ElectraNet
electricity transmission

ElectraNet Pty Limited
ABN 41 094 482 416
ACN 094 482 416

PO Box 7096
Hutt Street Post Office
Adelaide 5000 South Australia

T (08) 8404 7966
F (08) 8404 7956

W www.electranet.com.au
M m.electranet.com.au

26 November 2012

Dr Paul Kerin
Chief Executive Officer
ESCOSA
GPO Box 2605
ADELAIDE SA 5001

By email: paul.kerin@escosa.sa.gov.au

Dear Paul

re: Proposed Amendments to the Electricity Transmission Code

Following recent discussions between officers of ESCOSA and ElectraNet, I am writing to propose various amendments to the new Electricity Transmission Code (the **'New Code'**), as scheduled to take effect on 1 July 2013.

In the absence of express transitional provisions in the New Code, one purpose of these amendments is to provide for an adequate transition from the arrangements under the current Electricity Transmission Code (the **'Current Code'**) to those under the New Code.

Amendments are also proposed to support the adoption of lower exit point demand forecasts and to introduce a degree of flexibility in the implementation of the reliability standards under the New Code to achieve a better balance between reliable electricity supply and associated costs.

The reasons in support of these amendments are set out in the body of this letter, with the specific details and form of each amendment being set out in the appendix attached to this letter.

1. Transition to new arrangements

As you are aware, the existing rectification periods for any breach of a reliability standard under the Current Code will no longer be available under the New Code as published. These existing 'grace periods' are to be replaced with clauses 2.11 and 6.3.1 of the New Code.

The overall effect of replacing these 'grace periods' with clauses 2.11 and 6.3.1 of the New Code is that from 1 July 2013 reliability standards driven projects must be planned and implemented on the basis of forecast agreed maximum demand, and must ultimately:

- provide sufficient capacity to immediately meet *agreed maximum demand* for a given financial year at the time it is actually contracted; or

- provide sufficient capacity within 12 months of the forecast limitation date (i.e. the date the *forecast agreed maximum demand* becomes the contracted *agreed maximum demand*) where an identifiable change to the *forecast agreed maximum demand* has occurred before *agreed maximum demand* is actually contracted; or
- provide sufficient capacity within 3 years of the forecast limitation date where an unidentifiable change to the *forecast agreed maximum demand* has occurred before *agreed maximum demand* is actually contracted.

Forecast agreed maximum demand is defined in the New Code as the *agreed maximum demand* forecast for a given year that has been agreed with the customer three years prior to when the agreed maximum demand is actually contracted. Clause 6.3.1 requires ElectraNet to plan reliability standard driven projects on the basis of these forecast agreed maximum demands.

However, as the rectification periods for any breach of a reliability standard under the Current Code are not directly tied into an obligation to plan on the basis of *forecast agreed maximum demand,* and as the New Code is not retrospective in its effect, as at 1 July 2013 there will not be in place a *forecast agreed maximum demand* that can be subject to an identifiable or unidentifiable notified change for the regulatory years 2013-14, 2014-15 and 2015-16.

Furthermore, given the contractual arrangements that exist between ElectraNet and SA Power Networks (formerly ETSA Utilities), the earliest date after the implementation of the New Code on which SA Power Networks could notify ElectraNet of a change to any *forecast agreed maximum demand* would be in SA Power Network's annual demand notice of April 2014. This will impact the *agreed maximum demand* for regulatory year 2016-17 at the earliest as, by definition, there will effectively be no forecast agreed maximum demand for any of the regulatory years preceding regulatory year 2016-17.

Therefore, as a "...change to the *forecast agreed maximum demand*" for regulatory years 2013-14, 2014-15 and 2015-16 cannot by definition be notified, ElectraNet will be in a position of having to meet the *agreed maximum demand* contracted in these years without the ability to rely on the provisions of clause 2.11 of the New Code.

The implication of the foregoing points is that ElectraNet will not have the benefit of the rectification timeframes allowed under clause 2.11 of the New Code to meet the relevant reliability standards as they apply to the *agreed maximum demands* contracted between ElectraNet and SA Power Networks for regulatory years 2013-14, 2014-15 and 2015-16.

For consistency, it is therefore proposed that transitional provisions be included to temporarily extend the effect of clauses 2.6.3, 2.7.3, 2.8.3 and 2.9.3 of the Current Code where the contracted *agreed maximum demand* for regulatory years 2013-14, 2014-15 and 2015-16 materially exceeds the connection point demand forecasts as they stood at 1 July 2013.

This can be achieved by adding new clause 2.11.3 to the New Code as detailed in the appendix to this letter.

2. Unanticipated demand increases

Clause 2.11.2 of the New Code provides that where a change to *forecast agreed maximum demand* occurs, and this change was not able to be identified from the information at the time the *forecast agreed maximum demand* was notified and agreed, ElectraNet must deliver sufficient equivalent capacity to meet the applicable reliability standard within 12 months on a 'best endeavours' basis and, in any case, within 3 years of the identified future breach date.

However, there are a range of circumstances in which a possible change to *forecast agreed maximum demands* may have been strictly identifiable but may not have been reasonably expected to eventuate in the circumstances. Clause 2.11.2, therefore, does not provide sufficient protection for certain demand increases that were not reasonably expected to occur.

It is therefore proposed that clause 2.11.2 be amended to apply to any change in *forecast agreed maximum demand* that is "not reasonably expected to occur based on the information available" to ElectraNet at the time the initial forecast was provided (as opposed to applying to changes that are "identifiable").

3. Basis of demand forecasts

Under the terms of the Current Code, it has been the practice of SA Power Networks to provide peak demand forecasts to ElectraNet for transmission connection points. These forecasts represent conditions that are more extreme than the 10% probability of exceedance conditions generally used to develop broader estimates of South Australian demand.

These forecasts form the basis of connection point planning and regional network planning undertaken by ElectraNet, and form a key driver of the demand-driven investment in the South Australian transmission network.

In light of community concerns over the impacts of rising electricity costs and recent demand trends, it is therefore proposed that the New ETC be amended to apply 10% probability of exceedance connection point demand forecasts as the basis of non-radial and regional connection point planning, accepting that this will involve a marginal increase in risk to supply reliability.

To this end, ElectraNet proposes amendments to:

- the definitions of agreed maximum demand and forecast agreed maximum demand; and
- Clauses 2.11.1, 2.11.2 and 6.3.1.

In particular, ElectraNet proposes that the definition of *forecast agreed maximum demand* for Category 3, 4 and 5 exit points be based on a 10% probability of exceedance methodology.

ElectraNet believes that the proposed changes will help[to achieve a better balance between reliable electricity supply and the associated costs to consumers.

4. Economic augmentation

The reliability standards established in the Current Code are reviewed periodically on an economic basis by ESCOSA and these reviews are based on advice received from AEMO and are subject to a public consultation process. This provides a transparent and robust framework for incremental increases in standards, which are economically derived and then expressed deterministically in the Code.

However, the potential cost of maintaining existing reliability standards at individual connection points has not been subject to comprehensive review under the current Code framework.

ElectraNet considers it possible that significant investments (e.g. major line augmentations) may become necessary to maintain sufficient capacity to satisfy reliability standards, even if the forecast demand excursion causing the breach is very small and of a limited and short

duration (i.e. a 'needle peak'). The investment required to meet reliability standards that include these 'needle peak' demand excursions may be disproportionate and not economically justified on a cost benefit basis (based on expected hours of loss of supply and an estimate of the value of customer reliability).

ElectraNet therefore proposes that additional flexibility be introduced into the reliability standards. This could be achieved by amending the New Code to include a new clause 2.3.2 and 2.3.3 as detailed in the appendix to this letter. These new clauses would empower ESCOSA to grant a dispensation from compliance with a reliability standard upon application from ElectraNet provided it can be demonstrated that a network or non-network solution to achieve compliance with a reliability standard should be deferred on an economic cost benefit basis.

This would provide an economic safety valve, and promote more efficient timing of investments to minimise customer price impacts. The economic safety valve would be especially relevant if there has been a material change in input assumptions from the economic cost benefit assessment undertaken at the 5-yearly review of reliability standards.

The introduction of a degree of flexibility in the New Code in relation to the implementation of the reliability standards assumes that customers are willing to accept a slightly higher risk of loss of supply under contingency conditions in return for delayed investment that minimises customer price impacts.

5. Quality of supply and reliability

Clause 2.1.2 of the New Code requires ElectraNet to use its best endeavours to plan, develop and operate its *transmission system* so as to meet the reliability standards imposed by the Rules, such that there will be minimal requirements to shed load under normal and reasonably foreseeable operating conditions.

ElectraNet recommends that the intended operation of clause 2.1.2 be further clarified in order to ensure economic reliability outcomes. In particular, it is proposed that the obligation to minimise load-shedding should specifically recognise that the use of a ***forecast agreed maximum demand*** based on a ***10% Probability of Exceedance forecast*** will marginally increase the possibility of a loss of supply, on an economic basis.

6. Fault restoration obligations

Recent experience has demonstrated that it is not possible to comply with the fault restoration obligations of clause 2 under all circumstances.

In particular, the restoration of line outages within 2 days in the case of Category 1 exit points under clause 2.5.1(a)(ii), or the restoration of N equivalent line capacity within 12 hours of an interruption in the case of Category 4 exit points under clause 2.8.1(a)(ii)(B), will not be possible under all reasonably foreseeable circumstances.

A *best endeavours* requirement would be more appropriate, and would recognise that fault restoration obligations are intended to be an operational standard, not a planning standard driving additional investment.

ElectraNet proposes making the fault restoration obligations with regard to Category 1, 2 and 4 exit points subject to a best endeavours standard. This proposed change is detailed in the appendix to this letter.

7. Reclassification of Kanmantoo Substation

The ETC lists Kanmantoo Mine substation as a Category 1 connection point. This reliability standard requires that Kanmantoo must have N equivalent transmission line and transformer capacity to meet 100% of *agreed maximum demand*.

Kanmantoo Mine substation was established in 1971, located in the Eastern Hills region, and is the sole source of electricity supply to the surrounding area. It currently comprises a single 10 MVA 132/33/11 kV transformer and is connected to the network via a radial 132 kV line from the Mobilong No 3 Pumping Station.

ElectraNet has identified that the replacement of the Kanmantoo substation is required to be undertaken in the 2013-14 to 2017-18 regulatory period, based on assessed asset condition and risk, with a scheduled completion date of 2016.

An analysis has been undertaken, using AEMO's probabilistic Code reliability standards review model, to assess the cost/ benefit of increasing the reliability category of the Kanmantoo connection point from Category 1 to Category 2 through the addition of a second transformer. This analysis demonstrates that for a small incremental cost ($4.3m) the reliability benefits to customers in the area served by the substation of moving to Category 2 exceed $16.9m. This analysis takes into account the size of the load, the value of unserved energy, the number and type of customers, and the incremental cost of the additional network assets required to achieve the increased standard of reliability.

AEMO considered this project in its assessment of ElectraNet's capital project forecast for the forthcoming regulatory period, which was concluded in June 2012. AEMO acknowledged the reliability benefits estimated by ElectraNet of the proposed upgrade, noting that the analysis had been undertaken using the model and assumptions adopted by AEMO in its advice to ESCOSA in the review of the ETC in 2010. Further correspondence has confirmed that AEMO is supportive of the upgrade on the basis of the estimated reliability benefits and incremental costs estimated by ElectraNet, and is supportive of the reclassification.

Whilst the standards of the ETC represent minimum standards, and nothing prevents a higher standard of reliability being delivered on an economic basis, in the interests of transparency ElectraNet proposes that the standard should be explicitly reclassified in the ETC. It is therefore proposed that the Kanmantoo Mine exit point should be assigned to reliability Category 2 under the ETC on and from 1 December 2016.

ElectraNet would welcome the opportunity to further discuss the foregoing proposals, or to provide any further information required in order to support appropriate consultation on these amendments.

Please feel free to contact Simon Appleby for any further queries on (08) 8404 7324.

Yours sincerely

Rainer Korte

Rainer Korte
Executive Manager - Network Strategy and Regulatory Affairs