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570 George Street
Sydney NSW 2000
All mail to GPO Box 4009
Sydney NSW 2001
T +61 2 131 525
F +61 2 9269 2830
www.ausgrid.com.au

Mr Evan Lutton
Assistant Director - Networks
Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Dear Mr Lutton

Benchmarking operating environment factors review

Ausgrid welcomes the opportunity to provide this submission in response to the Australian Energy Regulator's (AER) *Review of Operating Environment Factors for Distribution Network Service Providers (DNSPs)*. Operating Environment Factors (OEFs) are circumstances or features that may be unique to particular DNSPs which are not captured by the AER's econometric benchmarking models.

Ausgrid notes that benchmarking is used by the AER to estimate the relative efficiency of DNSPs and how this changes over time – measuring and encouraging the efficiency of DNSPs is clearly of benefit to end use customers.

Ausgrid suggests that the heterogeneous nature of DNSPs and their operating conditions makes it difficult to use benchmarking to identify whether an observed difference in costs relates to inefficiency or to another driver. The consequence is that any single benchmarking model will likely contain elements that result in bias towards certain business characteristics. For this reason, Ausgrid contends that benchmarking should be used with caution and should not be applied in a deterministic way to set operating expenditure allowances.

In its 2015 Determinations, the AER recognised that its econometric benchmarking model did not capture all of the operating environment factors likely to affect the prudent and efficient operating expenditure that would be incurred by Ausgrid and other DNSPs. The AER estimated the effect of these factors and made an adjustment as part of its assessment of base year operating expenditure where required.

These adjustments are important. If expenditure allowances are set too low, and do not allow for the recovery of efficient costs, this can result in potential reliability, safety and customer service issues. It can also undermine the confidence investors have in financing the assets and the necessary costs of transitioning to the lower carbon economy. If allowances are set too high, this can contribute to customer affordability issues.

Noting general concerns on the limitations of benchmarking, Ausgrid wholly supports the AER's undertaking of the current review, as part of the continuous improvement of the economic benchmarking techniques the AER uses. As part of this review the AER engaged consultants Sapere Research Group and Merz Consulting (Sapere-Merz) to:

- identify the most material operating environment factors driving apparent differences in estimated productivity and operating efficiency between the distribution networks in the National Electricity Market (NEM); and
- quantify the likely effect of each factor on operating costs in the prevailing conditions.

Our comments on Sapere-Merz's draft report are summarised in Attachment A. A key point, highlighted by Sapere-Merz, is the lack of data collected by the AER to allow for more accurate

estimation of the costs associated with OEFs. OEFs can have a significant impact on the AER's assessment of base year operating expenditure and consequently on overall operating expenditure allowances. Collecting a broader dataset to undertake more accurate category benchmarking should be considered by the AER.

It is important to note that the AER's approach to assessing proposed operating expenditure is largely the same as in the 2015 Determinations (and is therefore subject to the same limitations). We consider that this supports the position that the AER should continue to provide conservative/greater OEF coverage rather than less. This includes identifying and adjusting for 'immaterial' OEFs as well as material OEFs. OEFs that increase a DNSP's operating expenditure by 0.5 per cent or more, relative to other DNSPs, have previously been considered by the AER to be material. As evidenced by the 2015 Determinations, the collective effect of immaterial OEF adjustments in the same direction can quickly become material.

Ausgrid would be pleased to discuss this submission with the AER and would welcome further engagement on the AER's approach to benchmarking in the lead up to Ausgrid's 2019-24 determination. We look forward to working with the AER, other DNSPs and interested stakeholders on these important issues.

If you have any queries or wish to discuss this matter in further detail please contact Iftekhar Omar, Economic Modelling Manager, on (02) 9269 2695 or via email iomar@ausgrid.com.au.

Yours sincerely,

Simon Camroux
Head of Regulation

Attachment A – Summary of Ausgrid's comments on Sapere-Merz Draft Report

Subtransmission

As recognised by Sapere-Merz, variations in operating expenditure for DNSPs that have subtransmission assets are not accounted for in the AER's econometric benchmarking model.

In its 2015 Determinations the AER took a simple approach to the subtransmission OEF adjustment. For each DNSP, the AER calculated the percentage length of subtransmission overhead lines and underground cables to total circuit length. It then removed the comparison firms' percentage from that of the DNSP in question, i.e., it calculated the DNSP's percentage of subtransmission circuit above that of the comparator group. This percentage was then used to reduce the target efficiency score of the DNSP.

The AER considered that subtransmission line and cable length was a good proxy for "the size of the subtransmission network that service providers must operate… [including] switch gear and transformers."[1]

Using Ausgrid's reported operating expenditure (opex) for dual function assets, the AER determined that 66kV and 132kV lines and cables cost Ausgrid around twice that of 33kV and below. The AER did not attempt to determine a subtransmission unit cost (which would be for 33kV and above[2]), rather it used the two-times unit cost estimate, and stated that it believed this was conservative and was likely in the NSW DNSPs' favour.

Ausgrid has had difficulty interpreting the approach taken by Sapere-Merz to this OEF. Specifically, Sapere-Merz's key metric of the length of subtransmission lines, cables and transformer capacity divided by 'optimised opex'[3]. Ausgrid would appreciate the opportunity to discuss this OEF with the AER.

Our internal analysis indicates that opex requirements for overhead circuits of 33kV and above are over 20% higher than on lower voltages. However, opex on higher voltage underground cables is almost seven times higher than on lower voltage cables. This partly reflects the relatively higher costs of maintaining oil filled cables. Ausgrid's average unit costs for subtransmission circuits are twice that of lower voltage circuits. This support the AER's 2015 high level findings of subtransmission assets costing twice as much to inspect, operate and maintain as lower voltage assets.

Licence conditions

As highlighted by Sapere-Merz, NSW and Queensland operated under different reliability standards to other NEM jurisdictions, and these were further amended in 2005 and 2007 to increase spare capacity requirements.[4] These changing requirements are not captured in the AER's econometric benchmarking model and therefore the efficiency scores for NSW and Queensland DNSPs (which are based on the average) are likely to be lower than they otherwise should be.

The AER and Sapere-Merz have approached the licence condition OEF in different ways. We understand that:

- The AER's approach focused on the increase in transformer capacity required to meet the changes in licence conditions made in 2005 and 2007. The AER's approach to the

[1] AER, *Final Decision Ausgrid distribution determination 2015–16 to 2018–19 Attachment 7 – Operating expenditure*, April 2015, p 273.
[2] Dual function assets are 66kV and above while submtransmission assets are 33kV and above.
[3] 'Optimised opex' is the operating expenditure allowance that would result from using the raw efficiency scores in the AER's econometric benchmarking model.
[4] Sapere-Merz, *Independent review of Operating Environment Factors used to adjust efficient operating expenditure for economic benchmarking*¸ December 2017, pages 26-27.

subtransmission OEF provided an allowance for the subtransmission network. The licence conditions OEF addressed differences in spare capacity (transformer) requirements.

- Sapere-Merz has recommended combining these two OEFs, on the grounds that licence conditions have had no observable effect on distribution capacity requirements.

In combining the subtransmission and licence conditions OEFs, it appears that Sapere-Merz estimated the relative capacity headroom for NSW and Queensland DNSPs (and the costs associated with this) in 2015 only. That is, while Sapere-Merz made an adjustment for the level of difference at the end of the benchmarking period, it has not accounted for the change over the period. This change affects the average efficiency scores of the NSW and Queensland DNSPs under the AER's econometric benchmarking model. We consider that the AER's previous approach is a more appropriate starting point, rather than to apply no adjustment for changing capacity requirements over the period at all.

OH&S regulation

There are differences in occupational health and safety (OH&S) regulations across the States, with all NEM jurisdictions other than Victoria enacting the Model Work Health and Safety (WHS) laws. The WHS laws increase compliance costs for those states that have enacted them. As the comparison point firm in the AER's econometric benchmarking model (AusNet) is based in Victoria, it has a relative cost advantage over firms in other jurisdictions.

Sapere-Merz found that this OEF adjustment is immaterial for all DNSPs. Sapere-Merz considered that the AER had misinterpreted the PWC report it had used previously to estimate the impact of differences in work health and safety laws and regulations between Victoria and other NEM jurisdictions.[5]

Contrary to the AER misinterpreting the PWC report, we consider that Sapere-Merz may have incorrectly used the PWC estimate of the cost difference for power generation businesses as a proxy for DNSPs, without an adjustment for company size.[6] PWC demonstrated a link between compliance costs and company size (based on employee numbers). DNSPs have significantly more employees than the average power generation business in Victoria. In our view the AER's 2015 approach, which adjusted for company size, is more likely to provide a better estimate of the different costs of OH&S obligations faced by DNSPs outside of Victoria.

Termite exposure

Sapere-Merz's approach to this OEF is similar to the AER's previous approach. We understand that the AER used a single unit cost estimate for wooden pole treatment (Powercor's), with an uplift based on another firm's estimate of the costs of responding to asset faults resulting from termite infestation (Ergon's). Together this was deemed to be an efficient per wooden pole cost of treatment and response for termites.

However, rather than relying on Powercor's average unit cost (uplifted by Ergon's corrective opex) Sapere-Merz calculated a regression estimate of average wooden pole unit costs against termite prevalence rates.[7] Sapere-Merz's approach relied on two estimates to extrapolate a cost curve against prevalence rates. In our view, an econometric approach relying on only two data points is unlikely to produce a robust estimate.

We consider that the AER would need additional information from DNSPs on termite mitigation and response expenditure to develop a more accurate view of wooden pole unit costs. Alternatively,

[5] The report was PWC, *Impact of the proposed Model Work Health and Safety Laws in Victoria - Summary Report of the supplementary impact assessment*, April 2012. We note that Sapere-Merz does not explicitly state what the AER's misinterpretation was.

[6] The AER attempted to adjust for differences in business size between the DNSPs and the power generation businesses that were the subject of the PWC analysis.

[7] Both the AER and Sapere-Merz used the same CSIRO termite hazard map, which provides termite exposure prevalence rates for each state in Australia.

simply using an average unit cost of wooden pole treatment and response across the two DNSPs (Powercor and Ergon) may provide a reasonable, replicable and transparent starting point. This mitigates some of the risk of using a single estimate that may be an outlier.

Severe storms

As Sapere-Merz noted, and as evidenced by Ausgrid's "April 2015 storms" cost pass through application, costs resulting from extreme weather can be assessed and passed through into prices. However, extreme weather operating expenditure that does not classify for a cost pass-through may not be recovered.

We understand that the AER's econometric benchmarking method:

- Allows for shocks (e.g. from non-recurring extreme weather), so that a DNSP's efficiency score will not be set artificially low if and when they occur.
- Only allows for the average extreme weather response and costs, and therefore will penalise DNSPs that face above average extreme weather by providing insufficient operating expenditure allowances.

While there may be a need to provide a cost uplift to DNSPs in QLD and NSW facing more regular extreme weather than other states in the NEM, we do not consider that the data provided in the category analysis RIN under 'emergency response' operating expenditure is sufficiently robust to determine the size of this adjustment.[8] The provision of the emergency data for major events and major event days does not appear consistent across the DNSPs.[9] In our view the AER should investigate a more robust approach to adjusting operating expenditure for severe weather events that do not meet the criteria to allow for a cost pass through.

Vegetation management

Sapere-Merz considered that OEF adjustments for vegetation management are likely to be required. However Sapere-Merz was unable to form a view on what the appropriate adjustments should be given the available data. In its April 2015 Final Determinations, the AER applied a negative OEF to the NSW DNSPs for bushfire risk, as it considered that these costs were greater for Victorian DNSPs. We agree with Sapere-Merz's position that additional data is required in order to more accurately estimate the OEFs required (if any).

[8] We also do not understand how Sapere-Merz could characterise Ausgrid's RINs as including "a few thousand dollars emergency response expenditure annually for major events". This description does not reflect the level of expenditure that we have reported to the AER over the period 2006 -2016.

[9] We also note that the AER used State-based average natural disaster expenditure to make this OEF adjustment in previous determinations.