



Ref: C:2077752

28 October 2016

Review of Electricity Transmission Reliability Standards  
Independent Pricing and Regulatory Tribunal  
PO Box K35  
Haymarket Post Shop NSW 1240

Dear Sir/Madam

**Submission on Electricity Transmission Reliability Standards – Supplementary Draft Report**

We welcome the opportunity to provide comment on IPART's Supplementary Draft Report – Electricity Transmission Reliability Standards, September 2016.

Essential Energy notes the Terms of Reference provided to IPART requiring it to investigate and report on the matter of Transmission Reliability Standards and agrees that as was the case with the Draft Report, the recommended standards included in the Supplementary Draft Report provide an outcome which in most instances is generally consistent with these.

Essential Energy has provided comments on the Supplementary Draft Report as an attachment to this letter.

Should you have any queries or wish to discuss any part of this submission further, please contact Adam Causley, Acting Manager Engineering and Planning, on 02 6588 6154, or alternatively I can be contacted on 02 6589 8619.

Yours sincerely

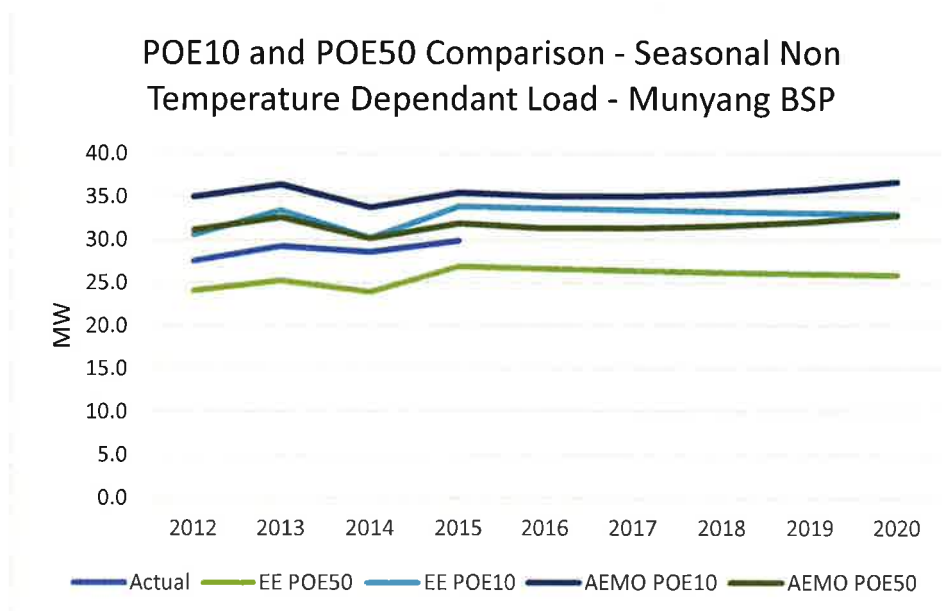
## Attachment: Response to the IPART Supplementary Draft Report

### Munyang

It appears that the assessment of Munyang has resulted in a significant change in the reliability outcome TransGrid is required to plan for. It has also highlighted two issues with the overall approach, the first issue being the variability of temperature corrected POE50 forecasts when compared to the actuals and POE10 forecast for the site.

TransGrid's forecasts (sourced from Essential Energy) under-estimates the POE50, while AEMO's public forecast over-estimates the POE50 for the site. This is due to the lack of temperature correlation in the seasonal ski field area load. As a result the load at risk has been under-estimated by 10% relative to the actual and 26% relative to the POE10.

The chart below shows the comparative difference between the POE50 and POE10 forecast for Munyang (provided to TransGrid by Essential Energy), using the AEMO forecasting methodology.



This is further exacerbated by the very low load factor for Munyang BSP, the second issue. When considering what a low load factor means for the customers supplied by an area with a very low load factor, it becomes clear that a standard weighted VCR is not applicable. This is due to the fact that generally areas with poor load factor have large dominant seasonal loads (commercial) whether they be agricultural or tourism for example.

As a result these businesses intrinsically have a variable VCR, very low for the majority of the year, and extremely high for their peak period of economic production. During these seasonal periods businesses are required to generate their annual revenue, as a result, any interruption during such periods has at least a four times multiplier (based on say a 3-month peak 'season') that would apply to the value of any load lost.

Using an average load and standard weighted VCR in this case does not adequately reflect the customers' real situation. Essential Energy suggests that in such cases, either an aggregate floor value load factor be used or both a seasonal load factor and location specific VCR to better reflect and moderate the outcome against the objectives of the review.

Essential Energy also highlights that due to the likely severe prevailing weather conditions during the ski season and resultant increased risk of unplanned network outages coupled with the difficult terrain and ground-cover (access) conditions, that supply restoration times are likely to be much longer, warranting some readily available back-up supply or redundancy in the interests of public safety and minimum amenity.

Consequently Essential Energy considers that a recommended allowance for expected unserved energy for Mungah of 191 minutes is well outside the threshold range and existing reliability level for the type of electricity users serviced from this supply point.

#### **Broken Hill**

Essential Energy highlights the lack of detail around how IPART views complementary approaches working, specifically the use of a distribution network as redundancy; as this forms recommendation 3 of section 1.5 in the original draft report.

Without significant detail in place at the planning standard level, a number of issues arise in terms of DNSP's being placed to take responsibility and justify revenue in order to fund the construction and maintenance of the assets required to meet customer outcomes.

An example of this is the back-up arrangements for Broken Hill. TransGrid detail that they have 'access' to back-up generation at Broken Hill, this access is currently provided by Essential Energy. Unfortunately, there are no formal arrangements in place for the operation of this generation, in terms of availability and financial responsibility.

This is typical for existing distribution network redundancy, and without agreements in place it cannot be expected that DNSP's will maintain specific levels of redundancy; as often local growth or customer connections erode existing network capacity and hence redundancy over time.

In order to assist in formalising and justifying any such Distributor requirement it may be worthy to consider whether such a requirement is imposed by a mandated Licence Condition supplementing the NER economic outcomes of NSP Joint Planning.

The assumptions made about restoration of supply to both the 22kV and 220kV at Broken Hill using back-up generation appear to be incorrect, Essential Energy would be pleased to engage with IPART and TransGrid to confirm the arrangements in place.

#### **Wellington Town**

Essential Energy supports the recommended allowance for expected unserved energy for Wellington Town of 21 minutes.

Whilst no detail is provided by IPART regarding the assumptions for the recommendation pertaining to the unserved energy allowance for Wellington Town, it appears to be within an acceptable threshold range noting that limited back-up supply is via the Essential Energy distribution network using manual switching, typically taking about 1 hour to restore supply to 90% of existing peak load.

Opportunity for a low cost improvement of this time to about 30 minutes may be possible by implementing automated remote field switching subject to further and detailed investigation.

#### **Molong**

Essential Energy endorses the recommended allowance for expected unserved energy for Molong of 46 minutes.

Whilst informal back-up is available via Essential Energy's distribution network it cannot be permanently relied upon for an extended duration (catastrophic) single transformer outage.

### **Mudgee**

Essential Energy endorses the recommended allowance for expected unserved energy of 14 minutes for Mudgee, noting that informal arrangements allow back-up supply from Essential Energy's distribution network within about 1 hour.

Opportunity for a low cost improvement of this time to 15 minutes or less, may be possible by implementing an automated change-over scheme subject to further and detailed investigation.

However, it is stressed that as local growth or customer connections erode existing network capacity, back-up capability decreases and may become comparatively less economic to upgrade to maintain the desired level of reliability.

This is true for the existing Essential Energy back-up supplies to Wellington Town, Molong and Mudgee.

### **Compliance Review**

Although the approach is defined as a planning standard, as the methodology is a significant change from previous deterministic standards, it may be prudent to put in place a performance based review period. This would assist in providing confidence to the public that the methodology is delivering the outcomes the community desire. Noting that compliance is over the asset life and as such any review period would only be a small snapshot of the compliance period.

### **Value of Customer Reliability (VCR)**

It may be possible to, at a high level (network or state wide) apportion VCR values based on broad assumptions, however these assumptions do not hold true when creating a VCR value at the granular level. Essential Energy recommends using the accepted NSW AEMO National Planning VCR value that is in line with the BSP specific-values calculated by WSP/Parsons Brinckerhoff<sup>1</sup> until a more accurate data source for assigning and developing granular VCR's can be determined. It is clear from the current method of weighting BSP VCR values, no value is added to the process, simply further distorting customer ability to understand the drivers for their observed reliability.

Essential Energy supports the methodology used to develop an applicable VCR for the Sydney CBD, however it is not clear why a hybrid use of VCR's is applicable outside the CBD. Further clarification is required around the application of Oakley Greenwood Business <160MWh Urban Feeder VCR to Inner Metro commercial customers, while urban commercial customers outside the Inner Metro area continue to be valued using the 2014 AEMO values. Further to this point, if the OGW review of VCR is believed to have produced estimates of increased accuracy for commercial customers over the 2014 AEMO study then it is not clear why Business <160MWh Rural Feeder VCR is not applicable across NSW.

It is considered that large customer connections, i.e. direct sub transmission connections, at both the Transmission Network Service Provider (TNSP) and DNSP level should be determined using direct VCR surveys. This direct assessment of a willingness to pay for individual direct connect customers was highlighted by the Australian Energy Market Operator (AEMO) as part of determining the current set of VCR figures.

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<sup>1</sup> WSP Parsons Brinckerhoff, *NSW Transmission Reliability Standards Review – Value of Customer Reliability*, May 2016, pA-2