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Rajat Sarawat
Acting Chief Executive Officer
Essential Services Commission of SA
GPO Box 2605
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Dear Rajat,

Review of the Electricity Transmission Code – Issues Paper

ElectraNet welcomes the opportunity to comment on the matters raised in the Issues Paper for the Review of the Electricity Transmission Code (Code). Each of the issues raised is addressed in turn.

Issue 1.

The Commission seeks stakeholder comment on AEMO's assessment methodology for proposed category upgrades based on annual cost of unserved energy.

ElectraNet supports the assessment methodology used by AEMO. It provides a robust framework for the current review and will inform the classification and reclassification of connection points in the future.

Issue 2.

The Commission seeks stakeholder comment on the assumptions used by AEMO for its review of the exit point reliability standards.

ElectraNet is broadly supportive of the assumptions used by AEMO, but makes the following observations with respect to the demands used.

As noted in the final AEMO report, the connection point maximum demand forecasts used are the ETSA Utilities medium growth forecasts. These represent incremental increases in demand and include the impact of any committed load increases identified at a particular connection point.

However, these forecasts do not reflect the potential impact of significant step load increases in the ETSA Utilities network that are not committed. For example the current ETSA Utilities high growth demand forecast includes mining load increases of the order of 40-80 MW on the Eyre Peninsula during the forecast period.

Provision should be made for review of the classification of affected connection points in the event that significant step load increases occur in the distribution network. This is best addressed by amending Code clause 2.12 New Connection Points to:

- Allow for the reclassification of existing connection points in response to material changes in the level (or composition) of demand, and
- Specify the criteria to be addressed in recommending a change to the classification of an existing connection point.

The methodology applied by AEMO in the current review would provide a basis for analysis to support reclassification of a connection during the next regulatory control period.

Issue 3.

The Commission seeks stakeholder comment on:

- the proposal to upgrade the Baroota and Dalrymple exit points from Category 1 to Category 2 and associated issues; and
- the proposed timing of the Baroota and Dalrymple exit point upgrades.

ElectraNet supports the reclassification of Baroota and Dalrymple connection points from Category 1 to Category 2 from December 2017 and December 2016 respectively. In supporting this reclassification we note that the dates specified are after the commencement of the next ETSA Utilities regulatory control period and thus ETSA Utilities should be able to factor the capital requirements for accepting the N-1 transformer supply into its regulated capital investment program.

As noted in the Issues Paper, Baroota currently enjoys some degree of non-continuous alternative supply via the underlying 33kV network from Bungama. In the event that the applicable regulatory investment test proves that the most economic option for satisfying the new standard is for the 33kV network to be reinforced then this option should be pursued as a distribution augmentation. Elsewhere the Issues Paper suggests that this would be required to be subject to a network support agreement with the costs associated with the upgrade paid for via transmission charges. ElectraNet considers that the cost of a distribution investment which passes the applicable regulatory investment test should be recovered directly by ETSA Utilities from customers via distribution charges. It is not clear how the recovery of cost for distribution investments via transmission charges is consistent with the prevailing Rules framework.

It should also be noted that while ElectraNet is required to satisfy the requirements of the Code at connection points to the distribution network the absence of a complementary obligation on ETSA Utilities to be ready to take supply at these locations in the same timeframe means that customers may not benefit from the enhanced level of reliability provided by the transmission network for some time.

Consistent with the intent of the joint planning arrangements under the National Electricity Rules, the obligations under the Electricity Transmission Code should therefore be clarified to ensure that ETSA Utilities is required to undertake the distribution component of any works necessary to meet the requirements of the Code in accordance with the timeframes of the Code.

ElectraNet supports the timing of the proposed connection point reclassifications (December) in the relevant years as this aligns more closely with the summer peak demand

period, and avoids an arbitrary deadline of 30 June that might otherwise apply 12 months after the new Code takes effect.

Issue 4.

The Commission notes that moving the Category 5 connection points to Category 4 does not reduce the reliability standard of the connection points supplying the surrounding suburbs, i.e. the N-1 continuous reliability standard is maintained.

The Commission seeks stakeholders' comment on the recommendation by AEMO to move the current Category 5 exit points to Category 4 (i.e. to provide an N-1 reliability standard, where N-1 is defined as N-1 continuous) and remove the existing Category 5 from code.

We note the Commission refers to N-1 continuous at various places in the Issues Paper. As the definition of N-1 in the Code is consistent with N-1 continuous it would be appropriate to note where the usage varies from the standard definition i.e. in instances where N-1 non-continuous is being discussed.

Historically the formulae associated with the current Category 5 have proven difficult to interpret and harder still to explain to customers. ElectraNet agrees that following the construction of the City West substation and the planned decommissioning of the Magill-Whitmore Square distribution cable there is no ongoing requirement for this category of load to be defined in the Code.

Moving the current Category 5 loads to the bona fide N-1 standard of Category 4 is appropriate and does not reduce the transmission reliability standards applying to these grouped connection points.

Issue 5.

In amending the timeframe to remedy a breach of the reliability standards in the Electricity Transmission Code, a number of amendments proposed by AEMO are to be considered, namely;

- the amendment of clause 6.3.1;
- the introduction of a new definition of forecast agreed maximum demand;
- the amendment of clause 2.6.3, 2.7.3, 2.8.3, 2.9.3 and 2.10.3; and
- the introduction of new clause 6.3.2

The Commission seeks comment on the proposal to amend the timeframe to remedy a breach of the reliability standards and the amendments to the Code above. The Commission also seeks stakeholder views on any other matters that may further clarify ElectraNet's responsibilities in resolving breaches, simplifying the definition of timelines and allowing for the impact of unanticipated increases in demand and unforeseen step load customers (and specification of their limits) in the planning and remediation process.

The proposed amendment to clause 6.3.1 provides clear guidance regarding the level of preparatory work ElectraNet is obligated to undertake on the basis of uncontracted forecast agreed maximum demands.

The impact of the proposed changes to clause 2.6.3, 2.7.3, 2.8.3, 2.9.3 and 2.10.3 is significant. That the forecast agreed maximum demands are uncontracted, with no recourse against customers for the accuracy of their forecasts, leads to a risk of significant

advancement of transmission developments and augmentations to meet uncommitted forecast increases in demands.

Customers could make strategic use of uncommitted increases in forecast agreed maximum demand to ensure a level of transfer capability is available on the off chance of a project going ahead. This could lead to the advancement of transmission developments and augmentations to meet the forecast increases in demand. These augmentations may provide additional levels of reliability over and above those required by the Code or negotiated under the applicable Transmission Connection Agreement. If the forecast demands do not materialise customers at large will pay for the augmentations.

We believe the definition of forecast agreed maximum demand should therefore relate to either the agreed medium peak demand forecast provided by ETSA Utilities, or a forecast agreed between the parties in the case of direct connect customers, rather than simply a set of numbers provided by the customer.

The proposed definition of forecast agreed maximum demand could also imply that the forecast agreed maximum demand will automatically be contracted at the conclusion of the three year forecast period. A simple modification is proposed to address our concerns

“Forecast agreed maximum demand means the agreed maximum demand forecast for a given year that is provided **agreed with** by the customer three years prior to when **an** the agreed maximum demand is **required to be** contracted.”

The intent of the proposed amendments to clause 2.6.3, 2.7.3, 2.8.3, 2.9.3 and 2.10.3 may be better expressed as:

“2.X.3. In the event that forecast agreed maximum demand at a connection point or group of connection points exceeds the equivalent transformer capacity (*or equivalent line capacity*) standard(s) required by this clause 2.X, a transmission entity must use its best endeavours to ensure that the equivalent transformer *capacity (or equivalent line capacity)* at the connection point or group of connection points meets the required standard within 12 months **of the forecast date of the applicable capacity being exceeded.**”

As noted in the Issues Paper it is essential that positive variances to forecast agreed maximum demand are effectively dealt with whether these are due to forecast inaccuracies brought about by unforeseen increases in growth rate or step loads.

Any demand in excess of that forecast three years prior must therefore be dealt with separately to the incremental load growth, as outlined by clause 6.3.2. ElectraNet does not believe that a materiality threshold is relevant to the proposed clause, as the investment lead time is the key issue.

This approach provides a consistent minimum three year notice period for any required augmentations. Notwithstanding this, the Code should recognise that there may still be circumstances which challenge the achievement of these timeframes such as long transmission line augmentations, particularly where triggered by large, remote step load increases.

Issue 6.

Noting that the current provisions of the code require the provision by ElectraNet of an N-1 exit point reliability standard to the Adelaide Central Area from 1 January 2012 and that this level of reliability will be provided by independent and diverse transmission entry points which themselves come from diverse parts of the ElectraNet network, the Commission seeks stakeholder comment on whether or not there is a need to amend the code to further enhance the reliability standard (whether interruptible or continuous) to Adelaide Central during the 2013 to 2018 regulatory period.

In particular, the Commission seeks comment on the need for a heightened level of reliability and the costs and benefits associated with such a proposal.

ElectraNet considers that the N-1 standard for Adelaide Central which applies from 1 January 2012 is appropriate given the high cost to customers of providing an additional diverse supply to allow for extremely low probability events. It should be noted that AEMO's recommendation with respect to the provision of an N-2 standard for the CBD relates to the clarification of the existing provision rather than arguing for the economic efficiency or technical merit of an increased N-2 standard. AEMO's economic assessment clearly does not support the provision of an N-2 standard to the CBD.

While the capability to provide a degree of additional, non-continuous, support to the CBD via the distribution network currently exists due to the historical design of the network, ElectraNet does not consider it is prudent or efficient to require that this be increased to a N-2 standard. As previously agreed with the Commission, the fault restoration obligations of the Code are intended to establish an operational standard requiring real time response, and not a planning standard designed to drive the need for additional investment or contracted network support at the expense of network customers. It would be useful to clarify this intent more explicitly in the Code.

The use of any available distribution capacity to support the CBD following an interruption event affecting either the East Terrace or City West substations is, therefore, best addressed by the maintenance of appropriate operational protocols between ElectraNet and ETSA Utilities. As previously advised, the level of available support will decline over time as the peak load to the CBD naturally increases. This obligation should therefore be expressed on a best endeavours basis.

As the analysis does not justify a CBD N-2 reliability standard at this time, ElectraNet therefore recommends that the option of such a standard should be reconsidered at a future review of the Code. However, should reclassification to an N-2 reliability standard be considered on this occasion, the respective obligations of ElectraNet and ETSA Utilities should be made clear. In the event that a distribution solution was ultimately the most economic option to provide an enhanced standard such as N-2 a number of issues arise:

- the distribution assets required would likely be classed as dual function assets¹ under clause 6.24 of the Rules; and
- recovery of revenue through distribution charges would be as per the applicable pricing regime for those dual function assets under clause 6.25 of the Rules.

¹ Any part of a network owned, operated or controlled by a DNSP which operates between 66 kV and 220 kV and which operates in parallel, and provides support, to the higher voltage transmission network is deemed by clause 6.24.2(a) to be a dual function asset.

As noted in response to issue 3 above, if a distribution option passes the applicable regulatory investment test as the most efficient solution, it is proper that this investment is delivered and costs recovered directly by ETSA Utilities from customers via distribution charges, consistent with the intent of the joint planning framework under the Rules. In the case of network support secured by ElectraNet through non-distribution solutions such as demand side participation or generation support clearly the network support pass-through provisions of the Rules would apply.

Issue 7.

The Commission seeks comment on the appropriateness of the proposal by AEMO to include an additional clause in the code as set out above.

ElectraNet notes that AEMO's proposed clause 6.4.1 is consistent with the directions given by the Commission in this regard, and would require that ElectraNet would be responsible for the provision of both transmission and distribution components of any required augmentation to meet the reliability standards. ElectraNet does not believe that the provision is either fair or reasonable and leaves ElectraNet exposed to costs which it may not be able to recover.

In the absence of any specific obligation on the DNSP to comply with the timing requirements of the Code, there is no clear ability on the part of a TNSP to force the DNSP to meet these timeframes nor for the TNSP to recover the charges levied by the DNSP for the provision of any required distribution services via network support pass-through.

In the event that the applicable regulatory investment test indicated that a distribution solution would be the most economically feasible option, but ElectraNet was unable to secure a commitment from ETSA Utilities to implement that solution within the timeframes mandated by the Code, ElectraNet would be forced to advance the next most economically feasible option which could satisfy the requirements of the Code. This is clearly not in the best economic interests of customers.

The joint planning provision must recognise that where the most economically feasible option is a combination of transmission and distribution components (or indeed only a distribution option) then that option must be funded and delivered by the respective parties on a regulated basis, consistent with the intent of the joint planning arrangements under the Rules.

Issue 8.

The Commission seeks comment on the recommendation by AEMO for the removal of clauses 2.5.1(a), 2.5.2(a), 2.6.1(a), 2.6.2(a), 2.7.1(a), 2.7.2(a), 2.8.1(a), 2.8.2(a), 2.9.1(a), 2.9.2(a), 2.10.1(a) and 2.10.2(a) from the code, leaving the option on how to provide equivalent line capacity to the transmission entity.

The Commission also seeks the views of stakeholders on the proposed amendments to clause 2.11.1 and the introduction of clause 2.11.2 which seek to deliver the appropriate level of reliability where network support options are utilised.

In principle ElectraNet considers that the proposed amendments are reasonable. As proposed, a network support arrangement providing up to 120% of the AMD must satisfy a less onerous reliability standard than one providing above 120% of the AMD. In the latter case it is not clear whether the more onerous reliability standard would apply to the entire network support arrangement or only that portion required to satisfy the demand in excess of 120% of the AMD. The former would trigger a requirement for an entirely new network

support arrangement while the latter would allow a more measured approach to incremental load growth, and is consistent with ElectraNet's understanding of the intent of this provision.

In the event that a network support arrangement is pursued in lieu of a transmission augmentation it must be borne in mind that these options typically require significant investment and a long contractual commitment (of the order of 10 years).

Issue 9.

The Commission notes that network plant failures and demand in associated NEM regions can influence the achievement of reliability standards where there is a dependence on interconnection. Having regard to that matter, should these influences be considered in assessing the overall value in meeting the transmission reliability standards for South Australia? If so, should consideration of such influences be only limited to Victoria or should the wider impacts of the interconnected transmission network e.g. other inter-regional constraints, be considered?

The Commission seeks the views of stakeholders on the proposed introduction of clauses 6.4.2 and 6.4.3 which are designed to clarify the capability of the Murraylink interconnector.

The proposed amendment provides additional clarity in the assessment of the Riverland area reliability. The capacity of the adjoining New South Wales network also needs to be considered in making assessment of the capability of the Murraylink interconnector.

Issue 10.

The Commission seeks comment on the proposed amendment of clauses 2.7.1(b) and 2.7.2(b) which would provide that Category 3 loads do not require an N-1 supply on a firm, uninterruptible basis.

ElectraNet supports the proposed clarifying amendment of clauses 2.7.1(b) and 2.7.2(b).

Issue 11.

The Commission seeks comment on the appropriateness of AEMO's proposed amendment of clauses 2.1.1 and 2.1.2 which AEMO considers will assist in avoiding any misinterpretation of the reliability standards regarding load shedding in the code.

Clauses 2.1.1 and 2.1.2 concerning quality of supply and system reliability require ElectraNet to not shed load and minimise the likelihood of load shedding in developing and operating the transmission network and transmission system respectively. The practical implementation of these requirements is assisted by the proposed amendments.

As noted in previous correspondence with the Commission, strengthening the requirement to minimise shedding the entire load to undertake planned outage works at remaining Category 1 sites such as Kanmantoo, Neuroodla and Mount Gunson would require minor works at these sites, for example, the installation of additional switchgear, transfer busses and protection systems, and/or the creation of points for the connection of temporary on-site generation. This would achieve a material improvement in customer reliability outcomes at these locations at minimal cost.

Issue 12.

The Commission seeks comment on AEMO's proposed amendment of clause 2.12.1 to ensure that it cannot be interpreted as applying to new generation connection points.

ElectraNet supports the proposed amendment of clause 2.12.1. In addition, as generators have from time to time sought to establish that the exit point reliability standards apply to their generators and house supplies it would be useful to highlight in the Code that exit point reliability standards are applicable to customer and distribution connection points only and not generators and their house supplies.

ElectraNet does not consider that the distance from Adelaide Central of itself is a relevant criterion for assessment of the appropriate category of a new connection point.

As noted earlier in this submission provision should be made for review of the classification of affected connection points in the event that a material increase in demand occurs. This is best addressed by amending Code clause 2.12 New Connection Points to:

- allow for the reclassification of existing connection points in response to material changes in the level (or composition) of demand, and
- specify the criteria to be addressed in recommending a change to the classification of an existing connection point.

The methodology applied by AEMO in the current review would provide a basis for analysis to support reclassification of a connection during the next regulatory control period.

Issue 13.

The Commission seeks the views of interested parties as to the appropriateness of creating/upgrading connection points presented by AEMO in its review of the code. Consideration should be given to cost benefit, demand growth, generation proposals, unaccounted-for new load connections and lower cost alternatives to transmission network solutions.

ElectraNet is concerned that the growing level of interest from prospective mining loads has not been taken into consideration in the potential reclassification of the Port Lincoln connection point. As noted above ElectraNet considers it appropriate to allow for the reclassification of existing connection points during a regulatory control period where material unforecast load changes occur.

Given the uncertainty that currently remains, the appropriate classification of the Fleurieu Peninsula is best dealt with via clause 2.12.

Issue 14.

The Commission seeks comment from interested parties as to the appropriateness and frequency for reporting switching incidents by ElectraNet and ETSA Utilities in the context to the number of incidents, the severity of the incidents and the impact on the transmission network.

ElectraNet questions the appropriateness of the reporting obligations relating to switching incidents. ElectraNet maintains rigorous protocols for the investigation of switching incidents and considers that summary reporting to the Commission on a quarterly basis is appropriate.

The processes and procedures relating to transmission switching and the investigation of switching incidents is a safety and technical regulation issue. ElectraNet therefore questions whether the timely reporting of switching incidents and of the subsequent investigations would most appropriately be directed to those responsible for the safety and technical regulation of the power industry rather than the Commission, namely the Office of the Technical Regulator.

Issue 15.

The Commission seeks comment from interested parties on other matters which should be addressed in the review of the code.

A number of connection point upgrades to meet exit point reliability standards have either triggered or will do so in the current revenue control period based on existing network limitations. It is important that these connection points are dealt with in accordance with the timeframes of the current version of the Code by way of transitional provisions. This will avoid a potential situation whereby reliability augmentations are again required to be completed by a mid-year deadline of 30 June (i.e. 12 months from the date of effect of the Code, pursuant to new clause 2.X.3) rather than a more sensible timeframe of say, December (i.e. prior to the summer peak demand period). This is consistent with the proposed timing of the connection point reclassifications identified in issue 3.

ElectraNet also suggests a number of minor amendments to Table 5 of the Issues Paper to take into account the current configuration of the transmission network and changes proposed:

Category 1:

- Whyalla LMF should now be listed as Whyalla **Terminal** LMF

Category 4:

- Playford (Davenport West) should now be listed as **Davenport West**
- Berri/Monash is in fact a grouped connection which should be listed as **[Berri, Monash]**
- Mount Barker is now a grouped connection point with Mount Barker South and should be listed as **[Mt Barker, Mt Barker South]**
- Whyalla Terminal - Main Bus will become **Whyalla Central** when the Whyalla Terminal rebuild is completed in 2013
- The southern suburbs grouped connection points should be updated and listed as **[Happy Valley, Magill (South), Morphett Vale East and City West (South)]**
- The eastern suburbs grouped connection points should be updated and listed as **[Dry Creek (East), Magill, Northfield, East Terrace and City West]**
- The western suburbs grouped connection points should be listed as **[Dry Creek (West) Kilburn, Lefevre, New Osborne and Torrens Island 66 kV]**.

If the Commission intends placing the map from the Issues paper in the Code then we suggest:

- the 275kV supply to City West should be included,
- the Magill – Whitmore 66 kV be removed or an open point shown (if ETSA Utilities confirms they intend remove the 66 kV cable from service or create an open point) , and
- the 66kV supply from City West (South) be included.

ElectraNet would be happy to discuss the description and grouping of connection points further if that would be of assistance.

It is also noted that the Adelaide Central service area defined in the Electricity Transmission Code differs to the equivalent CBD area defined in the Electricity Distribution Code. In the interests of consistent reliability outcomes for the CBD, it would be desirable to align these definitions at the next review of the EDC.

Consistent with ESCOSA's previous advice, the term "contracted transmission line capacity" in clause 2.10.1(d) should be corrected to read "equivalent line capacity", consistent with its intent in enabling reliance on network support arrangements in meeting the 4 hour line restoration requirement under Category 6.

ElectraNet would welcome the opportunity to discuss these issues with ESCOSA. Please direct any enquiries in the first instance to Bill Jackson on 8404 7969.

Yours sincerely,



Rainer Korte
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