



Review of electricity distribution reliability outcomes and standards

Final advice on the costs and benefits of the future level of electricity distribution reliability in New South Wales

The Australian Energy Market Commission has published its final advice on the costs and benefits of four scenarios for the future level of distribution reliability in NSW.

What is the purpose of the AEMC's advice?

The Standing Council on Energy and Resources (SCER) requested the AEMC provide advice on the costs and benefits of the future level of reliability that could be provided by electricity distribution networks in NSW.

Our final report sets out the AEMC's advice on four scenarios for distribution reliability in NSW, and examines trade offs between possible changes in distribution investment and reliability performance for each scenario. This advice provides information for the NSW Government's consideration of the reliability requirements placed on electricity distribution networks in NSW.

Summary of the AEMC's final advice on the NSW workstream

- We considered four scenarios for the future level of distribution reliability in NSW over a fifteen year timeframe from 2014/15 to 2028/29. Three scenarios provide for lower reliability outcomes, ranging from a modest reduction to a more substantial reduction in outcomes, and one scenario provides for improved reliability outcomes.
- Investment to meet the current reliability requirements in NSW, which were established in 2005, has already been committed. This has limited the potential reduction in customer bills that could occur from reducing reliability outcomes.
- Investment to maintain existing reliability requirements is also just one of the drivers of the cost of distribution services. Distribution costs, in turn, form only one component of overall electricity bills.
- The requirements for distribution reliability in NSW should be examined periodically to assess the trade off between distribution investment and reliability performance and to assess whether distribution reliability outcomes reflect the value placed on a reliable electricity supply by customers.

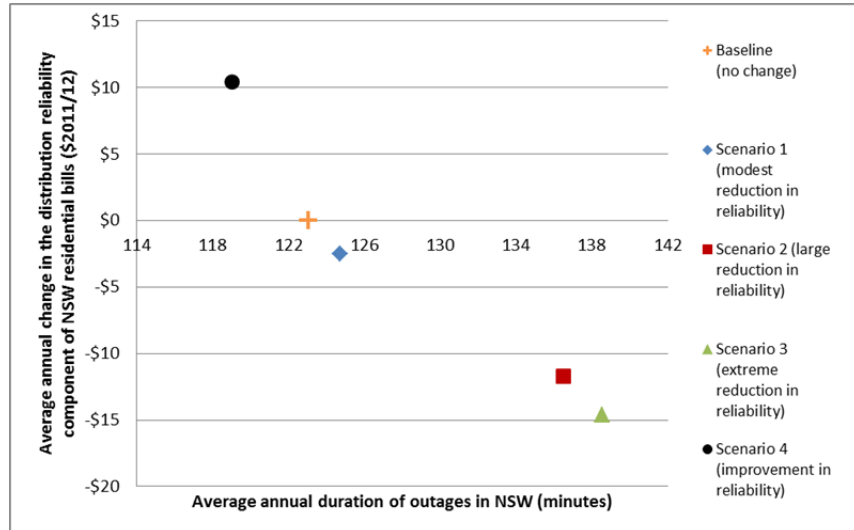
Impact on customer bills and reliability performance

- In terms of the impact on residential customer bills, it is estimated that the average NSW residential consumer in 2028/29 would save \$3 to \$15 a year in today's dollars on their electricity bill under the scenarios for lower reliability outcomes, when compared with the continuation of the current requirements for distribution reliability.
- However, reductions in capital expenditure and customer bills would come at a cost of increased outages.
- In 2028/29, the modelled increase in outages is estimated to range from around two minutes more a year to fifteen minutes more a year depending on how much reliability is reduced by, compared to the continuation of the current requirements for distribution reliability.
- Over a five year timeframe, the impact on outages is expected to be significantly smaller and would range from an increase of less than one minute to seven minutes more outages a year under our scenarios for reduced reliability.

There are benefits from reducing the level of distribution reliability in NSW, even while taking into account the relatively high value placed on a reliable electricity supply by NSW customers.

- The impact on reliability performance may either be higher or lower for different customers, depending on the distribution network serving them and where they live within each network.
- A comparison of the impact on customer bills and outages for each scenario and a baseline of no change to the current requirements for distribution reliability is set out in **Figure 1**.

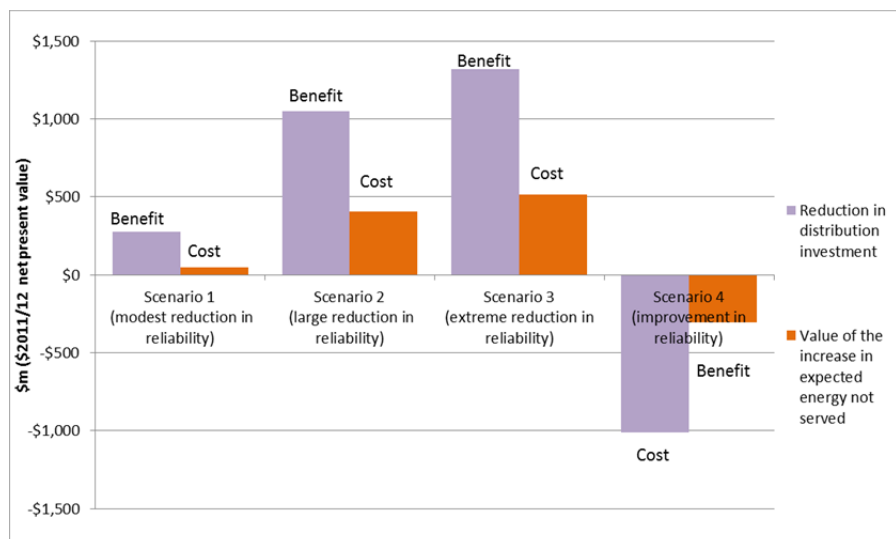
Figure 1: Comparison of the change in customer bills and outages for each reliability scenario in 2028/29



The costs and benefits of our scenarios for distribution reliability in NSW

- Over a fifteen year timeframe from 2014/15 to 2028/29, the modelled reductions in distribution investment under the three scenarios for lower reliability outcomes would range from \$275m to \$1.3bn, depending on how much reliability outcomes are reduced by.
- Over a five year timeframe from 2014/15 to 2018/19, the reductions in distribution investment would still be large, ranging from in today's dollars \$118m to \$453m.
- The three scenarios for lower distribution reliability outcomes indicate that the cost savings from reducing reliability levels are larger than the costs to customers of poorer reliability performance, compared to the continuation of the current requirements for distribution reliability.
- In other words, a relatively small reduction in reliability can lead to a large reduction in the investment required by electricity distribution networks.
- Under our scenario for improved reliability outcomes, the costs of improving reliability performance outweighed the benefits of improved reliability for customers. This suggests there would be overall costs to improving reliability in NSW.
- A summary of the costs and benefits under each scenario over a fifteen year timeframe from 2014/15 to 2028/29 are set out in **Figure 2** below

Figure 2: Comparison of the costs and benefits of each reliability scenario 2014/15 to 2028/29



We have undertaken a survey of almost 1,300 NSW customers to understand the impact of changes to reliability on customers.

Results from the NSW customer survey

- Our advice has been based on comparing the change in distribution investment under each scenario against the change in reliability performance, using modelling provided by the NSW distribution networks.
- To understand the impact of changes to reliability on customers, we developed a NSW value of customer reliability for each NSW distribution network, by surveying 1,288 customers across NSW.
- The NSW values of customer reliability that have been developed from this survey are set out in **Table 1** and suggest that NSW customers place a relatively high value on a reliable electricity supply.

Table 1: NSW value of customer reliability

NSW average	Ausgrid	Endeavour Energy	Essential Energy
\$94,990/MWh	\$86,790/MWh	\$110,710/MWh	\$90,710/MWh

- Even when taking this relatively high customer value of reliability into account, as discussed above, under our three scenarios for lower reliability the costs savings in distribution investment would still outweigh the potential costs to consumers from poorer reliability.
- To complement the values of customer reliability we developed, we also asked customers about their willingness to pay for improved reliability and their willingness to accept poorer reliability for a discount on their electricity bill.
- Further details on the results of our customer survey can be found in our fact sheet, *NSW customer survey on electricity reliability*, on the AEMC website.

National workstream of the review

- The SCER has also asked the AEMC to consider if there is merit in developing a nationally consistent framework for expressing, delivering, and reporting on distribution reliability outcomes.
- Our draft report will be published for public consultation in November 2012. The draft report will consider the range of approaches to distribution reliability, including deterministic, probabilistic, and hybrid approaches, and how these approaches are used to deliver reliability outcomes for customers.
- If requested by SCER, we will then develop a best practice approach for distribution reliability that could be voluntarily adopted or used as a reference by each jurisdiction.

For information contact:

Director, **Richard Owens** (02) 8296 7800; Senior Adviser, **Sarah Lau** (02) 8296 7800
Media: Communication Manager, **Prudence Anderson** 0404 821 935 or (02) 8296 7817

Date: 31 August 2012