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2 May 2017

Secretariat
Review of Victoria's Electricity Network Safety Framework
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Dear Dr Grimes

Review of Victoria's Electricity Network Safety Framework

Thank you for the opportunity to make this submission in response to the *Review of Victoria's Electricity Network Safety Framework Issues Paper*. We also appreciated the chance to meet with you and the Review team and to engage through the Community and Industry Consultation Forum.

United Energy is one of five privately owned Distribution Network Service Providers (DNSPs) operating in Victoria. We provide safe and reliable electricity supply to more than 665,000 customer in Melbourne's south-eastern suburbs and the Mornington Peninsula.

The safety of the community, our contract service providers and United Energy employees is the highest priority for our business. We are proud of our safety record and we are committed to continuous improvement in work practices and culture. Our commitment is underpinned by governance and reporting requirements which flow from our field crews to senior management and up to our Board.

Should you require any further information, please contact Mike Tshaikiwsky, Network Risk, Safety and Technical Compliance Manager (Electricity Network) on 03 8846 9807 or via email Mike.Tshaikiwsky@ue.com.au.

Kind Regards,

Mark Clarke
General Manager Networks - Electricity

Review of Victoria's Electricity Network Safety Framework

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Review of Victoria's Electricity Network Safety Framework

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Executive summary

United Energy delivers safe and reliable electricity at the efficient frontier of Australian businesses operating in the sector. We recognise the importance of appropriate regulatory regimes to support good safety and cost outcomes for our customers and so welcome this Review of the Victorian electricity network safety framework.

The existing Victorian safety management framework has been effective in improving electricity network safety outcomes, and the risk based regulatory framework governing network safety has facilitated effective network management by the DNSPs.

The established safety and reliability metrics, as reported by ESV, clearly demonstrate that network performance has improved since 2009 under the electricity safety legislation.

(a) Fire starts (all causes)

The average total number of fire starts per annum, for Victorian DNSPs from 2006-10, was 870.

As a result of the measures put in place by both government and the DNSPs, the total number of fire starts across Victoria was reduced to 620 in 2015 and further reduced to 531 in 2016 – a 39% reduction in the total number of fire starts.

(b) Asset failures resulting in a fire (asset or grass fire)

The average number of fire starts per annum, due to asset failure for Victorian DNSPs from 2006-10, was 795.

As a result of the measures put in place by both government and the DNSPs, the number of fire starts across Victoria due to asset failure was reduced to 518 in 2015, and further reduced to 431 in 2016 – a 46% reduction in the number of fire starts due to asset failure.

(c) Electric shock

The ESV 2016 Safety Performance Report on Victorian Electricity Networks, concluded that "serious electrical incidents overall were substantially reduced". Serious incidents were defined as those that caused or had the potential to cause the death or injury to a person, significant damage to property, or a serious risk to public safety.

These improvements in performance were delivered under a less prescriptive Electricity Safety Management regime in a changing environment, with increasing customer expectations, changes in technology and an aging network.

The government and ESV initiatives that have contributed to the improvement include:

- Electricity Safety (Management) Regulations
- Electricity Safety (Electric Line Clearance) Regulations
- Electricity Safety (Bushfire Mitigation) Regulations
- Improved performance reporting
- A comprehensive audit regime

The DNSP initiatives that have contributed to the improvement include:

- A risk management framework for managing network safety performance
- Improved asset inspection, testing, and maintenance
- Improved vegetation inspection and management
- Greater degree of animal proofing
- A targeted asset replacement program
- Improved performance monitoring, information, technology and innovation

United Energy does not support any move to a more prescriptive legislative environment. Prescriptive legislation has the potential to focus on compliance rather than the safety outcome, which can inhibit continuous improvement and result in higher cost for the customer. It has the potential to impose universal solutions across the industry without due regard to specific circumstances or cost. The solutions may be introduced without due consideration for other legislation, or the further advances in technology.

1. Safety legislation and approach to safety regulation:

Submissions to the review may seek to comment on the legislative framework underpinning the Victorian Electricity Network Safety Framework:

- *Are there opportunities to improve the efficiency and the effectiveness of the Electricity Safety Act and associated regulations?*
- *Should there be a change in the degree of prescription provided in the current framework? If so, what would be the justification for any proposed changes?*
- *Are there examples of 'better practice' electricity safety and risk management frameworks from other jurisdictions (nationally or internationally) or from other industry sectors that should be considered?*

In general, legislation should be outcome focused. United Energy experience is that prescriptive legislation can stifle innovation and is generally less efficient and less effective than a risk management framework.

Prescriptive legislation is input focused and therefore tends to concentrate on compliance rather than the safety outcome. This approach leads to universal solutions being imposed across the industry without due regard to specific circumstances or cost, and tends to result in higher than necessary cost being passed on to consumers.

Prescriptive solutions may be introduced without due consideration for other legislation, or technical advancements. A current example is the introduction of REFCLs which conflicts with the network standards impacting high voltage customers.

Prescriptive legislation can however be effective in certain situations such as setting requirements for customer installations, where large groups of less experienced and knowledgeable stakeholders are involved. It can also be effective in detailing the responsible persons' obligations, and when supported by management plans (ELCMP and BFMP) approved by ESV, provides transparency to stakeholders on how hazards are being managed.

The existing legislative framework pertaining to electricity network safety appears to be "fit for purpose", with opportunities for improvement addressed as part of the review process every five years. Due to the maturity and stability of the environment, this review period could be extended out to seven years.

The review focus should be on safety outcomes, with early stakeholder engagement, ideally more aligned with the EDPR submission timeframes, especially where there is an impact on expenditure and customer charges. A greater degree of DNSP consultation and early input into the legislative process would improve the efficiency and the effectiveness of the Electricity Safety Act and associated regulations.

The legislative focus has been mainly on outcomes with prescription limited to a few sections of the legislation. Based on the experience over the past five years, consideration should be given to less prescription and more support for risk management especially in the areas of electric line clearance distances, and asset inspection intervals.

The recent revision of the electricity safety case regime, whilst sound in underlying principles, has delayed the submission of all ESMSs. A post implementation review of the safety case and ESMS revision process would be beneficial to clarify the objective of each document, reducing prescription, duplication, and the time taken to prepare the documents.

Based on the safety metrics it is hard to find another jurisdiction that has achieved "better practice".

2. Safety culture and engagement of the workforce

Submissions to the review may wish to comment on the extent to which the current framework promotes strong and effective safety cultures within electricity network businesses:

- *Does the framework effectively promote the engagement of the electricity network workforce in promoting safety? Are there opportunities for improvement?*
- *Are there opportunities to further promote strong safety leadership cultures?*

In considering safety culture and engagement, the very specific sections of the 2007 OHS Regulations relating to workplace consultation and issue resolution need to be considered. While the purpose of the law may be to establish frameworks regarding cultural matters such as bullying and equal opportunity, it is not the purpose of law to enforce or "promote strong and effective safety cultures" as they relate to electricity safety. Such cultural goals are the moral rather than legal obligation of an employer.

The overarching Code for electrical safety in the VESI is the "Code of Practice on Electrical Safety for Work on or Near High Voltage Electrical Apparatus", known more simply as the Blue Book.

Administered by a committee of stakeholders, the workforce is represented on the Blue Book committee by the Electrical Trades Union, (ETU). As a founding member, the ETU has had continuous representation on the committee.

Other forums have been established, such as the WorkSafe committee, where the ETU represents its members to tackle safety initiatives, and local HSE committees where all workers have the opportunity to engage in and promote workplace safety. This local model, (including the election of Health and Safety Representatives) is in fact that described in the 2007 OHS Regulations, and the guidance material published by WorkSafe.

VESI employers are always willing to engage with employees, or their representative associations, regarding matters that genuinely relate to improving workplace safety and consider all opportunities for even greater workplace safety outcomes.

At United Energy, we have partnered with external Safety Culture experts such as Sentis and Ernst & Young to assist with United Energy and Service Providers' HSE culture assessments, the delivery of Safety Leadership training and in determining specific Psychology of Safety and Culture programs. Opportunities for improvement form part of the UE HSE strategic plan.

As much as any other sector, the VESI strongly advocates standardised safe work practices. The industry has well established committees with a long history of publishing standard procedures in the public domain via the industry website www.vesi.com.au.

Also published on this website is detailed information that relates to the standardisation of network access and the underpinning skills that are required to achieve and maintain that access. No other jurisdiction in Australia has such close agreement between different businesses in regard to the standardisation of these matters. In fact it would be difficult to find another sector, including other utilities and the construction industry that works as closely as the VESI network operators.

It was noted during the Consultation Forum held on 4 April 2017, that the matter of licensing was raised, in the context that licensing improves workplace safety. There is no evidence that this is the case and in fact Safe Work Australia statistics demonstrate the opposite.

The primary purpose of licensing is consumer protection, not work place safety. Network operators are generally considered to be subject matter experts based on the skills and qualifications of electrical workers, whereas the average consumer who requires electrical work to be performed, cannot generally be considered a subject matter expert. Licensing offers consumers the protection that at some point in time, a government regulator determined the licence holder to be competent. Such determination is usually based on a qualification. For network operators, there are many other matters of equal importance as the initial qualification, particularly in regard to where the qualification was awarded and the currency of skills.

As demonstrated by Safe Work Australia performance reports, the electricity supply industry (ESI) has an enviable safety record when compared with other industries having similar risk profiles. As can be seen in Figures 1 and 2 below, despite the serious hazards inherent in the ESI, the ESI has a safety record that out-performs other industry sectors that rely heavily on licensing. Further, after West Australia, Victoria rates as the best performing electricity sector by state. It should be noted that neither of these jurisdictions operates a licensing system for ESI workers.

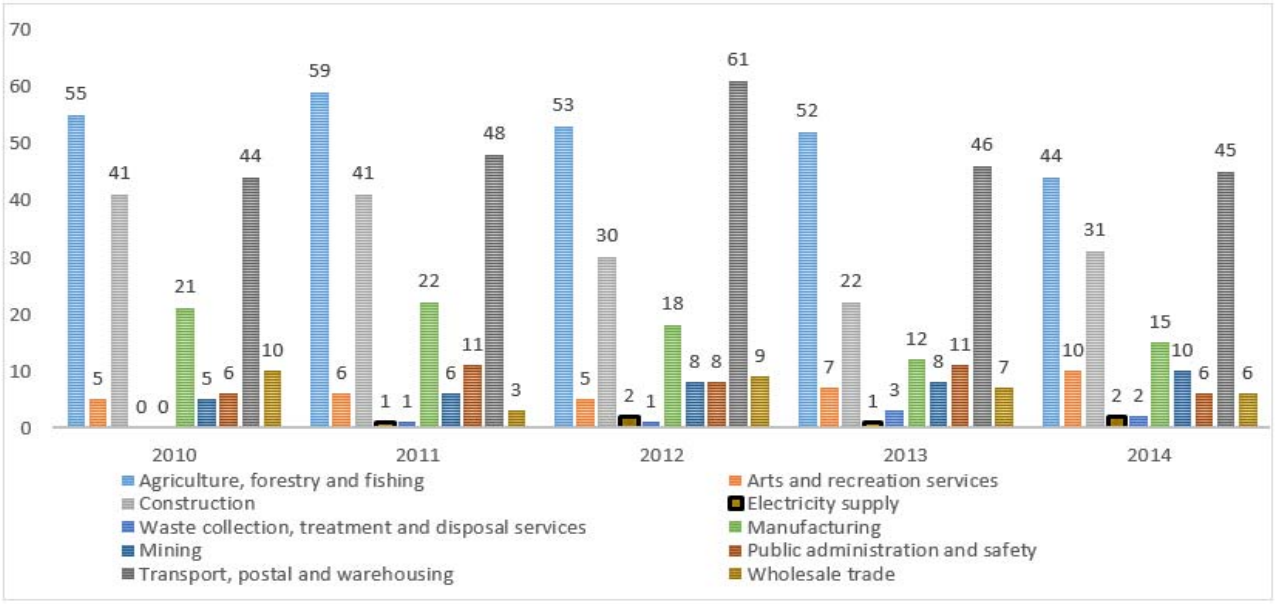

Figure 1: Number and incidence rate of injury-related fatalities by selected industries (2010 to 2014)

(Source: http://www.safeworkaustralia.gov.au/sites/SWA/Statistics/)

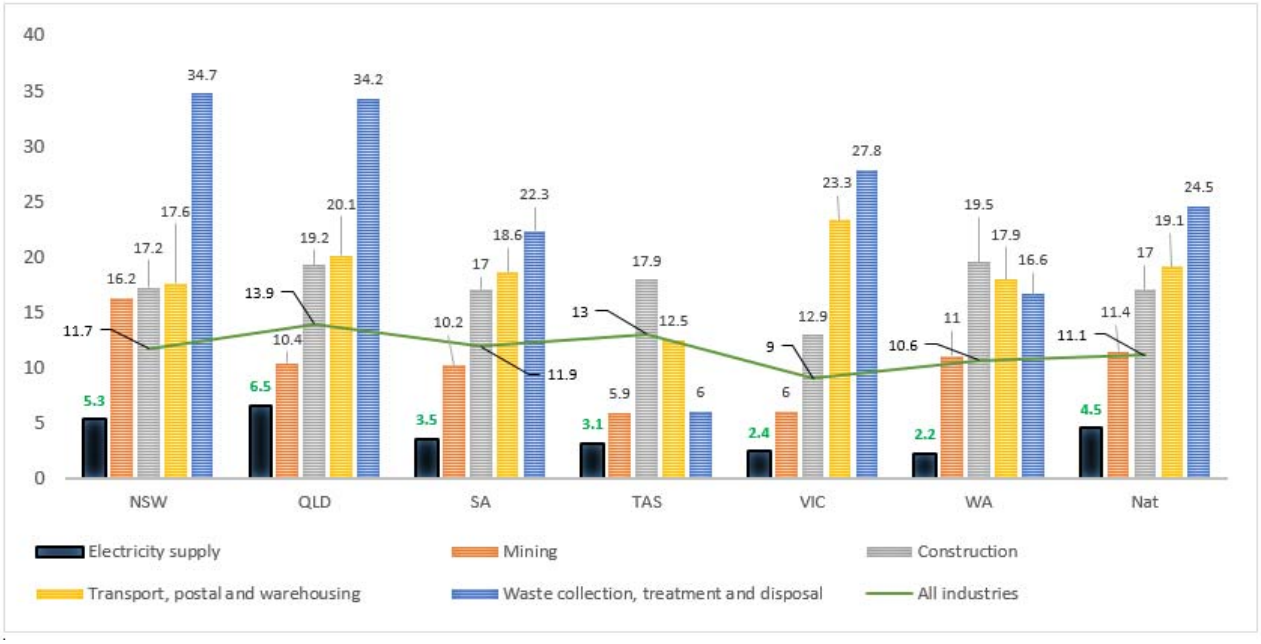

Figure 2: Incidence rates of serious claims by industry and jurisdiction, 2012–13,

Source: http://www.safeworkaustralia.gov.au/sites/SWA/Statistics/)

3. DELWP and ESV roles in electricity network safety

Submissions to the review may wish to comment on the respective roles of DELWP and ESV and on the broader government programs and activities to promote electricity network safety:

- *Are the respective roles of ESV and DELWP clear and well-coordinated? Should any changes be considered to the allocation of responsibilities between ESV and DELWP?*

United Energy has supported the Victorian Government's safety initiatives, and implemented the findings of the Royal Commission by working closely with DELWP as the government's agent responsible for establishing the legislation, ESV with the responsibility to administer the legislation, and the AER with the responsibility to ensure that the DNSPs are appropriately funded to implement the solutions required to achieve the desired legislative outcome.

(a) DELWP

DELWP has been effective in administering the Powerline Replacement Fund, managing the research and development of new technology, and arranging specialist advice forums such as the Public Bushfire Safety Taskforce. DELWP has also provided guidance on community expectations leading to the development of inputs to risk assessment and modelling such as community consequence values and Fire Loss Consequence Modelling.

More recently DEWLP has introduced more prescriptive legislation. It has also been slow to respond to industry concerns with respect to the conflicting parts of the existing safety regime, specifically the REFCL regulations and Distribution Code. The genuine concerns of DNSPs appear to have been dismissed despite valuable lessons learned being readily available from other new technology roll outs. This will lead to less effective outcomes.

United Energy would like to see DELWP working more closely with the DNSPs on the formation and implementation of initiatives.

(b) Energy Safe Victoria

ESV has been an effective safety regulator, working in partnership with the industry, and strongly advocating evidence based decision making.

With the introduction of the Electricity Safety Act 1998, ESV has facilitated the development and implementation of risk management frameworks to deliver improved network safety outcomes. ESV has implemented best practice regulation with a focus on the aspects of network operations that have a high consequence. ESV has also demonstrated the flexibility to grant exemptions where clear evidence and explanation has been provided to support changes to an existing plan to deliver effective safety outcomes. United Energy supports and encourages this approach to risk reduction, and cost minimisation.

(c) Other agencies

The respective roles of the various agencies are unclear. In addition to clarifying the roles between DELWP and ESV, it may be timely to also clarify the roles between the other government agencies and organisations: ESV, ESC, AER, DELWP (PBST), Worksafe, and VBA.

ESV is responsible for powerline bushfire safety, administering the Electricity Safety Act, the BFM regulations, the ELC regulations, and monitoring the REFCL installation program, but DELWP (PBST) is also involved in powerline bushfire safety programs to varying degrees.

ESV is the technical (and safety) regulator, but ESC administers the Distribution Code.

There would also be merit in further clarifying the respective roles of DELWP, ESV, AER, CFA, and BOM in the administration of the f-factor scheme.

The industry would benefit from improved role clarity between ESV and WorkSafe in attending to ESI matters. Whilst there is an MOU between WorkSafe and ESV it does not appear to be universally applied. WorkSafe officers have less experience than ESV officers in attending to ESI matters. Worksafe focus is on safe work practices, but with limited electrical subject matter expertise, and under an MOU, calls on ESV for assistance. The responsibility for investigating electrical incidents needs clarification.

The enforced application of safety processes from the commercial construction sector by WorkSafe, and their interpretation of the regulations can at times be unhelpful. In many instances a more productive outcome could have been reached if WorkSafe had engaged with ESV for expert advice.

ESV licenses electricians, but the VBA licenses, builders, plumbers, and gas fitters. Transferring the licensing of electricians to the VBA may have some merit and be worthy of consideration.

4. ESV's capabilities and governance

Submissions to the review may wish to comment on ESV's governance arrangements and capabilities to regulate and promote electricity network safety.

- *Does ESV have the right mix of capabilities — people, skills and systems?*
- *Are there capabilities, including in new and emerging areas that should receive greater attention and investment?*
- *Are there existing capabilities that could be scaled back or managed more efficiently by ESV?*

The existing mix of capabilities appears to be appropriate for the ESV role, however, to deliver the workload defined by the ESV Statement of Expectations, the ESV Charter of Consultation and Regulatory Practice, and the ESV Corporate plan 2016-2019, ESV would benefit from additional resources.

ESV effectiveness is generally good, and in many instances helps the DNSPs drive improvements by focusing on safety management systems rather than prescriptive "safety" projects.

To remain effective ESV needs to continue developing its expertise to support the risk based regime and improve network safety.

ESV audits and incident investigations are generally sound and completed in a professional manner.

It has been a good initiative to introduce online incident reporting, notwithstanding a few implementation issues.

5. ESV's approach to regulation

Submissions to the review may wish to comment on ESV's approach to regulation:

- *Does ESV strike an effective balance in its compliance and enforcement activities? (That is, a balance between an approach that could be seen as too 'light touch', where regulatory interventions could be stronger, and one that could be seen as too 'heavy handed', where regulatory interventions might be seen as disproportionate to the risks involved).*
- *Does ESV communicate its requirements effectively? Are there any aspects that could be improved?*

(a) Safety Case, and ESMS

Good principles have been incorporated into the Safety Case and ESMS processes designed to meet DNSP safety obligations. ESV expectations have been articulated, rather than providing a prescriptive task list. However, a post implementation review of the Safety Case and ESMS regimes would be beneficial in clarifying the objective and format of each scheme.

Risk management has been effectively embedded into both the Safety Case and the ESMS.

The Electricity Safety (Management) Regulations are approaching "end of life". The Committee (EN004) supporting the standard, AS5577 Electricity Network Safety Management Systems is no longer active, and AS5577 is not consistent with the latest international management standards.

As part of the revision of the Electricity Safety (Management) Regulations, consideration should be given to adopting PAS99 "Specification of Common Management System Requirements as a Framework for Integration" as the framework for the Electricity Safety (Management) Regulations.

(b) Bushfire Mitigation Regulations

The installation of REFCLs at a number of specific substations, as well as the installation of ACR's on SWER powerlines, and the installation of insulated/covered conductor in specific areas has been mandated in the BFM Regulations. While well meaning, many issues are yet to be resolved. There has been some consultation with the DNSPs, but the DNSP feedback on these issues appears to have been ignored.

These REFCL installations may mean that the DNSPs operations are unable to comply with the Victorian Distribution Code, and a change process has been initiated in an attempt to address these issues.

The Victorian government introduced legislation which contains substantial penalties if the timeframes and technical specifications are not met, without consultation with the DNSPs.

(c) Distribution Code

The Distribution Code is not consistent with the Australian standard employed by other Australian jurisdictions. It is more onerous than the other standards, which drives up costs to customers without delivering additional benefits. A review of the Code should be carried out to align Victorian technical regulations with that of the other states.

(d) f-factor Scheme

The revised f-factor scheme incorporates some good principles that incentivise DNSPs to focus on reducing fire starts at high risk locations (HBRA) at the worst times (TFB days). Rather than all fire starts being treated equally, the revised scheme will incentivise a more efficient spend on network safety.

6. Safety reporting and public information

Submissions to the review may wish to comment on the current information that is made publicly available on Victoria's electricity network safety performance:

- *Are there any areas where this information could be improved?*
- *Are there any examples of reporting in other jurisdictions or in other industry sectors that could be adopted to further strengthen reporting in Victoria?*

ESV reporting guidelines have been progressively "supplemented" by additional ad hoc reporting requirements. While the development of an electronic incident reporting system is a positive development, the purpose of the various reports needs to be reviewed to ensure ongoing relevance.

The annual Safety Performance of Victorian Electricity Networks reporting accuracy and timing would be improved if each DNSP prepared their own annual network performance report for ESV to review and then aggregate.

The annual reporting has been too detailed to facilitate stakeholder understanding of performance and does little to highlight safety messages. Simpler reporting will lead to greater stakeholder understanding of the safety performance of the network.

7. Interactions between economic and safety regulation

Submissions to the review may wish to comment on the relationship between the economic regulatory and safety regulatory frameworks:

- *Does the current economic regulatory framework present any barriers to achieving acceptable network safety?*
- *Could current economic incentives to promote safety and reliability be improved? If so, what changes might be considered?*

There is currently some conflicting aspects of economic and safety regulation. The Electricity Safety Act requires DNSPs to reduce bushfire and safety risk to "as low as is reasonably practicable" (ALARP), whilst the AER only funds DNSPs to maintain safety. As new technology emerges, ALARP necessitates reducing bushfire and safety risk, not merely maintaining safety. However, the AER funds the DNSPs to maintain safety, and expects ESV to monitor progress of the programs. Whilst the AER and ESV have been working together closely to manage this mismatch, it is recommended changes are made to correct it.

A greater degree of early engagement by ESV with stakeholders would ensure that safety outcomes were better aligned with the EDPR process. Early ESV engagement in the process would improve the stakeholder consultation process and facilitate a more informed debate as to the potential safety / price trade off in DNSP proposals.

Generally the AER approves an allowance based on an overall submission, not for individual projects, and incentivises businesses to make a sound selection of the projects required to achieve the outcomes, not necessarily the projects in the submission. However, ESV has traditionally tracked "specific" projects endorsed by the AER against the allowance.

Some conflicting requirements of the various legislation should be addressed. The OHS Act refers to SFAIRP "so far as is reasonably practicable", the ESA refers to MAFAP "minimise as far as practicable", and the Electricity Safety (Management) Regulations (AS 5577) refer to ALARP "as low as is reasonably practicable".

8. Emerging technologies

Submissions to the review may wish to comment on the capacity of the existing electricity safety framework to effectively regulate new technologies and the changes associated with the greater use of renewable sources of energy:

- *Are there any unnecessary regulatory barriers that might impede the adoption of new technologies?*
- *Are any changes required to the current framework to ensure new technologies can be deployed safely?*
- *Will any changes to the framework be required as transmission and distribution networks evolve over time with the more widespread adoption of new technologies and renewable sources of energy?*

Emerging technologies are both an opportunity and a risk for DNSP electricity networks. Care needs to be taken to ensure that legislation does not impede the development and introduction of these technologies. Implementation of the new technology is best facilitated by ESV and DNSPs working closely together

The introduction of REFCL technology, ACRs, "covered conductor", and stand-alone power supplies all have the potential to improve network reliability, safety and reduce the risk of a bushfire.

The increasing penetration of customers' PV and battery storage technologies presents an opportunity and a challenge for the operation of the network. DNSPs need to manage reverse energy flow, supply quality, protection coordination, and stability of networks that were originally designed for one way energy flow from a remote power station. While PV installers are accredited by the Clean Energy Council, many small embedded generators are connecting to the network without a formal connection agreement, which contravenes the legislation. Conversely there is no accreditation for battery installers.

Metering competition is being driven nationally by the AEMC through the Power of Choice reforms, based on their premise that competition will provide a better outcome for customers. However, many of the safety benefits of the existing AMI network would be at risk under a competitive metering regime. For this reason, the Victorian Government decision to continue the existing metering arrangements in Victoria until at least 1 January 2021 is welcome. Future transition to metering competition must consider the potential erosion of these safety benefits against the potential benefits of metering competition.

Acronyms

Acronym	Definition
AER	Australian Energy Regulator
ALARP	As Low As Reasonably Practicable
AMI	Advanced Metering Infrastructure
AS/NZS	Australian Standard/New Zealand Standard
BFMP	Bushfire Mitigation Plan
BOM	Bureau of Meteorology
DEWLP	Department of Environment, Land, Water and Planning
DNSP	Distribution Network Service Provider
ELCMP	Electric Line Clearance Management Plan
ESC	Essential Services Commission
ESI	Electricity Supply Industry
ESMS	Electricity Safety Management Schemes
ESV	Energy Safe Victoria
ETU	Electrical Trades Union
HSE	Health Safety and Environment
MOU	Memorandum of Understanding
OHS	Occupation Health and Safety
REFCL	Rapid Earth Fault Current Limiter
UE	United Energy
VBA	Victorian Building Authority
VESI	Victorian Electricity Supply Industry