



Review of electricity distribution reliability outcomes and standards

Consultant paper on Australian and international approaches to electricity distribution reliability

The Australian Energy Market Commission released a paper by The Brattle Group on 2 February 2012 which reviews international and Australian approaches to regulating distribution reliability.

What is the purpose of The Brattle Group paper?

The AEMC is reviewing distribution reliability outcomes and standards. The Ministerial Council on Energy's terms of reference for this review included a request to provide advice on different approaches to electricity distribution reliability across Australia and international best practice approaches to delivering distribution reliability outcomes.¹ The Brattle paper has been published in response to this request.

What issues does Brattle's paper cover?

Brattle's paper summaries the approaches to distribution reliability across each of the states and territories in Australia. Brattle's paper also reviews the approaches used in the United Kingdom, New Zealand, Italy, the Netherlands, and California and New York State in the United States of America.

In reviewing each jurisdiction, Brattle has considered issues including the characteristics of the relevant electricity networks, the approach to distribution reliability, recent reliability performance, governance arrangements, potential links between the approach to reliability and recent network investment, and customer service standards.

Brattle's paper sets out key findings from its analysis of the alternative approaches to distribution reliability, as well as a comparison of the approaches used in Australia compared to other jurisdictions internationally. In addition, Brattle sets out some best practice recommendations for distribution reliability in Australia.

How does Australia compare with other jurisdictions?

Generally, the approach to distribution reliability in Australia is consistent with other jurisdictions reviewed by Brattle. However, Brattle has identified a number of key differences including:

- **Australia splits regulatory responsibility for setting distribution reliability standards from the setting of allowed revenues for distribution businesses.**
In most jurisdictions the same regulatory authority undertakes both of these tasks to provide consistency in the setting of reliability targets and in the approval of expenditure for investments to meet these targets. However, in Australia jurisdictional regulators and governments retain responsibility for setting jurisdictional distribution reliability standards, while the Australian Energy Regulator is responsible for regulating distribution revenues and prices in the National Electricity Market (NEM).
- **Some Australian jurisdictions include requirements on how distribution businesses must plan their networks, rather than just focussing on reliability performance.**
In most jurisdictions reviewed by Brattle, distribution reliability outcomes are generally driven by targets relating to the duration and number of outages, and the planning of networks to meet these targets is left to the distribution businesses. Reliability targets are also supported by an incentive mechanism to improve reliability performance.

¹ The Council of Australian Governments established the new Standing Council on Energy and Resources in late 2011 to replace the Ministerial Council on Energy.

Brattle's report concludes that approaches to regulating distribution reliability in Australia are generally consistent with international practice, with a small number of notable differences

In contrast, in some jurisdictions in Australia, the framework for distribution reliability includes requirements relating to how distribution businesses should plan their network in addition to specifying the reliability targets that must be complied with. These planning requirements include matters such as the level of redundancy that should be provided for in different parts of the network and appear to be key drivers of network investment and reliability outcomes. Distribution businesses in the NEM will also be subject to an incentive mechanism under the Australian Energy Regulator's Service Target Performance Incentive Scheme.

- **Australia's landscape and low customer density contributes to a longer duration of outages on average than in other countries that were reviewed.** Australian electricity distributors are generally meeting or exceeding their reliability standards for the average number and duration of outages. However, on average, Australian distribution networks experience a higher average duration of outages than the international jurisdictions that were reviewed. When the performance of Australian CBD areas is compared against CBD areas in European networks, the performance is generally as good or better than most reliable European distributors.

Brattle considers that this higher level of outages appears to be due to the low customer density and challenging terrain in Australia. Our population is relatively small across large terrain subject to often extreme weather and high temperatures. This means that our electricity distribution networks are interconnected by long radial lines across regional and rural Australia. These factors also contribute to Australian networks having higher costs per customer compared to other jurisdictions reviewed.

What are Brattle's best practice recommendations?

Following their review of approaches to distribution reliability, Brattle developed some high level recommendations for a best practices approach to distribution reliability in Australia. A number of these recommendations have already been implemented in jurisdictions in Australia, or are scheduled to be implemented in the near future.

Brattle's recommendations for electricity distribution reliability in Australia include:

- Detailed reporting of reliability performance should be at a sufficiently disaggregated level. This could include for example, reporting on reliability performance for each type of region.
- Reporting on reliability performance should be complemented with an incentive mechanism to improve reliability performance, which has material financial implications and two-sided incentives (that is, both bonuses for performance above agreed targets and penalties for performance below the target).
- Revenue determinations should be co-ordinated with the setting of reliability standards to provide consistency and sustainable reliability improvements over the longer term.
- Additional measures such as requirements for worst-served customers and preparations for extreme weather should also be included in the regulatory framework for distribution reliability.
- Willingness to pay studies should be considered in the setting of distribution reliability standards where possible.
- The framework for distribution reliability should focus on reliability performance, with requirements relating to network planning only used as a last resort.

What are the next steps for the review?

The Brattle Group paper will be used in this review to inform our consideration of:

- whether the current expression of distribution reliability standards in New South Wales remains appropriate; and
- whether there is merit in developing a nationally consistent framework for distribution reliability in the NEM, and if so how to develop a best practice national framework.

The AEMC's draft report for the NSW workstream will be published in May 2012. The national workstream will commence with the publication of an issues paper by July 2012.

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