

Regulation and the performance of electricity network assets

ESV is the regulator responsible for the safety and technical regulation of electricity, gas and pipelines in Victoria. The Australian Energy Regulator (AER) regulates energy markets and networks under national energy laws and rules. Its functions include, inter alia, setting the prices charged for using energy networks (electricity poles and wires and gas pipelines) and publishing information on energy markets and more detailed compliance and benchmark reports, to assist participants and the wider community.

ESV has recently published its most recent safety performance report on Victorian Electricity Networks covering the period 1 January 2015 to 30 June 2016 ([click here](#)). In compiling this report, ESV is informed by a wide range of data collected from both industry and through ESV's own audits, complaints and a wide range of publicly available information. In this regard ESV welcomes any contribution made by stakeholders to the knowledge base.

In holding businesses accountable for outcomes (be it safety, reliability, security or efficiency) best practice regulation seeks to employ a range of outcome or performance-based approaches. These approaches recognise that businesses are best placed to make the complex trade-offs and assessment of decisions involving investment, operations and maintenance, and the management of risk. The tools available to regulators to hold businesses accountable are many, but wherever possible regulators favour incentives for maximising performance. Enforcement and prosecution may, in some situations, be necessary.

Benchmarking, audit and performance reporting all play a role in ensuring regulatory oversight is effective. While the use of prescriptive regulation for trades and individuals is quite common and necessary, such as wiring rules for electricians and gas-fitting rules for plumbers, the fact that the regulatory regime does not envisage a prescriptive approach to designing, maintaining and operating a network generally means that more efficient and effective means can be pursued by businesses to manage all the risks they face.

In some special cases government determines, on behalf of the community, that a lower tolerance of risk is required. The 1 May 2016 commencement of the Electricity Safety (Bushfire Mitigation) Amendment Regulations 2016 mandated an enhanced fault detection and suppression capacity on 22 kilovolt (kV) powerlines emanating from 45 electricity distribution zone substations. The amendments also mandated heightened powerline conductor technology standards for 22 kV and single wire earth return (SWER) powerlines in 33 defined electric line construction areas, and a requirement to install new automatic circuit reclosers (ACRs) distributed across the State's regional and rural SWER network. These obligations have been geographically targeted on the basis of the highest bushfire risk and loss consequence for the state of Victoria. In the case of bushfire mitigation the performance standard is mandated, but the means is largely left to the discretion of the businesses. ESV closely monitors and reports, and if necessary enforces, compliance with these standards.

The principal method by which technical and safety regulators hold businesses accountable, be they transport or energy networks or major hazardous facilities, is through Safety Cases (SC) and/or Safety Management Schemes (SMS).

The Safety Case approach requires a business to demonstrate its capability to maintain safe operations. This normally involves the assessment and modelling of major risk scenarios, the development of structured arguments supporting the validity and appropriateness of control measures, the existence of performance standards and the means to monitoring to ensure that the control measures remain effective.

The focus of the Safety Management System approach is to describe the management systems that enable risk to be managed effectively.

Network businesses in Victoria are required to ensure the safety and reliability of their network assets.

Victoria does not prescribe through regulation the particular approach to network management, rather the regulatory regime requires that businesses demonstrate how assets are replaced maintained and operated so that they remain safe and reliable.

Distribution businesses must make decisions with respect to safety, maintenance and investment. One legal test of whether they have discharged their duty to keep people and property safe is to demonstrate that all risks have been minimised as far as practicable. This requires businesses to ensure that the balancing of effort and cost considers not only the probability of safety risk materialising, but also the consequence

ESV's role is to test, challenge and expose how well the distribution businesses are managing their networks through the assessment of Safety Cases, Electrical Safety Management Schemes and auditing for compliance with these schemes and other regulations (e.g. the Electricity Safety (Bushfire Mitigation) Regulations).

With the introduction of the safety case into its regulatory regime, ESV broadens its reach to add to its assessment of outcomes the examination of asset management practice. This approach is designed to secure assurance that the asset management practices of the businesses are sustainable over the longer term and will provide for safe and reliable network performance into the future.

The longer-term challenge for the industry is to ensure the integrity of networks to respond to the impact of climate change and any associated extreme weather conditions. ESV is working closely with government and industry to enhance the regime to ensure that new technologies are introduced and incentives sharpened to drive the change required within industry to deal with these challenges and reduce the likelihood of catastrophic bushfire caused by the electricity networks.



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