Our Reference SAC17_043

5 May 2017

Dr Paul Grimes
Secretariat, Review of Victoria's Electricity Network Safety Framework
Department of Environment, Land, Water and Planning
PO Box 500
Melbourne VIC 8002

Electronic submission: delwp.secretariat@delwp.vic.gov.au

Dear Dr Grimes

REVIEW OF VICTORIA'S ELECTRICITY NETWORK SAFETY FRAMEWORK

CitiPower and Powercor Australia welcome the opportunity to provide additional information to the Department of Environment, Land, Water and Planning (**DELWP**), to further support our submission, dated 28 April 2017, regarding the Review of Victoria's Electricity Network Safety Framework.

This letter provides further substantiation and evidence, as detailed in Appendix A, particularly in relation to the following key points highlighted in our submission:

- the safety framework is operating well and promotes a strong safety culture in our business, demonstrated by our continued improvement in key safety metrics. The largest area of cultural risk in the current framework is in relation to third party's interacting with our network;
- an outcomes-based approach to safety regulation is the most efficient way to achieve safety outcomes. A consistent and comprehensive benchmarking framework should be implemented across the industry to monitor safety outcomes;
- prescription-based approaches to regulation stifle innovation and increase costs to consumers. Risk-based asset management approaches should be more widely adopted to enable more quantitative comparison of the trade-off between safety risk and affordability;
- an effective outcome-based approach to safety regulation involves clearly defined and separated roles and responsibilities of DELWP as the policy maker and the Energy Safe Victoria (**ESV**) as the independent safety regulator;
- it is essential that regulatory instruments and processes that impact on the delivery of safety outcomes are aligned;
- as the electricity network interacts with more contestable services in future, the same safety standards should apply irrespective of the party undertaking the work; and

- reporting requirements can be streamlined to reduce administrative costs and ensure there is a tangible benefit to safety outcomes.

Should the Secretariat have any queries regarding this submission, please do not hesitate to contact Matt Thorpe (03) 9683 4357, or mthorpe@powercor.com.au.

Yours sincerely,

Steven Neave
General Manager Electricity Networks

Appendix:

A. Additional information to support the Review of Victoria's Electricity Network Safety Framework

Appendix A
To ref SAC17_043
Dated 5 May 2017

ADDITIONAL INFORMATION TO SUPPORT THE REVIEW OF VICTORIA'S ELECTRICITY NETWORK SAFETY FRAMEWORK

1.1 Safety culture and engagement of the workforce

The current safety framework with its outcomes based approach promotes a safe culture and engages the workforce to be active participants in creating a safe workplace and a safe electrical distribution service to our communities.

Our safety culture and performance compare well to other states and industries in Australia and show continued trends of improvement. We have embedded a safety culture within our day to day operations. Our workforce, at all levels, is highly engaged with our core value of 'Live Safely'.

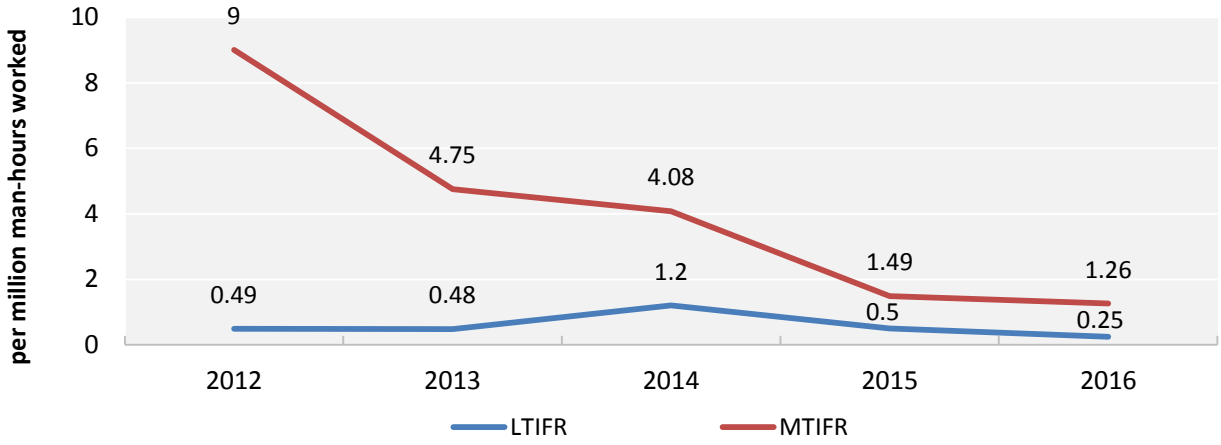
We are constantly improving our safety practices:

- In 2015, we tightened our internal safety targets and introduced a safety leadership and engagement program for our senior management.
- In 2016, our Health, Safety and Environment (**HSE**) team delivered the 'Stop. Think & Drive' Expo across deports and offices. We partnered with the Transport Accident Commission (**TAC**) to reinforce messaging on driver safety.
- In 2016, we completed 18 'Bow Tie' assessments. The 'Bow Tie' assessments identify: potential causes of 'critical moments' (the moment when control is lost over a hazard); controls for preventing critical moments; and controls for minimising consequences associated with loss of control.

Notably, our safety performance is improving without compromising our record as one of the most cost-efficient electricity distributors in Australia and offering among the lowest network tariffs in Australia. This is testament to the current outcomes-based approach to electricity safety in Victoria, which provides us with the flexibility to manage risks at least cost to consumers.

Employee safety
Our incident rates demonstrate this strong culture. Figure 1 shows our Lost Time Injury Frequency Rate (**LTIFR**) and Medical Treatment Injuries Frequency Rate (**MTIFR**) which are both trending and are now well below comparable industry benchmarks.

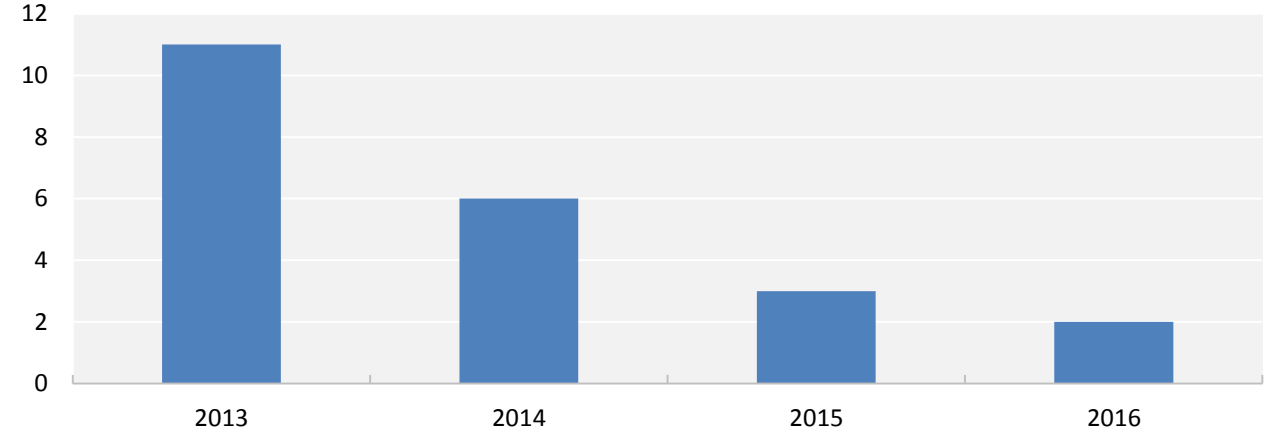
Figure 1 Employee injury frequency rates for Lost Time and Medical Treatment, CitiPower and Powercor (LTIFR and MTIFR)



Source: CitiPower and Powercor.

The number of significant incidents has also declined over the past four years, as Figure 2 shows. These are classed as incidents that have resulted in or have the potential to cause serious injury or fatality.

Figure 2 Number of significant incidents, CitiPower and Powercor, 2013 to 2016

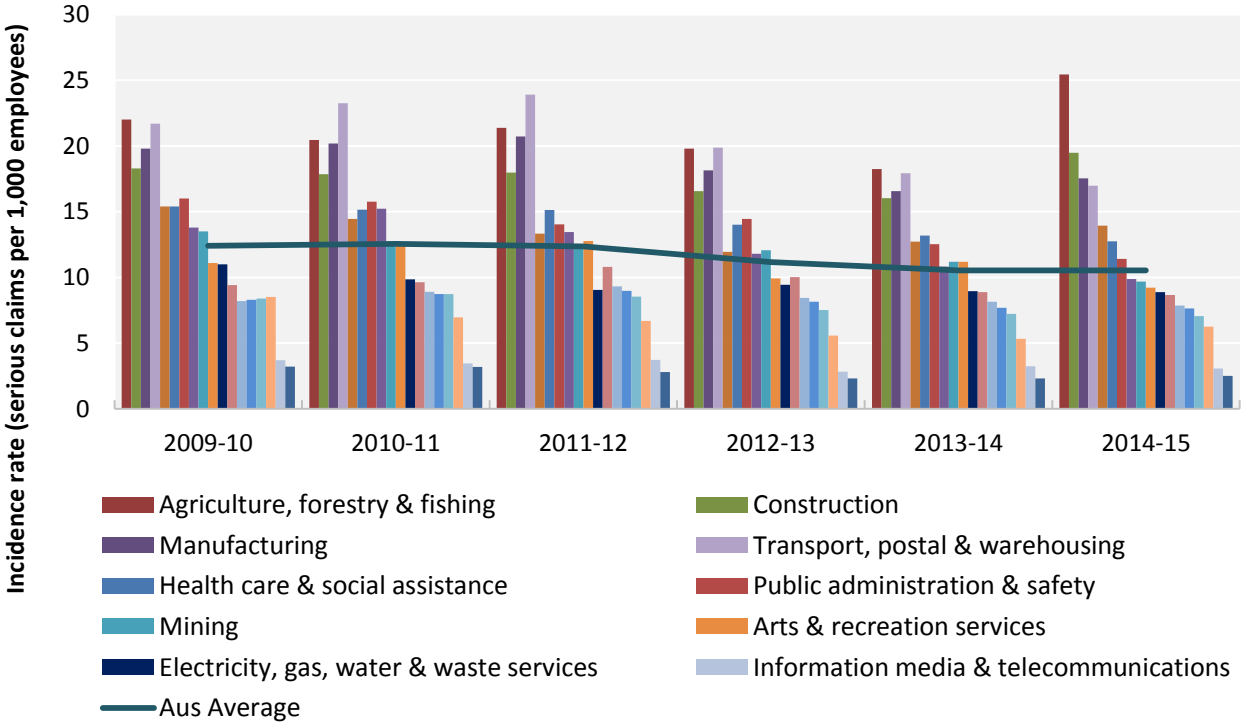


Source: CitiPower and Powercor.

Figures 3, 4 and 5 provide comparative safety performance measures for a range of employment sectors.

The electricity, gas, water and waste services industry incident rates (serious claims per 1,000 employees) have been lower than the Australian industry average over the six years from financial year 2009-10 to 2014-15 and are slightly declining (Figure 3).

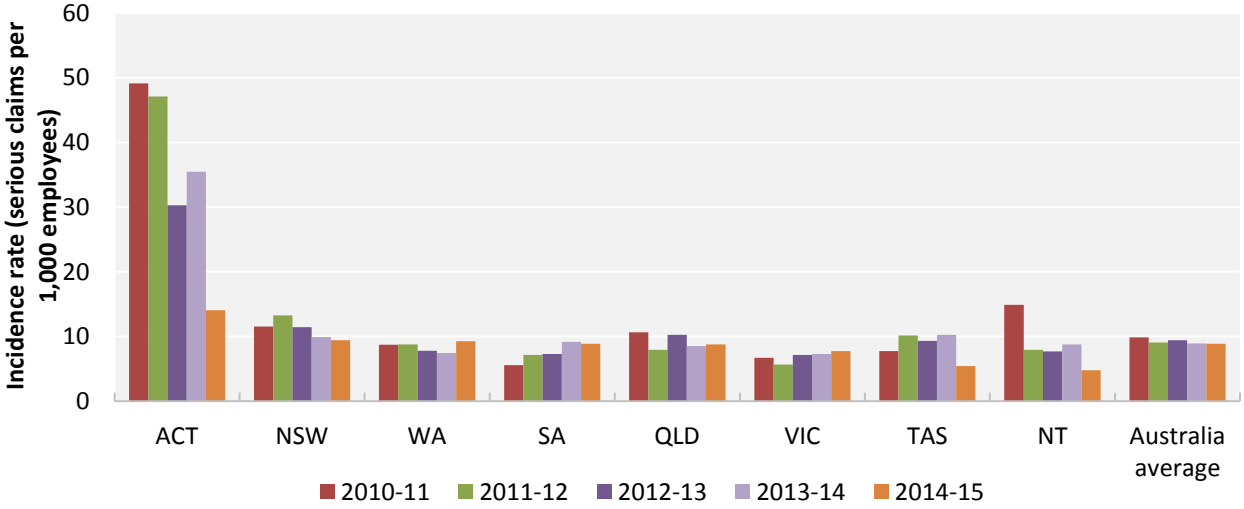
Figure 3 Incident rates of serious claims for selected industries, 2009-10 to 2014-15, Australia



Source: SafeWork Australia website, www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/cpm-18.

Within the electricity, gas, water and waste services industry, Victoria is performing better than the other major states with a rate of series incidents lower than the Australian average (Figure 4).

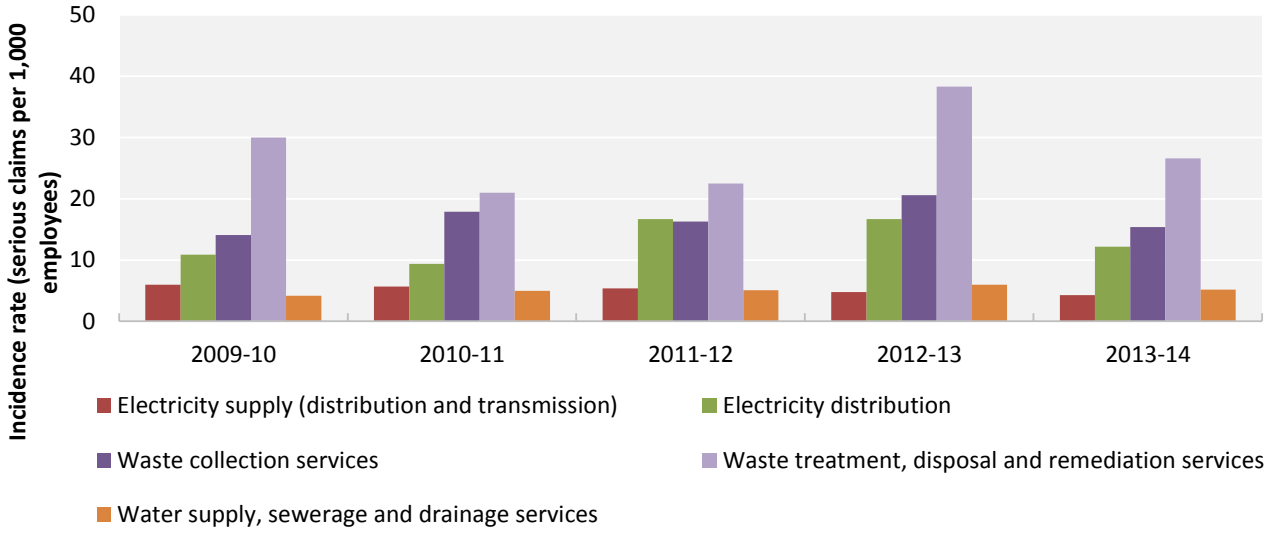
Figure 4 Incident rates of serious claims for the electricity, gas, water and waste services industry by state, 2010-11 to 2014-15



Source: SafeWork Australia website, www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/cpm-18.

Figure 5 shows serious incident rates for the utility sectors of electricity, gas, water and waste services. The electricity distribution sector has lower incident rates than waste collection and treatment, with a downward trend since 2012.

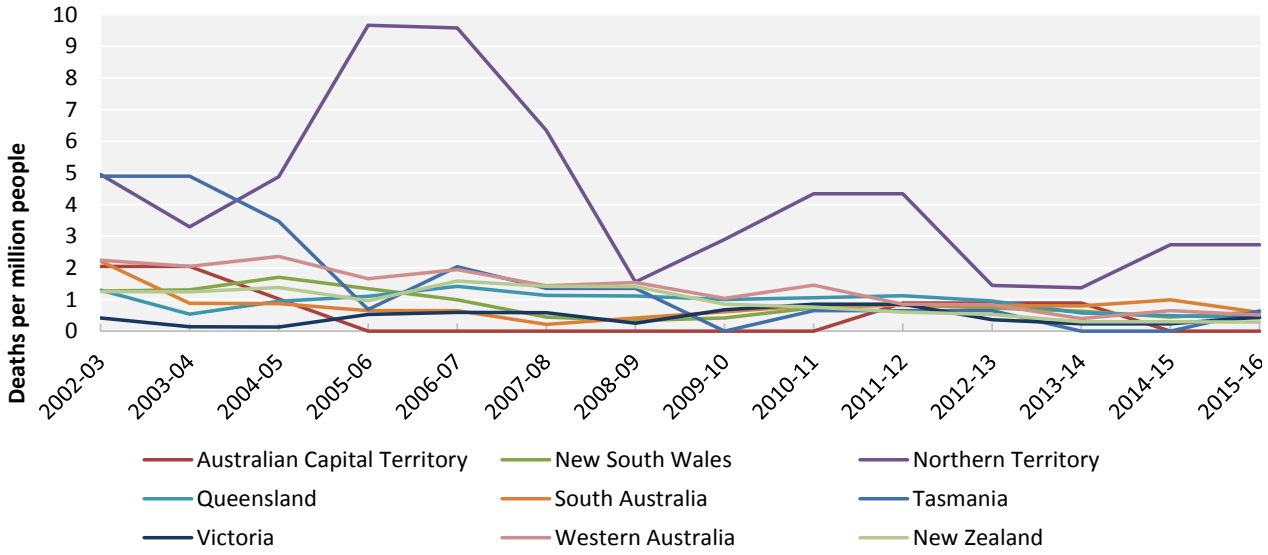
Figure 5 Incident rates of serious claims, breakdown of the electricity, gas, water and waste services industry, 2009-10 to 2013-14



Source: SafeWork Australia website, www.safeworkaustralia.gov.au/sites/SWA/Statistics/.

Figure 6 shows electrical related death and demonstrates that the number of electrical deaths has remained relatively low in Victoria over the past 15 years, among the lowest compared to other Australian States and New Zealand. The majority of electrical fatalities have been due to third party interactions. At CitiPower and Powercor, all deaths involving our network have been beyond our reasonable control. As indicated above, they have all involved third party interactions with our network, and we would expect this to be similar for other distribution businesses in Victoria. The data below does not include fatalities from electrically initiated fires, particularly Black Saturday in 2009.

Figure 6 Trend in electrical deaths (three year moving average)



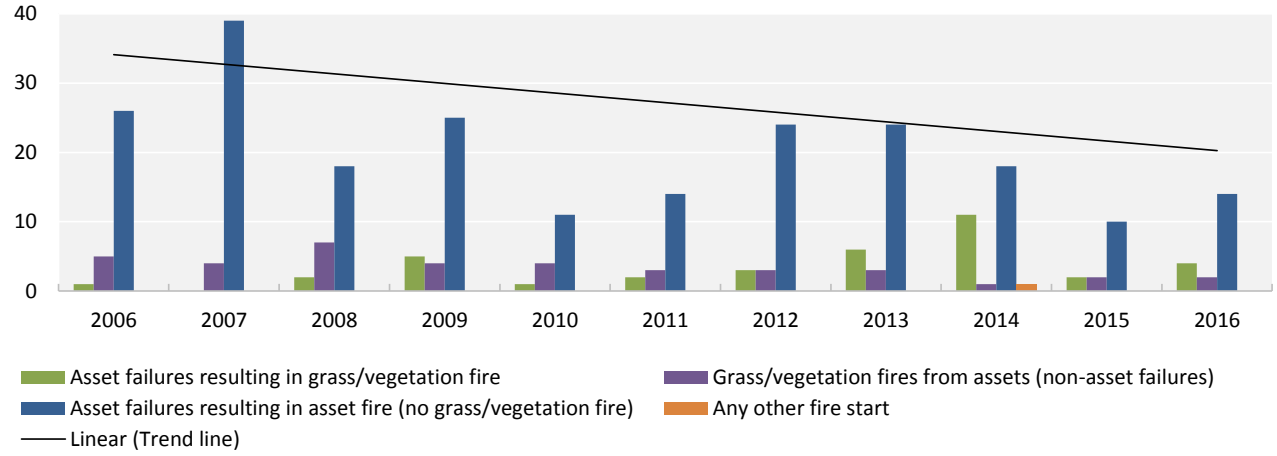
Source: Electrical Regulatory Authorities Council (ERAC), Electrical Fatal Incident Data, Australia & New Zealand 2015 – 2016.

Fire starts

Our CitiPower and Powercor fire start statistics are trending down, as shown in Figures 7 and 8. Fire starts from our network assets are caused by a multitude of factors, including many beyond our control, particularly weather conditions. It is therefore considered unreasonable to

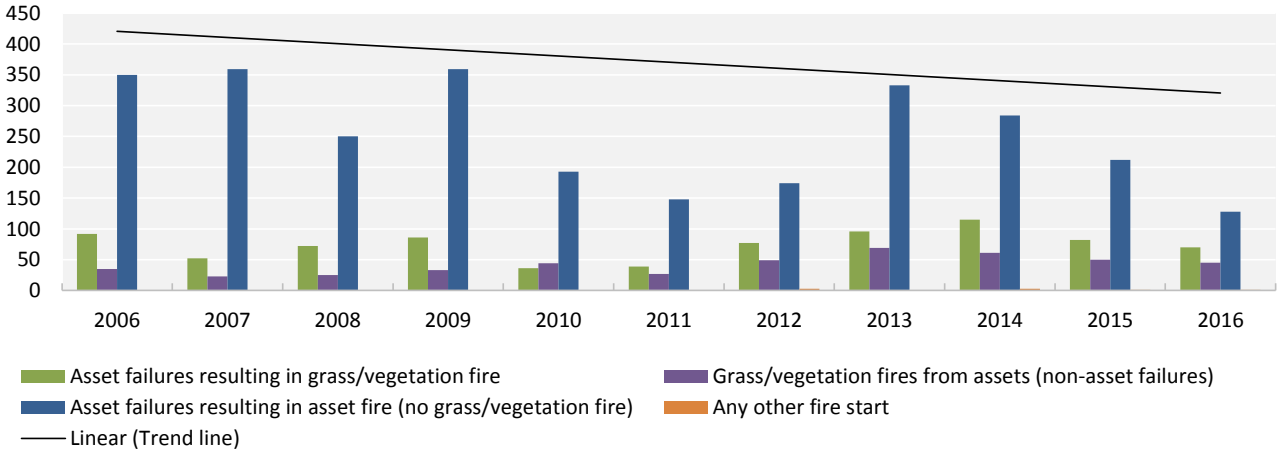
expect to remove the risk entirely, as the cost of to do so would be disproportionate to the benefit to customers. Rather we remain committed to implementing initiatives to reduce fire starts across our network, where reasonable cost solutions can be identified. It is these initiatives that have led to this sustained downward trend over the last 10 years.

Figure 7 CitiPower fire starts by category, 2006-2016



Source: CitiPower and Powercor.

Figure 8 Powercor fire starts by category, 2006-2016



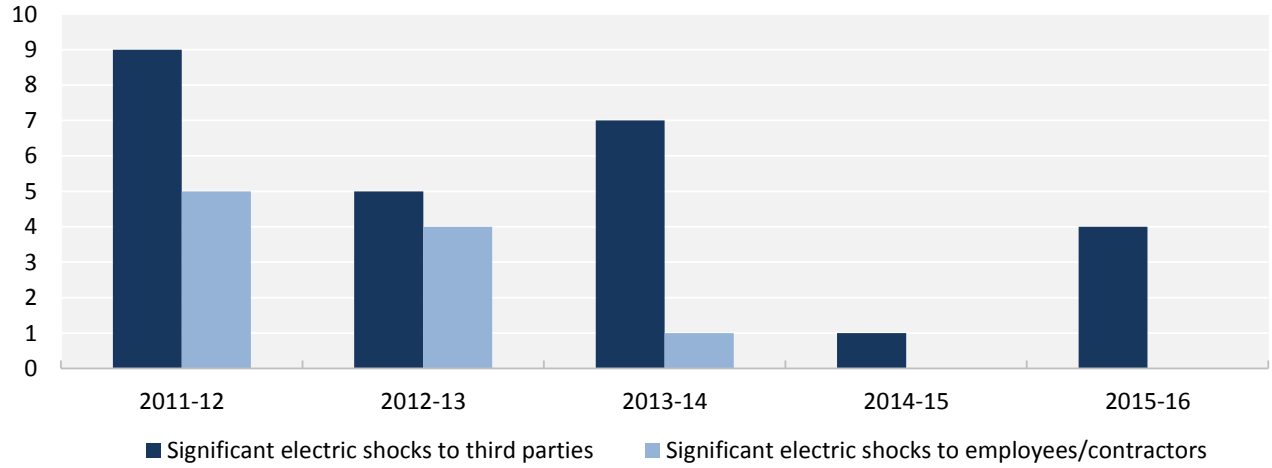
Source: CitiPower and Powercor.

Third party activities

The areas of the industry we see at most risk from a suboptimal safety culture are those involving third parties working near our network. It is this network interaction with third parties that we recommend ESV, and the safety framework, should focus on in order to improve community safety outcomes.

Figure 9 shows the comparison in significant electric shocks between our employees and contractors, and third parties.

Figure 9 Significant electric shocks to third parties and employees/contractors, 2011-12 to 2015-16



Source: CitiPower and Powercor.

Contact to overhead lines has caused 90 per cent of deaths associated with the electricity supply networks from 2000/01 – 2015/16, according to the Electrical Regulatory Authorities Council (**ERAC**) Electrical Fatal Incident Data 2015-16 report[1].

Figures 10-14 demonstrate trends in third party interactions and contact with our network assets.

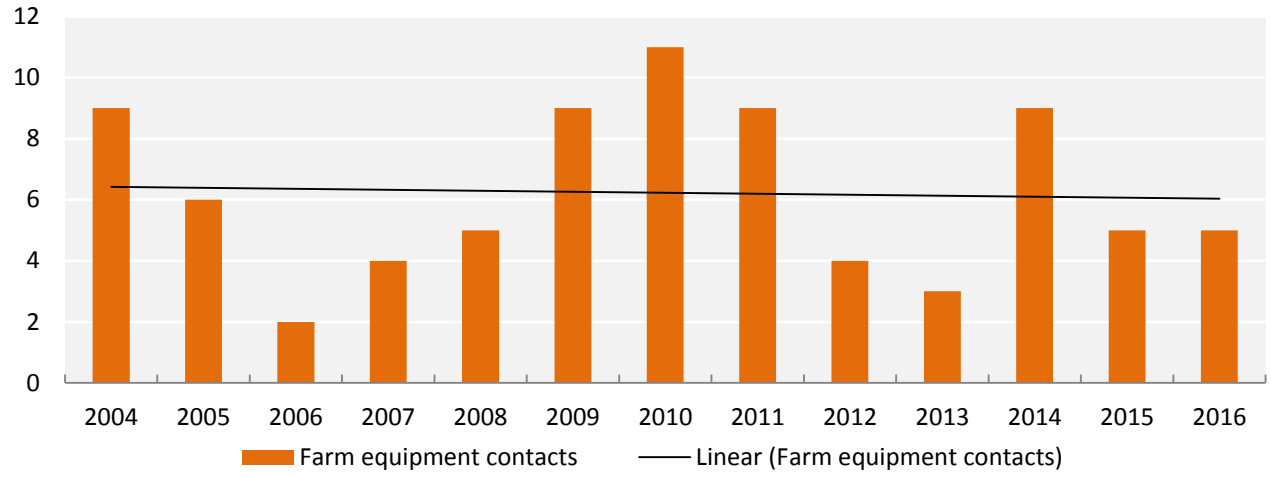
The trend in contacts from farm equipment is relatively constant (Figure 10), and we are working with the community to improve those results. We have attended and exhibited at 16 farm field day events since 2011, promoting the importance of working safely in the vicinity of overhead lines. The following areas have been visited, many on multiple occasions:

- Elmore (50,000 people)
- Longerenong (25,000 people)
- Speed (Mallee machinery – 10,000 people)
- Allansford (Sungold – 8,000 people) (CP-PAL won the award for best OHS exhibit)
- Hamilton (Sheepvention- 10,000 people)
- Mildura (15,000 people)
- Rochester road and farm safety day (1,200 primary students)

In addition to our managed exhibits, we have also attended field days in partnership with ESV, which has promoted the common safety message to local communities of Elmore and Speed.

[1] ERAC, Electrical Fatal Incident Data, Australia & New Zealand 2015 – 2016, p.2.

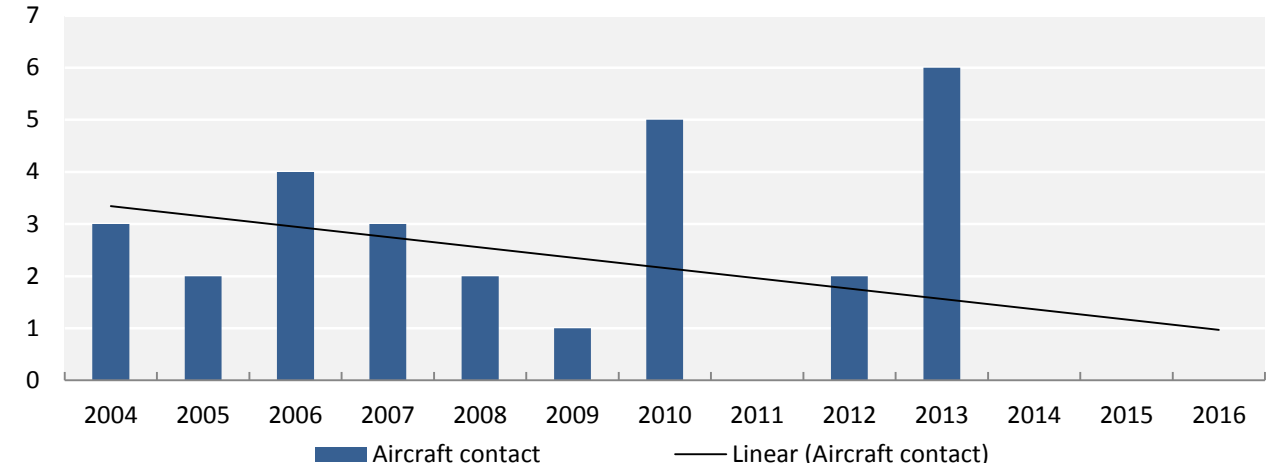
Figure 10 Farm equipment contacts, 2004 to 2016



Source: CitiPower and Powercor.

Figure 11 demonstrates a decline in the number of aircraft contact incidents with our networks.

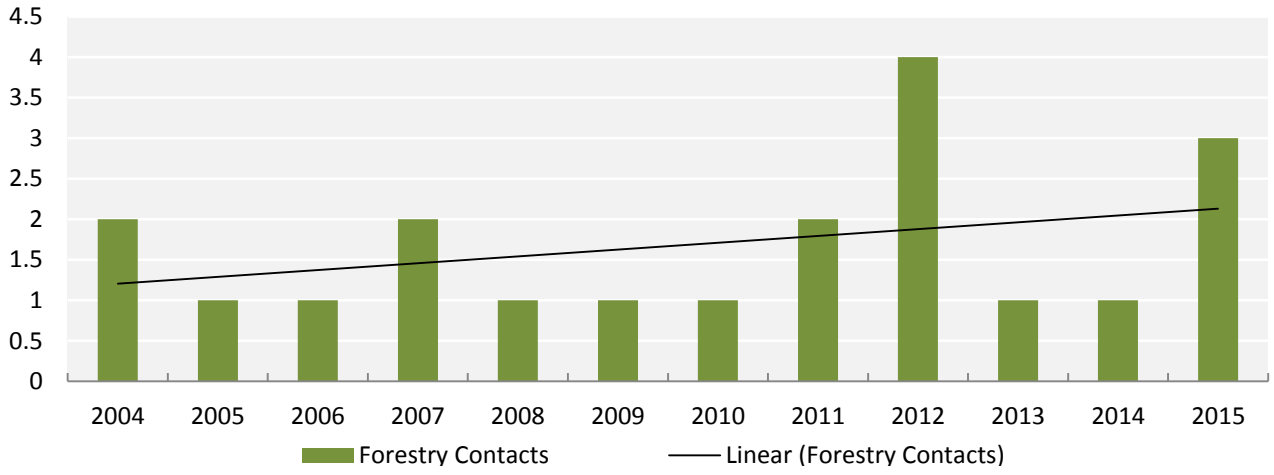
Figure 11 Aircraft contacts, 2004 to 2016



Source: CitiPower and Powercor.

The number of forestry contacts with overhead lines has been relatively steady (Figure 12) but would benefit from further review by ESV.

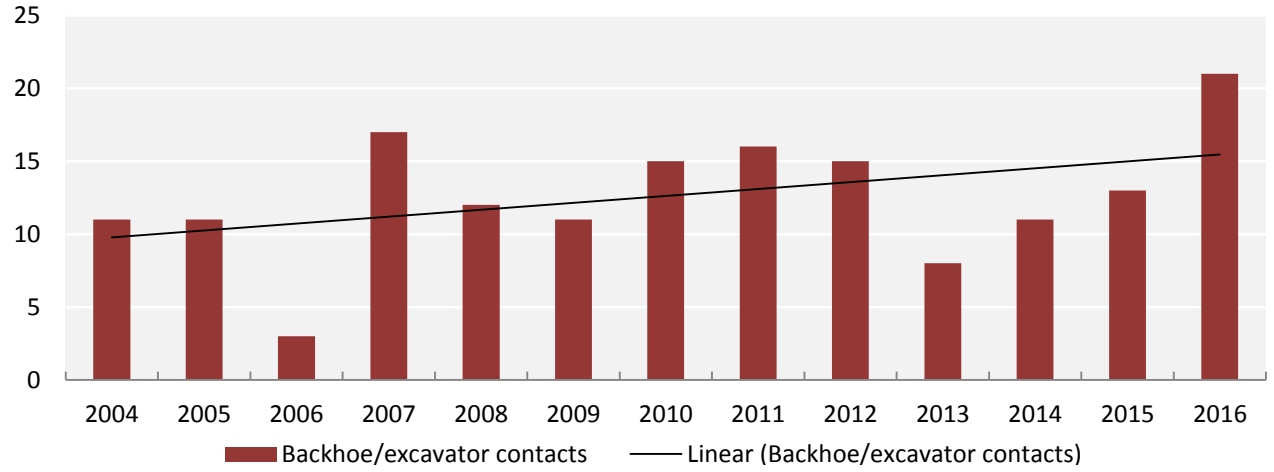
Figure 12 Forestry contacts, 2004 to 2016



Source: CitiPower and Powercor.

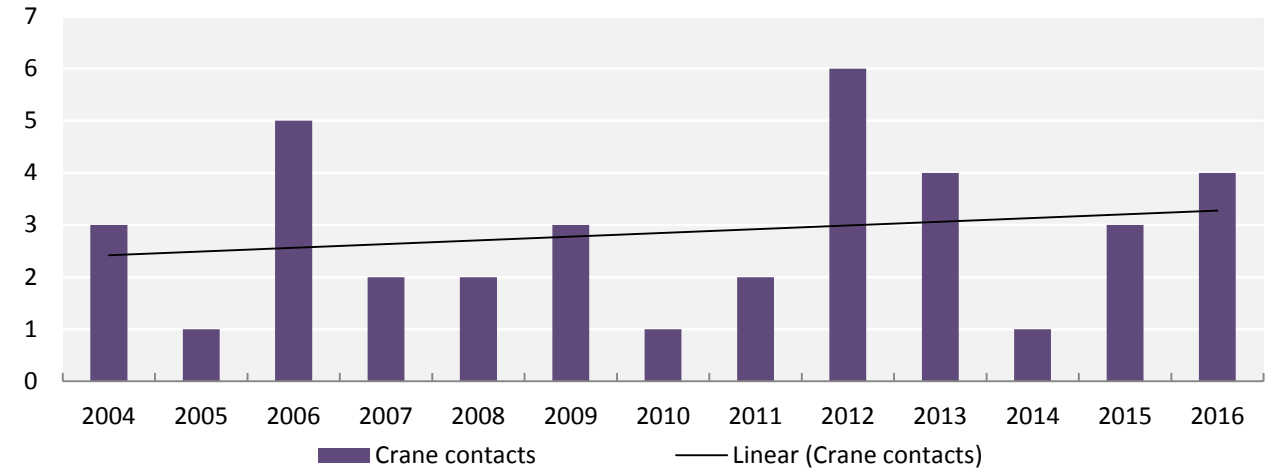
Figures 13 and 14 show that there is an increasing trend in construction related incidents. This is particularly related to underground contacts from backhoes and excavators, as well as crane contacts with our overhead lines. One pleasing trend in the CitiPower and Powercor area is the increased rate of 'Dial Before You Dig' (DBYD) requests. Although the incident volume is increasing, when converted to a rate compared to DBYD requests it is a relatively steady incident rate.

Figure 13 Backhoe/excavator contacts, 2004 to 2016



Source: CitiPower and Powercor.

Figure 14 Crane contacts, 2004 to 2016



Source: CitiPower and Powercor.

Third parties in contact with our electrical assets is a significant risk and we endeavour to assist the community in mitigating these safety risks where possible. More should be done by ESV to drive change and regulate safety of third parties interacting with electricity network assets. This should be particularly focused on the construction industry where the level of activity and the number of safety incidents are growing and incidents are disproportionately high in comparison to electrical distributors.

1.2 Outcomes-based approach to safety regulation

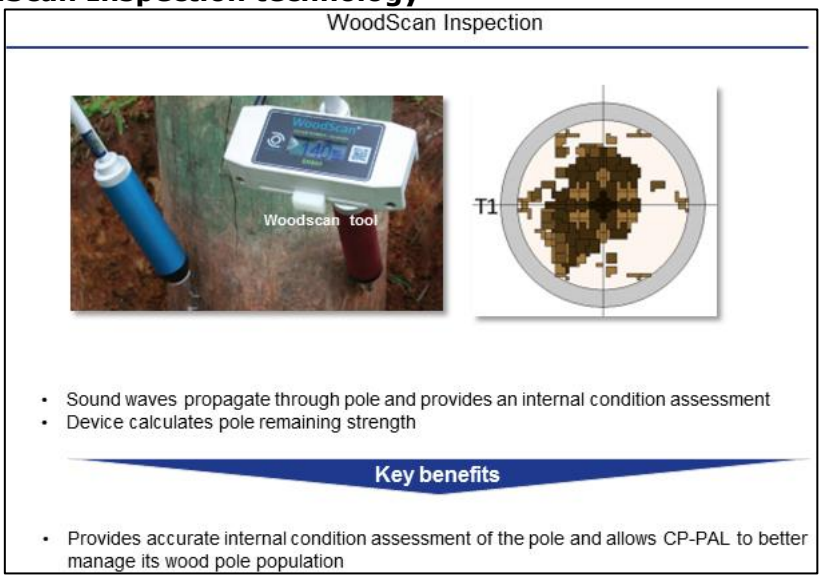
Outcomes based regulation drives efficiency and innovation

We support retaining an outcomes-based approach to safety regulation. Outcomes-based regulation is at the core of the Victorian safety regulation framework and is already delivering safe outcomes for Victorian customers at an efficient cost.

Under this approach, NSPs use their own assessment methods and risk profiles to determine the safety risk on their network. The NSPs then find and deploy the most cost effective engineering solution that allows them to minimise that risk and reach acceptable safety and reliability standards. Additionally, under the incentive-based framework for economic regulation, NSPs are encouraged to find cost-effective solutions, including for achieving safety outcomes, sharing efficiency savings with their customers. Outcomes-based regulation, therefore, leads to the appropriate safety outcomes being achieved at the lowest cost to customers.

Outcome-based regulation drives innovation and development through pursuit of cost-efficiencies. For example, we are currently exploring more effective non-destructive testing methods for poles, which will provide more accurate condition ratings for the whole pole, not just the base. These methods will assist in minimising human errors or limitation in current traditional inspection techniques, such as drilling poles. Figure 15 summarised the potential technology and its benefits. The WoodScan method is expected to lead to both cost savings and a reduction in safety risks from pole failures as it will more accurately assess the internal structural condition of the pole.

Figure 15 WoodScan Inspection technology



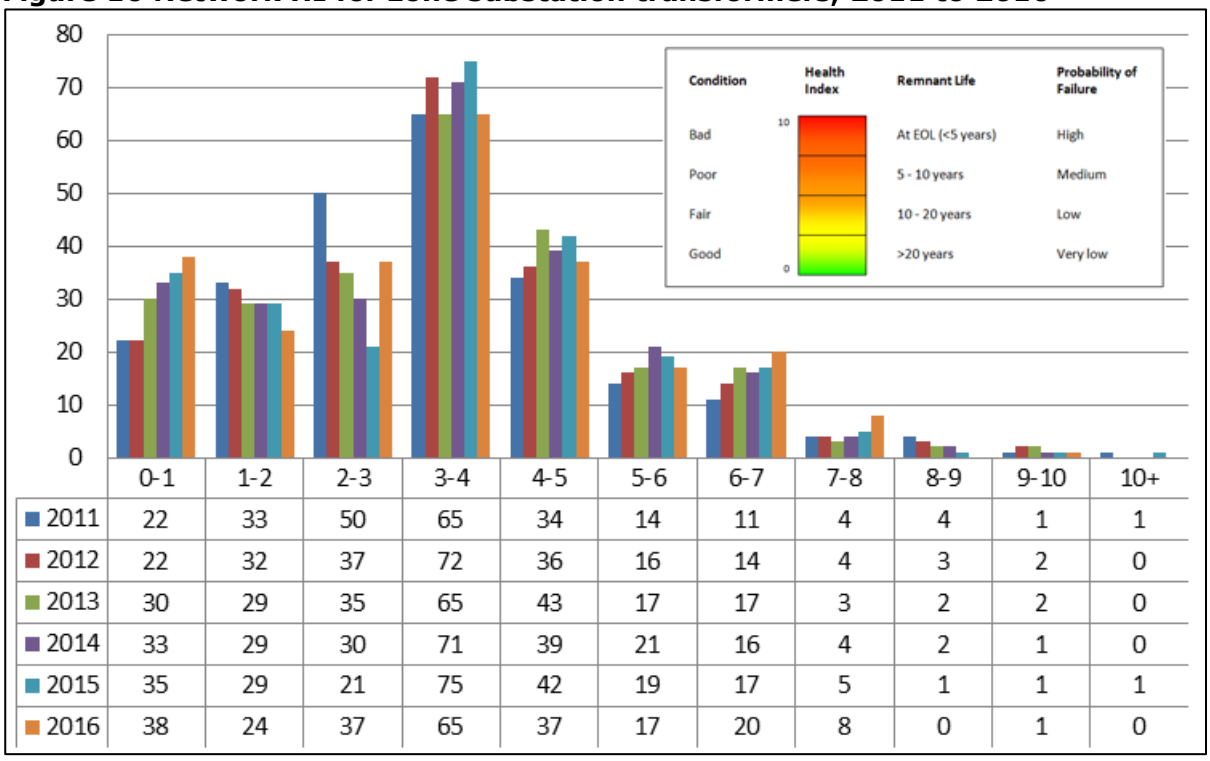
Benchmarking safety outcomes

We support the principle of using benchmarking to measure and monitor safety performance. Benchmarking can be used as a comparative analysis of both outcomes and underlying factors affecting safety risks. For example, in 2016, Ofgem, the government regulator for gas and electricity markets in Great Britain, introduced a Common Network Asset Indices Methodology, which was developed in cooperation with the distributors, to measure the health indices of network assets on equal basis in order to compare their safety risks.

Currently, CitiPower and Powercor measure the Network Health Index (**HI**) using Condition Based Risk Management (**CBRM**) methodology for zone substation transformers. Figure 16 demonstrates HI trends for zone substation transformers since 2011. HIs are used to monitor the status and condition of key items of plant over time and represents the extent of degradation as follows:

- low values of HI (in the range 0 to 4) represent some observable or detectable deterioration at an early stage. This may be considered as normal ageing i.e. the difference between a new asset and one that has been in service for some time but is still in good condition. In such a condition, the Probability of Failure (**PoF**) remains very low and the condition and PoF would not be expected to change significantly for some time;
- medium values of HI, in the range 4 to 7, represent significant deterioration, degradation processes starting to move from normal ageing to processes that potentially threaten failure. In this condition, the PoF, although still low, is just starting to rise and the rate of further degradation is increasing; and
- high values of HI (>7) represent serious deterioration, advanced degradation processes now reaching the point that they actually threaten failure. In this condition the PoF is significantly raised and the rate of further degradation will be relatively rapid.

Figure 16 Network HI for zone substation transformers, 2011 to 2016



	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10+
2011	22	33	50	65	34	14	11	4	4	1	1
2012	22	32	37	72	36	16	14	4	3	2	0
2013	30	29	35	65	43	17	17	3	2	2	0
2014	33	29	30	71	39	21	16	4	2	1	0
2015	35	29	21	75	42	19	17	5	1	1	1
2016	38	24	37	65	37	17	20	8	0	1	0

Source: CitiPower and Powercor.

Benchmarking should, however, only be used to compare networks' safety performance if:

- benchmarks are based on safety outcomes rather than inputs;
- the outcomes measured are within the control of networks and not influenced by external factors;
- the data used are comparable across networks; and
- the benchmarking results are interpreted taking into account the quality and comparability of the underlying data.

The ESV should establish a benchmarking framework through a comprehensive process of industry consultation and with reference to similar models such as those managed by the Australian Energy Regulator (**AER**).

1.3 Balancing outcomes-based and prescriptive regulation

An outcomes based approach allows reasonable flexibility for NSPs to implement the most cost effective solution and achieve both good safety outcomes and cost-efficiencies. In recent years regulation has become more prescriptive, particularly in relation to implementing the findings of the Victorian Royal Bushfire Commission (**VBRC**). A continued trend towards more prescription-based regulation will unnecessarily increase costs to customers, discussed below.

Prescription-based regulation should be limited

Prescription-based regulation includes directives and measures for NSPs to implement, with limited scope for divergence. It includes presupposed solutions which act as a natural barrier to innovation. The absence of innovation inherently leads to inefficiencies in the network and higher costs to consumers in the long term.

Prescribing the method for achieving safety outcomes leads to both static and dynamic network inefficiencies, by effectively locking in certain technologies or network configurations and limiting the ability of networks to evolve over time. The complex dynamics of the electricity network, and the different environments that the businesses operate in, limit the cost-effectiveness of the prescribed measures such as a broad one-size-fits-all solutions. Policy makers are not well placed to identify the optimal engineering solutions for a given network, as they do not have detailed knowledge of network characteristics and configurations.

An example of the types of inefficiencies that can arise from prescription-based safety regulation is provided in the case study below.

Prescriptive regulation should, therefore, be limited. Nevertheless, if prescription-based approaches are employed it is crucial some level of flexibility is provided for NSPs to seek deviations from the specific requirements through exemptions. The safety regulator should be empowered to provide exemptions where NSPs can demonstrate the same level of safety outcomes can be achieved at a lower cost to customers or where NSPs face unforseen challenges in implementation which present no additional performance risk. This should be the case particularly when severe penalties of non-compliance apply, such as the proposed Bushfire Mitigation Civil Penalties Scheme[2].

The procedure of obtaining an exemption should be reasonably straightforward, to minimise the associated administrative and financial cost. However, even if exemptions are available, the preferred approach to regulation is one that offers flexibility through an outcomes-based approach, with limited prescriptive measures.

[2] On 7 February 2017, the Victorian Government introduced a bill into Parliament to amend the Electricity Safety Act 1998. The proposed amendment—the Bushfire Mitigation Civil Penalties Scheme—includes financial penalties of up to $2 million per point for any difference between the total number of required substation points prescribed in the Amended Bushfire Mitigation Regulation and that actually achieved. The scheme also includes a daily penalty up to $5,500 per point for each day that a contravention with the Amended Bushfire Mitigation Regulations continues.

Case study - Electricity Safety (Bushfire Mitigation) Amendment Regulations 2016

Background

On 1 May 2016, the Victorian Government passed the Electricity Safety (Bushfire Mitigation) Amendment Regulations 2016 (**Amendment Regulations**). The Amendment Regulations require the installation of Rapid Earth Fault Current Limiters (**REFCLs**) at zone substations which service High Bush Fire Risk Areas (**HBRA**) in Victoria. The installation of REFCLs at zone substations requires significant investment in the reconfiguration of the zone substations and necessitates additional network hardening works to ensure assets can withstand the over-voltages that will occur when a REFCL operates.

Prescriptive regulation

The Amendment Regulations specify the specific names and GPS coordinates of the zone substation locations at which REFCLs must be installed. As a consequence of the level of prescription regarding the location of REFCLs, we cannot employ lower cost solutions which would achieve the same outcome.

Example 1 – Waurn Ponds (WPD) zone substation

Our WPD zone substation predominantly services Low Bushfire Risk Areas (LBRA) but also has **one** feeder which traverses both LBRA and HBRA. We have published plans to build a new zone substation at Torquay and intend to switch the feeders servicing HBRA areas from WPD to Torquay zone substation. Once Torquay is operational there will be no need to build a REFCL at WPD as no feeders from WPD will service HBRA areas. However, even with the new Torquay zone substation, the Amendment Regulations require us to build a REFCL at WPD.

A potentially more efficient engineering solution may involve not installing a REFCL at WPD, given that in future it will not service any HBRA, and instead:

1) only install a REFCL at Torquay.
2) locate the REFCL on the feeder/s which service HBRA downstream of the zone substation. The feeder could then be switched to Torquay without requiring additional cost to install another REFCL and undertake associated hardening works.

Example 2 - Geelong (GL) zone substation

Our GL zone substation predominately services LBRA feeders but also has a feeder which traverses HBRA. Because the Amendment Regulations specify we must install REFCLs at the GL zone substation, we must reconfigure the zone substation and undertake associated hardening works for all connected assets. A potential lower cost solution may involve installation of a REFCL downstream of the zone substation on the feeder that traverses the HBRA and only hardening the subset of assets connected to the feeder.

Consequence of prescription

In the above two examples, if the Amendment Regulations were less prescriptive regarding the geographical location of REFCL installation, alternative engineering solutions may have been employed at lower costs to customers without any change in the safety outcomes achieved.

Additionally, the REFCLs technology is provided by a single supplier globally. The prescriptive regulation requires us to only use this technology. This exposes us to risks associated with

relying on a monopolistic supplier, including potential extortions in price and quality of products and services provided.

Outcomes-based approach

An example of an outcomes-based approach would be for regulation to identify the HBRA areas where fire-risk needs to be reduced, for NSPs to identify the most cost effective engineering solution and for the safety regulator (ESV) to assess whether the NSPs proposed approach would achieve the outcomes specified in regulation and monitor that the outcomes are being achieved.

Safety and affordability trade-offs

There is a trade-off between safety risk and affordability for customers. A safety framework that requires NSPs to mitigate all safety risks to the lowest level possible without consideration of affordability would lead to higher costs to customers. Therefore, it is essential that policy makers and regulators take account of the safety affordability trade-off in their decision making.

Understanding the risk-based approaches

As described in section 1.2, we employ a risk-based approach to asset management which involves planning network maintenance and replacement programs based on the probability of asset failure and the level of reliability required. Applying a risk-based approach to asset management has enabled us to achieve safety and network reliability outcomes whilst maintaining a least cost to consumers. The AER's benchmarking demonstrates that we and other Victorian distributors are among the most efficient in Australia. It would be inefficient to move away from a risk-based approach without substantive and compelling evidence that the current approach is not delivering a safe and reliable network for our customers. A deterministic approach to asset management would increase costs to customers without proving commensurate improvements in terms of safety or reliability outcomes.

We apply best-practice CBRM and probabilistic planning (investing when there is a high probability of failure risk) for large asset replacement projects, such as zone substation transformers and switchgear. The CBRM methodology assesses the condition of assets, including age and the risk of deterioration, and uses probabilistic planning to determine the probability and consequences of failure. Smaller routine asset replacements, such as poles, pole top-equipment, cross arms, insulators and batteries, are assessed based on the principles of Reliability Centred Maintenance (**RCM**) together with regulatory obligations that are built into the asset management procedures.

Our risk based asset management approach is a core part of achieving the safety outcomes of the current risk base safety framework. There are numerous examples of asset management strategies that optimise cost, reliability and safety. The current framework allows distributors to create optimal balance of these objectives. Any shift to more prescriptive or deterministic safety programs will reduce the benefits of risk base asset management methods and will reduce outcomes in all areas.

We support ESV in its decision to increase its focus on, and understanding of, best practice risk based asset management, as stated in the 2016 Safety Performance Report on Victorian

Electricity Networks[3]. This would allow ESV to better interpret the business's risk-assessments and efficient investment decisions, and the consistency in safety performance results between businesses. Understanding the decision-making behind investment would remove the ambiguity of the businesses' safety approach, and prevent potential directions that would require the inefficient replacement of assets under an implementation of predetermined programmes. Additionally, it would allow ESV the possibility to review and endorse the approach taken in the development of safety programmes, and provider greater confidence of the efficiency of investment to the AER.

1.4 Roles and responsibilities

Under the current Victorian safety regulation framework, DELWP is responsible for providing policy direction and legislation on energy safety, while ESV is the safety regulator that administers these directions. However, DELWP also provides support for the corporate oversight of ESV, and is responsible for delivering some electricity safety programs, including the PBSP. Effectively, ESV is partially dependent on DELWP and is not the exclusive administrator of safety programmes.

An effective outcome–based approach to safety regulation involves the following roles and responsibilities:

- the policy maker (DELWP and the Victorian Government) specifying through regulation the desired safety outcomes to be achieved;
- NSPs assessing and implementing the engineering solutions which best achieves the safety outcome at an efficient cost for customers;

  the safety regulator (ESV) ensuring that NSPs achieve the safety outcomes specified in regulation through assessing and approving NSPs proposed approach for achieving safety outcomes (i.e. assessing NSPs' Electricity Safety Management Scheme), monitoring safety outcomes and enforcing safety breaches. As recommended above, benchmarking of safety outcomes by ESV would further enhance this monitoring role, as well as potentially enable the development of an incentives scheme for safety performance improvement; and
- the AER ensuring NSP are appropriately funded and incentivised to achieve safety outcomes at efficient cost.

We recommend strengthening the role of ESV as the regulator and enforcer of the rules, with DELWP focusing on defining policy and safety outcomes rather than defining methods or solutions.

The ESV should also collaborate closely with WorkSafe on the regulation of the No Go Zone (**NGZ**) safety, as their responsibilities are currently shared. ESV provides guidelines for NGZ safety and measures performance outcomes, while the framework is owned by WorkSafe.

Consultation
The Victorian energy safety framework should prioritise efficiency in safety regulation and the long-term benefit to consumers, while keeping the safety standards high. In determining legislation and regulation changes, the most robust assessment of all its impacts and the necessary level of prescription is achieved through effective consultations with the businesses

[3] ESV, 2016 Safety Performance Report on Victorian Electricity Networks, p. 17, 30 September 2016.

and key stakeholders during the Regulatory Impact Statement (**RIS**) development process, and through on-going formal and informal consultation and communication between ESV, DELWP, the network businesses and other key stakeholders.

An example of a well-functioning formal consultation process is the rule change consultations conducted by the Australian Energy Market Commission (**AEMC**). This process, and the additional formal and informal consultations, can be used to determine the best division of capabilities and/or risk assessments for the presented problems, as they may not be clear to the rule makers at the time of making a decision. Increasing awareness and understanding is more likely to lead to an appropriate balance between risk-based and prescriptive regulation. As the REFCLs example shows, if a better balance was achieved between the high performance standards and allowance of flexibility in developing solutions to reach those standards, the final result would have been more efficient.

1.5 Alignment of regulatory instruments

It is essential that regulatory instruments and processes which impact on the delivery of safety outcomes are aligned, for example:

- NSPs operate under a revenue cap, which is determined by the AER every five years. To reduce uncertainty regarding NSPs regulatory obligations, reviews of safety regulations would ideally occur before NSPs are required to submit their revenue forecasts to the AER (e.g. the Electric Line Clearance Regulations).
- NSPs are subject to the Victorian Electricity Distribution Code (**EDC**) which is administered by Essential Services Commission (**ESC**). There is no clear process or responsibility for ensuring the technical standards in the EDC are aligned with changes in safety regulations. The separation of the technical standards from the responsibility of the safety regulator is not conducive to consistent regulation and therefore we recommend technical standards be administered by ESV, rather than ESC.

1.6 Adapting to the electricity network of the future

Contestable services such as the installation and operation of distributed energy resources and metering services have serious electrical safety risks, particularly through their interaction with the distribution network. It is important that the same level of safety regulation applied to NSPs is also applied to contestable service providers. The policy objective should be to achieve a certain level of safety outcomes irrespective of the party providing the service.

For example, in our submission to DELWP's Options Paper on the Transition to Metering Competition in Victoria[4], in order to maintain the safe installation of meters in Victoria we recommend:

- metering installers require specialist training and competency assessments beyond basic electrical licencing;
- ESV should randomly undertake field audits; and

[4] CitiPower and Powercor, Transition to Metering Competition in Victoria, submission to DELWP's Options Paper, 11 November 2016.

- metering service providers require some level of Electricity Safety Management Scheme, accredited and regularly audited by an entity such as ESV.

1.7 Managing resources effectively

A considerable amount of data and reporting is required by ESV. There is opportunity for this reporting to be streamlined, to reduce administrative costs and ensure there is a tangible benefit to safety outcomes.

The largest reporting requirement is the development of the ESMS, and most recently the addition of the safety cases reporting. In our experience, the safety cases include very similar information to the ESMS in a summarised format. The ESMS can be amended to include an executive summary, which would remove the need for the safety cases.

Consistent with the outcomes-based approach, safety programmes of each network business will be unique. If ESV increases its understanding of the asset management practices of each business, this will assist in the interpretation of the differences between the businesses and include context in the yearly reporting of the safety performance of Victorian networks.

If benchmarking of safety performance is to be introduced, data collection and quality control will need to undergo similar scrutiny as the existing Regulatory Information Notices (**RINs**) administered by the AER, in order to maintain high-quality benchmarking. This may increase the reporting requirements on the NSPs, however, ESV can assist in this process by providing a guide to reporting that clearly defines the indicators being measured, some of which currently include some ambiguity.