cost recovery is a method of recovering all or some of the cost of particular activities undertaken by government agencies from individuals or businesses, based on the beneficiary pays¹⁹ or impactor pays²⁰ principle. The concept ‘user pays’ is used to capture both situations.

The task of setting fees or charges involves determining whether to recover costs directly from users or others who benefit from the service being provided, those whose actions give rise to the need for the activity, or taxpayers more generally. Whether costs should be user pays or more generally funded by taxpayers will depend on the type of activity and the existence of any public benefits.

¹⁵ See <https://esv.vic.gov.au/news/licensing-coes-fees-remained-unchanged/>

¹⁶ The value of each fee unit was \$14.45 in 2018-19 and \$14.81 in 2019-20 and 2020-21. See: <https://www.dtf.vic.gov.au/financial-management-government/indexation-fees-and-penalties>

¹⁷ As the Supervised Workers licence lasts only 3 years, the Regulations allow the fee to be reduced to reflect the shorter licence duration.

¹⁸ Better Regulation Victoria, Guidance Note for Fees RISs, December 2019.

¹⁹ Those who benefit from the provision of a particular good or service should pay for it (Productivity Commission, 2001, p. XXI).

²⁰ This is where impactors (the party that gives rise to the need for regulation) meet the full costs of their actions, based on the view that those who create the need for a service should incur these costs.

The Victorian Government's *Cost Recovery Guidelines* apply to the question of cost recovery of the following activities:

- Government provision of a good or service e.g., issuing a birth certificate, certificate of title, or a working with children check; or providing access to land valuation data
- Regulatory activities e.g., registration, licensing, approvals, issuing of permits, and compliance and enforcement.

ESV's activities in relation to electrical workers arise because of the framework established in the Act, which permits registered contractors and licensed electricians to undertake electrical installation work, subject to the inspection and audit regime set out in the Act. It is the activities of the electrical contractors and workers that give rise to the need for ESV's inspection and enforcement activities.

The Victorian Government's policy is that there should be full cost recovery (expected revenue equals expected costs) for regulatory fees unless this would substantively undermine other important objectives.

2.3.2 Why fees are needed for electrical workers

Cost recovery on a 'user pays' basis promotes the efficient allocation of resources by sending the appropriate price signals about the value of all the resources being used in the provision of government goods, services and/or regulatory activity. From a horizontal equity perspective, cost recovery ensures that those that have benefited from government-provided goods and services, or those that give rise to the need for government regulation, pay the associated cost. Those parties that do not benefit or take part in a regulated activity do not have to bear the costs.

If the cost of ESV's activities in relation to registration and licensing of electrical workers are not recovered through fees, the cost would need to be met from taxpayers generally through the state budget, or, under the ESV funding model, from other parties²¹ not directly connected to the registration or licensing of electrical workers:

- No cost recovery for these ESV activities from those that use the services could lead to higher demand for these activities, leading to higher than optimal costs. This is likely to be an inefficient use of government resources, as there is no price signal to reflect the cost of each activity.
- No cost recovery may be unfair, in that all taxpayers or other parties pay for the activities even though they do not directly benefit from the activities. This is a failure to achieve what is known as 'horizontal equity'.

Arguably, the need for ESV's activities is ultimately not driven by electricians themselves, but by their customers who create the demand for electrical installation services. However, the cost recovery principles assume that levying fees on a regulated party are ultimately reflected in the price charged to customers, and hence are an effective price signal, compared to raising funds from taxpayers generally whether or not they use any electrical installation services.

²¹ For example, without charging fees for licences and registration, ESV (as a self-funded agency) would need to increase its other fees or levies or seek direct government funding.

3 Objectives of the proposed Regulations

3.1 Policy context

The Victorian Government's energy policy emphasises the sustainable, secure, reliable and affordable supply of electricity and other forms of energy, and safety in the supply and use of electricity and other forms of energy.

Of specific relevance to this RIS, the Government has articulated a goal of promoting, through ESV, the safe use of electricity. That goal is expressed in ESV's mission and vision.

Energy Safe Victoria's mission

ESV protects and assists the community by:

- working co-operatively and in consultation with the industry and community to facilitate safety outcomes
- developing and communicating safety and efficiency requirements and programs
- monitoring, auditing, and enforcing compliance with the requirements
- administering licensing, registration and approval systems that maintain safety standards and skills.

ESV's vision is:

- Victoria will be a state where the community, industry and regulators share a strong commitment to the safe and efficient supply and use of electricity and gas.
- To ensure their safety, the community and industry will demand that work involving electricity and gas is carried out only by workers who are skilled and appropriately trained. The industry workforce will have numbers sufficient to deliver community requirements into the future.
- ESV will be nationally respected and recognised as a leader in safety regulation that facilitates safety and efficiency outcomes through strong communication and consultation, clear regulation, and fair audit and enforcement activities. These activities will be carried out by a highly skilled, professional and adaptable regulatory team who are leaders in their field and are able to explain their actions and decisions.
- Safety and efficiency will be delivered within a framework that is cost effective and fair for all parties. This framework will be consistently and openly communicated to the community and industry.
- This will create a safer state for the benefit of all Victorians.

The Victorian Government is encouraging the adoption of household solar and battery systems, including through the Solar Homes Initiative, which offers a 50 per cent rebate to eligible households on the installation of residential battery storage systems. Public safety considerations are emphasised in this program, which includes funding to train and accredit electricians as installers of solar and battery systems that meet safety standards. The Minister has asked ESV to give particular attention to battery system and solar system safety in the performance of its regulatory roles.²²

²² For further information on solar safety and quality assurance, see: <https://www.solar.vic.gov.au/Quality-Assurance>.

In addition, prior to the 2018 state election the Government made a commitment “to deliver a licensing scheme to keep our electrical line workers safe.”²³ In February 2020, an amendment was made to the Act to provide for lineworkers to be licensed from 1 January 2021. The Parliamentary debates on the Bill summarised the Government’s policy position:

The benefits of the [lineworkers] licensing scheme ... are that it will improve safety outcomes and maintain professional standards by enhancing ESV’s visibility and oversight of the workforce and mandate the minimum qualifications and experience required to work on the transmission, distribution and traction networks. It will also bring Victoria into line with other jurisdictions, including Queensland, Tasmania, and the Northern Territory.

The proposed reforms will modernise the existing registration system for line workers and enable improved labour mobility between states and territories by establishing a recognised qualification. That has to be to the benefit of the community but specifically to line workers as well. The more standardisation that you have the better it has to be across Australia.

The other significant point is that currently line workers register once for life. There are no requirements to maintain skills and experience, nor is there an imperative to update Energy Safe Victoria should a worker’s circumstances change, which prevents ESV from maintaining accurate data on the active workforce.

It makes perfect sense that you would want to make sure, for their own safety as a minimum, that they are constantly getting that professional development and that we have a good and clear system that is able to regulate and to oversee—because oversight is the critical word, the operative word, here—ESV, ensuring the enhancement of oversight because fundamentally we are all better off in the long run. ... That surely gives greater security and safety for our Victorian community.²⁴

3.2 Legislative objectives

The regulatory objectives must give effect to the objectives of the *Electricity Safety Act 1998*, which are to ensure:

- the safety of electricity supply and use
- the reliability and security of electricity supply
- the efficiency of electrical equipment.

3.3 Objectives of the proposed Regulations

Considering the nature and extent of the problem outlined in chapter 2, the objectives of the legislation, and the government’s policy intentions, the objectives of the proposed Regulations are to:

- improve electrical safety for the general public, electricity customers and electrical workers
- ensure that all electrical installation work is undertaken only by competent persons with up to date skills
- ensure that electrical inspection work and linework is being undertaken by competent persons with up to date skills.

²³ Victorian Parliament, Hansard, Legislative Council, Debates Energy Safety Amendment (Victorian Energy Safety Commission and Other Matters) Bill 2019, Ms Nina Taylor, MLC, 18 February 2020, pp. 329-330.

²⁴ Ibid.

In relation to the principles of cost recovery, the objectives of the proposed Regulations are to set fees that:

- encourage the optimal use of regulatory activities (i.e., reflect the costs of the service or activity and whether this sends a price signal about the value of these activities)
- promote equity in the recovery of the costs of ESV activities related to regulating electrical contractors and workers
- do not undermine the achievement of safety objectives
- are easy to understand and administer.

4 Identification and assessment of options for regulating electrical workers

4.1 Base case

The base case describes the regulatory position that would exist in the absence of the proposed Regulations (i.e., the regulatory position after 31 December 2020 when the current Regulations expire). It is necessary to establish this position to make a considered assessment of the incremental costs and benefits of the viable options that address the identified problem.

The base case is difficult to establish in detail in the case of the Electricity Safety (Registration and Licensing) Regulations. This is because a licensing and safety regime has been in place for many decades and safety practices have developed in line with the regulations. Victoria's electrical safety regime is established through the Act. These regulations and the national standards operationalise the Act and provide further technical detail.

The Act establishes a licensing framework: for example, section 38 of the Act requires that a person must not carry out any class of electrical work that, *under the regulations*, is a prescribed class of electrical work unless the person is licensed as an electrical installation worker, an electrical inspector, an electrical connection worker, an electrical equipment worker, etc (emphasis added). If the Regulations were allowed to lapse then no licences would be prescribed and any person (i.e., unskilled or unqualified persons) would be able to undertake electrical work. The Wiring Rules and Standards would continue to operate because these are prescribed under the Electricity Safety (General) Regulations. Under this scenario it could be expected that most consumers would continue to use (previously licensed) electricians, but over time unskilled/unqualified players would enter the market. It could reasonably be expected that under this scenario more electricity-related deaths, serious injuries and property damage would occur.

A more realistic reference case presented in this RIS is to compare the status quo (i.e., the position under the current Regulations with the proposed Regulations). The main point of difference is that in the reference case CPD and licensing of lineworkers would not occur. In addition, other changes to improve safety or reduce regulatory burdens would not occur (see sections 4.6-4.8).

ESV reviewed each requirement in the current Regulations and made changes where this would clarify, simplify and update them. A number of changes were also made to reduce the regulatory burden, where such changes did not compromise safety.

Table 8 below provides costs associated with regulatory requirements in the proposed Regulations where these could be readily quantified. (Note: this includes the direct regulatory burden on industry of the proposed Regulations. The costs to ESV of administering the Regulations, which also impose a burden on industry through the setting of fees, as discussed in the next Chapter.)

The proposed Regulations also give effect to Victorian Government policy to license lineworkers. The preferred design option of a lineworker licence was based on extensive consultation. The costs over a 10-year period are estimated to be around \$117.8 million (PV), or around \$11.7 million (PV) per year. The new CPD proposal represents about one third of these costs. While these costs appear large, they are spread over 47,000 licences. These regulatory requirements are discussed below in greater detail.

In 2014, the Australian Government estimated the Value of a Statistical Life (VSL) at \$4.2 million, which is \$4.5 million in today's dollars²⁵, while international estimates vary considerably.²⁶ As an

²⁵ Department of Prime Minister and Cabinet, Office of Best Practice Regulation, *Guidance Note Value of Statistical Life*, December 2014

illustrative exercise, if the proposed Regulations prevent several deaths per annum then the benefits of the regulations would outweigh the costs.²⁷

Table 8: Costings of proposed Electricity Safety (Regulation and Licensing) Regulations 2020

Regulation	Description	Discounted cost (\$)
8	Application for registration	574,464
12	Prescribed PLI insurance	40,555,979
14	Obligations of registered contractors	6,256
15	Cancellation of registration	11,373
21	Electrician's licence	19,298,614
23	Supervised worker's licence	65,698
26	Electrical switchgear worker's licence	12,043
27	Restricted electrical worker's licence (Class 1)	518,420
28	Restricted electrical worker's licence (Class 2)	1,341
29	Electrical inspector's licence	873,016
31	Electrical lineworker's licence	6,806,074
33	Renewal of licence	1,284,548
34	Continuing Professional Development	47,859,982
35,37,38	Cancel licence, etc	9,831
		\$117,877,639

4.2 Options considered in this RIS

This RIS considers options at three levels.

1. **New proposals** to the Regulations are considered; these elements were the subject of considerable stakeholder consultation and are assessed in separate sections below.
 - introduction of CPD²⁸ (section 4.4): Option 1 – No CPD; Option 2 – Skills maintenance; Option 3 – Start with skills maintenance, then introduce a skills development requirement at a later date; Option 4 – Introduce full CPD (skills maintenance and skills development)
 - licensing of linework (section 4.5).
2. **Review of the current Regulations** have gone through a thorough review as part of this RIS and, as a result, a number of other changes have been made. These changes are intended to strengthen and clarify requirements in some areas and represent an incremental change to the existing Regulations (section 4.6 for high impact proposals and section 4.7 for low impact proposals).
3. **Burden reducing amendments** and updates were considered and tested with stakeholders. These are discussed below (section 4.8).

[Appendix C](#) sets out all the changes in the proposed Regulations.

4.3 Methodology

The RIS process seeks to ensure that proposed regulations are well-targeted, effective and appropriate, and impose the lowest possible burden on businesses and the community while achieving their objectives. The keystone of this process is to compare the options of each proposal to see which has the highest net-benefit.

Typically, costs imposed on business are the most suitable to assess quantitatively, while other costs and benefits can be more difficult to estimate in monetary terms. In this RIS efforts are made to

²⁶ Sandy and Elliot (UK)(1996) estimate the value of a statistical life as between \$US 5.2 million and \$US 69.4 million.

²⁷ Other benefits include avoidances of serious injuries, property damage, and rectification costs.

²⁸ CPD is composed of two elements: skills maintenance and skills development.

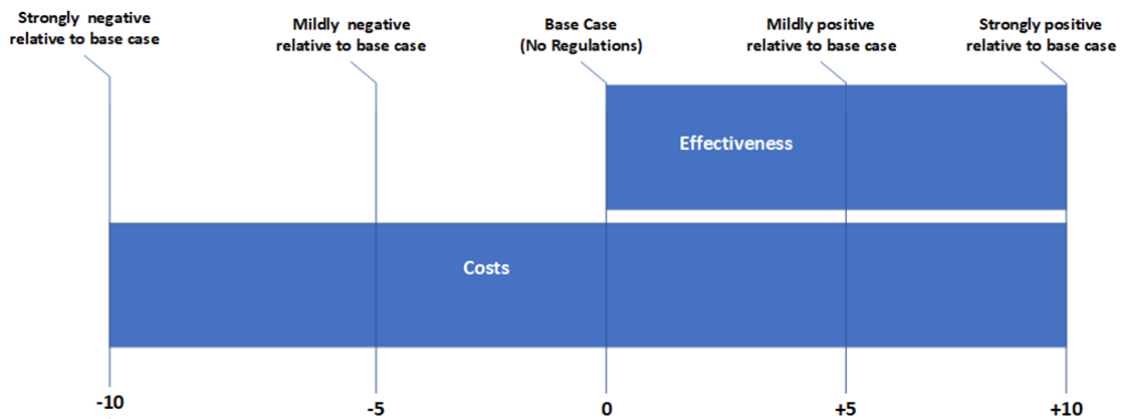
identify the monetary costs to business of the options. This will provide a reasonable estimate of the regulatory cost imposed on business for elements of the regulations.

The costs of each option can theoretically be readily expressed in monetary terms. In practice, however, it is often difficult to obtain adequate data to precisely identify the costs that an option would impose, and decision makers must rely on approximate or relative cost estimates. It is also difficult to express the effectiveness for these Regulations in monetary terms, as the objectives of the Act relate to electricity safety (i.e., hypothetical avoided costs). For these reasons, this document employs the multi-criteria analysis (MCA) assessment tool.

4.3.1 Multi-criteria Analysis

Under this type of analysis, each option is scored against the criteria below (effectiveness, and industry costs) relative to the base case as illustrated below:

Figure 4: Multi-criteria analysis scale used in scoring options



Effectiveness means how well the regulations achieve the government’s electricity safety objectives. Effectiveness is scored between 0 and +10. A score of 0 means that the option does not further the objectives of the Act in any way, relative to the base case. A score of +10 means that the option furthers the objectives of the Act to the optimum extent possible. A negative score is not possible for effectiveness, as no option would be considered which was contrary to the objectives of the Act.

Costs include compliance and administrative costs for electricity workers. Costs are scored from –10 to +10. A score of 0 means that the option does not add any regulatory costs over the base case. A score of –10 means that the option imposes costs significantly higher than the base case. A positive score would be given where the regulations reduce costs relative to the base case. This might happen in a situation where the regulations clarify what would otherwise be an ambiguous (and therefore more demanding) requirement arising from the Act. While theoretically possible, it is unlikely that any option would return a strongly positive score.

Weightings

Effectiveness and costs have each been weighted equally (50 per cent). This reflects the relative importance that government places on lowering regulatory burden on businesses. The weightings for the criteria are outlined in Table 9. It is common for MCA to also assess government costs. It is not done in this case. ESV is a self-funding statutory authority, which raises its funds through fees and levies. If ESV’s costs increase, then it can recover these costs through the industry. If government costs were included as a criterion, this would therefore amount to double counting.

Table 9: Criteria weightings

Criteria	Weighting
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Criteria	Weighting
Effectiveness	50%
Cost to industry	50%

Once an option has been scored on all the above criteria, these are multiplied by the above weightings. The results are then summed. The option which returns the highest value is preferred.

The scoring of the costs in the MCA assessments takes the cost calculations over the life of the Regulations (the Net Present Value of the costs) and transforms them into (rounded) scores, so that they can be compared to benefits, which are more difficult to quantify.

4.3.2 Discounted cash-flows

This RIS also utilises discounted cashflow techniques to assess costs where these are readily quantifiable. Cost over of the life of the regulation (i.e., 10 years) are discounted to obtain the present value of costs (i.e., expressed in terms of the value of a dollar in 2020). This will help identify those areas of the regulations that impose larger regulatory burdens on industry. This analysis adopts a real discount rate²⁹ of 4 per cent.³⁰

4.4 New proposal—Continuing Professional Development

4.4.1 Nature and extent of the problem

The electrical profession is technically complex, constantly changing, and may be hazardous if strict safety procedures are not rigidly adhered to. Persons carrying out electrical installation work must be licensed to do so. An electrician applies for a licence after completing an apprenticeship and a subsequent electrical licence assessment. Other electrical licence types (including Restricted Licence, Switchgear Workers Licence, and Licensed Electrical Inspector) also have strict requirements that applicants must meet.

Once an electrical licence is obtained, it must be renewed every five years. No ongoing training is required, and nor is proof of ongoing competence.

There are constant changes in the field, including updated Standards and Regulations, improved safety practices, and new and emerging technologies. There is a risk that these are not being effectively relayed to electrical workers because there are no ongoing requirements for training. Investigation outcome reports identified that when interviewed, under caution³¹, as part of an investigation or during a site visit it is clear that workers are not generally aware of revisions to standards or may have forgotten the mandatory test requirements contained in legislation. When asked how they should test completed electrical work many do not exhibit a satisfactory knowledge of testing procedures and when asked to produce the latest addition of the wiring rules many do not even possess a copy. In addition, in response to apprentice fatalities ESV has been running the LOTO (Lock Out Tag Out) kit initiative. The LOTO initiative has highlighted the need for supervisor/employer education. Poor work practices, time and financial pressures and competition can lead to fatalities, injuries, and fires.

²⁹ Rates that have the impact of inflation removed.

³⁰ Department of Treasury and Finance, 2013, *Economic Evaluation for Business Cases Technical Guidelines*, Authorised by the Victorian Government. Category 1, 4 per cent, p. 25

³¹ In Victoria, before starting the questioning the investigating official must caution the person that the person does not have to say or do anything but that anything the person does say or do may be used in evidence. (s. 138 *Evidence Act 2008*)

Other Australian jurisdictions require electricians to refresh their competencies and there is a broader trend across occupations towards continuing professional development (CPD). For example, Tasmania requires all Occupational Licence holders (building service providers, electrical workers, plumbers, gas-fitters and automotive gas-fitters) to undertake CPD.³² Along these lines, in a recent Senate Economics References Committee inquiry, CPD was recommended for the entire building industry³³, and the Department of Environment, Land, Water and Planning (DELWP) is currently considering options for developing a framework that will require registered building practitioners and registered and licensed plumbers to undertake CPD.³⁴

4.4.2 What is CPD?

CPD is the process of the ongoing maintenance or enhancement of the knowledge, skills and experience related to an occupational group or profession, following the successful completion of formal training. CPD may involve both technical and non-technical skills required for carrying out professional and technical duties.

CPD is one of the key mechanisms by which standards of professional practice and the relevance and currency of qualifications and experience are maintained. (The old distinction between the ‘trades’ and ‘professions’ has lost much of its meaning, and over recent years there has been an increasing trend towards professionalisation in all vocations.)

CPD enables workers’ knowledge and skills to stay relevant and up to date. It develops a deeper understanding, along with a greater appreciation of the implications and impacts of the work they carry out. It helps advance the body of knowledge and technology within a profession. It increases confidence in individuals and the profession as a whole.

In the present context, CPD has as its core the continual improvement of an electrician’s skills, so he or she can deliver a consistently higher quality of service that is up to date and fit for purpose, safe for the worker, safeguards the public, meets the expectations of customers, and meets the requirements of the regulator and the industry.

CPD should be a lifelong, systematic and planned process to develop and maintain professional competence. The outcome has value for the individual, their employer, and other stakeholders such as the wider industry, regulators, government, and the safety of the general public.

CPD is mandatory in a number of professions in Australia, to maintain licences, registrations, accreditations and memberships of professional organisations. Professions that require CPD vary by state, and may include health and medical workers, engineers, accountants, plumbers, builders and accredited solar installers. CPD is compulsory on licence renewal for electricians in Queensland and Tasmania (see Attachment A), and Western Australia is also considering its introduction.

4.4.3 CPD scheme design principles

The following principles were tested in the ESV Discussion Paper *Remaking of the Electricity Safety (Registration and Licensing) Regulations* and it was found that they could guide the design of a CPD scheme for electricians in Victoria: maximising the impact on community safety, workforce safety and skills currency

³² Department of Consumer, Building and Occupational Services (Tasmania): <https://www.cbos.tas.gov.au/topics/licensing-and-registration/cpd/what-is-cpd>

³³ Senate Economics References Committee’s Inquiry into Non-Conforming Building Products - *Government Response to the Final Report: Non-conforming building products – the need for a coherent and robust regulatory regime*, April 2020, Recommendation 7

³⁴ Continuing Professional Development for Builders and Plumbers: <https://engage.vic.gov.au/continuing-professional-development-builders-and-plumbers>

- focusing on mandatory requirements and, where relevant, the development of skills relating to new technologies
- delivering the scheme efficiently, with no unnecessary costs
- integrating the scheme with existing regulatory processes and industry practices
- independent assessment of the scheme’s impact and performance
- compulsory training (as opposed to voluntary)
- competitive training provision where appropriate.

4.4.4 Options for Continuing Professional Development

Potential costs of CPD

There are several types of costs associated with CPD options. These may include:

- the actual dollar cost of attending CPD training (incurred by the electrical worker or electrical business). It is expected that an 8-hour CPD training course costs \$220
- income forgone while attending the CPD training (notionally incurred by the electrical worker or electrical business). It is expected that a person’s time (forgone income-earning time) is equivalent to \$66 per hour³⁵
- administrative costs to business or individual electricians of submitting proof of CPD attainment (licence holders will need to upload or send a copy of their certificate of completion to ESV. A desk top exercise suggests that this would take 3 minutes, providing a per person administrative cost of around \$3.30).

While these costs are borne by licence holders or their employers in the first instance, it is likely that they are often passed on to consumers through higher prices. This is because there are few substitutes, if any, for the demand of electrical services (i.e., this is known as inelastic demand) and this provides a market condition whereby costs can mostly be passed on.

ESV will need to develop processes to approve training courses, monitor CPD policy, assist the Industry Steering Committee, and provide information to stakeholders on CPD. ESV advises that it will undertake these tasks with current staff levels and will absorb the development and implementation costs within budget.

Potential benefits of CPD

Victoria was among the first jurisdictions to introduce a (voluntary) CPD in the building sector. A study³⁶ found that that benefits believed to accrue through CPD to the Victorian community included a more highly skilled and managed workforce in the construction sector, improved quality buildings with fewer defects and greater efficiencies gained by a reduction in industry internal and external operating costs. (These findings are likely to be relevant for electrical workers.) This study reported the benefits of CPD as:

- safe and high-quality buildings and built environments
- improved knowledge, skills and performance standards

³⁵ ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 ‘A Grade’ – \$66.11 per hour

³⁶ Smith, J, Mills, A and Iyer-Raniga, U (2004) Benchmarking the implementation of continuing professional development in the Victorian construction industry. *In: Khosrowshahi, F (Ed.), 20th Annual ARCOM Conference*, 1-3 September 2004, Association of Researchers in Construction Management. Association of Researchers in Construction Management, Vol. 2, 749-57: pp 754-55

- up to date with latest technology, building trends, codes and regulations
- enhanced career opportunities for participants in scheme
- reduced liability exposure to insurance claims
- improved attitude and professionalism
- better service to customers
- improved networking amongst practitioners
- positive and productive attitude to learning
- potential for reducing disputes improved
- better career prospects for participants.

CPD can help the electrical workforce to evolve with development of new technologies, and to be up to date with the latest safety practices: these are both essential for working in the electrical industry. CPD offers licensees with general competence the means to respond to changes in practice and legislation, as well as updates to standards and codes, enhancing their knowledge and skills to benefit their work practices.

Relevant Australian standards, regulations and safety practices change and/or are updated on a regular basis. While some licensed electrical workers attend workshops or training sessions when there are major changes, not all do so. For example, ESV in conjunction with industry partners conducted sessions on the new Wiring Rules Standard published in 2018; but these were attended by only 10 per cent of licensed electricians. CPD can ensure licensed workers are informed of the current standards, regulations and safety practices.

The introduction of new technologies brings new safety risks and also highlights the need for knowledge currency in the industry. Even if a worker is not directly involved in the installation or maintenance of the new technologies, there are safety implications for those working on sites where the new technologies are installed if the workers are not aware of or familiar with the technologies, such as battery storage units and renewable energy generation.

Many electrical workers have held their licence for a significant number of years and may not have attended any formal or refresher training since completion of their original apprenticeship. This may lead to ‘competency fade’—the decay of ability or adeptness over a period of time, particularly following an extended period of non-use. The risk of this depends on the type and nature of the individual’s work, expertise and competence. While some skills and competencies do not fade, it is easy to forget how to complete more complicated or less common tasks. All else being equal, the longer the period of non-use, the greater the potential for skills atrophy.

Option 1: Continuing the current arrangements with no CPD (Status Quo)

This option represents the current requirements. Currently there is no structured way that licensed electricity workers maintain or develop their skills. However, several resources or paths are available to seek out these skills. Educational material appears on the ESV website (e.g., technical information sheets, safety & information pages, etc.), in trade journals, or may be provided on the job. In addition, the ETU, for example, offers refresher courses for members.

There are no incremental costs (or benefits) to this option. An MCA assessment of this option would result in a score of zero, reflecting the fact it is the base case against other options will be compared.

Option 2: Skills maintenance only

This pathway is a **skills maintenance program only**. Licensed workers would complete training, which is essentially a refresher of skills learnt in their original training but updated to current requirements.

ESV considers that a course approved by ESV could be developed specifically for this purpose. Another option could be to develop a course endorsed by the Victorian Registrations and Qualifications Authority (VRQA). This would be a mandatory course and could be modified on the five-year cycle, depending on identified and emerging risks.

The initial delivery of this course for electricians could focus on installation testing, safe isolation, risk management, legislative updates and emerging work health and electrical safety issues. A modified version of this course could also be required for other licence classes, to ensure content relates specifically to the scope of work applicable to the licence class.

A one-day (eight hours) course per 5-year cycle is considered practical, as this would be the minimum time required to deliver the required components, while being a reasonable commitment of time and cost for workers. The courses would ideally be developed and maintained by a third party in consultation with ESV, and ESV may approve parties to deliver the course. The skills maintenance course could occur within the two years prior to licence renewal. The training model would be subject to external and independent review. The initial course must be achievable, accessible and have value, to encourage worker and industry support and acceptance of the program.

Final content is still to be confirmed by the Industry Steering Committee but will most likely include a small theoretical component focussing on any recent changes to relevant Standards and Regulations, supervision requirements for apprentices, and the responsibilities of the electrical licence holder. The remainder of the course would be practical, and would focus on safe isolation procedures, and the carrying out of mandatory tests on an installation. There is no equivalent course in any other state of Australia. This course will bring together important points from a number of formal units of competence to create a tailored course for Victorian licence holders.

The status quo would mean many existing workers maintain only their existing level of skills and knowledge, which in many cases has been shown to be inadequate and out of date (the Standards are updated every 5 to 10 years). The skills maintenance course will ensure all licence holders who complete the training are, at the date of their licence renewal, up to date with current industry standards, and have the knowledge and skills to work safely with electricity and carry out the required mandatory testing. It is expected that this training will have a significant impact in improving safe work practices and reducing work defects.

Regulatory costs to industry were also calculated. The costs over the life of the regulations are calculated at around \$44.5 million (PV), or around \$4.4 million (PV) annually. Of this cost, \$10.8 million is attributable to direct training costs, while \$33.7 million represents income forgone from attending training. These costs consist of \$220 for the cost of an 8-hour course (\$200 teaching costs and \$20 for training resources). Detailed calculations and assumptions are contained in [Appendix B](#).

An MCA was undertaken to assess this option. Under this option a score of 5 is assigned for effectiveness because structured skills maintenance is a moderate improvement over the base case. Training would be targeted to rectify skills gaps (identified by the Industry Steering Committee) and to update worker best-practice, including industry developments and regulatory changes. Industry incurs two types of costs: the cost of the training itself and the income forgone from attending the course. A score of -3.5 is assigned to this criterion, which imposes smaller new costs compared to the Options 3 and 4 (i.e., Option 2 would cost around \$4.4 (PV) million per annum compared to \$4.7 million (PV) per annum and 7.6 million (PV) per annum for Options 2 and 4 respectively³⁷. This results in a score of **+0.75** which is an improvement over the current arrangements.

³⁷ Indicative costs for Options 2 and 4.

Table 10: MCA of skills maintenance

Criteria	Weighting	Assigned Score	Score
Effectiveness	50%	5	+2.50
Cost to industry	50%	-3.5	-1.75
			+0.75

Option 3: Skills maintenance and later introduction of skills development training

This option includes the skills maintenance component (as in Option 2) plus an additional skills development component. Licensed electrical workers would be required to complete the skills maintenance requirements, and *in addition* will be required to complete skill development after five years.

ESV is proposing options other than accredited training for the skills development component. Guidelines for the approval of courses will be set by an Industry Steering Committee. Other providers will be considered. For example, manufacturers running courses on their specific equipment. Industry-delivered non-accredited courses (i.e., courses endorsed by ESV) have the capacity to be responsive, current and flexible, and are able to deliver timely and relevant information. There is little risk that non-accredited courses³⁸ would be inferior to accredited courses because non-accredited skills development courses will need to be approved by ESV.

Skills development courses, dependent on the courses approved by ESV and chosen by the worker, have the potential to improve safety outcomes and work practices. New technologies may pose a significant safety and fire risk if the worker is unfamiliar with the technologies. This applies regardless if the worker is the installer of the new technology or working at a site where the new technology is in situ. For example, a worker working on a site where solar power has been installed may be unaware of how to safely isolate the solar electricity supply.

The initial requirements would be equivalent to 8-hours of training. So, for example, a worker may attend one 8-hour training session, or two 4-hour sessions, or a combination of training sessions and seminars. Workers would not be required to limit themselves to 8-hours of training. Formal training courses, including relevant post-trade qualifications or degrees, would be acceptable and encouraged. To enhance flexibility skills development training may occur at any time within the five-year renewal period.

Skills development (along with skills maintenance) will be made compulsory from 2028 for all licence holders. For existing licence holders, they must have completed skills development training by 2028. Therefore, current licence holders will be able to commence skills development training from 2023; however, it is expected that most will decide to undertake this training in 2026 to 2027.

The regulatory costs over the life of the regulations are calculated at around \$47.85 million (PV), or around \$4.7 million (PV) annually. Of this cost, \$11.35 million is attributable to direct training costs, while \$36.5 million represents income forgone from attending training. These costs consist of \$220 for the cost of an 8-hour course (\$200 teaching costs and \$20 for training resources). Around 76 per cent or \$530 of this cost is the notional cost of forgoing income or productivity. If a self-employed electrical worker undertakes an 8-hour training course of CPD then that represents one day's absence from income earning activities, while a day's absence for an employee of an electrical contractor imposes a day's lost productivity on the employer. Taken together, skills maintenance training per electrical worker is around \$750 per day, and \$1,500 per electrical worker for skills maintenance and development training.

Detailed calculations and assumptions are contained in [Appendix B](#).

³⁸ Non-accredited courses are those courses that are not accredited by the VRQA and ASQA

The total time commitment for this pathway would be up to a maximum of 8 hours for skills maintenance (over the first 5 years) and 16 hours for skills maintenance and skills development over the next renewal cycle. Face-to-face training is preferred, however, ESV will examine delivery options in light of the Covid-19 virus.

An MCA was undertaken to assess this option. Under this option a score of 7 is assigned for effectiveness because it moderately improves skills and safety (thereby avoiding deaths, injuries, and property costs associated with poor electrical worker skills). Technological developments in the electricity sector are moving at an unprecedented pace (e.g., solar power, battery storage systems, off-grid power). In the past when the developments in the sector were relatively static, skills maintenance would have been adequate – this however is no longer the case. This option begins with skills maintenance training and after five years introduces skills development training. This option should allow any early issues with skills maintenance training to be resolved and help improve the effectiveness of skills development training, will impose modest costs on stakeholders, and will give licensed electrical workers several years to adjust to the new requirements. Industry costs will be greater than the previous option because in years 2028, 2029 and 2030 skills development training will also be required. (The difference in annual costs between Option 2 and Option 3 is around \$1.2 million). Consequently, a score of -4 is assigned to the industry cost criteria. This option results in a net score of **+1.25**.

Table 11: MCA of skills maintenance and staged introduction of skills development

Criteria	Weighting	Assigned Score	Score
Effectiveness	50%	7	+3.50
Cost to industry	50%	-4	-2.00
			+1.50

Option 4: Skills maintenance and skills development (introduced together)

This option is similar to Option 3 above; however, under this alternative skills maintenance training and skills development training would be introduced together. This option is essentially the same as Option 3; however, the key difference is that under Option 3 the length of transition to both skills maintenance and skills development is different (i.e., the shorter transition time under this option will give industry less time to adapt and adjust). An advantage of this option is that skills development would be taught earlier than under Options 3 (i.e., in 2023 instead of 2028), so the option would likely be slightly more effective. The main disadvantage with this option is that it is much costlier to industry. A longer transitional approach is considered preferable to assist in implementation, to allow appropriate time to develop courses, and to promote industry buy-in. A review of skills maintenance after several years of operation would greatly assist the introduction of a skills development requirement.

Regulatory costs were also estimated for this option. The costs over the life of the regulations are \$67.5 million (PV), or around \$6.7 million (PV) annually. Around 82 per cent of this cost is the notional cost of forgoing income or productivity. Detailed calculations and assumptions are contained in [Appendix B](#).

The MCA of this option resulted in a net score of **+1.00**. This option introduces both skills maintenance and skills development at the same time. It receives a relatively high score of +8 because there would likely be pedagogical benefits from both streams of training. However, industry may find it hard to grapple with such a big change initially, which may add to complexity, compliance problems and lack of buy-in. Therefore, a score of -6 is assigned for industry costs. This option is \$3.1 million more costly per annum than for skills maintenance training only (Options 2).

Table 12: MCA of skills maintenance and skills development

Criteria	Weighting	Assigned Score	Score
Effectiveness	50%	+8	+4
Cost to industry	50%	-6	-3
			+1

Conclusion

Options 2, 3, and 4 are considered preferable over the base case (Option 1). However, Option 3 is preferred (skills maintenance training plus skills development introduced after 5 years). Option 3 balances training benefits against costs, allowing for a smooth transition of the new arrangements.

4.4.5 CPD Design Options

CPD scheme design principles

Not all of these details will be prescribed in the regulations—much of this detail will be set by the Industry Steering Committee and will be developed administratively by ESV (e.g., in the form of guidelines and rules). The requirement to undertake CPD will be included in the proposed Regulations (see regulation 34), but the course design and quality, funding mechanism, and delivery will be determined administratively by ESV (see section 8.1 – Implementation), in consultation with the Industry Steering Committee.

The regulations set out that the CPD requirements shall be determined by ESV, that the requirements must be published by ESV on an internet site maintained by ESV, and ESV must consider those requirements when making the decision to renew a licence. The regulations also state the maximum number of hours of CPD that ESV may require. The regulations may require that the skills maintenance component must be completed within the 2-year period immediately preceding the workers licence renewal, whereas they are silent on the time period for the skills development, meaning the skills development component may be completed at any point within the 5-year renewal cycle.

The Industry Steering Committee is a new committee, to be established to oversee the CPD program. Relevant industry stakeholders, including the Electrical Trades Union (ETU), National Electrical Contractors Association (NECA), the Institute of Electrical Inspectors (IEI), Master Electricians (ME), and a representative from the training industry, will be invited onto the committee. The committee is an advisory committee to ESV, it will be ongoing, and will oversee the governance, structure, development, implementation, maintenance and evaluation of the CPD program. Sub-committees of subject matter experts and pedagogical experts may assist the main committee to provide industry specific technical advice and inform course development and content for individual licence classes.

The committee shall consider the aims and expected outcomes of the CPD program and develop a CPD program to meet those goals. An external service provider shall be appointed to develop the training course. The committee shall provide guidance to ESV in relation to service providers; however, the selection and approval of the service provider shall remain the responsibility of ESV. The committee will work in co-operation with the service provider to develop, trial, implement, and evaluate the training course. The committee will advise ESV in relation to the approval of training organisations to deliver the course and consider the approval and training of teaching staff.

ESV will have the ability to approve multiple training providers for both skills maintenance and skills development, with the selection based on guiding principles to be set by the committee. In relation to skills maintenance, the approval of multiple providers will ensure geographical coverage of all metropolitan and regional areas, and meet ACCC requirements in terms of negating anti-competitive

behaviour. In relation to skills development, multiple providers will be required to cover the potentially large range of courses approved, in addition to the geographical coverage.

ESV, advised by the committee and subject matter experts, will be responsible for the content of the skills maintenance courses. Content will be based on identified skills and knowledge gaps and to addressing the safety outcomes sought by the program. These may vary over time based on identified risks. Skills development course content will be set by the course providers, and/or the relevant Industry Skills Council in relation to accredited courses.

Which licensed workers would require CPD?

Comprehensive consultation with key stakeholders suggests the following design options for CPD training:

- CPD would not be required for a Supervised Workers (L) Licence. This licence cannot be renewed and is used to allow apprentices that have completed their apprenticeship to continue to work under supervision until they complete the LEA and gain an Electrician's licence, and overseas trained electricians while they gain their required Australian experience. Occupiers licences were abolished in 2010, however persons holding the licence may be eligible for renewal. Given that this category will be phased out there is little point in requiring the few remaining licence holders (21 licences) to undertake CPD. Technical nominees are licenced electricians, therefore any CPD requirements will be captured under the other licences they hold.
- Skills maintenance only will be required for a Restricted Workers Licence; a Switchgear Workers Licence; or a Lineworker Licence as these have a limited scope of electrical work and are types of electrical work that change little over time. In the case of the Restricted Workers Licence, the workers primary trade is not in the electrical field, and therefore skills development in the electrical field is not relevant.
- Skills maintenance and skills development required for Electrician's Licence; Licensed Electrical Inspectors; and Electrician (Supervised) (ES) Licence. These licence holders are responsible for a wide range of electrical work on a daily basis. This option will ensure their work and work practices meet current and updated standards in practice and legislation, reduce the complacency that may come with day to day work, and enhance their knowledge and skills in a rapidly changing field of work.

CPD not required

Supervised Workers (L) Licence: Supervised workers licence holders are not eligible to renew this licence. These licenses are issued for a three-year period, during which time the licence holders are expected to make progress towards upgrading to their electricians' licence. These workers are strongly encouraged to complete their requirements for upgrade to the electrician's licence. These requirements include completion of the Certificate III Electrotechnology, and/or the Licensed Electricians Assessments (LEA). These licence holders need to be engaged with this study as a priority. (Number of licences: (L) 275)

Occupiers Licence: Occupiers licences were abolished in 2010, however persons holding the licence may be eligible for renewal. An Occupiers licence permits the holder to carry out electrical installation work only on the residential premise in which they reside. There are currently 21 valid Occupier licence holders. Due to the small and decreasing number of holders, and their limited scope of work, ESV recommends that CPD not be required for these licence holders, unless they also hold another licence type that does require CPD. (Number of licences: 21)

Technical Nominees: Technical nominees are licenced electricians, so are already included in the licensed worker groups above. At this stage ESV does not intend to recommend additional

requirements on technical nominees, however the results of the introduction of CPD for technical nominees currently being introduced in Queensland will be monitored. (Number of licences 1 per active REC)

Skills Maintenance

Restricted Workers Licence: The electrical work carried out under this licence is ancillary to the licence holder's primary trade. On this basis, any skills progression training should take place in the worker's primary trade and is outside the jurisdiction of ESV and the scope of this proposal. However, skills maintenance training in testing, safe isolation, current safety procedures and the responsibilities of licensed workers is relevant to this class of licence holder, and therefore a skills maintenance program is recommended. (Number of licences: 6,420)

Switchgear Workers Licence: The electrical work carried out under this licence is limited to electrical work associated with switchgear and controlgear. Due to the limited scope of work under this licence, ESV recommends skills maintenance training in testing, safe isolation, current safety procedures and the responsibilities of licensed workers is sufficient for this class of licence holder. Therefore, a skills maintenance program is recommended. (Number of licences: 18)

Lineworker Licence: This licence is being developed concurrently for introduction into the new Regulations. ESV recommends a skills maintenance requirement for lineworkers. However, given that this licence category is new, CPD will not be considered for implementation prior to 2025-2026. Lineworkers are predominantly employed by major companies which already have regular training in place. The required course for skills maintenance for lineworkers may be considered in light of the ongoing training lineworkers already receive. Further research into this category will be required, in conjunction with the development of this licence. (Number of licences: 1,800 active)

Skills Maintenance and Skills Development

Electricians Licence: This option would provide electricians the opportunity to ensure their work and work practices meet current and updated standards in practice and legislation and enhance their knowledge and skills. It would minimise the inherent risks of working with electricity by addressing complacency and ensuring licence holders are familiar with the required safe work practices and procedures vital to be able to work safely with electricity. Skills development will contribute to ensuring workers are familiar with the safety implications of new technologies. CPD would considerably increase the overall safety and reputation of the profession as a whole. It is proposed the skills maintenance courses would commence in 2022, with those renewing their licence in 2023 being the first group required to have undertaken CPD training. (Number of licences: 5,386)

Licensed Electrical Inspectors: These licence holders are expected to have a wide range of knowledge and skills in both existing and new technologies, to enable them to inspect, audit, and provide advice to electricians. Their overall knowledge of Standards and installation requirements is expected to be generally superior to electricians. Therefore, it is imperative these licence holders maintain a level of professional development to promote ongoing learning in the new and emerging areas of installation work. This group may require a modified/higher level skills maintenance course, and/or a greater quantity of skills development. (Number of licences: 42)

Electrical Worker (Supervised) (ES) Licence: ES licence holders are generally electricians who carried out their initial apprenticeship training prior to 1999 and have never completed the full requirements for the electricians' licence. Most have been working in the trade for many years, and although they are required to be supervised, this option may assist them to upgrade their licence; something ESV strongly encourages. In addition, it will reduce complacency that is common in persons spending a long time in the same job, and ensure they are conversant with current safety requirements. Training courses leading to their licence upgrade would be acceptable as CPD for these licence holders. These licences will be phased out over time. (Number of licences: 225)

Preferred Option

The MCA assessment suggests that options to introduce CPD are superior to not having CPD at all. Option 1 (status quo) reflects the current arrangements of no formal CPD training. The lack of a structured (and compulsory) approach to skills training means that there is likely to be a considerable skills gap between licence holders who currently keep up with industry practices, codes, and emerging technologies and those who do not.

Stakeholder consultation undertaken during the preparation of this RIS supported the introduction of CPD. Of the CPD options, the MCA assessment suggests that Option 3 is preferred—the introduction of skill maintenance training initially followed by the introduction of skills development training. Option 3 is preferred over skills maintenance alone (Option 2) because it combines a learning system of skills maintenance and skills development. This later introduction of skills development will allow a smoother transition of CPD and is therefore preferred over Option 4.

Licence holders would access the skills maintenance training at approved training providers on a fee-for-service basis. It is recommended that skills maintenance courses should be delivered predominantly face-to-face by ESV-approved third party service providers. The implication for not completing the required CPD is that ESV would have the option to renew a licence on the condition that the requirements are completed within a certain timeframe after renewal. This may require evidence of enrolment in the required training. Transitional arrangements may need to be put in place for workers who are due for licence renewal during the initial introduction period.

The costs over the life of the regulations of this option are \$48.9 million (PV), or around \$4.9 million (PV) annually.

Questions for stakeholders

Do you support introduction of skills maintenance and development requirements for electricians in Victoria?

What do you consider would be the main benefits and impacts of such skills requirements?

Is skills development, in addition to skills maintenance, important for electrical safety?

Is the proposed approach to skills maintenance and development likely to be effective in ensuring adequate skills and capability, and therefore in supporting improved safety?

4.5 New proposal—Licensing of electrical lineworkers

4.5.1 Electrical linework

Electrical lineworkers are mostly employed or contracted by network businesses for the construction and maintenance of electricity network infrastructure (i.e., electricity supply and traction networks). Lineworkers work in a hazardous environment on electrical infrastructure. Lineworkers perform electrical work as well as some related civil work tasks such as trench digging, erecting a pole, or other rigging work on electrical infrastructure that may involve operating plant and equipment. A licence to perform certain high-risk civil work is required and such licences are administered by WorkSafe. Lineworkers are exposed to electrical hazards when working on or near energised electrical apparatus. Under the proposed Regulations, lineworkers who perform such work will be required to hold a lineworkers licence. Their work includes:

- work undertaken on the transmission networks, including transmission overhead conductors, associated transmission electrical equipment, and transporting electricity from generators to distribution networks

- work undertaken on the distribution networks, including distribution overhead conductors, associated distribution electrical equipment and transporting electricity through distribution networks from zone substations to customer’s properties.
- work undertaken on the traction supply network and associated electrical traction equipment.

To date, transmission, distribution and traction lineworkers have not been required to be licensed in Victoria. However, currently, ESV oversees the voluntary *registration*³⁹ of electrical lineworkers. For the most part, the employing network businesses manage their workers’ registration (by applying for registration and maintaining a ‘passport’ system⁴⁰). There is no regulatory renewal requirement for registration, meaning lineworkers remain registered whether they continue to work in the industry or not. There is no expiry of the registration card of a lineworker.⁴¹

Current information available to ESV shows that most registered lineworkers are registered to work on distribution networks, with a few persons also registered to work on traction networks as well (a traction network or traction power network is an electricity grid for the supply of electrified rail networks). There are no people solely registered to work on transmission networks. Persons registered to work on traction networks do not appear to work on electricity transmission or distribution networks.

There are an estimated 1,800 active lineworkers, plus approximately 50 apprentice lineworkers currently undertaking relevant qualifications over the next three years. The lineworker registration regime was developed and agreed to nearly twenty years ago by an industry stakeholder working group comprised of ETU, NECA, VESI, Tractions and ESV (OCEI). These 1,800 active lineworkers should currently be registered with ESV. The Amendment to the Act (see below) will enable the establishment of the scheme in Regulations to license lineworkers.

Workforce summary:

- number of active lineworkers employed by distribution businesses (DB): 1,440
- number of active lineworkers employed on traction networks: 310 (approx.)
- number of lineworkers who are LEWs: Nil
- number of lineworker apprentices: 50
- proportion of employed DB lineworkers with Cert III qualification or equivalent: 100%
- number of cable jointers with Certificate III or equivalent: 187 (all with distribution businesses)
- number of foreign workers doing linework in Victoria: 12 (all of them New Zealand trained).

³⁹ The registration process for lineworkers is undertaken in agreement with the Victorian MECs of AusNet Services, Jemena, United Energy and CitiPower_and_Powercor. Together the MECs comprise VESI (the Victorian Electricity Supply Industry). Registration as a lineworker in Victoria is undertaken in accordance with VESI’s skills and training guidelines and must be supported and forwarded to ESV for registration by the employing MEC. The main purpose of lineworker registration is to ensure that the registrant has provided evidence of a Certificate III or equivalent qualifications. Registration occurs once and there is no need to renew or update details. Licensing, on the other hand, requires renewal every 5 years and a greater emphasis on skills and training maintenance.

⁴⁰ In 2006 the Energy Networks Association (ENA) published the Network Passport Guideline. This document created a National Skills Passport in the Australia Electricity Supply Industry (ESI). The objectives of that Guideline included encouraging nationally consistent practices in training standards for safe work on electricity networks. These objectives led industry to commence the development of an Australian ESI Skills Passport and common refresher training.

⁴¹ However, the proposed electrical licensing regime includes several licences that are renewed every three or five years, depending on the licence type. There are minimum qualifications and training standards to be met before an individual is issued with a new licence. The ‘registration’ of lineworkers is inconsistent with this framework.

4.5.2 Why license linework?

Elements of linework are potentially hazardous, due to the nature of working on high and low voltage electrical systems, and often working near live electricity that can expose workers to electrical safety hazards. Maintaining the skills and hazard awareness of individuals undertaking these tasks is essential. The operation of the electricity safety management schemes (ESMSs) of the major electricity companies and occupational health and safety legislation places obligations and incentives on these businesses to ensure employees, such as lineworkers, are trained and have current competency to work safely in the vicinity or directly on the network assets. Similar principles apply in the context of the railway operators in their safety management systems.

Progression from a registration to a licensing system is intended to improve safety outcomes by enhancing the regulatory oversight and providing increased accountability and visibility of the workforce including mandating the minimum qualifications, training and experience required by lineworkers. Improved workforce data would:

- enable ESV to better analyse potential trends and emerging safety risks affecting the workforce
- support improved professional standards
- assist in meeting community and stakeholder expectations of industry standards.

Regulatory oversight and accountability will be improved by monitoring fraudulent or incompetent behaviour, requiring CPD (proposed) and improve contact with the lineworker.

Summary of benefits of licensing lineworkers

- Provides the basis for a better understanding of the population of lineworkers
- Better enables ESV to communicate with the electrical workforce about safe working practices
- Helps maintain and improve professional standards, including by making lineworkers more aware of regulatory standards and obligations
- Makes it compulsory for lineworkers to report breaches of safety standards
- Enables ESV to pursue disciplinary action against individual breaches relating to linework
- Lineworkers will have a regulatory obligation to report safety hazards.⁴²

4.5.3 Future regulation of lineworkers in Victoria

On 25 February 2020, the *Energy Safety Legislation Amendment (Victorian Energy Safety Commission and Other Matters) Act 2020* was passed into law. A key element of the amendment is the establishment of an electrical lineworker licensing scheme, which is to commence on 1 January 2021. ESV is required to:

- provide a list of all lineworkers registered with ESV to the Minister for Energy, Environment and Climate Change by 31 December 2020
- license those persons on 1 January 2021 at no cost.

This will allow an orderly transition from the current voluntary registration scheme administered by ESV to the mandatory licensing scheme. The amendment requires that, when issuing licences, ESV is

⁴² The licensing regime will bring lineworkers within the scope of rr. 401 and 402 of the Electricity Safety (General) Regulations 2019, which will require them to report serious electrical incidents and other reportable incidents to ESV in certain circumstances.

not required to specify the same period, or class of electrical linework, for each licence. This will enable ESV to manage the scheme efficiently.

Comprehensive stakeholder consultation was undertaken to inform the licensing scheme's design, including the minimum requirements for qualifications, training and experience required to obtain a licence, the scope of work, transitional arrangements, mutual recognition and the licence funding model. The Victorian Government has committed funds to establish the scheme. This funding will allow the first round of licensing to be provided at no cost.

The amendment will require persons carrying out a prescribed class of electrical linework to hold a lineworkers licence. This Act defines 'electrical linework' as construction, alteration, repair, maintenance or disassembly of part of a supply network, and 'electrical lineworker' is defined as a person who carries out such work.

'Supply network' is defined in the Act as 'a network consisting of electric lines, substations, circuits and any other thing required for the purpose of the transmission, distribution or supply of electricity'. The regulations will also bring traction networks into line with the definition of supply networks of major electricity companies. A new definition of electrical work will include an express reference to 'electrical linework'. Lineworkers authorised under ESMSs are able to be exempt from licensing currently (section 38(e)), but that will not be the case after 1 January 2021.

The definition in the Act of linework is broad for the purpose of licensing lineworkers. It includes not only electrical work but civil and mechanical work that is currently performed by non-electrical workers. For example, the following work will be considered linework according to the definition in the Act:

- the non-electrical work of installing into position of a kiosk substation (a full enclosure housing electrical transformer) which involves the preparation of the site and the kiosk foundation. Such work is currently performed by non-electrical workers under approved industry accreditation and practice standards and organisational processes
- the installation of electrical underground cables will involve trench-digging, boring, laying conduits, cable hauling, placing mechanical protection and trench-backfill. Such work is currently performed by non-electrical workers under approved industry accreditation and practice standards and organisational processes
- the installation (including replacement) of a power pole involves auguring a hole and erecting a pole with the aid of plant and equipment that is currently operated by non-electrical workers under approved industry accreditation and practice standards and organisational processes.

Options – design of lineworker licence

These options involve implementation of the Victorian Government's commitment to license electrical lineworkers, including through mutual recognition. Accordingly, in February 2020 a broad definition of linework and lineworker was inserted into the Act: 'Electrical linework' means the construction, alteration, repair, maintenance, or disassembly of a part of a supply network, while an 'electrical lineworker' is defined as a person who carries out electrical linework. For the purposes of defining linework in the Act, 'electrical work' means electrical connection work; electrical equipment work; electrical inspection work; electrical installation work; or electrical linework. The regulations then set up the definition of linework, providing details of the categories of linework in Schedule 3 of the proposed Regulations.

This section focusses on the design options of a lineworker licence. It does not consider broad alternatives to the lineworker licence, such as self-regulatory options, because the Government has already made the decision to introduce a lineworker licence, as reflected by amendments to the Act. Consequently, the following regulatory design matters were considered in the preparation of this RIS:

- defining the scope of regulated linework
- qualification standards for linework
- rules for foreign lineworkers working in Victoria.

These matters are discussed in turn.

What should be the defined scope of linework?

The scope of linework was considered following extensive consultation with industry participants, including employers and the ETU. The scope of linework will determine which tasks are required to be completed by licensed lineworkers. Consideration of the scope of linework involves balancing a range of permissible work tasks against the risks associated with those tasks.

ESV proposes that the following individual classes of electrical linework would be carried out by licensed lineworkers:

- transmission networks: this involves electrical work on tower lines and overhead electric lines in the terminal stations. It also would include electrical assets associated with the electric lines with a nominal voltage exceeding 66 kV
- distribution networks: this includes electrical work on poles, conductors, underground cables and other electricity infrastructure equipment operating at a nominal voltage not exceeding 66kV. This also includes supply networks that are part of a customer's electrical installation operating at a nominal voltage exceeding low voltage
- traction networks: this includes installation of overhead electric lines and traction equipment on a railway supply network or tramway supply networks
- cable jointing work⁴³ related to distribution networks operating at a nominal voltage not exceeding 66kV.

Option 1—Licensing all underground cable works

Licensing all underground cable works would result in unnecessary licensing requirements for a number of tasks that are currently done by other skilled, competent or qualified workers.

The industry recognises the ambiguous boundary between lineworkers and cable jointers. There is always a connection to be made from underground cables to other parts of the supply network (e.g. to the overhead network). In rural areas, the multi-skilling and cross trade practice (between cable jointers and overhead lineworkers) has been common since the 1970s. Therefore, including this option in the regulations will greatly affect the current recognised work practice and will result in significant costs and reduction in productivity of the workforce.

This option includes a licensing requirement for cable jointers on greenfield (prior to being connected to the network) development sites, known by the industry as underground residential developments (URD). To date, ESV has no evidence of any electrical safety risks that exist in greenfield URD estates. Any risks associated with accredited civil workers constructing URD estate infrastructure, e.g. laying conduits, installing pits and hauling cable are generally OH&S, as electricity is not present. ESV believes it is unnecessary to license greenfield URD estate work for the following reasons:

⁴³ The Act defines linework as encompasses 'cable jointing'. The regulations further prescribe cable jointing as a separate class of linework. Cable jointing primarily deals with jointing, transition jointing, termination and connection of underground cables (i.e., it is a specialised part of the linework carried out on underground cables). Jointing, transition jointing, termination and connection of underground cables are defined in Schedule 3. There is some overlap, with overhead lineworkers with a "D" licence permitted to do some of this work.

- ESV has no evidence of any trend in serious electrical safety incidents occurring in URD estates.
- Licensing URD electrical work is likely to result in a significant increase in costs to Victorian consumers.
- ESV believes this could also flow onto major government infrastructure projects causing significant cost increases and time delays.
- The current 800 plus civil URD workforce of Victorian Electrical Distribution Networks (VEDN) accredited workers would be forced out of the industry, replaced with, or required to become qualified lineworkers.
- The workforce is currently trained and qualified for the work they undertake as per employer requirements under OH&S regulations.
- Major electricity companies (MECs) require developers to submit the plan and design of the proposed URD estate and nominate their accredited civil installer prior to commencement of the work.
- There is already a process to ensure the URD estate work is adequately inspected, audited and tested to achieve safety compliance.
- The regulations must be remade by 31 December 2020, and there is insufficient time to
 - o consult affected companies (real estate developers and electrical service providers)
 - o conduct a benefits /cost analysis.
- Insufficient numbers of cable jointers exist to meet the demand within the first 4 years after the introduction of the regulations (It takes 4 years of training to obtain the qualification required for a cable jointer licence).
- Currently there is insufficient RTO/training providers in Victoria that have the course on their scope of registration and be able to deliver the training effectively and meet the demand.

ESV will examine the requirement of licensing cable jointing work in URD estates if there is a regulatory gap identified.

Option 2—Licence is required for certain high-risk tasks

A licence is required for certain tasks of the electrical underground cable work that has key impact on the integrity and safe operation of the underground and the safety of electrical workers. Following extensive consultation with key industry participants, including ETU and MECs, ESV proposes that the licensing requirements are limited to the jointing, terminating and connecting of underground cables. This option will achieve the safety objectives while imposing no disadvantage to other workers who have performed work associated with the installation of underground cables for decades. The scope of the underground cable licence work is specified in greater detail in Schedule 3 of the proposed Regulations.

Assessment of the electrical underground cable work has identified tasks that have key impacts on the integrity and safe operation of the underground electrical network and the safety of electrical workers.

ESV proposes that there be different licence classes that comprise the licence for linework.⁴⁴ For example, a D class licence is a licence for linework on the distribution supply network. A D licence may have one or a combination of the following endorsements:

⁴⁴ Schedule 3 of the proposed Regulations contains the following licence classes: Class D - electrical linework carried out on a MEC distribution supply network; Class T - electrical linework carried out on an MEC transmission supply network; Class R

- electrical linework carried out on an MEC distribution supply network
- electrical linework carried out on overhead distribution conductors within private installations.

ESV considers that the defined scope of electrical linework should not include:

- cutting or sealing underground cables that are part of the electricity infrastructure of an electricity entity prior to the cables being initially connected to an electricity source
- building or repairing ducts, conduits, troughs or channels for an electric line or associated equipment if the ducts, conduits, troughs or channels are not, and are not intended to be, earthed; and on the electric line or associated equipment prior to first energisation
- constructing, commissioning, maintaining and testing of communication and signalling cables
- commissioning, maintaining and setting of protection relays and associated equipment
- wiring, commissioning, maintaining and testing low voltage circuits and equipment (e.g., power points, lighting circuits) that are not part of the supply network, they are done by licensed electricians.

Questions for stakeholders

Is the proposed scope of work for linework appropriate?

Should other licence categories be considered?

What are the minimum qualifications and skills for a licence?

The Victorian Electricity Supply Industry (VESI) *Skills and Training Guideline*, published in May 2016, notes the requirements for qualifications to meet the Australian Qualification Framework (AQF) standards or equivalent (VESI qualification guide), and also requires workers re-entering the industry as a qualified field worker after an extended period of more than five years to follow the VESI re-entry guideline. The VESI website notes that qualification evidence for lineworkers is variable, reflecting the different systems over time, and that some workers obtained qualifications decades ago. In July 2015, VESI issued *Qualification Evidence Guide for Victorian Trained Lineworkers*, which provides examples of acceptable evidence of a qualification for Victorian trained lineworkers.

Since lineworkers who carry out electrical work on a supply network are required by the Victorian electricity supply industry to hold Certificates III in ESI Power Systems, or equivalent, for transmission, rail, distribution or cable jointing work, ESV considers that a similar level of certification should be required for a lineworker licence. ESV did not consider varying the qualifications (more or less onerous) from the current qualification for a lineworker required for registration with ESV (i.e., Certificate III (Distribution) Lineworker; Certificate III (Transmission) Lineworker; or equivalent).

Lineworkers who were trained through systems under electricity or railway authorities such as the State Electricity Commission, Public Transport Commission, and equivalent interstate authorities are deemed to have the required qualification if the lineworker provides this evidence of his or her competency, knowledge and skills, and evidence is assessed and recognised by major electricity companies or railway/tramway companies. The vast majority of these lineworkers hold a lineworker registration card issued by ESV and are employed by MECs. Their certificates of proficiency are generally available via their employers.

- electrical linework carried out on a traction supply network; Class R(S) - electrical linework of the type set out in class R under the effective supervision of a person who holds a class R lineworker licence, and Class C - electrical linework carried out on an MEC distribution supply network for certain jointing work.

Providing evidence of competency is not onerous. MECs hold a copy of the worker's qualifications, which are readily available to ESV. One of the equivalent qualifications is 'State Training Board Certificate of Proficiency – Linesman'. Lineworkers who joined the industry after 1993 would hold the required Certificate III linesman qualifications. Most workers in this category will be provided with a free licence on 1 January 2021. Any issues with documentation for these workers will be resolved cooperatively with the assistance of ESV, the worker's current employer and the VESI prior to 1 January 2021.

There is currently a process for managing apprentices, and ESV sees no reason this should change. As part of their training apprentices carry out licensed linework. During their training period they will be deemed to be licensed. When doing linework but they must be under an effective supervision of a licensed lineworker. Apprentices are not automatically issued with licences after completing their tenure of training. They will be required to apply for their first licence.

Questions for stakeholders

What should be the minimum qualifications for a lineworker licence?

Lineworkers from overseas

The option considered for overseas lineworkers is whether they should be recognised in Victoria or not.

Trades Recognition Australia (TRA) has a process for assessing and recognising skilled workers from overseas. For example, electricians have their overseas qualifications and experience assessed (offshore prior to immigration or onshore after arrival), and if these are adequate, they are issued with an Offshore Technical Skills Record (OTSR). ESV accepts the OTSR for the issue of a Supervised Workers Licence for Electricians. The person must then obtain onshore experience and complete gap training in order to obtain an electrician's licence.

However, there is currently no formal recognition of overseas lineworkers through the TRA process. Overseas assessment prior to immigration is costly, and there has been no onshore assessment established due to the small numbers of potential overseas lineworkers.

ESV is proposing to introduce a regulation whereby an overseas qualified lineworker would be treated as a licensed lineworker provided that the person is authorised by a MEC to carry out the class of electrical linework the person is carrying out, and the person is effectively supervised. The overseas lineworker must be carrying out that work as part of a training program that, upon completion, will enable the person to obtain the qualifications required for a licence of the class of work they are carrying out. This regulation will benefit the individual by providing a pathway to be licensed in Victoria, and will benefit the industry by providing a larger pool of lineworkers. There is very little risk associated with this proposal. The overseas lineworker would be required to be under the 'effective supervision' of licensed electricians. Subsequent training and testing following the supervisory period will ensure the overseas lineworkers have the required competence. The number of permanent overseas lineworkers is expected to be small, at around 10 per year (however, on major railway projects as many as 80 transient overseas traction lineworkers may work in Victoria).

Significant outage event – lineworkers exemption

Given that these Regulations propose to license lineworkers, it is important that interstate workers be permitted to work in Victoria for a Major Electricity Company (MEC) during a significant outage event for the duration of that event. A significant outage event is defined in the proposed Regulations to mean a loss of electricity supply to a significant number of Victorian customers caused by bushfires, storms, high winds, floods, and any other natural disaster or emergency. The MEC will decide when a significant event occurs. This proposal will proceed as an Order in Council Exemption that will complement the Regulations. This will provide a standing exemption for using

interstate workers in these emergencies. A copy of the proposed Exemptions will be provided with the Regulations for public consultation.

This proposal will provide the regulatory regime with flexibility in times of disaster or emergency. The benefit includes more resources available to rectify significant outages and quicker restoration of electricity supply. There are minor administrative costs whereby ESV *may* request particulars from the MEC of a person's details. Given that interstate workers require similar training and qualifications there is little risk that interstate workers will pose safety risks. They must have an equivalent interstate licence (if they are from a jurisdiction that licences lineworkers) or qualifications that are equivalent to the qualifications required under the Victorian regulations

Preferred Option

Based on extensive consultation, ESV considers that:

- the scope of linework for the purposes of licensing will include:
 - transmission networks: this involves electrical work on tower lines and overhead electric lines in the terminal stations. It also would include electrical assets associated with the electric lines with a nominal voltage exceeding 66 kV AC or 80 kV DC as well as aerial electric lines with nominal voltage of 66kV AC and being supported by the same structure that supports an aerial conductor with nominal voltage of 132kV AC or greater
 - distribution networks: this includes electrical work on conductors, underground cables and other electricity infrastructure equipment
 - traction networks: this includes installation of cables and traction equipment, poles on railway supply networks or tramway supply networks
 - some cable jointing work.
- that minimum qualifications are a Certificate III in ESI Power Systems, or equivalent.
- for international workers, the Offshore Technical Skills Record (OTSR) for the issue of a Supervised Workers Licence for Electricians, onshore experience and completed gap training in order to obtain an electrician's licence will be required.
- interstate lineworkers being more easily available to work in Victoria during significant outage events (proceeding as an Order in Council exemption).

4.6 Review of the current Regulations—High impact proposals

The current regulations were reviewed to assess whether they could be amended to achieve the government's objectives, while imposing the lowest possible costs on electrical workers. The two largest areas of regulatory costs in the existing Regulations that are proposed to be continued in the proposed Regulations (i.e., the status quo) are:

- applications for licences
- the requirement for RECs to hold public liability insurance (PLI).

4.6.1 Applications for licences

The nature and risks associated with electrical hazards are discussed in Chapter 2. To manage these risks, governments in Victoria and in all similar jurisdictions license electricians. In Victoria, licensing has existed for about 100 years.⁴⁵

Licensing seeks to overcome two types of market failure: information asymmetry and a type of externality. Information asymmetry occurs when there is an imbalance of information between buyers and sellers. In this case, buyers of services provided by electrical workers are not in a position to judge the quality (safety) of the service, given its technical nature. It is common for governments to intervene in the marketplace to ensure a minimum standard of service (safety) is provided by ensuring that only competent people carry out these tasks. An externality is a cost or benefit caused by a producer that is not financially incurred or received by that producer. In the case of electricity safety, in the absence of regulation, there may be an incentive to provide a lower quality of service (i.e. unsafe) if the provider does not fully incur these costs. Therefore, it is common for governments to intervene in the market to set a minimum level of safety that a market may not deliver. ESV considers that licensing remains the most efficient way to address these ‘market failures’. There are no practical alternatives to licensing (Divisions 1 and 2 of Part 3 of the Act prohibits workers from undertaking electrical work unless that worker is licensed under the Regulations).

ESV will continue to require licensing in the proposed Regulations.⁴⁶ This will cost around \$28.8 million (PV) over a 10-year period. The costs consist of completing the licence application and undertaking prerequisite courses or testing, and income forgone from undertaking courses. Costs associated with licences are shown in the table below. This table does not include fees, which are discussed in the following chapter (note: fees are estimated to raise \$36.8 million (PV) over a 10-year period).

Table 13: Licensing administrative costs in the proposed Regulations (10-year, \$PV)

Regulation	Licence	Cost (\$ PV)
21	Electrician’s licence	19,057,319
23	Supervised worker’s licence	65,698
26	Electrical switchgear worker’s licence	12,043
27	Restricted electrical worker’s licence (Class 1)	518,420
28	Restricted electrical worker’s licence (Class 2)	1,341
29,30	Electrical inspector’s licence; Class ‘L’ inspector’s licence	605,804
31	Electrical lineworker’s licence	6,806,074
33	Renewal of licence	1,284,548

The introduction of the online service ESVConnect has caused administrative costs associated with licence applications and renewals for industry to reduce by around 20 per cent since July 2019.

Questions for stakeholders

Can stakeholder suggest ways to streamline or improve licence application or renewal process?

⁴⁵ Section 14 of the *Electric Light and Power Act 1896* (Vic): The Governor in Council may from time to time make such regulations as he may think expedient for securing the safety of the persons and property of the public from injury from fire or otherwise and may by any regulation amend or repeal any condition contained in any order in relation thereto.

⁴⁶ Proposed Regulations 23 to 35.

4.6.2 Public liability insurance cover required to be held by RECs

Public liability Insurance (PLI) is designed for professionals who interact with customers or members of the public. It protects businesses or individuals against claims of personal injury or property damage that a third party may suffer as a result of business activities, including when working at a person's home, office or business property.

Section 30 of the Act requires that:

A person must not carry on or offer to carry on or hold out that the person carries on or is willing to carry on any class of electrical contracting that, under the regulations, is a prescribed class of electrical contracting for the purposes of this Division unless the person is registered under this Division as an electrical contractor in respect of electrical contracting of that class and holds the prescribed insurance (if any).

This means an electrical contractor *must* hold appropriate insurance, if any such insurance is prescribed in the Regulations. For the purposes of section 30 of the Act, regulation 12 in the current Regulations mentions that, "the prescribed insurance is insurance against public liability for personal injury or damage to property in connection with the electrical contracting work of the registered electrical contractor with a minimum cover of \$5,000,000."⁴⁷ The 10-year cost of this requirement is estimated to be in the order of \$39.5 million (PV), or around \$4 million (PV) per annum.⁴⁸ This cost arises from registration holders (15,797) taking out a PLI policy which costs \$600 per annum. It is estimated that it takes 15 minutes to provide evidence of the policy (15 minutes x \$66.11 per hour x 15,797).

Stakeholder consultation suggested retaining PLI coverage in the regulations and that the current \$5 million minimum was an appropriate level of insurance. ESV believes that a higher minimum cover amount would increase insurance premium costs more than risk mitigation would justify and a lower minimum coverage amount would expose licence holders to high claims (while such insurance events are low probability, they can be very high impact). ESV proposes to prescribe the insurance amount at \$5 million.

However, in Victoria, builders are not generally required to hold public liability insurance, except for two high-risk categories:

- Builder – demolisher (low rise buildings, medium rise buildings and unlimited classes)
- Erector or supervisor (temporary structures).

Under a Ministerial Order, plumbers are also required to hold public liability insurance. We understand that Queensland and Tasmania are the only other jurisdictions in Australia that make PLI compulsory for electricians, although it is encouraged throughout the industry.

Questions for stakeholders

Should the decision to take out Public Liability Insurance be left to the licence holder to make, rather than making it compulsory through the regulations?

⁴⁷ It is important not to confuse this with **domestic building insurance** (previously known as 'builders warranty insurance'). This is insurance that a builder must take out on works over \$16,000. It covers costs up to \$300,000 to fix structural defects for six years, and non-structural defects for two years. **Professional indemnity** insurance is a separate type of insurance required by some classes of builders, e.g., building surveyors, building inspectors, quantity surveyors, engineers (civil, mechanical, electrical and fire safety classes), and draftspersons.

⁴⁸ This estimate assumes that 50 per cent of licence holders would choose to take out PLI even if it were not compulsory. Project contracts often require PLI coverage and businesses may choose PLI to mitigate business risks.

4.7 Review of the current Regulations—Low impact proposals

The following options were considered by ESV following a detailed review of the operation of the Regulations since 2010. A consultation workshop was also held with stakeholders to test these options. These options are ‘stand-alone’ and do not interact with the options considered in Sections 4.4, 4.5 and 4.6. All options are considered to be low impact.

4.7.1 Summary list

The following options for the proposed Regulations were tested with stakeholders:

- Requiring electrical inspection companies to become registered inspection companies (**not adopted**)
- Removing the requirement that an electrical contractor business supervisor or nominee must have completed a training course or have equivalent experience (**adopted**)
- Ensuring that an electrician’s licence is required for work on battery and generation systems that operate at extra low voltage (**adopted**)
- Requiring currency of assessment as a requirement for the issue of a new licence or the renewal of a licence that has been expired for more than 5 years (e.g., must have passed the Licensed Electrician’s Assessment (LEA) within last five years) (**adopted**)
- ‘Fit and proper person’ test for LEIs (**not adopted**)
- Requiring qualification for LEIs (**adopted**)

4.7.2 Option of requiring electrical inspection companies to become registered inspection companies (ICs) similar to registered electrical contractors

Currently there is no requirement for electrical inspection companies to be a registered inspection company (IC). Electrical inspection companies use LEIs to carry out inspections, tests and certifications of Certificates of Electrical Safety (COES), and audits of electrical work for ESV and others. ESV registers inspection companies to allow them to be selected to perform electrical inspection work using ESVConnect which they then pass to a LEI, the LEI is responsible for inspection and certification, the inspection company only performs the administrative support functions.

Given the skills and knowledge required to issue COES and to conduct electrical audits, it was considered whether to require these companies to become an IC. This would impose obligations on an inspection company similar to those imposed on Registered Electrical Contractors (RECs), e.g., carry insurance, and nominate a Technical Supervisor who is responsible for the compliance of all work certified by the company.

Individuals who work in electrical inspection companies hold licences themselves and this mitigates risks to safety because the individuals possess requisite skills and experience so that their activities do not compromise the integrity of the inspections system. Following consultation and consideration of the low risks posed by not registering electrical inspection companies, it was decided not to proceed with this option. The evidence did not suggest that inspection companies posed unacceptable risks for the reasons above (i.e., they perform an administrative role only and do not impact the quality of inspection work, balanced against likely costs associated with this proposal. This option was not adopted so there is no cost.

4.7.3 Option of removing the requirement that an electrical contractor business supervisor or nominee must have completed a training course or have equivalent experience

The current Regulations require a REC applicant or their nominee, who will be responsible for the business management and administration of the electrical contracting work, to have “successfully

completed a course of training about establishing an electrical contracting business that is approved by Energy Safe Victoria.”

While it is important for governance and accountability reasons that ESV has the contact details of a person who is responsible for managing an electrical contracting business, it is not clear why the manager or nominee of a registered electrical contract business needs to complete a training course or be a person experienced in running an electrical contracting business. ESV believes these arrangements were originally designed to improve an electrician's business skills before they established an electrical contracting business.

Given that there is now a vast array of business management information and resources available on the internet and many computer and cloud based business applications and software available to assist business owners, ESV is proposing removing the requirement that a person who is responsible for managing an electrical contracting business must have completed training or be an experienced person. This would arguably remove a regulatory restriction without compromising electrical safety. Similar changes have been made in other regulated industries.

The removal of this requirement is the preferred option and is expected to result in regulatory savings of around \$16 million (PV) over the life of the Regulations, or around \$1.6 million (PV) annually. These cost savings result from removing the requirement to attend the course (\$295) over 40 hours (\$66.11 x 40 hours). Each year 675 people will no longer be required to undertake this course.

4.7.4 Option of ensuring that an electrician’s licence is required for work on battery and generation systems that operate at extra low voltage

Since the Regulations were last remade in 2010 there has been large growth in solar power and battery generation and storage systems which in many cases includes some electrical equipment that operates at extra low voltage. In part, this has been encouraged by Government policies to promote the use of solar power, for example, by providing rebates.

Correctly installed systems provide negligible risk. However, incorrect installation or faulty work can pose risks to consumers (low frequency but potentially catastrophic when they occur), particularly through fires caused by arcing. The current Regulations do not capture work on those parts of battery generation and storage systems that operate at extra low voltage. ESV is considering making it a requirement that a person who installs or carries out works on any parts of a battery or generation system that operates at extra low voltage (>12VDC and 1 Kilowatt hour) holds an electrician’s licence.

ESV considers that energy storage batteries operating at extra low voltage (ELV) can pose a safety risk if not installed correctly. The Minister recommended that when the current Regulations are remade that ESV consider the cost and benefits of a licensing requirement for installing energy storage batteries that fall below the current threshold for licensing.

ESV and Solar Victoria consider that the risks of working on batteries and generation systems warrants regulation to ensure that these activities are carried out in a safe and competent manner. Stakeholder consultation to date strongly supported this option. Consultation found that only a very small amount of unlicensed work is being carried out (usually on a person’s own system). However, the risk of arc flash and fire is considered high for unlicensed work. Given that only a small number of un-licensed workers currently undertake this work the regulatory impact is considered low – nevertheless it represents a low frequency, high risk activity.

4.7.5 Option to require currency of assessment as a condition of licence (e.g., must have passed the Licensed Electrician’s Assessment (LEA) within last five years)

The most common pathway to obtaining an electrician’s licence is to have completed a four-year contract of training as an electrician (e.g., an apprenticeship) that included at least 12 months’

experience in carrying out electrical installation work. The person must also have satisfactorily completed the LEA conducted by ESV or by an approved body.

There is currently no time period or expiration attached to the LEA. In line with ensuring that skills and knowledge are kept up to date, ESV is considering whether to require a person applying for their electrician's licence to have completed their LEA in the last five years. The Wiring Rules change about every 5 years, as do other standards, so it is essential that the applicant is familiar with and tested on the current standards and rules. Similarly, other licence classes require an independent practical assessment prior to licence application, and the five-year requirement would also be applied to these applicants.

ESV considers that it is appropriate to require a person applying for all licence classes to have completed their respective independent practical assessment in the last five years (e.g., restricted electrical worker's licence (class 1) and electrical inspector's licence). In practice, this will require about 80 persons to undertake the LEA per annum. This is consistent with the rationale for CPD assessed above—skills currency is a foundation of electrical safety. It is also relevant to note that the Australian Skills Quality Authority (ASQA) prohibit the expiry of qualifications, so to ensure skills currency, current LEA assessments are considered necessary.

Costs for this proposal are based on direct course costs of \$544 and 7 hours of forgone income (\$66.11 per hours x 7) multiplied by a population of 80 persons per annum. Over a 10-year period this proposal will cost in the order of \$575,800 (PV), or \$57,000 (PV) annually.

4.7.6 Option to limit the number of attempts a candidate may have at a licence assessment

All licence classes currently require applicants to have successfully completed one or more independent practical licence assessment(s). This applies to new licences. There is currently no limit to the number of attempts a candidate may have, nor is there any legislated requirement to limit the time that may elapse between assessment attempts. ESV does have some procedures in place to limit the number of attempts per year for Electrical Inspector licence candidates, and LEA candidates are required to wait two weeks between assessment attempts. These are handled administratively.

These limitations are intended to ensure candidates have sufficient time to review their knowledge and skills, and to prevent them from becoming familiar with the equipment used in the assessment, thereby giving them an unfair advantage to a successful pass or receiving a set of questions they can answer from memory without the knowledge required to work the solution out. Placing a limitation is also intended to encourage candidates to approach their licence assessments with a degree of seriousness.

There are a high number of candidates who require multiple attempts at their licence assessments. For example, in 2018, 46 per cent of candidates failed the Licensed Electricians Practical (LEP) assessment, 48 per cent failed the Licensed Electricians Theory (LET) assessment, and 33 per cent failed the Licensed Electricians Safe Working Practice (SWP) assessment. Since 2016, more than 100 candidates have failed an individual LEA assessment six or more times.

ESV now considers that a limit of four attempts at each independent individual licence assessment should be permitted in any twelve-month period. This only applies to new licence applicants. Stakeholders generally supported this option. If the number of attempts is not limited there is a risk that candidates who are not competent may be able to become familiar with the assessment and pass the test. This will be implemented administratively in the ESV Assessment Rules rather than in the proposed Regulations and therefore is not included as a regulatory cost for the purposes of this RIS but is included for transparency.

4.7.7 Option of a 'fit and proper person' test

An important reason to require licensing (or registration) of a professional is to ensure that the practitioner has the required level of training, skills and competency. Another particularly important reason for licensing is to provide a check of the integrity of the practitioner. Given that trust is an important part of professional licensing, 'fit and proper persons tests' are common in many professions; including for lawyers, teachers, builders⁴⁹, miners, holders of EPA licences, for those involved in the racing, gambling and boxing industries, and many more.⁵⁰

The current Regulations contain provision to provide ESV grounds for refusal of registration or licensing. In the past ESV has refused about five applications per year licences on these grounds (although if fraudulent applications are detected the applicant generally withdraws the application and does not reapply). Such grounds for refusal to license an electrical worker include that:

- the applicant has not complied with or has contravened a provision of the Act or Regulations
- the applicant has attempted to obtain a licence as an electrical worker by fraud, misrepresentation or concealment of facts
- the applicant has been convicted of any offence involving fraud, dishonesty, drug trafficking or violence that was punishable by a term of imprisonment of six months or more
- the applicant has been negligent or incompetent, or was a party to any negligence or incompetence, in connection with the carrying out of electrical work
- the applicant has engaged in fraudulent conduct in the carrying out of electrical work.

To reinforce the integrity of the electricity worker licensing system, ESV considered additional requirements for a 'fit and proper person test' for LEIs. LEIs play an important role in the system and may face a higher level of integrity risks compared with other licensed electrical workers.

Following further consideration and based on stakeholder consultation it was decided that the existing and proposed requirements in the regulations are adequate to screen for 'fit and proper persons'. However, this may need to be reconsidered in light of any findings or recommendations that come out of the current ESV review into the inspection regime.⁵¹

4.7.8 Option to require a formal qualification for Licensed Electrical Inspectors

An important reason to require licensing (or registration) of a professional is to ensure that the practitioner has the required level of training, skills and competency. The current Regulations require a person seeking to apply to become a Licensed Electrical Inspector (LEI) to demonstrate qualifications⁵², experience, competence and proficiency in electrical inspection work.

Currently there is no specific requirement for prospective LEIs to complete any formal training or qualification. There is, however, a requirement for applicants to satisfactorily complete a practical assessment in electrical inspection work. ESV considers that this test is a valuable component of a

⁴⁹ See ss. 171D and 171E of the *Building Act 1993*

⁵⁰ At the individual level, the common use of Police Checks as a prior condition of employment for many jobs is another way the employer seeks to ensure that the applicant is a 'fit and proper' person.

⁵¹ In May 2020, ESV announced that it will conduct a comprehensive broad-based, independent review assessing the entire electrical inspection regime. The review will engage industry and representative groups, Government (including agencies such as Solar Victoria), trade unions and inspectors themselves. A final report from the review is due by December.

⁵² Even though the current regulations refer to 'qualifications' there is currently no training course. The key change is including an ability for ESV to require the *completion of a course*, as well as an examination (which is the current requirement). ESV is currently developing this course.

person's skills as a LEI. The current results of this assessment show a high failure rate, with less than a quarter of candidates successfully demonstrating the required skills and knowledge.

These results demonstrate a significant proportion of persons attempting the assessment do not have the required level of skills and knowledge. This may be due to a number of factors. A LEI is expected to have broad knowledge and skills across the breadth of the electrical industry, and often electricians aiming to become LEIs are only expert in limited areas. There are limited training opportunities to provide these electricians with the broader knowledge required to become a LEI. In addition, the ability to thoroughly test an installation is a basic requirement for a LEI, and many electricians are not current or skilled in the mandatory testing requirements. ESV recognises this issue, and is addressing this as part of the skills maintenance component of CPD (above). In the longer term, the introduced CPD requirements may assist electricians to develop some of the skills to become a LEI. The high failure rate in the LEI assessment demonstrates the need for specific LEI training. ESV has recognised this need, and has been working towards addressing it for some time.

An adapted course, with similar modules to the Certificate IV in electrical inspection, is currently being developed. The course is expected to require 150 hours training and it is estimated that 15 LEIs will attend per annum. Based on similar training, the cost of this course is estimated at \$3,750. This course will assist in raising the assessment of competence of those completing the course. In addition, the assessment can only cover a small section of the work and training will ensure a broader knowledge and skills base than the limited scope of the assessment. The nature of inspection work has expanded dramatically since the inception of LEIs and it is difficult to cover the broad knowledge requirements in a single assessment.

To ensure LEIs have sufficient knowledge and skills to adequately perform their required duties under the Act and Regulations, ESV is proposing requiring LEI licence applicants to have completed the course it will develop. This course would only be required to be completed once, prior to the initial licence application.

A lack of formal training is a significant factor in the failure rate. ESV considers this proposal will improve safety outcomes. Stakeholders consulted as part of formulating the proposed Regulations did raise objections to the proposals.

Over a 10-year period this proposal will cost in the order of \$1.46 million (PV), or \$146,000 (PV) annually. The cost of the course is expected to be around \$3,750 per person and will take about 150 hours to complete. This course will be adapted from the Certificate IV in Electrical Inspection, which normally takes 6 months to complete. The income forgone from taking this course will be in the order of \$9,900 per person (150 hours x \$66.11 wage rate).

Questions for stakeholders

Do you have any views or comments on the other options considered, and/or the associated regulatory change proposals?

4.8 Regulatory reductions—proposed changes to the Regulations

The current Regulations were thoroughly reviewed by ESV and the proposed Regulations have been designed to streamline, update and simplify them where possible. [Appendix C](#) describes all changes made to the current Regulations compared with the proposed Regulations. Some minor amendments were made to lower the regulatory burden on businesses. These include:

- Requiring email address details to be provided as part of licence applications. This will speed up and lower the cost of communications in many instances.

- Removal of the fee (currently \$41.46) for a copy of an extract of the register. This register is now made publicly available online.
- Removal of the fee (currently \$41.46) for a replacement registration or licence card. Very few are requested annually and charging and collecting a fee is not economical. There is little risk that the removal of the fee will cause licence holders not to value the registration or licence card because no cost is attached to replacements.
- Removal of need to provide evidence of insurance upon registration renewal. The new requirement will be to simply make a signed statement as part of the application process that appropriate insurance is in place. ESV has assessed the risk of providing a false statement is low. ESV can still ask the applicant to provide further information or material in respect of an application.

The removal of the requirement that an electrical contractor business supervisor or nominee must have completed a training course has been mentioned in the previous section.

Questions for stakeholders

Do you have any views or comments on the proposed changes to the regulations?

5 Fees for electrical contractors and workers

5.1 Background

As noted in Chapter 2, ESV undertakes a number of activities in its role of regulating electrical contractors and workers. These include:

- assessing applications for registration or licence, and processing renewals
- compliance and audit activities to ensure workers are working in accordance with their registration or licence
- investigating complaints against electrical workers
- disciplinary activities
- data collection and management
- processing transactions, including payments
- information and engagement.

These activities are necessary for ESV to meet its legislative functions, and to ensure the objectives of the Act are met in an efficient and effective manner.

In particular, these activities are required to fulfil ESV’s statutory role to:

- ensure the electrical safety of electrical installations and electrical equipment
- control the electrical safety standards of electrical work carried out by electrical workers
- maintain public and industry awareness of electrical safety requirements.

The registration and licence classes covered by the proposed Regulations are listed in Table 14 below.

Table 14: Classes of registration and licences in the proposed Regulations

Electrical contractors	Electrical workers
Registered electrical contractors (REC) (for individuals, partnerships, or companies)	Electrician’s licence (A)
	Restricted electrical worker’s licence (REL) (Class 1 and Class 2)
	Switchgear worker’s licence (SW)
	Supervised worker’s licence (L)
	Licensed electrical inspectors (LEI) (G, H, M and V classes, Class L is for renewals only)
	Electrician (Supervised) Worker’s (ES) (renewals only)
	Occupier’s licence (O) (renewals only)
	Lineworkers (Classes D, T, R, R(S) and C)

5.2 Cost analysis

ESV's costs in relation to the regulation of electrical contractors and workers were estimated based on the operating costs of particular areas within ESV.

Table 15: Estimated costs of regulating electrical workers, 2020-21

Cost area	Cost type	Cost
DIRECT COSTS		
ESV Electrical licensing area ⁵³ Relevant activities include: <ul style="list-style-type: none"> Processing applications for new licences and renewals (50%) Data collection and management (20%) Processing transactions and payments (10%) Information and engagement (20%) 	Employee costs ⁵⁴	\$893,300
	Other costs of area ⁵⁵	\$294,100
Executive Manager (Licensing) and COES team ⁵⁶ Relevant activities include: <ul style="list-style-type: none"> Checking compliance RECs and audit Investigation of complaints about LEWs and RECs Disciplinary activities and licence/registration rejections Education of trade and apprentices about safety and licensing Administration, moderation of LEA and licensing assessments. 	Employee costs	\$68,200
	Other costs of area	\$13,200
Electrical Installation Safety team ⁵⁷ Relevant activities include: <ul style="list-style-type: none"> Checking licence and registration compliance on site (60%) Investigation of complaints (35%) Education of trade and apprentices about safety and licensing (5%) 	Employee costs	\$523,300
	Other costs of area	\$56,200
Regulation Assurance team ⁵⁸ Relevant activities include: <ul style="list-style-type: none"> Checking compliance and audit (50%) Investigation of complaints (30%) Regulation amendments and re-make (20%) 	Employee costs	\$382,100
	Other costs of area	\$38,000
INDIRECT COSTS		
Corporate overhead costs	Accommodation (allocated based on area used by these staff)	\$212,000
	System and infrastructure (allocated based on % of FTE)	\$482,000
	Corporate services (allocated based on % of FTE)	\$786,000
	Computers (allocated based on services used)	\$186,000

⁵³ This team comprises 8.3 FTE staff allocated to regulating electrical contractors and workers (100% of staff). The average base salary for staff in all teams is \$113,500 p.a.

⁵⁴ Total remuneration of employees. Includes superannuation, etc.

⁵⁵ Other staff oncosts include staff training and development, motor vehicles, travel costs, memberships, administration.

⁵⁶ Electrical contractor and worker activities comprise 50% of time of one staff in this team.

⁵⁷ Electrical contractor and worker activities comprise 100% of time of three staff in this team.

⁵⁸ Electrical contractor and worker activities comprise 100% of time of two staff in this team.

The above cost is an estimate for 2020-21 based on a smoothed licence renewal profile. In practice, the pattern of renewals varies year to year. Further, some audit and enforcement activities may change year to year based on discrete compliance blitzes. As such, the annual cost (in real terms) over the next ten years is expected to vary between \$3.9 million and \$4.6 million. However, use of the estimate of \$4.1 million per year is considered appropriate to reflect the average over the life of the proposed Regulations. (Note: this average does not incorporate growth in the number of registrations and licensing over the next ten years; but by setting fees on a per registration/licence basis, revenue will automatically adjust to match higher costs as the total number of contractors and workers increases. It is not expected that the number of registrations and licences will increase significantly over the next ten years.)

The above cost is a projection based on actual costs in recent years and known administrative changes within ESV, based on a continuation of the current regulatory arrangements. The above cost base does not include additional costs to ESV associated with:

- Changed requirements to lineworkers—new lineworkers will now be required to apply for a licence, to be renewed every five years. Existing lineworkers will be automatically transferred to a licence on 1 January 2021 at no cost, but will be required to renew their licences every five years thereafter.⁵⁹ As this will be a new licence category, there are no specific data on the costs of these regulatory activities in relation to lineworkers, but ESV believes that the costs of regulating lineworkers under the proposed Regulations should be broadly the same as other licence categories. As such, the costs have not been separately estimated for this group, but the proposed fee for lineworkers will be set at the same rate of other licences (see below), with a review of costs proposed to be undertaken before renewals in this group occur.
- New requirements for CPD—ensuring compliance with the proposed CPD requirements will involve additional work for ESV. As noted in Chapter 4, these costs to ESV are expected to be relatively small, and any additional compliance costs will come from ESV's existing budget and not from increased fees (so, the cost is an opportunity cost to ESV). Moreover, over the longer term, the additional costs to ESV in relation to overseeing the CPD compliance may be mostly offset by reduced costs in other areas of compliance as CPD should result in better compliance with the standards and fewer safety incidents.

It is difficult to assess whether the cost of the current activities is efficient in an objective way. This is because there is a degree of discretion about how many resources are devoted to some activities—such as how much audit work is undertaken. An assessment of efficiency therefore also needs to consider whether the level of audit activity is appropriate. There is a link between the level of resources directed to compliance and enforcement of the registration and licencing framework, and the effectiveness of the compliance system, but ultimately ESV must make a professional judgment as to the appropriate level of regulatory activities. It is accountable for these decisions through its reporting on its activities and safety outcomes in the sector.

As noted in Chapter 2, the current fees being charged in 2020-21 are the same in dollar terms as the fees charged in 2018-19, reflecting ESV's decision to freeze fees for 12 months from 1 July 2019 and the subsequent decision by the Victorian Government to freeze all fees from 1 July 2020 in response to the Covid-19 pandemic. As a result of these decisions, ESV has taken steps to reduce costs to

⁵⁹ It is anticipated that the initial licences of transitioned lineworkers will vary in duration between 2 to 5 years, so that the renewals become spread out. Together with new lineworkers entering the sector and some leaving each year, this will result in around 360 lineworkers having to renew their licence each year, from 2023 onwards. All future renewals (beyond the initial transition licence period) will be for 5 years, however for those lineworkers that have an initial licence period of less than 5 years, their first renewal fee will be reduced by the corresponding proportion. For example, a lineworker who is granted an initial licence of 2 years will need to renew their licence in 2023, but will only pay 40 per cent of the renewal price at that time; thereafter renewals will occur at the normal five yearly interval for each lineworker.

operate within its budget. The notes to Table 15 above indicated the number of staff (in terms of full-time equivalent (FTE)) that undertake work in relation to the regulation of electrical workers and contractors. ESV believes this indicates efficiency in undertaking the regulatory activities.

Over recent years, ESV has also implemented other changes to improve the quality of its regulatory activities, including the introduction of ESVConnect that assists industry, and a more risk-based focus to compliance activities.

Victoria’s current fees also compare favourably to the fees charged in other states, when taking into account the difference in licence duration and renewal periods—see Table 16.

Table 16: Current fees in Australian states⁶⁰

Category	Victoria ⁶¹	Queensland	Tasmania ⁶²	Western Australia
Electrician contractors	\$625.69 (new) \$300.56 (renewal) (every 5 years)	\$395.90 every year	\$846 or \$651 (new) \$616 or \$413 (renewal, every year)	\$634.20 (new) \$535 (renewal) (every 5 years)
Electricians	\$400.71 (new) \$200.86 (renewal) (every 5 years)	\$82.90 every year	\$517 (new) \$282 (renewal) (every 3 years)	\$561 (new) \$485 (renewal) (every 5 years)

The above table suggests that ESV’s costs are efficient compared to these benchmarks. However, it is not always appropriate to compare fees between different states and territories to draw conclusions about efficiency of costs, as each state operates under its own legislative framework that may affect the types of activities each regulator is required to perform. It is also not assumed that all other states’ fees reflect complete cost recovery.

5.3 Options for cost recovery

General government policy is that regulatory fees and user charges should be set on a full cost recovery basis because it ensures that both efficiency and equity objectives are met.⁶³ However, there may be other factors—such as equity considerations or risks to policy effectiveness—that may warrant consideration of less than full cost recovery.

The Guidelines outline situations where partial cost recovery may be appropriate, including when:

- practical implementation issues make cost recovery infeasible—e.g., the costs of collecting fees may be high relative to the revenue collected
- there are benefits to third parties (i.e., positive externalities) e.g., preventative health care
- social policy or vertical equity outcomes may be more important than efficiency objectives (i.e. those with less capacity to pay paying less)
- full-cost recovery may adversely affect other government policy objectives—e.g., innovation, concessions, income redistribution, etc
- merit goods exist such as situations where the community as a whole desire a higher level of output—e.g., education, exercise, and the arts.

In practice, costs are usually recovered from private parties, including individuals or businesses that directly benefit from a government good or service or whose activities are regulated by government.

⁶⁰ NSW is not included because electrical trades are combined into the same fee structure as all other building-related trades, and these fees are all currently discounted as part of economic support measures (i.e., the fees for electrical workers are unlikely to reflect actual costs of regulation).

⁶¹ For comparison purposes, Victorian categories do not include all classes.

⁶² Tasmanian electrical workers licences are managed together with gas workers and plumbers.

⁶³ DTF, *Cost Recovery Guidelines*, 2013, page 7.

5.3.1 Reference case

For this analysis the reference case used is where the current Regulations expire, and the new Regulations do not prescribe any fees. ESV would not be able to charge fees in relation to the registration or licensing of electrical workers.

Normally this would mean that the taxpayer would be required to fund the shortfall in funding, however as a self-funded authority, ESV would be required to meet its funding needs by increasing other revenue sources within its control. In practice, this means the levies charged to distribution companies would need to be increased and the costs passed on to consumers.

5.3.2 Options for amount of cost recovery

Section 157 of the Act provides for the fixing of fees and charges for or with respect to any function or service carried out by ESV.

The feasible options for cost recovery are setting fees that aim to recover:

- The total cost to ESV of regulating electrical workers directly from those workers that are registered or licensed (full cost recovery)
- Only some of the costs of regulating electrical workers directly from those workers that are registered or licensed, with the remainder recovered by increasing levies on distribution companies (partial cost recovery).

5.3.3 Assessing the impacts of the level of cost recovery

Table 17: Assessment of cost recovery options

Option/Impact	Reference case (no cost recovery)	Full cost recovery	Partial cost recovery
<i>Description of impacts</i>	<i>No additional costs on electrical workers; additional levies charged to distribution companies.</i>	<i>Full cost reflected in fees paid by registered and licensed electrical workers; no additional costs to distribution companies</i>	<i>Partial cost reflected in fees paid by registered and licensed electrical workers; some additional costs to distribution companies</i>
Impact on efficiency⁶⁴	Does not achieve efficiency	Fully achieves efficiency	Partially achieves efficiency
Impact on effectiveness⁶⁵	No material impact on effectiveness	No material impact on effectiveness	No material impact on effectiveness
Impact on vertical equity⁶⁶	No material impact on vertical equity	No material impact on vertical equity	No material impact on vertical equity
Impact on horizontal equity⁶⁷	Does not meet horizontal equity objective	Fully meets horizontal equity objective	Partially meets horizontal equity objective

ESV has determined that full cost recovery is appropriate and consistent with the Government's policy on cost recovery.

⁶⁴ **Efficiency** relates to the extent to which fees reflect the costs of the service or activity and whether this sends a price signal about the value of these activities.

⁶⁵ **Effectiveness** relates to the degree to which fees influence the underlying policy objectives of regulating this specific area. This can be a concern if, for example, high fees might discourage people from using a service or complying with the Regulations (e.g., seeking a permit or registration), which could compromise policy objectives, such as health and safety.

⁶⁶ **Vertical equity** — people pay according to their ability to pay. This might be especially relevant if there are concerns that 'high' fees could limit the ability of people or organisations with limited capacity to pay to access a particular service or activity.

⁶⁷ **Horizontal equity** — people who consume the same (amount of a) service, and/or give rise to the same level of regulatory costs, pay the same fee.

As noted above, general government policy is that regulatory fees should be set on a full cost recovery basis, unless there are circumstances in which a departure from the full cost recovery principle may be justified. There does not appear to be any factors that warrant partial or zero cost recovery as:

- the level of the fees to achieve cost recovery is not so significant as to lead to increased non-compliance or interfere with other policy objectives
- the fees are relatively small compared to the total amount of electrical work undertaken.

ESV therefore considers that it is appropriate that registration and licensing fees be set to recover the total cost to ESV associated with regulating electrical workers. This achieves the objectives of the cost recovery principles as it aligns the fee charged to electricians with the actual cost of providing the regulatory activities, and should therefore achieve the objectives of efficient allocation of regulatory activities resources, and horizontal equity.

With respect to ‘vertical equity’ (the relative ability of different people to pay the fee), this is not considered a significant consideration in determining the fees. The cost of fees is low relative to electricians’ incomes, so ESV’s view is that electricians will be able to afford these fees and some of the cost of fees will be paid by employers (in some cases) or passed on to consumers.

Some of the cost of paying fees by contractors and workers will ultimately be passed through to the end consumer, although the contribution of the fees to the overall cost of services is considered to be small—less than 1 per cent of prices paid by consumers for electrical work. On the other hand, if fees were not charged for the registration and licensing of electrical workers, and instead ESV costs were recovered through higher levies on distribution companies, these costs would also inevitably flow through to consumers through their energy bills. Therefore, the choice of cost recovery is not expected to have a material impact on consumers as a whole.

5.4 Fee design

In the pursuit of achieving full cost recovery, there are design choices that can be made as to how individual fees are set. Better Regulation Victoria (BRV) suggests a number of possible options that can be considered for fees including:⁶⁸

- different fees for different modes of services. For example, fees could be lower for accessing services online than for in-person services, to reflect the generally lower cost of providing services online
- different fees for different types of users. This might be done to meet equity objectives, for example, and could involve setting different fees for different categories of user based on ability to pay
- risk-based fees, where higher-risk individuals and businesses are charged higher fees. For example, businesses that have previously been found non-compliant might be assessed as higher risk and be charged higher licence fees than other businesses in the same industry. Higher risk businesses are likely to be more costly to regulate
- different levels of cost recovery depending on whether a service or activity has predominantly private or public benefits
- time-based pricing, where users pay more in times of peak demand and less in times of low demand. For example, some public transport fares are lower in off-peak times
- fees to encourage certain behaviour. For example, rebates for early payments and penalties for

⁶⁸ Better Regulation Victoria, Guidance Note on Fees RISs, December 2019.

late payments and incomplete applications.

BRV notes that in designing fees options there is often a trade-off between simpler fee structures that are easy to understand and administer and more complex fee structures that are designed to achieve other objectives.

For the purposes of this RIS, ESV considered:

- How registration and licence classes could be grouped for the purposes of setting fees. There are currently 18 different registration and licence classifications (see Table 14 on page 47). While ideally each separate class could have its own fee to reflect the costs specific to that class, ESV believes that it is simpler to have a small number of fee groups. There are currently two fee groups: one group comprising all registered electrical contractors, licenced electrical inspectors and restricted electrical workers; the second group is for all other licence classes (see Table 18 below). Within each fee group there are several classes of licences—different classes within the same group are charged the same licence fee. ESV believes these fee groups remain broadly appropriate to the relative amount of ESV resources devoted to each group, which in turn reflects how ESV allocated effort in response to the relative risks of each group. If the classes within the same fee group had materially different cost impacts on ESV's regulatory activities, there would be cross-subsidisation between classes within that group, which affects efficiency and horizontal equity. ESV believed the amount of cross-subsidisation between classes within each group is likely to be very minor. That said, having a single fee for all classes—i.e., only one fee group—was considered inappropriate as this would lead to a significant misalignment of fees against costs for individual classes.
- When fees should be paid. Currently fees are only paid at the point of application and renewal. This means individual workers contribute to ESV costs every five years, even though some of ESV's costs in relation to these contractors and workers (e.g., audits and investigation of complaints) can occur over the entire duration of the licence. Charging lower fees for new and renewed registrations/licences and recovering the remainder through an annual fee would better match fees to the timing of costs. However, charging an annual fee would add to ESV's costs in setting up a new collection system, and would also add to the regulatory burden of electrical workers in making the payment each year. These additional costs are not currently justified, given the consequences of linking payment only to new applications and renewals are not significant; it means ESV's revenue from fees is subject to some cyclical variability, but this is not significant in light of ESV overall revenue. Linking fees only to applications and renewals also means there is greater control over payment of fees and ESV's costs—i.e., if the required fee does not accompany the application, the application or renewal is not processed.

ESV therefore proposed to retain the current fee structure.

5.5 Proposed fees

Based on the assessment of ESV costs that are to be recovered from fees, and the current fee group structure, the allocation of costs against the fee groups is set out in the following table. The table shows the amounts in 2020-21 dollars, and compares this allocation of costs to the current fee prescribed in the current Regulations and the current fee actually charged by ESV in 2020-21.

Table 18: Comparison of estimated cost allocation with current fees, per contractor/worker (2020-21)

Fee group/Classes	Type	Fee prescribed in current Regulations	Current fee charged by ESV	Estimated allocation of ESV costs
Registered electrical contractors Licensed Electrical Inspector Restricted Electrical Worker's licence (Disconnect/Reconnect)	<i>New</i>	\$641.30	\$625.69	\$629.69
	<i>Renewal</i>	\$308.00	\$300.56	\$302.48
All other licences*	<i>New</i>	\$411.70	\$401.71	\$404.28
	<i>Renewal</i>	\$205.90	\$200.86	\$202.15

* While most registrations and licences last for 5 years, the Supervised Workers Licence lasts for only 3 years, and as such is charged a fee of 60 per cent of this fee.

The allocation of estimated costs to each fee category (i.e., between the two fee groups, and between new applications vs renewals) maintains the current fee relativities. While these costs were not individually measured for each category, ESV believes that these relativities continue to be the best approximation of ESV effort allocation.

Resetting the fees based on this allocation of estimated costs would see the fees remain below the fees prescribed in the current Regulations (in terms of fee unit equivalents)—around 1.8 per cent lower. However, this would see a slight increase—of 0.6 per cent—above the fees currently charged by ESV in 2020-21.

It is therefore proposed to reduce the fees as prescribed in the Regulations by 1.8 per cent. However, ESV would be able to increase the actual fee charged, currently 2.5 per cent below the fees prescribed in the current Regulations. Whether the fees currently charged are adjusted during the remainder of 2020-21 will be considered in light of government policy in relation to its response to the ongoing Covid-19 pandemic.

The proposed fees in the proposed Regulations are set out in the following table. The costs in the previous table have been converted to a number of fee units, based on the current value of a fee unit being \$14.81 for 2020-21. The fee amount for 2021-22 and later years will depend on the Treasurer's determination of the value of a fee unit for those years.

Table 19: Changes to the fees as prescribed in the proposed Regulations

Fee group/Classes	Type	Current Regulations (fee units)	Proposed Regulations (fee units)	Percentage change
Registered electrical contractors Licensed Electrical Inspector Restricted Electrical Worker's licence (Disconnect/Reconnect)	<i>New</i>	43.3	42.52	-1.8%
	<i>Renewal</i>	20.8	20.42	-1.8%
All other licences	<i>New</i>	27.8	27.30	-1.8%
	<i>Renewal</i>	13.9	13.65	-1.8%

This represents a decrease in all fee categories of 1.8 per cent.

The changes to the prescribed fees will enable fee revenue of around \$4.1 million per year (in real terms, ignoring yearly variation due to uneven renewal cycles).

For the reasons described above, although this change is a decrease in the fee units for licences, it allows ESV to charge higher fees than it currently does. However, due to the Covid-19 pandemic, ESV may decide to continue to charge fees lower than the prescribed fees as it does now.

Table 20: Fee revenue for 2020-21

	Total revenue 2020-21	Difference from current Regulations
Total fee revenue if fees charged according to the current Regulations	\$4,166,858	
Total fee revenue if fees charged according to the proposed Regulations	\$4,091,400	-\$75,458
Total fee revenue if fees charged remain frozen below the prescribed fees	\$4,065,624	-\$101,234

The reduction in fees prescribed in the Regulations would reduce total fee revenue, compared to what could be collected under the Regulations, by around \$75,000 per year; but would allow ESV to increase revenue actually collected by around \$26,000 per year when it is decided to increase fees to the amount prescribed in the proposed Regulations.

The above revenue estimate includes around \$8,000 per annum from new lineworkers who will need to be licensed from 1 January 2021.

Existing registered lineworkers will be automatically transitioned to licences on 1 January 2021, with a staggered licence duration to smooth out renewals over time. This will mean there are around 360 lineworker licence renewals each year from 2023 onwards, however the renewal fee will be reduced for renewals occurring between 2023 and 2025 (see footnote 59). This will result in additional fee revenue (according to the fees prescribed in the proposed Regulations) of \$29,000 in 2022-23 rising to \$72,000 per year from 2025-26 onwards.

Questions for stakeholders

Do you agree that ESV's costs of regulating electrical workers are efficient?

Do you agree that ESV should recover these costs through fees on electrical workers? If not, how else should ESV recover these costs?

Does the fee structure balance the need to tailor fees for individual classes against maintaining a simple fee structure?

Is there merit in recovering some costs through an annual fee on electrical workers? Could this be administered easily?

6 Preferred Option

The review of the current Regulations and extensive stakeholder consultation has concluded that the Regulations be remade with several important changes. CPD will be introduced in the proposed Regulations, commencing with skills maintenance training in 2023 and requiring skills development training from 2028. ESV has committed to reviewing the proposed CPD scheme to ensure that it is meeting its objectives.

CPD will be introduced in the proposed Regulations, commencing with skills maintenance training in 2023 and requiring skills development training from 2028. ESV has committed to reviewing the proposed CPD scheme to ensure that it is meeting its objectives. When both are implemented, skills maintenance training and skills development will each require an 8-hour commitment (i.e., 16 hours each 5-year licence cycle).

The regulatory burden imposed by the new CPD requirements over the life of the regulations are calculated at around \$47.85 million (PV), or around \$4.7 million (PV) annualised. Of this cost, \$11.35 million is attributable to direct training costs, while \$36.5 million represents income forgone from attending training. These costs consist of \$220 for the cost of an 8-hour course (\$200 teaching costs and \$20 for training resources). Around 76 per cent or \$530 of this cost is the notional cost of forgoing income or productivity. If a self-employed electrical worker undertakes an 8-hour training course of CPD then that represents one day's absence from income earning activities, while a day's absence for an employee of an electrical contractor imposes a day's lost productivity on the employer. Taken together, skills maintenance training per electrical worker is around \$750 per day, over a 5-year licence period.

An Industry Steering Committee will be established in September 2020 to, among other things, monitor and review the CPD requirements. The Steering Committee will receive and analyse data relating to the knowledge and skills of the licence holders pre and post CPD training to monitor improvements and evaluate the program. Evaluation will include analysis of incident, enforcement and complaint data pre and post CPD training, to ensure the CPD training is improving outcomes in relation to identified problems and gaps.

The proposed Regulations also give effect to Victorian Government policy decision to license lineworkers. The preferred design option of a lineworker licence was based on extensive consultation. ESV considers that the scope of linework should include prescribed work on transmission, distribution, and traction networks (e.g., the installation, maintenance, modification, stringing, tensioning, terminating and securing of overhead electrical conductors and associated electrical distribution, transmission and traction equipment). Certain cable jointing work will also be permitted under this licence. The minimum qualification for a lineworker licence will continue to be a Certificate III in ESI Power Systems, or equivalent. Interstate lineworkers will be able to work in Victoria during significant outage events provided that they are appropriately qualified.

ESV reviewed each requirement in the current Regulations and made changes that would clarify, simplify or update them. A number of changes were also made to reduce regulatory burden, where such changes did not compromise safety. ESV proposes to continue key elements of the current Regulations, namely the current requirements for certain types of work to be licensed (\$28.3 million over 10 years) and the requirement for RECs to take out a minimum of \$5 million in public liability insurance. This insurance requirement is estimated to cost \$39.5 million, however, ESV's view is that at least 50 per cent of RECs would take out public liability insurance voluntarily.

The total costs of the proposed Regulations over a 10-year period have been estimated to be \$154.7 million (PV), or around \$15.4 million (PV) per year. The new CPD proposal represents about one third of these costs. While these costs appear large, they are spread over 47,000 licences and 16,000 registrations in place.

This total cost includes around \$36.9 million (PV over ten years) for ESV's costs of regulating electrical workers and contractors, which are to be recovered through registration and licence fees. ESV is proposing to prescribe fees for two fee groups:

Table 21: Changes to the fees as prescribed in the proposed Regulations

Fee group/Classes	Type	Current Regulations (fee units)	Proposed Regulations (fee units)	Percentage change
Registered electrical contractors Licensed Electrical Inspector Restricted Electrical Worker's licence (Disconnect/Reconnect)	<i>New</i>	43.3	42.52	-1.8%
	<i>Renewal</i>	20.8	20.42	-1.8%
All other licences (includes lineworkers)	<i>New</i>	27.8	27.30	-1.8%
	<i>Renewal</i>	13.9	13.65	-1.8%

The fees prescribed in the Regulations will be reduced by 1.8 per cent, however, prescribed fees in the Regulations will remain above what ESV is currently charging. The prescribed fees will enable fee revenue of around \$4.1 million per year (in real terms, ignoring yearly variation due to uneven renewal cycles).

Lineworkers will be required to pay licence fees for new applications and renewals. Existing registered lineworkers will be automatically transitioned to licences on 1 January 2021, with a staggered licence duration to smooth out renewals over time. This will mean there are around 360 lineworker licence renewals each year from 2023 onwards, however the renewal fee will be reduced for renewals occurring between 2023 and 2025 (see footnote 59). This will result in additional fee revenue (according to the fees prescribed in the proposed Regulations) of \$29,000 in 2022-23 rising to \$72,000 per year from 2025-26 onwards.

7 Small business impacts and Competition Assessment

7.1 Small business impacts

The *Victorian Guide to Regulation* (VGR) provides a definitive guide to developing regulation in Victoria within the context of the Government’s vision of well targeted, effective and appropriate regulation. All new regulatory proposals that have significant impacts on business must be thoroughly assessed to ensure the benefits to the community outweigh the costs and that the best option is considered. The VGR recommends a special assessment of the impact of the proposed Regulations on small businesses, recognising that the compliance burden often falls disproportionately on that sector of the economy.⁶⁹

Electrical installation work is primarily carried out by small businesses. Most RECs and LEIs, for example, are sole traders or businesses with fewer than 20 employees (i.e., around 96 per cent). Accordingly, the impact of the proposed Regulations will fall almost entirely on small business.

The proposed Regulations, however, do not disproportionately fall on small business. The licensing arrangements primarily focus on the individual not the organisation, and there are no administrative economies of scale associated with licence applications or other requirements. Competencies and qualification requirements apply equally to licensees from small or larger businesses and other requirements are set at a level affordable to small business.⁷⁰

7.2 Competition

Competition is a state of ongoing rivalry between firms—rivalry in terms of price, service, technology and quality. Market participants are mutually constrained in their pricing, output and related commercial decisions to some extent by the activity of other market participants (or potential market participants). In other words, the greater the degree of competition in a market, the less market power each market participant will possess, and, other things being equal, will result in competitive prices and better service.

Any regulatory proposal needs to be scrutinised carefully to assess whether it may have an adverse impact on the ability of firms or individuals to enter and participate in the market.

As a matter of good public policy, it is a fundamental principle in Victoria that any new legislation (both primary and subordinate) will not restrict competition unless it can be demonstrated that:

- the benefits of the restriction, as a whole, outweigh the costs, and
- the objectives of the legislation can only be achieved by restricting competition.

A measure is likely to have an impact on competition if any of the questions in the table below can be answered in the affirmative.

⁶⁹ The ABS defines a ‘small business’ as a business employing fewer than 20 people. ABS Cat. 1321.0 - Small Business in Australia.

⁷⁰ For example, the Public Liability Insurance coverage is set a \$5 million liability (see r. 13). Large projects may require coverage of \$20 million, however this will be privately agreed upon under the contract arrangements for such projects (i.e., the electrical worker could obtain a coverage for that amount from their insurance company for that project).

Table 22: Competition questions

Test question	Assessment
Is the proposed measure likely to affect the market structure of the affected sector(s) – i.e., will it reduce the number of participants in the market, or increase the size of incumbent firms?	Possibly
Will it be more difficult for new firms or individuals to enter the industry after the imposition of the proposed measure?	Yes
Will the costs/benefits associated with the proposed measure affect some firms or individuals substantially more than others (e.g., small firms, part-time participants in occupations etc)?	No
Will the proposed measure restrict the ability of businesses to choose the price, quality, range or location of their products?	Yes
Will the proposed measure lead to higher ongoing costs for new entrants that existing firms do not have to meet?	No
Is the ability or incentive to innovate or develop new products or services likely to be affected by the proposed measure?	No

The proposed Regulations may restrict competition in several ways.

The proposed Regulations give effect to a licensing regime that imposes regulatory requirements that increase the difficulty for new firms and individuals to enter the market by establishing minimum qualifications or levels of experience thresholds. This, in turn, results in a reduced number of electrician workers that may have entered this market in the absence of these requirements. This RIS assesses that the costs of such restrictions are outweighed by the safety benefits of the proposed Regulations.

The proposed Regulations will also make it more difficult for new firms or individuals to enter the industry. This is because without the regulations no licences would be required to undertake electrical work. The proposal restricts electrical work to only those that hold licences.

A corollary of the licensing system is that the price of electricity worker services will be marginally higher than if no regulations existed. Attaining qualifications requires years of training and licensing imposes direct financial costs on electricity workers. These costs are recouped/passed on to customers. In addition, the quality of service levels that is implicitly imposed by the Regulations is higher than would be case if the regulations did not exist (e.g., service delivery must be competent and safe; that is, a higher quality of service). Again, these are likely to impose incremental costs on the industry and consumers, but it is assessed that these costs are outweighed by the safety benefits. Overall, ESV considers that it is necessary to impose these restrictions on competition in order to achieve the policy objectives of electrical safety.

8 Enforcement, implementation and evaluation

8.1 Implementing the proposed Regulations

The proposed Regulations are substantially similar to those that have been in place for 20 years. As such, ESV will implement the proposed Regulations through the well-established process that it undertakes for changes to regulatory requirements. Changes from the current Regulations will be highlighted online, and information will be sent to all current registered contractors and licensed workers through existing regular communication channels.

The proposed Regulations include transitional provisions:

- Skills maintenance requirements of CPD will be required by 2023, skills development training to be required by 2028.
- Lineworkers registered with ESV before the proposed Regulations commence will be automatically transferred to the new lineworker licence from 1 January 2021 without the need to apply for the initial licence or pay the new licence fee for this transfer. The duration of the initial licences for transitioning lineworkers will vary from 2 to 5 years to ensure that renewals are spread out over time (avoiding a peak of renewals every five years). ESV will develop a process for smoothing initial licence length before the proposed Regulations commence.
- CPD training for lineworkers will not be required until 2026.

ESV will establish a CPD Industry Steering Committee to enable industry, trainers, and employee groups to contribute and provide advice on the implementation and ongoing delivery of CPD in Victoria.

ESV is currently in discussions with Service Victoria to improve digital communication processes support the implementation of the proposed Regulations.

8.1.1 CPD Implementation

During consultation, a number of CPD design options were considered. The Subordinate Legislation Act 1994 Guidelines provide guidance on what matters should be included in statutory rules (that is, the proposed Regulations), and what matters should be managed administratively. ESV considers that the following matters (discussed under subheadings below) are better managed administratively rather than including them in the proposed Regulations. This will provide ESV and the industry with greater flexibility to implement the new CPD regime.

Mechanisms for CPD funding

Workers would access the skills maintenance training at approved training providers approved by ESV on a fee-for-service basis. Employers of the workers may choose to assist workers with the cost of training; however, this would be at the discretion of the employer.

ESV proposes that the skills maintenance course should have the resource material developed and maintained by a third party. This may be accessed and used by ESV approved training providers to enable consistent delivery, and the training providers would pay a fee to the developer to access the materials. This fee could be calculated based on the number of candidates enrolled, so as not to disadvantage small or regional providers. The payment of this fee by training providers to the developer will fund the further development and ongoing maintenance of the resources. Training providers would be expected to provide and maintain the relevant practical equipment to facilitate delivery.

Workers accessing skills development activities would be responsible for the cost of their chosen activities. As there are numerous acceptable options for skills development, the funding models may vary. Workers who choose to complete accredited post trade training may be eligible for

government funding. Non-accredited training is normally delivered on a fee-for-service basis, however some non-accredited training may be delivered and funded by industry stakeholders.

Course content and training providers

Skills maintenance course content will be determined by the Industry Steering Committee, based on skills gaps identified by industry and ESV data. Initial analysis indicates the first areas of focus will include safe isolation, mandatory testing, and recently updated Wiring Rules and Regulations. Course content may alter over the life of the Regulations, based on continual analysis of data, evaluation of the program, and other safety issues which may arise over time.

Skills development courses will be considered based on their content meeting the guidelines to be determined by the Industry Steering Committee. The full extent of this content is yet to be determined, but will include all technical aspects of electrical work. The committee (once formed) will consider if other subject matter such as business courses or worker health and wellbeing are to also be included.

Training providers will be selected based on guidelines to be determined by the Industry Steering Committee. Final guidelines are still to be determined, but will include the status of the provider as an authorised training provider, and their ability to provide the required service including facilities and provision of equipment. They must demonstrate the availability of teaching staff with the applicable trade and teaching qualifications. If they also provide electrical apprentice training, they must demonstrate that they can provide the CPD training with no detrimental effect to the apprentice training program.

Delivery of training

ESV proposes the skills maintenance course should be delivered predominantly face-to-face.⁷¹ This would enable the practical safe isolation and installation testing skills to be practised and demonstrated.

The Queensland regulator is currently reviewing the effectiveness of its online skills maintenance assessment. While the results of that review are not yet known, there is some evidence to suggest that a combination of face-to-face learning combined with online learning provides better results than online learning alone.⁷² In addition, a fully online course gives no assurance that the person completing the training is the licensee. In a face-to-face delivery model, there is assurance that the licensee is attending.

Due to the wide range of courses and training likely to be approved for skills development, a strict face-to-face delivery policy is unlikely to be suitable in all cases. However, fully online courses could be discouraged by the allocation of a lower points weighting, or not approved. Interactive online courses could be considered, where the trainer can confirm the attendance and engagement of the trainee, both can ask/answer questions, and evidence of active participation may be gauged. During the Covid-19 pandemic, there has been widespread adoption of blended training delivery (i.e., combining aspects of face-to-face and on-line instruction) in Victoria's training sector, and this mode of delivery has proven to be effective in many different contexts, including in Victoria's TAFEs and Learn Locals.

⁷¹ Resources can and should be available electronically and be able to be accessed on computer or tablet within the classroom environment. Some pre-reading online prior to course attendance would be acceptable and encouraged.

⁷² Most studies suggest that face-to-face learning has a range of benefits, particularly for practical training as in the case of electrical workers (e.g., see Ladyshewsky, R.K, 2004, 'Online learning versus face to face learning: What is the difference?', Graduate School of Business, Curtin University of Technology); however, with the Covid-19 pandemic people are becoming more familiar with online service delivery. Several studies suggest that blended learning (i.e., face-to-face and online) incorporates the benefits of each approach.

Quality of training

ESV and industry oversight into the content and delivery of the CPD for skills maintenance training will be required to ensure the desired outcomes of the program are being met to ESV's and industry's satisfaction. It is envisaged approved training courses will contain a large element of practical training in relation to safe isolation and installation testing, and therefore initial approval and ongoing oversight will be required to ensure approved providers have the relevant facilities and equipment for delivery, and these are being used adequately and appropriately, and in accordance with industry standards.

The skills development portion of the program will also require oversight to ensure approved activities maintain the level of quality expected by the stakeholders. This is particularly important for non-accredited training which has no regulatory oversight by the training regulators (for example, the VRQA or ASQA), and no responsibility to meet any standards of training outside those set by ESV under this program.

Non-completion of CPD

There may be licensed persons who intend to renew their licence but who fail to complete the CPD requirements in a timely manner. This may lead to workers becoming frustrated and disgruntled, and increased administration costs to ESV. It may also result in persons working unlicensed if they are unable to renew their licence by their due date, leading to enforcement action by ESV.

Failure to complete the requirements prior to their licence renewal due date may be caused by the workers being unaware of the requirements, being unable to access the training, or an unwillingness to engage with the new process. ESV, together with industry stakeholders, will be required to initiate and maintain an information program to inform licence holders of the requirements, and work with providers to ensure timely access to relevant training is available.

The implication for not completing the required CPD is that ESV would have the option to renew a licence on the condition that the requirements are completed within a certain timeframe after renewal. This may require evidence of enrolment in the requisite training. Transitional arrangements may need to be put in place for workers who are due for licence renewal during the initial introduction period.

8.2 Enforcement

The enforcement and compliance regime under the proposed Regulations would be a continuation of the regime under the current Regulations. ESV has consulted the Department of Justice and Community Safety on the penalty amounts. The proposed penalties were considered against the *Attorney-General's Guidelines to the Infringements Act 2006* and considered appropriate. All penalties in the proposed Regulations are the same as under the current Regulations.

Offences exist in relation to the following provisions of the proposed Regulations:

- Obligations of registered contractors (regulation 14)
- Registration cards (regulation 17)
- Change of name or address (regulation 37)
- Licence cards (regulation 38, 39)

Under regulation 43 (provisions under which infringement notices may be served), regulations 14(1)(a), 14(1)(d), 14(1)(e), 14(2) and 14(3), 17(3)(a), 17(3)(b) and 17(4), 37, 38(3) and 38(4), and 39 are prescribed provisions. These are shown in the following table.

Table 23: Proposed Infringement penalties

Regulation	Description	Infringement amount (in Penalty Units)	Value*
14(1) to (3)	Notification requirements of registered contractors	0.5	\$83
17(3)(b)	Registration cards must be signed	1	\$165
17(4)	An electrical contractor whose registration has been cancelled must send their registration card to ESV within 10 business days after the contractor receives notice of the cancellation	1	\$165
37	A licensee must notify ESV of any change in that person's name or address within 10 business days	1	\$165
38(3)	Licence cards must be signed	1	\$165
38(4)	An electrical worker whose licence has been cancelled must send their card to ESV within 10 business days after the worker receives notice of the cancellation	1	\$165
39	Licences must be produced on demand to an enforcement officer	1	\$165

* Values are approximate. A penalty unit from 1 July 2020 to 30 June 2021 is \$165.22. Infringement notices issued under the Act must be one-tenth of the maximum monetary penalty fixed by that provision (see: Section 140D). Penalty amounts may be rounded to the nearest dollar.

The table below shows enforcement actions taken by ESV under the Act and Regulations over the previous 5 years. There are no discernible trends in these actions.

Table 24: Enforcement actions under the Act and Regulations 2014-15 to 2018-2019

Action	2014-15	2015-16	2016-17	2017-18	2018-19
Warning Letter*	38	30	176	115	147
Infringement	85	90	60	86	42
Prosecution	19	18	27	17	20
Suspension	0	1	5	2	2
Cancelled	0	2	2	2	4

Source: ESV monthly and annual reports. * The apparent increase in warning letters arises from a greater emphasis on compliance activity rather than from changes in licence holder behaviour.

Licence cancellation and suspensions are expected to increase under revised enforcement strategies currently under development.

8.3 Evaluating the proposed Regulations

ESV will implement an evaluation strategy for the proposed Regulations. The evaluation will be assessed against the objectives of the proposed Regulations, which can be summarised as:

- improving electrical safety outcomes for the general public, electricity customers and electrical workers, and
- ensuring fees are levied in a simple, equitable and efficient manner to recover ESV costs.

Given that the proposed Regulations impose a relatively high impact on the industry, a mid-term review (in 3 to 5 years) will be conducted by ESV. It will rely on incident data, inspection and enforcement data, and complaints and safety reports. This data is collected on a monthly basis.

In particular, new proposals will be evaluated. An Industry Steering Committee will be established in September 2020 to, amongst other things, monitor and review the CPD requirements. The Steering Committee will receive and analyse data relating to the knowledge and skills of the licence holders pre and post CPD training to monitor improvements and evaluate the program. Evaluation will include analysis of incident, enforcement and complaint data pre and post CPD training, to ensure the CPD training is improving outcomes in relation to identified problems and gaps. In the early

stages, when not all workers will have completed CPD, incident, complaint and audit data can include if the worker involved has completed CPD or not, to provide an early indication of the impact of the program.

ESV also has a number of established mechanisms that will allow it to monitor the performance of the Regulations, including regular consultation with industry participants that will enable it to identify any implementation issues or unintended outcomes and address them. ESV proposes to use monthly data on incidents, injuries and fatalities to continue to assess the effectiveness of the Regulations, including by comparing Victoria's performance with other jurisdictions. This will be assessed by monitoring work for compliance and safety, analysis of incidents and reports from the public and lineworkers.

9 Consultation

In Victoria, consultation is required for the development of all regulatory proposals to inform the RIS and policy design and to ensure that other requirements for the development and implementation of regulations are met. Preliminary consultation provides opportunities to gather data, test assumptions, and test regulatory proposals and options.

ESV has conducted extensive preliminary consultation with stakeholders, including holding eight stakeholder workshops and releasing a discussion paper. This consultation proved vital in drafting the proposed regulations and in considering design options for new amendments.

In March 2020, ESV released the Discussion Paper, *Remaking of the Electricity Safety (Registration and Licensing) Regulations*, to provide stakeholders with an early opportunity to comment on ways to improve the current Regulations and to seek views on several new proposals, notably the introduction of CPD and licensing of lineworkers. The Discussion Paper elicited 12 submissions.

From March 2020 to July 2020 eight stakeholder workshops were also conducted. These included workshops concerning:

- Lineworker’s licensing (12 March 2020)
- Lineworker’s licensing (28 March 2020)
- CPD (1 April 2020)
- general regulations (2 April 2020)
- CPD (April 2020)
- Lineworker’s licensing (29 June 2020)
- CPD (2 July 2020)
- Lineworker’s (13 July 2020).

Representatives from the groups listed below made submissions to the Discussion Paper and/or participated⁷³ in the ESV workshops:

AusNet Services	John Holland Group
Australian Institute of Refrigeration, Airconditioning and Heating	Keith Harper
Box Hill Institute	TechSafe
CitiPower/Powercor/United Energy	Master Electricians Australia
Clean Energy Council	Melbourne Polytechnic
Electrotechnology Senate	Melbourne Water
Electrical Trades Union	Metro Trains
Future Energy Skills	National Electrical Communications Association (NECA Vic)
GOTAFE	TechSafe Management
Holmesglen TAFE	Triple Electrical Inspections
Institute of Electrical Inspectors	Victorian Generators Electrical Forum
Jemena	VLine

⁷³ Includes invited stakeholders.

Key points raised by stakeholders in consultation:

Stakeholders raised a variety of matters relating to the effectiveness and efficiency of the current Regulations, and opportunities for improvement and reform. Key matters raised included:

- ensuring high standards of work and conduct, and therefore safety and community confidence
- the need to adapt to changing technology, products, industry structures and work practices
- the scope of licensed electrical work
- managing specific risks
- defining roles and managing potential conflicts between roles
- learning from experiences in other jurisdictions
- approaches to skills maintenance and development
- administering the Regulations.

This RIS represents the final stage in the consultation process and provides industry participants and other stakeholders the opportunity to comment on the proposed Regulations before they are finalised. The *Subordinate Legislation Act 1994* requires that the public be given at least 28 days to provide written comments or submissions regarding the proposed Regulations. There are a number of specific questions included throughout the RIS to encourage feedback on certain matters, however stakeholders should feel free to comment upon any matters they consider important.

ESV plans to advertise the RIS in a daily newspaper generally circulating in Victoria and the Government Gazette. An email will also be sent to all licensed workers and registered contractors inviting comment on the proposed Regulations. In addition, the RIS will also be available on the ESV website for downloading and ESV will notify licence holders on social media.

Appendix A: Comparison with approaches of other jurisdictions

A.1 CPD for electrical workers in Queensland and Tasmania

Queensland

Queensland requires all electrical licence holders to complete a skills maintenance program in the two years prior to their licence renewal. This skills maintenance program focuses on electrical safety legislation, risk management, and testing. Workers may attend a course or complete an online self-paced skills maintenance assessment which is available for all licences. They must also prove current rescue and resuscitation skills, and electrical line workers must also be trained and competent in carrying out tower rescue and resuscitation. Workers are not required to submit evidence of completion of these requirements to the regulator on licence renewal, but certify they have met the requirements, and must provide evidence if audited.

The Central Queensland University² study found no clear link between performance in Queensland's self-paced on-line skills maintenance assessment and job-related decision making. The research suggests the online test may be improved or replaced to better reflect behavioural outcomes and risk of on-job incidents. The Queensland regulator has commenced a project to review the online self-paced skills maintenance assessment, to improve outcomes.

The Queensland regulator is also in the process of developing and introducing CPD for Qualified Technical Person (QTP) nominees on the electrical contractors' licence (similar to Victoria's technical nominee). This is yet to be finalised but is likely to require both a skills maintenance and skills development component. The introduction of the more stringent requirements for QTPs in Queensland follows a Coronial investigation and recommendation.

Tasmania

Licensed electrical workers in Tasmania are required to renew their licence every three years. They are required to keep a log of CPD activities undertaken, and on renewal they certify they have undertaken an average of at least 12 points of CPD per year. This requirement applies to electricians, line workers, cable jointers, restricted licence holders and provisional licence holders. The government body responsible for licensing, Consumer Building and Occupational Services (CBOS), provides a list of approved ongoing CPD training, a calendar of CPD events, and a list of additional resources to help avoid any activities not approved. Points are weighted based on length and complexity of course and relevance to the trade. Some non-technical courses may also earn points, for example, suicide awareness training. In addition to workers keeping a log of their activities and points, contractors are required to maintain a register of all licensed employees' CPD. CBOS carry out audits of worker CPD.

A.2 Lineworkers – other jurisdictions

Queensland

The *Electrical Safety Act 2002* describes licensed and unlicensed tasks and defines electrical work and electrical work licences. Queensland has six classes of electrical work licences:

- Electrical mechanic licence
- Electrical linesperson licence
- Electrical fitter licence
- Electrical jointer licence
- Restricted electrical work licence
- An electrical work training permit

Regulation 43 of the *Electrical Safety Regulations 2013* describes the eligibility requirements for an electrical linesperson licence.

The electrical linesperson licence allows a worker to perform electrical linework, such as:

- Electrical work involved in building or maintaining an overhead electric line
- Electrical work in the building or maintenance of an underground electric line
- Testing of overhead electric lines.

The Electrical Workers and Contractors Licensing Board is responsible for issuing electrical licences. The *Electrical Workers and Contractors Act 1978* contains a provision for the definition and mandatory licensing of linesmen.

The definition of ‘electrical linesman’ means a person who supervises or performs the actual electrical work of constructing or maintaining overhead electric lines, including street lighting connected to overhead electric lines, where specialized knowledge and experience are required.

Tasmania

In Tasmania clause 12(c) of a Ministerial Order made under the *Occupational Licensing (Electrical Work Licence Classes) Determination 2016* requires lineworkers to be licensed. Under that Order a lineworker licence is required and may be issued to a person who has:

- successfully completed one of the lineworker approved courses of training
- or satisfied the Administrator that they have training equivalent to the approved course, or
- a current lineworker class licence issued by a reciprocating jurisdiction and can satisfy mutual recognition requirements in regard to equivalence.

A practitioner who holds a lineworker licence in Tasmania may carry out electrical work to install, repair, alter or remove overhead electricity lines cables and wires, and supporting or protective structures, including street lighting and control lines, cables and wires, for: the construction, erecting, installing, stringing, augmenting, testing, energising, servicing, maintaining, fault finding, altering, removing, repairing or replacing. They may also work on overhead electrical cabling/network systems, hardware, apparatus and equipment, excluding electricity consumption metering and cable jointing work; and the aboveground portion of underground cables associated with overhead electricity network systems.

Appendix B: Regulatory cost calculations

Summary of Costs Imposed by the Electricity Safety (Registration and Licensing) Regulations 2020 (Discounted 10-Year Period - Rate 4%)			
Costs Imposed on the Electricians			
Regulation	Description	Type of Cost	Discounted costs (\$)
Regulation 8	Application for registration	Administrative	\$632,447
Regulation 12	Prescribed insurance	Financial cost	\$40,555,979
Regulation 14	Obligations of registered contractors	Administrative	\$6,256
Regulation 15	Cancellation of registration	Administrative	\$11,373
Regulation 21	Electrician's licence	Administrative/compliance	\$19,298,614
Regulation 23	Supervised worker's licence	Administrative/compliance	\$65,698
Regulation 26	Electrical switchgear worker's licence	Administrative/compliance	\$12,043
Regulation 27	Restricted electrical worker's licence (Class 1)	Administrative/compliance	\$518,420
Regulation 28	Restricted electrical worker's licence (Class 2)	Administrative/compliance	\$1,341
Regulation 29	Electrical inspector's licence	Administrative	\$873,016
Regulation 31	Electrical lineworker's licence	Administrative	\$6,806,074
Regulation 33	Renewal of licence	Administrative	\$1,284,548
Regulation 34	Continuing Professional Development	Compliance	\$47,859,982
Regulation 35, 37, 38	Cancellation of licence; change of details; delivery of cancelled card	Administrative	\$9,831
Total			\$117,935,621
Annualised Cost			\$11,793,562

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
	Price	Quantity			Cost (\$)
Regulation 8 - Applications for registration as an electrical contractor					
<i>Regulation</i>	<i>Tariff¹</i>	<i>Time (hours)²</i>	<i>Population³</i>	<i>Frequency⁴</i>	
Regulation 8 – Application form	66.11	0.33	3,244	1	71,487
Regulation 8(2)(d) – Copy of business name certificate	0.50		3,244	1	1,622
Regulation 8(2)(g) – Copy of registration under the Corporations Law	0.50		3,244	1	1,622
Regulation 8(2)(h) – Copy of qualifications under regulation 10	0.50		3,244	1	1,622
Regulation 8(2)(i) – Copy of insurance policy	0.50		3,244	1	1,622
Total					\$77,975

Discounted (10-Years)					
Year	Cost (\$)				Discounted Cost (\$) ⁵
1	\$77,975				\$74,976
2	\$77,975				\$72,092
3	\$77,975				\$69,319
4	\$77,975				\$66,653
5	\$77,975				\$64,090
6	\$77,975				\$61,625
7	\$77,975				\$59,255
8	\$77,975				\$56,976
9	\$77,975				\$54,784
10	\$77,975				\$52,677
Total					\$632,447

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour. These costs do not include labour or corporate on-costs. Corporate on-costs are generally included to represent back-office functions, rent, etc. These are not relevant for the vast majority of electrical workers. A photocopy or scan (estimated at 50 cents) of relevant business certificates, qualifications and insurance is sufficient to satisfy this regulation.
2. Based on industry advice estimates that application forms take no longer than 20 minutes to complete on ESVConnect.
3. From 1 July 2018 to 30 June 2019 there were 994 new REC application and 2,250 renewals.
4. Registration occurs annually.
5. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020						
Price		Quantity			Cost (\$)	
Regulation 12 - Prescribed insurance						
<i>Description</i>	<i>Tariff¹</i>	<i>Time</i>	<i>Population²</i>	<i>Frequency³</i>		
Insurance against public liability or personal injury	600.00		15,797	1	9,478,200	
Time taken to complete and return insurance premium	66.11	0.50	15,797	1	522,170	
					\$10,000,370	
					\$5,000,185	
					Assumption that 50% would voluntarily take out PLI⁵	
Discounted (10-Years)						
Year	Cost (\$)				Discounted Cost (\$)⁴	
1	\$5,000,185				\$4,807,870	
2	\$5,000,185				\$4,622,952	
3	\$5,000,185				\$4,445,146	
4	\$5,000,185				\$4,274,179	
5	\$5,000,185				\$4,109,788	
6	\$5,000,185				\$3,951,719	
7	\$5,000,185				\$3,799,730	
8	\$5,000,185				\$3,653,586	
9	\$5,000,185				\$3,513,064	
10	\$5,000,185				\$3,377,946	
					Total	\$40,555,979

Notes:

- Public Liability Insurance policy for a self-employed REC with a turnover of \$100,000 or less. The tariff ranges according to company turnover, number of employees and type of work undertaken. An average of \$600 was suggested by industry as being reasonable. Insurance renewals are required each year. This entails completing a basic form noting company size, turnover, etc. Discussions with brokers suggested that this takes around 30 minutes.
- ESV Annual Report 2018-19, p. 36
- Insurance policies are renewed annually.
- The real discount rate used in this RIS is 4 per cent.
- Regulation 12 requires electrical workers the hold PLI. However, in the absence of the regulation it is likely that a large proportion of licence holders would take out PLI in any case. It is often a contract requirement to hold PLI and others may choose to hold PLI as a way of mitigating business risks. It is assumed that at least 50% of licence holders would take out PLI even in the absence of regulation 12. Consultation suggests that this is a conservative estimate.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price		Quantity			Cost (\$)
Regulation 14 - Obligations of registered contractors					
<i>Description</i>	<i>Tariff¹</i>	<i>Time²</i>	<i>Population</i>	<i>Frequency³</i>	
Regulation 14(1)(a)-(e) - Notification of change of details	66.11	0.08	100	1	551
Regulation 14(2) - Notification of change of technical supervisor functions	66.11	0.08	20	1	110
Regulation 14(3) - Notification of change of nominated business supervisor	66.11	0.08	20	1	110
Total					\$771
Discounted (10-Years)					
	Year	Cost (\$)			Discounted Cost (\$)⁴
	1	\$771			\$742
	2	\$771			\$713
	3	\$771			\$686
	4	\$771			\$659
	5	\$771			\$634
	6	\$771			\$610
	7	\$771			\$586
	8	\$771			\$564
	9	\$771			\$542
	10	\$771			\$521
Total					\$6,256

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade — \$66.11 per hour
2. Notifications can be made online on ESVConnect. On average it is estimated that such notification takes 5 minutes.
3. ESV estimates from client database.
4. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020				
Price	Quantity			Cost (\$)
Regulation 15 and 17 - Cancellation of registration				
<i>Description</i>	<i>Tariff¹</i>	<i>Time²</i>	<i>Population</i>	<i>Frequency³</i>
Regulation 15(1) – Application in writing to cancel registration	66.11	0.33		60
Regulation 17(4) – Delivery of cancelled registration card	20.00			60
				Total
				\$1,402
Discounted (10-Years)				
Year	Cost (\$)			Discounted Cost (\$)⁴
1	\$1,402			\$1,348
2	\$1,402			\$1,296
3	\$1,402			\$1,247
4	\$1,402			\$1,199
5	\$1,402			\$1,153
6	\$1,402			\$1,108
7	\$1,402			\$1,066
8	\$1,402			\$1,025
9	\$1,402			\$985
10	\$1,402			\$947
				Total
				\$11,373

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
2. Notification must be in writing and it is assumed to take 20 minutes. ESV estimates that registration cards are delivered by post (assumes registered mail and handling costs).
3. ESV estimates of frequency of cancellations.
4. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price	Quantity			Cost (\$)	
Regulation 21 - Application for issue of electrician's licence					
<i>Description</i>	<i>Tariff¹</i>	<i>Time (hours)²</i>	<i>Population³</i>	<i>Frequency⁴</i>	
Regulation 21 - Completion of application	66.11	0.33	9,079	1	200,071
Regulation 22(a)(iii) – Licensed Electrician's Assessment	544.00		1,961	1	1,066,784
Time taken to complete a Licensed Electrician's Assessment course	66.11	7.00	1,961	1	907,492
Regulation 29 - Completion of application	3750.00		15	1	56250
Time taken to complete a LEI	66.11	150.00	15	1	148748
Total					2,379,344
Discounted (10-Years)					
	Year	Cost (\$)			Discounted Cost (\$)⁴
	1	\$2,379,344			\$2,287,831
	2	\$2,379,344			\$2,199,838
	3	\$2,379,344			\$2,115,228
	4	\$2,379,344			\$2,033,874
	5	\$2,379,344			\$1,955,648
	6	\$2,379,344			\$1,880,430
	7	\$2,379,344			\$1,808,106
	8	\$2,379,344			\$1,738,564
	9	\$2,379,344			\$1,671,696
	10	\$2,379,344			\$1,607,400
Total					\$19,298,614

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour. LEA course costs \$544 (source ESV and service provider).
2. ESV estimates that an application forms take no longer than 20 minutes to complete and the LEA assessment course takes 7 hours. This cost of the LEA assessment is \$544 and LEI course is estimated at \$3,750.
3. Number of licence applications per annum: new 2,809; renewed 6270. Note: the populations of 1,961 in the table above for LEAs is lower than the number of new applications because 849 are mutually recognised interstate workers.
4. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price	Quantity			Cost (\$)	
Regulation 23 – Supervised electrical installation worker's licence					
<i>Description</i>	<i>Tariff¹</i>	<i>Time²</i>	<i>Population³</i>	<i>Frequency⁴</i>	
Regulation 21 - Completion of application	66.1 1	0.50	50	1	1 ,653
Regulation 23(1)(a)(iii) – Safe Work Practice (SWP) course	162. 00		50	1	8 ,100
Time taken to complete a SWP course	66.1 1	1.00	50	1	3 ,306
Total					\$ 8,100
Discounted (10-Years)					
Year	Cost (\$)				Discounted Cost (\$) ⁵
1	\$8,100				\$7,788
2	\$8,100				\$7,489
3	\$8,100				\$7,201
4	\$8,100				\$6,924
5	\$8,100				\$6,658
6	\$8,100				\$6,402
7	\$8,100				\$6,155
8	\$8,100				\$5,919
9	\$8,100				\$5,691
10	\$8,100				\$5,472
Total					\$65,698

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
Safe Work Practice (SWP) - a representative cost of \$162 was selected. This course is held at many TAFEs and is also delivered by other providers.
2. Based on industry advice, ESV estimates that an application form take no longer than 30 minutes to complete. ESV estimates that completion of the SWP course takes 1 hour.
3. Estimated population derived from ESV register.
4. Approximately 50 applications from individuals per annum, hence a frequency of 1 per applicant.
5. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
		Price	Quantity		Cost (\$)
Regulation 26 - Electrical switchgear worker's licence					
<i>Description</i>		<i>Tariff¹</i>	<i>Time</i>	<i>Population²</i>	<i>Frequency³</i>
Regulation 21 – Completion of application		66.11	0.33	4	1
Regulation 26(a)(iii) – Licensed Switchgear Worker's Assessment		250.00		4	1
Time taken to complete a Switchgear Worker's assessment		66.11	1.50	4	1
					Total
					\$ 1,485
Discounted (10-Years)					
	Year	Cost (\$)			Discounted Cost (\$)⁴
	1	\$1,485			\$1,428
	2	\$1,485			\$1,373
	3	\$1,485			\$1,320
	4	\$1,485			\$1,269
	5	\$1,485			\$1,220
	6	\$1,485			\$1,173
	7	\$1,485			\$1,128
	8	\$1,485			\$1,085
	9	\$1,485			\$1,043
	10	\$1,485			\$1,003
					Total
					\$12,043

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour. ESV estimates that an application form takes no longer than 20 minutes to complete. The Licensed Switchgear Worker's Assessment costs \$250. ESV estimate that completion of accredited courses takes around 1.5 hours.
2. Estimated population derived from ESV register.
3. About 4 applications from individuals per annum are received, hence a frequency of 1 per applicant.
4. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price	Quantity			Cost (\$)	
Regulation 27 - Restricted electrical worker's licence (Class 1)					
<i>Description</i>	<i>Tariff¹</i>	<i>Time²</i>	<i>Population³</i>	<i>Frequency⁴</i>	
Regulation 21 - Completion of application	66.11	0.50	300	1	9,917
Regulation 27(3)(a)(iii) – ESV practical examination	180.00		300	1	54,000
Time taken to complete an ESV practical examination	66.11	3.00	300	1	59,499
				Total	\$63,917
Discounted (10-Years)					
Year	Cost (\$)				Discounted Cost (\$)⁴
1	\$63,917				\$61,458
2	\$63,917				\$59,094
3	\$63,917				\$56,822
4	\$63,917				\$54,636
5	\$63,917				\$52,535
6	\$63,917				\$50,514
7	\$63,917				\$48,571
8	\$63,917				\$46,703
9	\$63,917				\$44,907
10	\$63,917				\$43,180
				Total	\$518,420

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
2. ESV estimates that an application forms take no longer than 30 minutes to complete and that a practical examination costs \$180. The assessment takes 3 hours to complete.
3. Estimated population derived from ESV register.
4. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price		Quantity		Cost (\$)	
Regulation 28 - Restricted electrical worker's licence (Class 2)					
<i>Description</i>	<i>Tariff¹</i>	<i>Time²</i>	<i>Population³</i>	<i>Frequency⁴</i>	
Regulation 21 - Completion of application	66.11	0.50	5	1	65 1
Regulation 28(3)(a)(iii) – ESV practical examination	150.00		5	1	0
				Total	165 \$
Discounted (10-Years)					
Year	Cost (\$)				Discounted Cost (\$)⁴
1	\$165				\$159
2	\$165				\$153
3	\$165				\$147
4	\$165				\$141
5	\$165				\$136
6	\$165				\$131
7	\$165				\$126
8	\$165				\$121
9	\$165				\$116
10	\$165				\$112
				Total	\$1,341

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
2. ESV estimates that an application forms take no longer than 30 minutes to complete and that a practical examination costs \$150.
3. Estimated population derived from ESV register.
4. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price		Quantity			Cost (\$)
Regulations 29, 30 - Electrical inspector's licence; Class 'L' inspector's licence					
Description	Tariff ¹	Time ²	Population ³	Frequency ⁴	
Regulation 29 - Cost of course	1130.00		66	1	74580
Regulation 29 - Completion of application	66.11	1.00	66	1	4363.26
Regulation 30 - Time taken to complete course	66.11	6.50	66	1	28361.19
Regulation 30 - Completion of application	66.11	1.00	5	1	330.55
Total					\$107,635
Discounted (10-Years)					
Year	Cost (\$)				Discounted Cost (\$) ⁵
1	\$107,635				\$103,495
2	\$107,635				\$99,515
3	\$107,635				\$95,687
4	\$107,635				\$92,007
5	\$107,635				\$88,468
6	\$107,635				\$85,066
7	\$107,635				\$81,794
8	\$107,635				\$78,648
9	\$107,635				\$75,623
10	\$107,635				\$72,714
Total					\$873,016

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
2. ESV estimates that an application forms take 1 hour to complete, including addressing matters in Part A of Schedule 3
3. ESV estimates 66 Inspector's Licence exams were carried out and 5 Class 'L' Inspector's Licence exams were carried out.
4. Annual applications, hence a frequency of one.
5. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration & Licensing) Regulations 2020					
		Price	Quantity		Cost (\$)
Regulations 31 - Electrical Lineworker's Licence					
<i>Description</i>		<i>Tariff¹</i>	<i>Time²</i>	<i>Population³</i>	<i>Frequency⁴</i>
Regulation 31 - Completion of application		66.11	0.33	1800	7933
Total					\$951,984
Discounted (10-Years)					
	Year	Cost (\$)			Discounted Cost (\$)⁵
	1				
	2	\$951,984			\$880,163
	3	\$951,984			\$846,310
	4	\$951,984			\$813,760
	5	\$951,984			\$782,461
	6	\$951,984			\$752,367
	7	\$951,984			\$723,430
	8	\$951,984			\$695,605
	9	\$951,984			\$668,851
	10	\$951,984			\$643,126
Total					\$6,806,074

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
2. Assumes that licences applications will take 20 minutes to complete.
3. There are currently 1800 active lineworkers.
4. Licences are renewed every 5 years. This assumes even distribution of annual renewals.
5. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price	Quantity			Cost (\$)	
Regulation 33 - Renewal of licences					
<i>Description</i>	<i>Tariff¹</i>	<i>Time²</i>	<i>Population³</i>	<i>Frequency⁴</i>	
Regulation 33 - Completion of renewal application	66.11	0.33	35,934	0.2	158,373
Total					\$158,373
Discounted (10-Years)					
	Year	Cost (\$)			Discounted Cost (\$)⁵
	1	\$158,373			\$152,282
	2	\$158,373			\$146,425
	3	\$158,373			\$140,793
	4	\$158,373			\$135,378
	5	\$158,373			\$130,171
	6	\$158,373			\$125,165
	7	\$158,373			\$120,351
	8	\$158,373			\$115,722
	9	\$158,373			\$111,271
	10	\$158,373			\$106,991
Total					\$1,284,548

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
2. ESV estimates that an application forms take no longer than 20 minutes to complete.
3. There are currently 35, 934 licences in place.
4. Renewal occurs every 5 years.
5. The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020						
		Price	Quantity			Cost (\$)
Regulation 34 - Continuing professional development						
Year	Description	Tariff ¹	Time ²	Population ³	Frequency	
2022	Skills Maintenance	220.00	8.00	5386	1	1,184,920
	Cost of income (productivity) forgone	66.11		5386	1	2,848,548
2023	Skills Maintenance	220.00	8.00	6575	1	1,446,500
	Cost of income (productivity) forgone	66.11		6575	1	3,477,386
2024	Skills Maintenance	220.00	8.00	6871	1	1,511,620
	Cost of income (productivity) forgone	66.11		6871	1	3,633,934
2025	Skills Maintenance	220.00	8.00	7225	1	1,589,500
	Cost of income (productivity) forgone	66.11		7225	1	3,821,158
2026	Skills Maintenance	220.00	8.00	10482	1	2,306,040
	Cost of income (productivity) forgone	66.11		10482	1	5,543,720
2027	Skills Maintenance	220.00	8.00	10839	1	2,384,580
	Cost of income (productivity) forgone	66.11		10839	1	5,732,530
2028	Skills Maintenance & Skills Development	220.00	16.00	8141	1	1,791,020
	Cost of income (productivity) forgone	66.11		8141	1	8,611,224
2029	Skills Maintenance & Skills Development	220.00	16.00	8298	1	1,825,560
	Cost of income (productivity) forgone	66.11		8298	1	8,777,292
2030	Skills Maintenance & Skills Development	220.00	16.00	8358	1	1,838,760
	Cost of income (productivity) forgone	66.11		8358	1	8,840,758
Discounted (10-Years)						
Year		Cost (\$)				Discounted Cost (\$)⁴
2022		4,033,468				4033467.68
2023		4,923,886				\$4,377,317
2024		5,145,554				\$4,398,442
2025		5,410,658				\$4,447,166
2026		7,849,760				\$6,203,779
2027		8,117,110				\$6,168,337
2028		10,402,244				\$7,600,818
2029		10,602,852				\$7,449,424
2030		10,679,518				\$7,214,700
Total						\$47,859,982

Notes:

- ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
RTOs advise that the cost of a one-day (8 hour) course is \$200. Around \$20 per attendee is also required for resources. This provides a total daily course cost of \$220.
- CPD will be conducted for one day (8 hours) for skills maintenance training only and for 16 hours for skills both skills maintenance and development training.
- Licence applications and renewals are not smooth annually. There are some years in which a large number of licences must be renewed compared to others. Source: ESV database
- The real discount rate used in this RIS is 4 per cent.

Costs Imposed by the Proposed Electricity Safety (Registration and Licensing) Regulations 2020					
Price	Quantity			Cost (\$)	
Regulation 35 - Cancellation of licence; Regulation 37 - Change of details; Regulation 38 - Delivery of cancelled card					
Description	Tariff ¹	Time ²	Population ³	Frequency	
Regulation 35 - Cancellation of licence	66.11	0.17	10	1	110
Regulation 37 - Change of name or address	66.11	0.17	100	1	1,102
Regulation 38(4) - Delivery of cancelled card	66.11	0.33	5	1	110
Total					1,212
Discounted (10-Years)					
Year	Cost (\$)			Discounted Cost (\$) ⁴	
1	\$1,212			\$1,165	
2	\$1,212			\$1,121	
3	\$1,212			\$1,077	
4	\$1,212			\$1,036	
5	\$1,212			\$996	
6	\$1,212			\$958	
7	\$1,212			\$921	
8	\$1,212			\$886	
9	\$1,212			\$852	
10	\$1,212			\$819	
Total					\$9,831

Notes:

1. ETU Contracting Industry EBA 2017-2021 Construction Rates (from 1 March 2020) EW8 'A Grade'—\$66.11 per hour
2. These requirements are extremely basic and ESV estimates that they could be undertaken within 10 minutes.
3. ESV database.
4. The real discount rate used in this RIS is 4 per cent.

Appendix C: Proposed Regulations compared with current Regulations

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
Part 1—Preliminary			
1	The objectives of the Regulations are to provide for the registration of electrical contractors; provide for the licensing of electrical workers; prescribe fees, penalties and other matters authorised by the Act; and to prescribe infringements.	1	No change (other than subsection noting consequential amendments removed)
2	These regulations are made under the authority of ss. 149, 152, 156, and 157 of the Act.	2	This regulation has been remade with the additional reference to s. 149 of the Act. This section refers to a regulation making power with respect to “the safe generation, transmission, distribution and supply of electricity, including the protection of persons from risk and property from damage associated with the generation, transmission, distribution and supply of electricity, and the protection and maintenance of and the prevention of interference with operations, electric lines, works and structures associated with the generation, transmission, distribution and supply of electricity.”
3	Prescribes the date on which the Regulation come into effect, 1 January 2021.	3	Revokes obsolete regulations
4	Revokes the current Regulations	4	Provides definitions
5	<p>This regulation prescribes regulations to assist in the regulations’ interpretation and to provide clarity.</p> <p>Definitions are provided for ‘distribution company’, ‘electric line’, ‘electrical connection work’, ‘electrical contracting’, ‘electrical contractor’, ‘electrical inspection work’, ‘electrical installation’, ‘electrical installation work’, ‘electrical installation worker’, ‘electrical line work’, ‘electrical lineworker’, ‘electrical work’, ‘install’, ‘major electricity company’, ‘railway’, ‘supply network’, and ‘transmission company’.</p> <p>This regulation also prescribes definitions from the current Regulations, with some changes. These definitions are for: ‘accessories’ (new), ‘alternative design’ (new), ‘applicant’, ‘apprentice’ (new), ‘AS/NZS 3030’, ‘AS/NZS 5139’ (updated), ‘Australian regulatory authority’, ‘battery system’ (new), ‘battery</p>		Several new regulations have been included. From 1 January 2021 amendments to the Act will take effect. The regulations prescribe definitions to give effect to these amendments. In addition, around ten new definitions have been included in the proposed Regulations.

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	energy storage system' (new), 'communication equipment' (new), 'effective supervision', 'electrical contractor', 'electrical switchgear fitting work', 'extra low voltage' (new), 'fault finding', hazardous area', 'high voltage', 'licensed electrical switchgear worker', 'licensed electrician', 'licensed lineworker' (new), 'low voltage' (updated), 'nominated business supervisor', 'nominated technical supervisor', 'patient area', 'primary work function', 'regulatory authority', 'restricted electrical installation work' (new), 'switchgear and controlgear assembly' and the 'the Act'.		
Part 2—Electrical contractors			
Division 1—Classes of electrical contracting work that require registration			
6	For the purposes of Division 1 of Part 3 of the Act, any contracting or undertaking to carry out electrical installation work of a class prescribed by regulation 18 is a prescribed class of electrical contracting.	6	No change; however this regulation is now located in a new division.
Division 2—Restriction on employment of certain persons			
7	For the purposes of Division 1 of Part 3 of the Act, work of a class prescribed by regulation 18 is prescribed.	5	Streamlines application of regulations.
Division 3—Registration of electrical contractors			
8	This regulation prescribes details to be included in an application for a grant of registration as an electrical contractor or renewal of registration. It also prescribes certain conditions on the applicant and prescribes an application fee.	8	This regulation is the same as the current Regulation, with some minor additional information requirements. Applicants will be required to include their telephone number, email address, address (residential), and ABN (if applicable). If the applicant is a partnership then the application will require “a signed statement from each member of the partnership stating that they consent to the applicant's application and agree to be bound by the conditions of registration set out in regulation 13 and the obligations set out in regulation 14”.
9	This regulation sets out the responsibilities for an electrical contractor with respect to effective supervision of electrical installation work or switchgear fitting work carried out on behalf of the applicant. The regulation also provides that the applicant must also be responsible for the business	9	Other than removing some subsections deemed to be redundant, there has been no change to this regulation.

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	management and administration of the electrical contracting work. This regulation covers natural persons and body corporates.		
10	This regulation prescribes the qualification requirements for the registration as an electrical contractor. The requirements for a person to undertake effective supervision of electrical installation work are that the person is a licensed electrician who has satisfactorily completed the Licensed Electrician's Assessment (the LEA) conducted by a body approved by Energy Safe Victoria <i>within the relevant period</i> ; or satisfactorily completed a substantially equivalent examination conducted by Energy Safe Victoria or a body approved by Energy Safe Victoria <i>within the relevant period</i> ; or has attained proficiency and experience in electrical installation work that is assessed by Energy Safe Victoria to be at least of an equivalent standard to the LEA. (italics added). Similar regulations are also prescribed for a licensed switchgear worker.	10	This regulation includes a 'relevant period'. 'Relevant period' means in the case of an applicant undertaking supervision of electrical work, within 5 years of the date of the applicant's application for registration; or in the case of a person nominated to undertake the supervision of electrical work, within 5 years of the date the person is nominated. The key change to this regulation is the removal of the requirement to complete a course of training about for an electrical contracting business (current r. 10(3)(a)).
		11	Current r. 11 concerns mutual recognition of applicants who apply for registration or licensing in Victoria from another State or Territory or from New Zealand. This regulation has been removed because mutual recognition is already dealt with in other legislation, notably in the <i>Mutual Recognition Act 1992 (C'th)</i> . Regulation 29 of the current regulations dealing with mutual recognition of licensing qualifications has also been removed.
11	For the purposes of section 31 of the Act, Energy Safe Victoria may refuse to register or renew the registration of an applicant under certain circumstance prescribed in this regulation. For example, registration may be refused if a person nominated to be the technical supervisor is employed or appointed as the nominated technical supervisor of another electrical contractor and is not, or will not be, able to provide effective supervision of all the electrical installation work the person is responsible for supervising. In addition, registration may be refused if the applicant has contravened the Act and electricity safety regulations, has convicted of certain offences within the previous 5 years, or if the applicant's ABN, ARBN or business name is not properly registered in the applicant's name, then registration may be refused.	12	This regulation is largely remade in its current form, however, a timeframe of 5 years has been included to ensure that relatively recent (not historical) offences are taken into account when ESV is considering an application, and new subsection has been included that ensures the applicant business details (e.g., ABN) are correct.

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
12	For the purposes of section 30 of the Act, the prescribed insurance is insurance against public liability for personal injury or damage to property in connection with the electrical contracting work of the registered electrical contractor with a minimum cover of \$5 million.	13	No change
13	Prescribes conditions of registration. These concern appropriate qualifications and supervision.	14	Minor changes. Subsections streamlined and replaced by the wording 'the contractor or a nominated business supervisor'.
14	<p>Prescribes obligations of registered contractors. A registered electrical contractor must notify ESV in writing of the following events within 10 business days after the relevant event occurs any change in the information provided in the application for the original registration or for the most recent renewal of the registration; any change in the circumstances of the nominated technical supervisor that would affect the supervisor's ability to effectively supervise electrical installation work carried out by the electrical contractor; any change in the circumstances of the nominated business supervisor that would affect the supervisor's ability to be responsible for the management and administration of the business of the electrical contractor; or if the contractor is a body corporate any change of its name, any change to the address of its principle place of business, if it is deregistered under the Corporations Act or any change in the business name or <i>ABN</i> that the electrical contractor uses.</p> <p>In addition, if the nominated technical supervisor of a registered electrical contractor ceases to carry out that function or is no longer able to effectively supervise electrical installation work carried out by the electrical contractor, the electrical contractor must notify ESV, and nominate another person who has the required qualifications, and send to ESV a declaration by the person that sets out the person's name and address and the person's consent to be such a supervisor within 10 business days after that nomination. Similar provisions are prescribed for nominated business supervisors.</p> <p>Failure to notify ESV of these changes may result in an infringement of 5 penalty units.</p>		No change (except business details now require provision of an ABN).
15	ESV may cancel the registration of an electrical contractor who applies to it in writing for that cancellation. ESV must cancel the registration of an electrical	16	No change

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	contractor who fails to apply for renewal of registration by the renewal date.		
16	<p>Provides details of the type of information to be included on the Register. For the purposes of section 33(2) of the Act, the register must be kept in electronic form and contain the following information about each registered electrical contractor the name and business address of the electrical contractor; the telephone number and email address of the business (new), the date of registration or renewal of registration, the registration number, the ABN number of the electrical contractor (new), and the registered business name of the electrical contractor if applicable (new).</p> <p>A person's residential address must not appear on any part of the register that is available to the public unless the person has nominated that address as the person's business address or authorises ESV to do so.</p>	17	<p>Some information requirements have been updates (e.g., requirement to provide email address and ABN).</p> <p>A new sub-regulation has been included. The Register may include details of any criminal sanction imposed on the registered person and any disciplinary sanction imposed on the registered person. ESV must publish the information recorded in the register on its Internet site.</p> <p>The fee (currently \$41.46) for a copy of an extract of the register has been removed. This register is now made publicly available online.</p>
17	<p>Regulation 17 deals with registration cards. ESV must issue a registration card to a registered electrical contractor that sets out the details of registration. A registration card issued to an electrical contractor is evidence of the registration of that contractor. A person who is issued with a registration card must, upon receipt of the registration card sign the card, or in the case of a body corporate, ensure that the card is signed by the secretary or a director of the body corporate. An electrical contractor whose registration has been cancelled must deliver the contractors registration card to ESV within 10 business days after the contractor receives notice of the cancellation. Non-compliance with these requirements may result in an infringement of 10 penalty units.</p> <p>If a registered electrical contractor demonstrates to ESV that the registration card issued to the contractor has been lost, damaged, or destroyed, ESV must issue a duplicate registration card to that electrical contractor.</p>	18	No change. However, the fee for a replacement card has been removed.
Part 3—Electrical work			
Division 1—Classes of electrical work that require a licence			
18	<p>Prescribes classes of installation electrical work that require a licence.</p> <p>For the purposes of Division 2 of Part 3 of the Act, the following classes of electrical installation work are prescribed—</p>	7	<p>Two new sub-regulations have been included. These are:</p> <ul style="list-style-type: none"> electrical installation work carried out on electricity generation systems operating at any voltage including any wiring systems, switchgear, controlgear or accessories installed that are part of

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	<ul style="list-style-type: none"> • electrical installation work carried out on an electrical installation ordinarily operated at low voltage or a voltage exceeding low voltage in any area, or at any voltage in a patient area (other than communication equipment operated at extra low voltage) • electrical installation work carried out on electricity generation systems operating at any voltage including any wiring systems, switchgear, controlgear or accessories installed that are part of those generation systems • electrical installation work carried out on all or part of a battery system including work on associated wiring systems, switchgear, controlgear and accessories • electrical installation work required to carry out a primary work function relating to low voltage fixed electrical equipment that involves: the disconnection of that electrical equipment or a component of that electrical equipment; and the reconnection of that electrical equipment or component of that electrical equipment or the connection of other equipment or any component of equivalent power and current in the same location and without alteration to existing cables; and the testing of that electrical equipment or a component of that electrical equipment; and fault finding in relation to that electrical equipment or a component of that electrical equipment. • electrical installation work required to carry out a primary work function relating to low voltage fixed electrical equipment that involves: the disconnection of that electrical equipment or a component of that electrical equipment; and the reconnection of that electrical equipment or component of that electrical equipment or the connection of other equipment or any component of equivalent power and current in the same location and without alteration to existing cables; and the testing of that electrical equipment or a component of that electrical equipment. 		<p>those generation systems</p> <ul style="list-style-type: none"> • electrical installation work carried out on all or part of a battery system including work on associated wiring systems, switchgear, controlgear and accessories <p>Communication equipment operated at extra low voltage has also been excluded from a class of electrical work that requires a licence.</p>
19	Regulation 19 is a new Regulation. It deals with classes of electrical inspection work that require a licence. For the purposes of Division 2 of Part 3 of the Act, electrical inspection work of a class specified in Part A are prescribed in	n.a.	

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	Schedule 3 of the regulations.		
20	Regulation 20 is a new Regulation. It deals with classes of electrical linework work that require a licence. For the purposes of Division 2 of Part 3 of the Act, the following classes of electrical linework are prescribed electrical linework of a class specified in Part A of Schedule 4.	n.a.	
Division 2 – Licensing of electrical workers			
21	<p>This regulation provides for applications for issue of licences. A person may apply to ESV for a licence for one or more classes of electrical work. This regulation prescribes that an application must be in writing and contain details of the following: the applicant’s name, residential address, postal address, telephone number and email address; the name, address telephone number and email address of any current or former employer of the applicant, the period of the employment and the electrical work carried out under that employment; the applicant’s experience in electrical work; any refusal of any regulatory authority to issue a licence to carry out electrical work or the cancellation or suspension of such a licence; and the class of electrical work for which the licence is being sought.</p> <p>An application must be accompanied by evidence of the training and qualifications and experience on which the applicant relies for licensing, and in the case of an applicant for a licence under regulation 27 or 28 a written description of the person's primary work function and of the electrical installation work required to carry out that function, and written evidence that the electrical installation work is a necessary component of the person's primary work function. ESV may require the applicant to provide proof of identity or any other information or material in respect of an application.</p>	19	The regulation is the same as the current regulation, with a minor addition of a requirement for details of an applicant’s telephone number and email address.
22	ESV may issue a licence to a person under which the person may carry out all electrical installation work of the class prescribed by regulations 18(a), (b) and (c). For the purposes of section 40 of the Act, to be able to be licensed to carry out the classes of electrical work, ESV must be satisfied that the person has completed a 4 year contract of training as an electrician that included at least 12 months experience in carrying out electrical installation work, and holds a Certificate III in Electrotechnology Electrician; and has satisfactorily completed	20	The proposed regulation is substantially similar to the current regulation. A sub-regulation has been included that deals with the situation under which an applicant is applying for an electrician’s licence for the first time or applying to renew a licence that has been expired for more than five years.

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	<p>the Licensed Electrician's Assessment conducted by ESV or a body approved by ESV. A person may also be issued with a licence if ESV is satisfied the person's standard of qualifications, proficiency and experience in electrical installation work is at least of an equivalent standard mentioned above.</p> <p>If the applicant is applying for an electrician's licence for the first time or applying to renew a licence that has been expired for more than five years, the assessment (i.e., satisfactorily completed the Licensed Electrician's Assessment conducted by ESV or a body approved by ESV) must have been satisfactorily completed within 5 years of the date of the applicant's application.</p>		
23	<p>This regulation provides for the licensing of supervised electrical installation workers. For the purposes of section 40 of the Act, ESV may issue a licence to a person under which the person may carry out all electrical installation work of the classes prescribed by regulations 18(a), (b) and (c) under the effective supervision of a licensed electrician for a period not exceeding 3 years if ESV is satisfied that the person has completed a 4 year contract of training as an electrical fitter; and holds a Certificate III in Electrical Fitting; and has satisfactorily completed a practical examination conducted by ESV or a body approved by ESV in safe work practices.</p> <p>ESV may also issue a licence to person if the person has completed a 4 year contract of training as an electrician that included at least 12 months experience in carrying out electrical installation work; and partially completed the Certificate III in Electrotechnology Electrician; and satisfactorily completed a practical examination conducted by ESV or a body approved by ESV in safe work practices.</p> <p>If the person's standard of qualifications, proficiency and experience in electrical installation work is at least of an equivalent standard to that required under standards mentioned above, ESV may also issue a licence.</p>	21	No change (aside from minor wording)
24	<p>Regulation 24 deals with the issuing of an Electrician (Supervised) worker's licence.</p> <p>This regulation applies to a person who, on the commencement of these Regulations, holds a licence that was issued under section 40 of the Act and in accordance with regulation 22 of the Electricity Safety (Registration and</p>	22	Minor wording changes

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	<p>Licensing) Regulations 2010. Subject to complying with the requirements of regulation 33, the person is eligible, at any time before the expiry of that licence, to have issued to that person a licence under which the person may carry out electrical installation work of the following classes:</p> <ul style="list-style-type: none"> • all electrical installation work of the classes prescribed by regulations 18(a), (b) and (c) subject to the condition that the person carry out all installation work under the effective supervision of a licensed electrician; and • all installation work of the class prescribed by regulation 18(e). 		
25	<p>Regulation 25 deals with the issuing of an Occupier’s licence. This regulation applies to a person who, on the commencement of these Regulations, holds a licence that was issued under section 40 of the Act and in accordance with regulation 23 of the Electricity Safety (Registration and Licensing) Regulations 2010. Subject to complying with the requirements of regulation 33, the person is eligible, at any time before the expiry of that licence, to have issued to that person a licence to carry out all electrical installation work of the classes prescribed by regulations 18(a), (b) and (c) that is limited to premises to which the person to be licensed occupies for residential purposes.</p>	23	Minor wording changes
26	<p>Regulation 26 deals with the issuing of Electrical switchgear worker’s licence. For the purposes of section 40 of the Act, Energy Safe Victoria may issue a licence to a person under which the person may carry out electrical installation work of the classes prescribed by regulations 18(a), (b) and (c) that is limited to the assembly, alteration, repair and maintenance of switchgear and controlgear assemblies if Energy Safe Victoria is satisfied that the person has completed a 4 year contract of training as in switchgear and controlgear that included at least 12 months experience in carrying out electrical switchgear and controlgear fitting work; and holds a Certificate III in Switchgear and Controlgear; and has satisfactorily completed the Licensed Switchgear Worker’s Assessment conducted by Energy Safe Victoria or a body approved by Energy Safe Victoria; or the person’s standard of qualifications, proficiency and experience in electrical switchgear fitting work is at least of an</p>	24	Minor wording changes

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	equivalent standard to that required above.		
27	<p>This regulation deals with Restricted electrical worker's licence (Class 1). For the purposes of section 40 of the Act, Energy Safe Victoria may issue a licence to a person under which the person may carry out restricted electrical installation work of a class prescribed by regulation 18(d) if Energy Safe Victoria is satisfied that the person has a demonstrated need to undertake the restricted electrical installation work because the work is ancillary to a primary work function; and the necessary qualifications.</p> <p>The regulation prescribes the factors for ESV to determine whether a person has a demonstrated need for a restricted licence.</p> <p>For the purpose of determining whether the person has the necessary qualifications, ESV considers whether the person has the qualifications or training (if any) required to carry out the primary work function; and satisfactorily completed a course of instruction decided by ESV; and satisfactorily completed a practical examination conducted by ESV in safely disconnecting, reconnecting and testing electrical equipment and fault finding; or the person's standard of qualifications, proficiency and experience in the primary work function and electrical installation work is at least of an equivalent standard to that required.</p> <p>If the applicant is applying for a Class 1 restricted worker's licence for the first time or applying to renew a licence that has been expired for more than five years, the examination referred above (i.e., satisfactorily completed a practical examination conducted by ESV in safely disconnecting, reconnecting and testing electrical equipment and fault finding) must have been satisfactorily completed within 5 years of the date of the applicant's application.</p> <p>ESV must, by condition imposed on a licence, limit the type of electrical installation work that the licensed person may undertake under the licence to an occupational area or areas specified in Schedule 1 of the regulations.</p>	25	No change, except a sub-regulation added to ensure recent competency, i.e., if the applicant is applying for a class 1 restricted worker's licence for the first time or applying to renew a licence that has been expired for more than five years, the examination referred above (i.e., satisfactorily completed a practical examination conducted by ESV in safely disconnecting, reconnecting and testing electrical equipment and fault finding) must have been satisfactorily completed within 5 years of the date of the applicant's application.
28	<p>This regulation deals with Restricted electrical worker's licence (Class 2). It is the same as regulation 27 except that it applies to Class 2 work, as prescribed in Schedule 1 of the Regulations.</p>	26	No change, except a sub-regulation added to ensure recent competency, i.e., if the applicant is applying for a class 2 restricted worker's licence for the first time or applying to renew a licence that

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
			has been expired for more than five years, the examination referred above (i.e., satisfactorily completed a practical examination conducted by ESV in safely disconnecting, reconnecting and testing electrical equipment and fault finding) must have been satisfactorily completed within 5 years of the date of the applicant's application.
29	<p>Regulation 29 deals with electrical inspector's licences.</p> <p>For the purposes of section 40 of the Act, ESV may issue a licence to a person under which the person may carry out electrical inspection work of any or all of the classes specified in Part A of Schedule 3 (except class 'L' – see r.30) if the person has demonstrated to the satisfaction of ESV the qualifications, experience, competence and proficiency in the matters specified in Part B of Schedule 3 for the relevant class of electrical inspection work; and if required by ESV to do so, has satisfactorily completed a course of instruction decided by ESV; and has satisfactorily completed any practical or theory examinations in electrical inspection required by ESV to be completed.</p> <p>Alternatively, ESV may consider the person's standard of qualifications, proficiency and experience in electrical installation work is at least of an equivalent standard to that required as mentioned above.</p>	27	Substantially similar. Minor wording changes and the inclusion of a new sub-regulation, i.e., "if required by ESV to do so, has satisfactorily completed a course of instruction decided by ESV".
30	<p>This regulation deals with Class 'L' inspector's licences.</p> <p>This regulation applies to a person who, on the commencement of the Regulations, holds a licence that was issued under section 40 of the Act and in accordance with regulation 28 of the Electricity Safety (Registration and Licensing) Regulations 2010 under which the person may carry out electrical inspection work prescribed as class "L" in Part A of Schedule 3 to those Regulations.</p> <p>Subject to complying with the requirements of regulation 33, the person is eligible, at any time before the expiry of that licence, to have issued to that person a licence under which the person may carry out electrical inspection work specified as class 'L' in Part A of Schedule 2.</p>	28	Minor wording change
31	<p>This is a new regulation dealing with electrical line worker's licence.</p> <p>For the purposes of section 40 of the Act, ESV may issue a licence to a person under which the person may carry out electrical work of any or all of the</p>	n.a.	

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	classes specified in Part A of Schedule 3 if the person holds the qualification specified in Part B of Schedule 3 for the relevant class of electrical work, or the person's standard of qualifications, proficiency and experience in electrical work is at least of an equivalent standard to those qualifications specified in Schedule 3.		
32	<p>Regulation 32 provides for the refusal of a licence.</p> <p>For the purposes of section 40 of the Act, ESV may refuse to issue a licence to an applicant if ESV is satisfied that the applicant has not complied with these Regulations in relation to the class of licence applied for; or the applicant has, within 5 years of making the application, contravened a provision of the Act or regulations.</p> <p>ESV may also refuse a licence if the applicant has attempted to obtain a licence as an electrical worker by fraud, misrepresentation or concealment of facts, or the applicant has, within 5 years of making the application, has been convicted of certain offences (as prescribed) or engaged in fraudulent conduct in the carrying out of electrical installation work.</p>	31	Substantially similar to the current Regulations – minor wording changes and updated references
33	This regulation deals with renewal of licences. While the substance of the regulation is the same, several new sub-regulations have been included in the proposed Regulations.	32	<p>Key changes include new or rewritten clauses:</p> <ul style="list-style-type: none"> • ESV may require the applicant to provide further information or material relating to the competence of the applicant to carry out the class of electrical work for which the licence is to be renewed including evidence of the completion of any continuing professional development requirements that are required by Energy Safe Victoria to be completed before applying for the renewal of the licence. • In considering whether to grant a renewal of a licence, ESV may have regard to whether the applicant has complied with any continuing professional development requirements that are required by ESV to be completed before applying for the renewal of the licence. • An applicant's licence is taken to be current despite the expiration date of the licence having passed if the licence holder applied for the renewal of the licence before the licence expired; and a

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
			<p>decision in relation to the renewal of the licence is not made by ESV before the licence would otherwise have expired but for this section.</p> <ul style="list-style-type: none"> • A licence continued as above remains current until ESV decides in relation to the application for renewal of the licence under this section. • A renewal of licence granted after an electrical worker's licence would otherwise have expired must include the period for which the worker was taken to be licenced. • Without limiting section 40 of the Act, if the applicant has not complied with any continuing professional development requirements that are required by ESV to be completed before applying for the renewal of the licence, ESV may— <ul style="list-style-type: none"> ○ refuse to renew the licence; or ○ renew the licence with a condition that the required professional development requirements be completed within a specified time not exceeding 12 months from the date the licence is renewed; or ○ renew the licence without conditions if ESV considers it is not appropriate or necessary for the applicant to complete the applicable professional development requirements for any reason.
34	<p>This is a new regulation that establishes a requirement for Continuing Professional Development.</p> <p>Subject to this regulation, ESV may, by notice published on an internet site administered by ESV, determine the continuing professional development requirements that are to apply to the renewal of a class of electrical licence.</p> <p>The continuing professional development requirements may include skills maintenance or skills development activities or both and must not exceed for any one class of licence during a renewal period 8 hours of skills maintenance activities, and 8 hours of skill development activities.</p> <p>The continuing professional development requirements may specify that a</p>	n.a.	

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	skills maintenance requirement must be completed within the 2-year period immediately before making an application for the renewal of a licence. 'Renewal period' means the period between the date the licence is issued or renewed and the date the licence is next due to expire.		
35	ESV may cancel the licence of an electrical worker who surrenders the written licence for cancellation or applies to ESV in writing for the issue of a licence of another class. ESV must cancel the licence of an electrical worker who does not apply for renewal of the licence by the renewal date specified on the licence card.	33	No change
Part 4—Other matters			
36	Regulation 36 prescribes matters for apprentices. For the purposes of section 39 of the Act, an apprentice is required to carry out all electrical work under the effective supervision of in the case of electrical installation work (other than restricted electrical installation work), a licensed electrician; or in the case of restricted electrical installation work, a person licensed to carry out the class of restricted electrical installation work they are supervising; or in the case of electrical switchgear fitting work a licensed electrician; or licensed electrical switchgear worker. In the case of electrical linework, a licensed lineworker that is licensed to carry out the class of electrical linework must supervise the apprentice.	34	New sub-regulations have been added to clarify and specify the types or work under which apprentices must be supervised. This includes clarity concerning restricted electrical installation work and reference to supervising electrical linework (the new licence category).
37	The holder of a licence must notify ESV within 10 business days after any change in that person's name or address (10 penalty units).	35	No change
38	This regulation deals with licence cards and is similar to the regulation dealing with registration cards. ESV must issue a licence card to a licensed electrical worker. A licence card issued to a licensed electrical worker is evidence that the electrical worker is licensed by ESV to carry out a particular class of electrical work. A person who is issued with a licence card must, upon receipt of the card, sign the card. An electrical worker whose licence has been cancelled must deliver the licence card to ESV within 10 business days after the worker receives notice of the cancellation.	36	Minor wording change. The fee (currently \$41.46) for a replacement registration or licence card has been removed. Very few are requested annually and charging and collecting a fee is not economical.

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	If a licensed electrical worker demonstrates to ESV that the licence card issued to the worker has been lost, damaged, or destroyed, ESV must issue a duplicate card to that electrical worker. Failure to comply with this regulation may result in an infringement of 10 penalty units.		
39	A person who is carrying out a class of electrical work prescribed in Division 1 of Part 3 of the regulations must, at the request of an enforcement officer produce the person's licence card to the enforcement officer, or provide details of the person's licence to the officer (10 penalty units).	37	Minor wording change
Part 5—Fees			
40	This regulation deals with fee rebates. ESV may rebate the payment of an application fee for the issue or renewal of a registration for an electrical contractor if the registration is to be issued for a period of less than 5 years. ESV may rebate the payment of an application fee for the issue or renewal of a licence for an electrical worker if the licence is to be issued for a period of less than 5 years.	38	No change (other than 'electrical installation worker' is now 'electrical worker'.)
41	This regulation deals with fee refunds. ESV may refund part of the application fee for the issue or renewal of a licence for an electrical worker if the licence is to be cancelled for the issue of a licence of another class.	39	No change (other than 'electrical installation worker' is now 'electrical worker'.)
42	This is a new regulation concerning fees waivers for a lineworker's licence. ESV may waive the application fee for the issue of a lineworker licence for an applicant if the applicant applied for the lineworker licence within 1 year of the date these Regulations commenced, and in the opinion of ESV, the applicant met the requirements for a lineworker licence of the class to which the applicant is applying for immediately before the commencement of the Regulations.	n.a.	
Part 6—Infringement notices			
43	This regulation prescribes the provisions under which infringement notices maybe served. For the purposes the definition of 'prescribed offence' in section 140A(b) of the Act, regulations 14(1)(a), 14(1)(d), 14(1)(e), 14(2) and 14(3), 17(3)(a),	40	Updated references

Reg ⁿ	Description	Current Reg ⁿ	Key change/comment
	17(3)(b) and 17(4), 37, 38(3) and 38(4), and 39 are prescribed provisions.		
Schedules			
Sch 1	Occupational areas – prescribes the occupational areas for the purposes of r. 5, 20(d) and 20(e), 29(6) and 30(6).	Sch 2	No change
Sch 2	Specified classes of (Part A) electrical inspection work and (Part B) required qualifications, proficiency, and experience in electrical inspection work.	Sch 3	No change
Sch 3	A new schedule provides definitions for the purposes of linework; specifies the classes of electrical linework that requires a licence; and prescribes the qualifications for classes required by electrical lineworkers.	n.a.	
