



ELECTRANET'S PROPOSED AMENDMENTS TO REVISED ELECTRICITY TRANSMISSION CODE

Draft Decision

April 2013



REQUEST FOR SUBMISSIONS

The Essential Services Commission of SA (**the Commission**) invites written submissions from interested parties in relation to the conclusions raised in this Draft Report. Written comments should be provided by **Friday 3 May 2013**. It is highly desirable for an electronic copy of the submission to accompany any written submission.

It is Commission's policy to make all submissions publicly available via its website (www.escosa.sa.gov.au), except where a submission either wholly or partly contains confidential or commercially sensitive information provided on a confidential basis and appropriate prior notice has been given.

The Commission may also exercise its discretion not to exhibit any submission based on their length or content (for example containing material that is defamatory, offensive or in breach of any law).

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Electranet's Proposed Amendments to Revised Electricity Transmission Code -
Draft Decision

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The Essential Services Commission of South Australia is the independent economic regulator of the electricity, gas, ports, rail and water industries in South Australia. The Commission's primary objective is the *protection of the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services*. For more information, please visit www.escosa.sa.gov.au.

TABLE OF CONTENTS

Glossary of Terms	ii
1. Introduction	1
1.1 The code’s standards and the regulatory reset process	2
1.2 2010 – 2012 code review	3
1.3 ElectraNet’s regulatory proposal	4
1.4 Request for further review – ElectraNet submission	4
1.5 Important considerations for this draft decision	8
2. Proposals	10
2.1 Transition to new arrangements	10
2.2 Unanticipated demand increases	12
2.3 Basis of demand forecasts	13
2.4 Economic augmentation	16
2.5 Quality of supply and reliability	21
2.6 Fault restoration obligations	22
2.7 Reclassification of Kanmantoo exit point	24
3. Next Steps	28

GLOSSARY OF TERMS

ACR	Adelaide Central Region
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMD	Agreed Maximum Demand
CBD	Central Business District
Code	Electricity Transmission Code
Commission, ESCOSA	Essential Services Commission of South Australia
DNSP	Distribution Network Service Provider
ESC Act	Essential Services Commission Act 2002
MVA	Mega Volt Amps
ESDP	Electricity System Development Plan
MW	Mega Watt – 1,000,000 Watts
N reliability	Means the Transmission System is able to supply maximum demand provided all of the network elements are in service.
N-1 reliability	Means the ability of the transmission system to continue to supply the contracted loads connected to the system even if any one element were to fail.
NEM	National Electricity Market
NER	National Electricity Rules
RIT-T	Regulatory Investment Test - Transmission
SA	South Australia
SCER	Standing Council on Energy Resources
TNSP	Transmission Network Service Provider
USE	Unserviced Energy
VCR	Value of Customer Reliability

1. INTRODUCTION

The Essential Services Commission (**Commission**) is an independent regulator established under the *Essential Services Commission Act 2002 (ESC Act)*, with the primary statutory objective of protecting the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services.

For the purposes of the ESC Act, electricity transmission services are an essential service and the Commission has specific functions and powers in respect of the provision of those services. In particular, the Commission has the function of licensing transmission businesses and, associated with that function, also has regulatory powers to set binding standards of service with which licensees must comply. Those standards may be set within the terms of a licence or may be embedded within an industry code (made by the Commission under Part 4 of the ESC Act) – compliance with industry codes, so made, is also a condition of licence.

ElectraNet Pty Ltd (**ElectraNet**) operates the main electricity transmission network in South Australia and is licensed by the Commission pursuant to Part 3 of the *Electricity Act 1996* to do so. As a condition of licence, ElectraNet is required to comply with the Electricity Transmission Code (**code**), which has been made by the Commission pursuant to Part 4 of the **ESC Act**.¹ Overall, the effect of the code is to require ElectraNet to plan, develop and maintain its transmission system such that the code's standards are met in relation to each exit point or group of exit points in accordance with code requirements.

This Draft Decision concerns various amendments to the code which were proposed by ElectraNet in November and December 2012 and explains the Commission's draft response to each of those proposals.

Of note, the Commission observes that the amendments have been proposed outside of the detailed review and consultation processes undertaken every five years (prior to the start of a new regulatory period for ElectraNet), last occurring during 2010 to 2012 and, moreover, that certain of the changes proposed would fundamentally alter the operation of the code. Further, many of the proposals put by ElectraNet are currently the subject of separate review by the Australian Energy Market Commission (**AEMC**), which is reviewing those matters in the context of developing a single, nationally consistent, regime for the regulation of transmission reliability.²

The Commission accepts that, in relation to those proposed fundamental changes, there may be merit in the broad concepts underpinning ElectraNet's proposals; however, noting

1 Refer <http://www.escosa.sa.gov.au/library/080703-ElectricitySystemControlLicenceVaried-ElectraNet.pdf> to obtain a copy of ElectraNet's transmission licence; <http://www.escosa.sa.gov.au/electricity-overview/codes-guidelines-rules/electricity-codes.aspx> to obtain a copy of the Electricity Transmission Code.

2 Refer AEMC, Review of the national framework for transmission reliability; details available at <http://www.aemc.gov.au/market-reviews/open/review-of-the-national-framework-for-transmission-reliability.html>

the matters explained above, and in the absence of more detailed supporting information from ElectraNet explaining how its proposals could be implemented (particularly in the context of the current *ex ante* regulatory regime under the National Electricity Rules (**NER**)) and demonstrating how they would serve the long-term interests of South Australian electricity consumers, it is not presently persuaded that the code should be amended in the more fundamental ways suggested by ElectraNet.

The Commission has, however, formed the draft view that some transitional and minor amendments should be made to the code,

The Commission invites ElectraNet and other stakeholders to consider the Commission's draft decisions and reasons and to provide further comment.

1.1 *The code's standards and the regulatory reset process*

It is important to note at the outset that the provisions of the code drive, at least in part, a proportion of ElectraNet's capital and operating expenditure requirements.

In a regulatory context, this means that ElectraNet, as a monopoly service provider whose revenues are determined on a five-yearly *ex ante* basis by the Australian Energy Regulator (**AER**) in accordance with the NER, seeks up-front certainty about the relevant service standards under the code for any given five-year regulatory period (with the next regulatory period to commence from 1 July 2013). This allows cost variations arising from any service standard variations (whether upwards or downwards) to be taken into account by ElectraNet when preparing its revenue submission under the NER.

To allow this to occur, the Commission has consistently adopted such a public, open and transparent review process for the code in the period leading up to the commencement of a revenue reset process for ElectraNet (as explained in section 1.2 below).

Two matters arising under the code that may have impacts on ElectraNet's capital and operating expenditure requirements are two distinct reliability standards.

The first is a general standard (under clause 2.11) requiring ElectraNet to ensure that, on a three-year forward-looking basis, the network which it operates will have sufficient capacity to meet *forecast* agreed maximum demand. This requirement is in place to provide incentives for ElectraNet to undertake forecasting and planning such that the actual annual reliability standards (discussed below) are likely to be met.

The standard requires ElectraNet to negotiate in good faith with its customers (generally SA Power Networks, the distribution network service provider which takes supply from ElectraNet) to establish on an agreed basis the future demand levels. This element of the code explicitly recognises the need for commercial, market-based outcomes, an underpinning principle of the National Electricity Market (**NEM**).

Crucially, in the context of the amendments proposed by ElectraNet, the code *does not* require ElectraNet to adopt a proposed demand forecast in the absence of agreement with the relevant customer. The Commission notes that ElectraNet has submitted to both the

Commission and the AER that the code requires it to simply accept SA Power Networks' demand forecasts; both the Commission and the AER have rejected that proposition as it reflects neither the intention nor the operation of the code.

The second is a specific, annual standard, which requires ElectraNet to ensure that there is sufficient capacity (on a redundancy basis) at each exit point on its transmission network to meet the *contracted* annual demand levels in place for the relevant exit point.

Again, this standard requires ElectraNet to provide that capacity on an agreed basis with its customers. Consistent with the first standard, there is nothing in the code which obliges ElectraNet to accept a forecast of demand without agreement – indeed, one purpose of the code is to promote agreement between commercial parties as the appropriate basis upon which to set demand requirements.

A further matter, highly relevant in the context of ElectraNet's proposals, is the fact that the code's requirements for forecasting agreed maximum demand are not the same as, and do not necessarily impact on, the NER demand-setting obligations for the purposes of determining revenues.

In that context, the Commission notes the AER's view, as set out at section 2.5 of its November 2012 draft revenue determination for ElectraNet, that the basis of demand forecasting for the purposes of the general standard under clause 2.11 (forecast agreed maximum demand) is separate to, and distinct from, demand forecasting for the purposes of setting capital and operating expenditure allowances under the NER. As such, even were the Commission to make changes to the code as suggested by ElectraNet, it would not necessarily result in any expenditure allowance changes through the revenue determination process.

1.2 2010 – 2012 code review

To assist ElectraNet in preparing its revenue submission to the AER for the five-year regulatory period 1 July 2013 to 30 June 2018, the Commission undertook a review during 2010 and 2011 of the need to vary any of the existing exit point reliability standards for that period (as compared with the standards then existing under the code).

That review, involving public consultation and stakeholder submissions on an Issues Paper³ and subsequent Draft Decision,⁴ was completed in February 2012. As a key input into the review, the Commission requested the Australian Energy Market Operator (**AEMO**) to investigate the transmission network exit point reliability standards specified in the code to determine their appropriateness (i.e., should those standards stay constant, increase or decrease for each exit point?) for the coming regulatory period. That process was again consistent with the Commission's past practice for code reviews.

3 Commission's Issues Paper refer: <http://www.escosa.sa.gov.au/library/110412-ReviewElectricityTransmissionCode-IssuesPaper.pdf>

4 Commission's Draft Decision refer: <http://www.escosa.sa.gov.au/library/110915-ReviewElectricityTransmission-DraftDecision.pdf>

AEMO prepared that report through a process involving close collaboration and consultation with ElectraNet. AEMO's report was provided to the Commission in December 2010 and is available on the Commission's website.⁵

In February 2012, based on the advice received from AEMO and submissions from other parties, the Commission published its Final Decision⁶ and revised code (TC/07),⁷ which takes effect from 1 July 2013.

1.3 ElectraNet's regulatory proposal

ElectraNet submitted its 2013-2018 Regulatory Proposal to the AER in May 2012.⁸

The AER released its draft revenue determination⁹ for ElectraNet on 30 November 2012. The draft determination set a total revenue cap of \$1507.3 million for ElectraNet over the 2013–2018 regulatory period, 12.7% lower than that proposed by ElectraNet.

1.4 Request for further review – ElectraNet submission

Immediately prior to the release of the AER's draft revenue determination, on 26 November 2012 ElectraNet submitted a new proposal to the Commission, seeking further amendments to the recently revised code TC/07. As explained below, that proposal sought significant and, in some respects, fundamental changes to the code; changes which had not been raised or identified by ElectraNet (or any other party) through the previous formal code review process during 2010 to 2012.

On 14 December 2012, ElectraNet submitted further material seeking additional amendments to the revised code.

On 22 January 2013, ElectraNet submitted yet further material in relation to those proposed amendments.

It is important to emphasise that those submissions were made in the immediate aftermath of the AER's draft determination, which proposed significant reductions in allowed revenue as compared with ElectraNet's proposal, and in the context of a detailed two-year review of the operation of the code completed in February 2012, which had included significant and

5 Refer the Commission's website at <http://www.escosa.sa.gov.au/projects/165/review-of-the-electricity-transmission-code.aspx>

6 Commission's Final Decision refer: <http://www.escosa.sa.gov.au/library/120217-ReviewElectricityTransmission-FinalDecision.pdf>

7 Commission's revised code refer: http://www.escosa.sa.gov.au/library/120217-ElectricityTransmissionCode-TC07_0.pdf

8 ElectraNet's original revenue proposal refer: <http://www.aer.gov.au/sites/default/files/ElectraNet%20Revenue%20Proposal%20.pdf>

9 AEMO's Draft Decision refer: <http://www.aer.gov.au/sites/default/files/ElectraNet%202013%20-%20AER%20-%20draft%20decision%20-%2030%20November%202012.pdf>

in-depth consultations with ElectraNet. The Commission notes that ElectraNet responded to the AER's Draft Decision with a revised revenue submission in January 2013.¹⁰

The Commission has consulted on ElectraNet's proposed amendments, receiving one submission, from AEMO, in respect of those proposals.

The matters now raised by ElectraNet and the Commission's draft response to each are set out in summary below.

1.4.1 *On-going economic assessment of exit point reliability standards*

ElectraNet proposed to amend the fundamental basis on which the code has been established, by moving from a regime which, on an *ex ante* economic assessment basis, establishes forward looking service standards using probabilistic economic analysis (matching with the period of regulatory revenue determinations applicable to ElectraNet), to one which would establish forward looking standards on that same basis but would also revisit the economic basis of those standards through the five-year period as and when expenditure would be required to meet them.

ElectraNet's central argument in support of its proposal is that it would allow the deferral of expenditure that could not be economically justified based on new information.

ElectraNet's proposal did not, however, explain or deal with the manner in which this proposal would work in the context of the revenue determination process under the NER, nor how revenue allowances under the applicable revenue determination would be reduced (and thus customers would avoid cost) in the event that ElectraNet did not incur the relevant costs.

While it accepts that there may be some merit in the general principles underlying this proposal, the Commission is concerned that, based on the information put before it by ElectraNet, there is no formal and definitive means by which it could be given effect or for any savings to pass through to customers. In the absence of such means, the Commission is not prepared to make the changes sought at this point in time, as those changes would appear to lead only to a windfall gain to ElectraNet at the expense of customers.

The Commission also notes that the AEMC has been tasked by the Standing Council on Energy and Resources to undertake a national review of reliability standards. Given that review will look at transmission reliability issues with a view to establishing nationally consistent standards, and the AEMC has already indicated in its Issues Paper for the review that it will be looking at proposals and principles which are broadly related to those put forward by ElectraNet, it is appropriate for the Commission to await the AEMC's findings and, potentially, to revisit this matter once those findings are made public.¹¹

¹⁰ ElectraNet's revised proposal: <http://www.aer.gov.au/sites/default/files/ElectraNet%20-%20Revised%20revenue%20proposal%202013-19%20-%2021.1.13.pdf>

¹¹ AEMC, *Review of the national framework for transmission reliability – Issues Paper*; at pages 27 to 31; available at <http://www.aemc.gov.au/Media/docs/Issues-Paper--Review-of-the-national-framework-for-transmission-reliability--Publication-version-81ebde74-1bcf-441a-aca6-b20d864d3a0e-0.pdf>

1.4.2 Obligations to meet exit point reliability standards following changes in demand

ElectraNet proposed to change the requirements in the revised code in respect of ElectraNet's service standard obligations to meet network capacity obligations following changes in forecast agreed maximum demand.

In particular, ElectraNet proposed that the obligation that it must use its best endeavours to meet those obligations within one year of identifying a change in forecast agreed maximum demand and, in any case, must deliver those obligation within three years of that identification, should be limited to only those cases where the change in demand was not only identified but the likelihood of its occurrence was also reasonably foreseeable.

For the reasons detailed below, the Commission does not accept at this stage that this proposal has been demonstrated to be in customers' long-term interests. In particular, the effect of the changes put forward by ElectraNet would be to diminish its obligations to meet the reliability standards in a material way as compared with current (and past) obligations. ElectraNet has not persuaded the Commission that customers are prepared to accept such a diminution nor has it explained how customers would benefit if the changes it proposes were to be given effect.

1.4.3 Basis of demand forecasts

ElectraNet proposed to amend the basis for determining forecast agreed maximum demand from the current methodology employed by SA Power Networks to a methodology which would deliver lower demand forecasts.

There is a difference between the actual annual standards (contracted agreed maximum demand in clause 2.5 to 2.9 of the code, as explained in section 1.1 above) and the planning objectives that are there to support those standards (the three-year forecast of agreement maximum demand under clause 2.11 of the code, also explained in section 1.1 above).

As the Commission understands ElectraNet's arguments in its November proposal, it has put the view that the code mandates a particular forecasting methodology (i.e., that used by SA Power Networks) which ought to be changed to one based on a 10% Probability of Exceedance (**PoE**).

However, the code does not prescribe how forecast agreement maximum demand is to be derived; it assumes a forecast of agreement maximum demand exists and defines it as the level of demand that the parties agree to at a particular point in time, i.e. 3 years in advance. This forward-looking process is there to ensure sufficient future capacity in the network.

Moreover, and this is a fundamental matter, under current code provisions ElectraNet and its customers are free to agree the basis of demand forecasting, including agreeing that 10% PoE is to be adopted for code purposes – nothing in the code prevents this from occurring.

Importantly, however, as noted by the AER in its draft revenue determination for ElectraNet, forecast agreement maximum demand under the code and a demand forecast produced for the purposes of the revenue reset are not the same nor are they for the same purpose.¹²

ElectraNet noted that its proposal would potentially lead to lower levels of customer reliability, on the basis that the network would be built, operated and maintained to meet lower levels of demand. ElectraNet did not submit any material which showed a customer preference for that outcome and did not quantify the trade-off between the reduction in reliability (on an economic basis) and the “savings” which customers would make were its proposal accepted.

ElectraNet initially suggested that the value of those savings would be in the order of \$80 million (submission of 14 December 2012) and subsequently revised that value to \$113 million (submission of 22 January 2013); on neither occasion did ElectraNet provide any supporting evidence in respect of those values.

The Commission is therefore not persuaded that ElectraNet’s proposal, in its current form, is in customers’ long-term interests. It notes that, even if it did make the relevant change and prescribe a methodology for forecasting demand for the purposes of clause 2.11 of the code, based on the AER’s position in its draft revenue determination, that change would not necessarily directly impact on the relevant capital and operating expenditure allowances for the purposes of that determination.

The Commission finally notes that such fundamental changes are properly the subject matter of customer consultation, through processes such as the usual code change arrangements which occurred between 2010 and 2012.

1.4.4 Transitional arrangements

ElectraNet proposed to give effect to transitional arrangements in respect of the definition of “forecast agreed maximum demand” to move between the current version of the code and the revised code (TC/07), on the basis that as at the commencement date (1 July 2013) there will be no agreed forecasts of demand made under the terms of the revised code.

The Commission will amend the code to give effect to the proposal by reference to previously identified forecasts of demand made under existing joint planning arrangements.

1.4.5 Miscellaneous

ElectraNet proposed to amend the fault restoration obligations in respect of certain exit points and to change the applicable service standards in respect of one exit point (Kanmantoo). The Commission has accepted that the former change is appropriate;

12 Australian Energy Regulator, Draft Decision, ElectraNet, Transmission Determination 2013-14 to 2017-18, November 2012, at section 2.5; available at <http://www.aer.gov.au/sites/default/files/ElectraNet%202013%20-%20AER%20-%20draft%20decision%20-%2030%20November%202012.pdf>

however, based on additional material provided by ElectraNet in January 2013, the Commission is not persuaded that the change in standards at Kanmantoo is warranted.

1.5 *Important considerations for this draft decision*

This draft decision sets out the Commission's draft positions in respect of the matters raised by ElectraNet and seeks public comment on those matters. Copies of ElectraNet's initiating submissions remain available on the Commission's website and should be read in conjunction with this draft decision to assist those wishing to make submissions.

The Commission would, at the outset, notes some concern over the processes adopted by ElectraNet in respect of its proposals.

First, several of the changes suggested by ElectraNet (basis of forecasting and the *ex post* reliability assessments) would fundamentally alter the operation and underpinnings of the code. Such changes do have significant impacts for South Australia customers and should usually be brought forward as part of the ordinary five-yearly code assessment process. To initiate such fundamental changes during (or mid-way through) a revenue determination process *after* a detailed and lengthy code change process present obvious challenges for the integrity of that process.

Second, ElectraNet has claimed, through its proposal, that its changes will be of benefit to customers or that lower-cost but lower-reliability outcomes are supported by customers. ElectraNet has not, however, provided any supporting evidence for those claims.

The Commission accepts in-principle, that there may be benefits associated with the concept underpinning at least the *ex post* review proposal and the change to a 10% PoE forecasting proposal (noting that the code already permits this methodology to be adopted by ElectraNet and its customers by agreement). That said, such fundamental changes require careful consideration, analysis and must be supported by evidence. That is not the case before the Commission at present and, as a result, the Commission is not prepared to accede to ElectraNet's proposals at this stage.

A third, and related, point is that ElectraNet has also failed to explain the mechanisms by which any "saving" arising from reduced or deferred capital expenditure will flow through the customers. While the Commission is aware that, under the terms of the NER, there is the potential for "negative pass-through events" (resulting in a reduction in the allowed revenue of a transmission business), ElectraNet has not suggested this as a means of delivering savings to customers. Nor has ElectraNet suggested any other means (such as the "contingent project" regime) by which those savings will flow to customers.

As the Commission has noted, if there are genuine saving which could flow through, it is important that the specific mechanism which permits that to occur is identified and is made certain – absent such a mechanism, it is customers which face financial risk by virtue of the fact that ElectraNet would not be compelled to pass on the savings. The Commission is not prepared to embed a regulatory regime resulting only in windfall gains to the service provider.

All of these matters are significant and have a detrimental effect on the Commission's assessment of merits of several of the proposals as put by ElectraNet. As noted above, the Commission does accept that customers might benefit from a modified regime which incorporates, in some form, the essence of those proposals. At this stage, however, there is a lack of supporting evidence and an identified delivery framework.

In that regard, the Commission notes that the AEMC is currently undertaking a review of transmission reliability standards. It may well be the case that some of the fundamental structural problems confronting the Commission at present may be resolved through that process. However, that process will take time to conclude and, in the interim, the Commission encourages ElectraNet and all other stakeholders to consider the draft positions and reasons put by the Commission and to respond to them.

2. PROPOSALS

In its submission, ElectraNet outlined seven areas of the revised code TC/07 that it suggested should be given further consideration and subsequently amended. These are considered in turn below.

2.1 *Transition to new arrangements*

2.1.1 *ElectraNet proposal*

ElectraNet put a view that the existing rectification periods for any breach of a reliability standard under the current code will no longer be available under the revised code. The existing “grace periods” (as termed by ElectraNet) are to be replaced with clauses 2.11 and 6.3.1 of the revised code TC/07 (as set out at clauses 6 and 7 of the attachment to ElectraNet’s 26 November 2012 submission).

The current regime, applicable until 30 June 2013, requires ElectraNet to use its best endeavours to remedy within one year an **actual** breach of an exit point reliability standard due to increases in maximum demand, and in any event to remedy that breach within three years.

The regime under the revised code, applicable from 1 July 2013, put in place to give appropriate recognition to the importance of planning under the NER, requires ElectraNet to remedy within one year, a **forecast** breach of an exit point reliability standard due to increases in maximum demand, and in any event to remedy that breach within three years.

The rectification periods for any breach of a reliability standard under the current code are not directly tied to an obligation to plan on the basis of Forecast Agreed Maximum Demand (**FAMD**). ElectraNet has taken the view that the revised code is not retrospective in its effect as at 1 July 2013 and, as a result, on its case there will not be a FAMD in place under the revised code that can be subject to an identifiable or unidentifiable notified change in forecast demand for the regulatory years 2013-14 to 2015-16.

ElectraNet proposed transitional provisions be included to temporarily extend the effect of rectification provisions in the current code where the contracted *agreed maximum demand* for regulatory years above materially exceeds the exit point demand forecasts as they stand at 1 July 2013.

2.1.2 *AEMO submission*

AEMO provided no specific comment regarding transitional arrangements proposed by ElectraNet.

2.1.3 Commission comment

The proposed redrafting of clause 2.11.1 may represent some dilution of the revised code provisions, albeit on a transitional basis. The revised code gives ElectraNet a degree of flexibility (i.e., best endeavours augmentations can be up to 12 months late but must be completed within 3 years), but only if the forecast was incorrect. The proposed clause 2.11.3 allows ElectraNet to run late regardless over a forward three-year period.

ElectraNet's concern appears broader than a compliance issue, as it also suggests potential disagreement in the assumptions that may underpin the forecasts provided.

The Commission notes that ElectraNet is already informed about the forecast exit point demands although it is not yet required to agree or plan to them. ElectraNet participates in joint planning sessions every year with SA Power Networks when new exit point forecasts are prepared.

The forecasts for all ElectraNet exit points are also published by SA Power Networks in its annual Electricity System Development Plans: ElectraNet is or ought to be aware of those five-year exit point forecasts. Those forecasts consider a moderate growth rate derived from extrapolated and modified historical growth and include sensitivities that are based on a $\pm 20\%$ variation in growth rate around the moderate case. There is no specific probability of exceedence rating for the moderate derived forecast; however it may be as much as 8% higher than a 10% PoE forecast.

FAMD should not, therefore, be a surprise, given the joint planning between ElectraNet and SA Power Networks required by the NER. SA Power Networks' forecasts could be provided to ElectraNet for the regulatory years in question from either the 2012 electricity system development plans, or the respective SA Power Networks annual demand notices of each April from 2012 to 2014. The FAMD must be a reasonable expectation of the demand negotiated and agreed in good faith between the parties.

Commission's Draft Decision

ElectraNet will be required to negotiate in good faith with SA Power Networks to determine the forecast that is to apply to clause 2.11 of the revised code TC/07. For the purpose of transitional arrangements, the derived FAMD for each year 2013/14 to 2015/16 is to be adopted, based on current planning data as derived under the joint planning arrangements in accordance with the NER. The Commission will amend the code to reflect this transitional approach.

2.2 Unanticipated demand increases

2.2.1 ElectraNet proposal

As noted earlier, to comply with clause 2.11.2 of the revised code TC/07, on the occurrence of an unanticipated change to FAMD, 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.

ElectraNet put the view that there is 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. ElectraNet submitted that clause 2.11.2 does not provide sufficient protection for certain demand increases that were not reasonably expected to occur.

ElectraNet proposed the amendment of clause 2.11.2 such that it applies to any change in FAMD 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 termed *"identifiable"* in TC/07.

2.2.2 AEMO submission

AEMO provided no specific comment regarding unidentified demand increases as proposed by ElectraNet.

2.2.3 Commission comment

ElectraNet has submitted that there is a risk that the obligation to deliver a network that satisfies the forecast demand may be compromised by changes in demand at short notice. However, clause 6.11 of the code is based on a FAMD which has been negotiated in advance by the parties in good faith under commercial operating conditions and the obligation is one of planning. The risk which ElectraNet raises relates more to the annual actual contracted agreed maximum demand obligations arising under clauses 2.5 to 2.9 of the code

Clause 2.11.2 provides for **unidentified** demand changes (increases or decreases); i.e., planning for "drop-in" demand increases or developments that may or may not eventuate.

ElectraNet proposed replacing "identified" with "reasonably foreseeable".

This is a lower and subjective test, immediately raising the question *"what is foreseeable and by whom"*? Importantly, these considerations ought to be taken into account in the "agreement" process and should not be embedded in the code, as this would displace the code's emphasis on commercial and market-based outcomes. The Commission notes that SA Power Networks continuously monitors the progress of projects/developments and assesses the likelihood of them proceeding and therefore, their inclusion, or not, in the exit point forecasts. It is possible that an identified but reasonably foreseeable project could proceed

that will result in a significant demand increase and a consequential network augmentation that may be difficult to deliver within the prescribed time.

ElectraNet's proposed wording "*not reasonably expected to occur based on the information available*" suggests a degree of knowledge of a prospective localised demand may exist but ElectraNet may discount it as a firm commitment based on some subjective grounds, i.e. "*not reasonably expected*".

The current wording of the code allows ElectraNet to make revenue submissions based on firmer commitment and includes a network growth component and network extensions or augmentations that have been subjected to the regulatory test under the NER.

Clause 2.11.2(a) provides for using best endeavours to rectify a supply shortfall within 12 months of an identified future breach date. Clause 2.11.2(b) provides for an extended period of three years to rectify the exit point capability. The planning objective (FAMD) is to ensure that ElectraNet will have capacity to contract to supply a particular level of demand in the future without breaching the reliability standards (under clauses 2.5 to 2.9 of the code). In order to do that it needs to plan and anticipate what it may be called upon to supply as contracted demand in the future.

It is important to maintain a firm requirement on ElectraNet to undertake planning such that network capacity is maintained. While clause 2.11 of the revised code represents a softer approach than the currently applicable version of the code in regard to rectifying breaches, it reinforces an expectation that joint planning requirements will be used to avoid breaching exit point integrity.

Commission's Draft Decision

To maintain the effect and the intent of clause 2.11.2 of the code, the Commission does not intend to amend the code as proposed by ElectraNet.

2.3 Basis of demand forecasts

2.3.1 ElectraNet proposal

ElectraNet proposed 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 of the revised code.

ElectraNet noted that it has been the practice of SA Power Networks to provide peak demand forecasts to ElectraNet for transmission exit points. These forecasts, it notes, represent more extreme conditions than the 10% probability of exceedance (PoE) conditions used in other circumstances to develop demand estimates.

The forecasts form the basis of exit point planning and regional network planning undertaken by ElectraNet and ElectraNet put the view that these form a key driver of the demand-driven investment in the South Australian transmission network.

ElectraNet's proposed amendment of the revised code is to apply 10% PoE exit point demand forecasts as the basis of non-radial and regional exit point planning. However, ElectraNet acknowledged that this will involve a marginal increase in risk to supply reliability.

In particular, ElectraNet proposed that the definition of FAMD for Category 3, 4 and 5 exit points be based on a 10% PoE methodology whilst maintaining the current methodology for categories 1 and 2. ElectraNet put the view that the proposed changes will help to achieve a better balance between reliable electricity supply and the associated costs to customers.

2.3.2 AEMO submission

AEMO pointed out that ElectraNet has not proposed an amendment to the transmission code on the source of demand forecasts. However, AEMO suggested that this review provides an opportunity for the Commission to improve the transparency of the process.

AEMO stated that, under the current code, ElectraNet is required to accept the demand forecasts supplied by SA Power Networks to ElectraNet. This arrangement could be seen to risk introducing a bias in the forecasts through the incentive on network businesses to forecast higher peak demand growth resulting in higher forecast expenditures.

AEMO put the view that, to remove this potential bias and improve transparency within the reliability planning and revenue-setting arrangements, an independent planner should produce these forecasts. AEMO noted that it produced its first regional peak demand and energy forecast for the NEM through its National Electricity Forecasting Report (NEFR) in June 2012. Those forecasts consider the impact of developments driven by changing economic conditions, rising (real) residential electricity prices, rooftop PV penetration, the impact of energy efficiency measures, changes in consumption from the industrial sector, and customer response. The next stage of the NEFR project is to produce connection point forecasts by the end of 2014 which will provide additional granularity for planning studies.

AEMO notes that it has been asked to work with the AER to identify how to develop connection point forecasts which can be used to set revenue determinations.

AEMO suggested that the Commission considers these recommendations and that it amends the code to require AEMO to provide independent demand forecasts so that the uncertainty that currently surrounds the basis of demand forecasts and its transparency in the planning and revenue-setting arrangements is improved.

AEMO submitted that it would be preferable to use demand forecasts based on a 10% PoE rather than using an undefined 'peak demand' term. AEMO acknowledged that a 10% PoE level as a basis for forecast demand may result in a lower reliability level than that presently being planned. However AEMO put the view that more efficient investments will be delivered according to customer's expectations if a prudent economic planning approach is applied, which considers the value that customers place on reliability.

AEMO notes ElectraNet's proposal to apply specific POE demand forecasts to Category 3, 4 and 5 exit points and that Category 1 and 2 exit points are still planned according to an undefined 'peak demand' forecast. AEMO does not believe there should be any difference

with the type of demand forecasts used for certain categories, and supports a framework that promotes consistency.

Finally, AEMO noted that moving to a 10% PoE peak demand basis should not itself cause a change to the standard, as generally, SA Power Networks seeks to determine connection point forecasts (though they appear to be typically higher than the more sophisticated state-wide forecasts done in a truly probabilistic methodology), and hence, agreed maximum demands, on this basis.

2.3.3 Commission comment

10% PoE demand forecasting methodology is a recognised and accepted approach to demand forecasting. However, as was noted earlier in this draft decision, the code's requirements for forecasting agreed maximum demand under clause 2.11 relate to a general obligation for future network capacity, whereas the actual annual standard which ElectraNet must meet are annual standards based contracted agreed maximum demand. Further those standards are distinct from, and do not necessarily impact on, the NER demand setting obligations for the purposes of determining revenues by the AER.

In that context, the Commission notes the AER's view, as set out at section 2.5 of its November 2012 draft revenue determination for ElectraNet, that the basis of demand forecasting for the purposes of the general standard under clause 2.11 (forecast agreed maximum demand) is separate to and distinct from demand forecasting for the purposes of setting capital and operating expenditure allowances under the NER. As such, even were the Commission to make changes to the code process as suggested, it would not necessarily result in any expenditure allowance changes through the revenue determination process.

ElectraNet did not specify the details of the shortcomings it perceives with the current forecasting methodology, except to note that in changing the condition from peak demand forecasting to 10% PoE there would be some financial benefit to customers. That said, and as noted at the outset of this paper, that benefit was variously defined as being in the order of either \$80 or \$113 million, with no mention of the manner in which those amounts would actually be returned to customers under the provisions of the NER.

In respect of submissions that ElectraNet must accept SA Power Networks' demand forecasts, for the reasons set out earlier in this draft decision the Commission rejects that proposition and emphasises that demand forecasts are to be agreed, on a commercial and good faith basis, between the relevant parties.

In support of the Commission's position, it notes that, in its draft revenue determination, the AER has rejected the proposition that, under the current code, ElectraNet is required to accept the demand forecasts supplied by SA Power Networks. The Commission supports this position and notes that, in compiling its revenue submissions, ElectraNet can derive its own demand forecasts, such as the 10% PoE basis, for the purpose of developing its forecast capital and operating expenditure requirements and agree those forecasts with its customers.

The Commission notes that the Australian Energy Market Commission (**AEMC**) has recently published terms of reference for a review on the National Electricity Network Reliability Framework and Methodology,¹³ directed by the Standing Council on Energy and Resources (**SCER**). See, *Section 2.4 – Economic augmentation* for more detailed comment.

The issue of setting the appropriate level of reliability of individual exit points is deeply intertwined with the development of the AEMC reliability framework. At this juncture it is difficult to justify implementing change to the entrenched reliability-setting methodology which may change as a result of the implementation of a nationally developed methodology.

In addition, in accordance with clause 23(n)(2)(v) of the *Electricity Act 1996*, the level of service to customers on the distribution network is not to be less than that which existed in late 1999. The impact on the distribution network resulting from a lesser standard of reliability of the transmission network requires further analysis to ensure that the legislation is not infringed.

Commission's Draft Decision

The Commission has decided not to amend the transmission code to mandate a particular demand forecasting methodology for the purposes of clause 2.11 of the code at this time.

2.4 *Economic augmentation*

2.4.1 *ElectraNet proposal*

ElectraNet proposed that additional flexibility should be introduced into the reliability standards by amending the revised code to include a new clause 2.3.2 and 2.3.3 as detailed below:

"2.3.2 A transmission entity can request the Commission to exempt the transmission entity from its obligation to comply with a standard set out in clause 2.6, 2.7, 2.8 or 2.9 if the transmission entity reasonably believes that the additional cost to customers of complying with that standard cannot be economically justified taking into account the likely cost of complying with that standard and the likely increase in benefits to customers which will arise from compliance with that standard. The transmission entity must provide with its request such information and evidence as is reasonably required by the Commission to make its assessment under clause 2.3.3.

2.3.3 The Commission may, in its absolute discretion, exempt a transmission entity from compliance with all or part of a standard set out in clause 2.5, 2.6, 2.7, 2.8 or 2.9. An exemption may be granted subject to such terms"

¹³ Directed by the Standing Council on Energy and Resources (SCER), as the successor to the MCE, under section 41 of the NEL.

ElectraNet put the view that the potential cost of maintaining existing reliability standards at individual exit points may not have been subject to comprehensive review under the current code framework.

ElectraNet argued that it is possible that significant investment (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. The investment required to meet reliability standards that include these small demand excursions may not be economically justified on a cost benefit basis (based on expected hours of loss of supply and an estimate of the value of customer reliability).

These new clauses proposed by ElectraNet would empower the Commission 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.

ElectraNet submitted that 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 five-yearly review of reliability standards.

The introduction of a degree of flexibility in the revised 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.

2.4.2 AEMO submission

ElectraNet proposed that it be granted a dispensation from compliance with a reliability standard, on the basis that meeting a particular reliability standard that is not economic, would impair economic planning outcomes in South Australia. AEMO supports an economic cost-benefit approach to planning.

AEMO noted that a full economic approach to reliability planning considers the value that customers place on reliability and has been recommended by the Productivity Commission in its Draft Report¹⁴ and supported by COAG's Energy Market Reform Implementation Plan.¹⁵

AEMO undertook a limited¹⁶ Economic Planning Study in 2012 demonstrating the benefits of moving away from reliability standards that require a level of redundancy. Results showed that under an economic planning approach, projects would be deferred, highlighting that

14 For details refer <http://www.pc.gov.au/projects/inquiry/electricity/draft>

15 Refer <http://www.scer.gov.au/workstreams/energy-market-reform/>

16 AEMO's study only examined two SA projects and used Victorian and NSW VCRs. It also only used a 2010-11 growth load profile.

savings to South Australian customers can be achieved. AEMO submitted that even greater savings may be able to be achieved by considering alternative options to manage a network constraint.¹⁷

AEMO noted that ElectraNet's proposal may deliver benefits; however, under the proposal as put, those benefits do not accrue to customers at the time the decision is made. The proposal would enable ElectraNet to submit its revenue proposal on the basis of a hybrid planning standard. The AER must set its revenue on the basis of this standard and the option that meets the standard at that time. An economic cost-benefit assessment is likely to identify different project timing and options. ElectraNet's proposal would therefore result in a windfall gain.

While AEMO recognised this matter cannot be addressed entirely by the Commission, it believes that the Commission should work with the AER to ensure that the full benefits of an economic cost-benefit planning approach are passed through to end users. An option under the current NER is for the AER to exclude all load-driven capital expenditure programs from the ex-ante revenue reset and include them as contingent projects.

Further, this proposal would require a case-by-case review to be performed by the Commission. AEMO submitted that an alternative proposal would be for an independent party (such as AEMO) to apply the cost-benefit analysis. This independence would ensure a solution is delivered to customers which achieves the optimal level of system reliability, security and congestion in addressing the identified need at the right time.

AEMO noted that the Productivity Commission has also recommended that AEMO, as the independent transmission planner, should apply the economic standard to meet reliability across the NEM.

AEMO proposed that if the Commission does not amend the code to allow for an independent planner to apply the reliability standards, an independent review of the reliability requirement should still be undertaken to ensure the augmentation is economically justified. It proposed that AEMO should perform such a review.

2.4.3 Commission comment

As noted in *Section 2.3-Basis of demand forecasts*, setting the appropriate level of reliability of individual exit points is deeply intertwined with the development of the AEMC reliability framework. The same applies to the economic modelling of network augmentation, particularly in understanding the localised social and economic value of reliability to customers.

SCER has directed the AEMC to develop a nationally consistent framework and methodology for electricity network reliability that can be adopted by a relevant jurisdiction and/or be applied by the AER. The AEMC must also develop a national framework and methodology that, amongst other things, applies an appropriate measure of the value customers place on

¹⁷ AEMO's economic study did not assess other potential solutions (i.e. non-network solutions) to constraints identified.

the reliability of electricity supply and provides a methodology for establishing distribution reliability requirements that recognises variable network characteristics of relevance and the differences between jurisdictions.

In its approach to the National Transmission Reliability Work Stream the development of the framework and methodology for transmission reliability, the AEMC was requested to:

- ▲ develop a nationally consistent approach for expressing transmission reliability outcomes, building on that which was agreed by the MCE in its response to the AEMC's Transmission Reliability Standard Review;
- ▲ develop a nationally consistent approach for establishing transmission reliability settings, which takes into account the trade-off between the cost of investing in and maintaining transmission networks and the value placed on reliability by customers, and that accounts for local conditions;
- ▲ assess the costs and benefits of the above approaches in line with the National Electricity Objective (NEO), with particular focus on assessing the outcomes delivered by different approaches with regard to the balance between customers' willingness to pay and the costs of delivering different reliability outcomes;
- ▲ with AEMO, and in consultation with jurisdictions, develop an appropriate mechanism for measuring and updating the value customers place on reliability, which takes into account an appropriate range of customer types and geographical and demographic differences; and
- ▲ consider options to take into account local circumstances which may require different levels of reliability.

This review, which is aimed at national consistency, may have wide-ranging implications for the code and the basis on which reliability standards are derived and how augmentations are justified economically.

ElectraNet has made strong representation regarding modification of the current planning approach, suggesting switching to a more probabilistic approach and incorporating economic mitigation to network developments in response to a reliability trigger, so as to balance the cost of augmentation and the reliability of the service to customers. This may well be a valid objective worthy of consultation.

Of importance to the Commission is the possibility of windfall gains as highlighted by AEMO in its submission. An economic cost-benefit assessment following a price reset (under the hybrid planning standard), is likely to identify different project timing and options which would most likely result in a windfall gain due to deferring any augmentation. However, to some degree there is an element of risk that an augmentation project will not pass the relevant regulatory tests under the NER even if it was approved by the AER in its regulatory proposal. The range of alternative solutions is growing with rapidly changing technologies.

The value of customer reliability (**VCR**) used by AEMO for South Australian cost benefit studies that fed into the recent code review (TC/07) relied on Victorian customer cost data

and South Australian transmission reliability statistics. VCR is to be a significant part of the AEMC transmission framework review in that one of the main directives is the development of a jurisdictional (i.e. region-specific) VCR.

In its response to the AEMC's Draft Paper on NSW Distribution Reliability Outcomes and Standards Review,¹⁸ AEMO acknowledged the outcomes of Oakley Greenwood's VCR survey as part of the AEMC's NSW review. The Oakley Greenwood report highlighted that the much higher VCR obtained for the small business sector in NSW when compared with the 2007 Victorian value requires additional surveying. AEMO also put the view that further investigation on the large difference is required to confidently apply the VCR in NSW. This highlights concerns of the Commission: the variable nature of VCR, and the derivation of the VCR for one region from another region's VCR profile, applying various 'weightings' and then using the derived figure on a region-wide basis.

The Commission is keen that an appropriate VCR is developed for South Australia, but is also interested in the need for the development of exit point-specific VCRs; or at least, regional VCRs in respect of the seven SA distribution regions as defined in the Electricity Distribution Code.

AEMO has recently reported that it will be commencing a National VCR project which will update the re-weighted figures in order to accurately reflect more regional-specific values that customers place on an uninterrupted supply of electricity. The Commission believes that if the studies are an extension of the Victorian VCR studies, the derived results for other regions will not be a 'best-fit'. A hybrid approach, as such, would be unsatisfactory.

The assertion made by ElectraNet, 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, is not supported by any evidence and fails to grapple with the current *ex ante* revenue determination model under the NER.

Of note, the Commission is not aware of any studies, customer surveys or similar sources of evidence which would support ElectraNet's claims in respect of South Australian customers' willingness to accept lower reliability.

The Commission notes that, under the National Electricity Rules, electricity distribution network service providers are required to engage with their customers when preparing expenditure proposals for assessment by the AER. Under that process, which is formal and mandatory, customers' views on matters such as reliability and the price/reliability trade-off must be properly sought, including by means of surveys, in order that regulatory decisions have a sound evidentiary base. The Commission itself, in setting previous distribution reliability standard levels, has conducted such surveys.

While customer engagement of that nature has not been a part of the transmission reliability standard setting process, where economic assessments based on the value of customer reliability have been utilised, the Commission holds the position that where there

18 Refer: <http://www.aemc.gov.au/Media/docs/AEMO-Submission-to-the-NSW-DX-Reliability-Review-Draft-Report-8698b769-4394-400d-98e9-e3bec39ce023-0.pdf>

is a proposal to reduce reliability arising outside of a normal code review process (e.g., as was undertaken during 2010 to 2012), customers' views on that reduction should be sought through the development of any code change proposal and not after the time that such a proposal is submitted.

In summary, the Commission remains concerned that any benefits, arising from reduced capital expenditures, may be retained by ElectraNet at the expense of all customers. The existing standard of reliability has been funded, and hence cross-subsidised, by all customers. Any benefits may not be proportional to the reduction in reliability for customers at the affected exit points, nor is it guaranteed that any savings would find their way into customers' pockets.

The Commission also notes that the AEMC has been tasked by the Standing Council on Energy and Resources to investigate a similar proposal as a part of its national review of reliability standards. Given that review will look at transmission reliability issues with a view to establishing nationally consistent standards, it is appropriate for the Commission to await the AEMC's findings and, potentially, to revisit this matter once those findings are made public.

Finally, the Commission does not accept ElectraNet's assertions that there has not been testing of whether or not existing exit point reliability standards should reduce over time. As noted in section 1 of this draft decision, the Commission's terms of reference for AEMO in its 2010 study of exit point reliability standards expressly included a requirement to consider such outcomes.

Commission's Draft Decision

The Commission agrees that a comprehensive cost-benefit analysis is the basis on which exit point augmentations should be proven. However, the Commission has misgivings regarding the derivation of VCR as currently applied to South Australia and, given the current review which is underway by the AEMC, any amendments should be considered in accordance with recommendations of that review.

The Commission's decision is not to amend the code to enable consideration of dispensations requested as a result of a cost benefit analysis during a regulatory period, where the funding is set in accordance with a revenue proposal at the beginning of that period, and may result in a windfall gain to ElectraNet.

2.5 Quality of supply and reliability

2.5.1 ElectraNet proposal

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

ElectraNet proposes to amendments to clause 2.1.2 as follows:

*"...such that there will be minimal requirement to shed load under normal and reasonably foreseeable operating conditions taking into account the **forecast agreed maximum demands** and the principles set out in clauses 2.3.2 and 2.3.3."*

2.5.2 AEMO submission

AEMO made no specific reference to ElectraNet's Quality and Reliability proposal in its submission.

2.5.3 Commission comment

The provisions of clauses 2.1.2 ensure that ElectraNet will not shed load at one exit point to maintain reliability at a more critical exit point in the normal course of operating its network. ElectraNet noted the 10%PoE demand forecasting adds a degree of risk to level of reliability.

At this point in time, the Commission has made the decision not to introduce 10%PoE demand forecasting (refer section 2.3). Such a decision would be best made following the conclusion of the broader framework review being undertaken by the AEMC. It is therefore not necessary to amend clause 2.1.2. Further, if any amendments to the code could possibly result in a lowering of standards of customer service, then the implications associated with the SA legislation would need to be investigated.

Commission's Draft Decision

The Commission has decided not to amend clause 2.1.2 of the code because the amendment, as proposed, is dependent on outcomes of a broader review by the AEMC. It may also affect the current level of reliability afforded under the current code provisions.

2.6 Fault restoration obligations

2.6.1 ElectraNet proposal

ElectraNet asserted that experience has demonstrated that it is not possible to comply with the fault restoration obligations of clause 2 of the revised code (ET/07) under all circumstances.

In particular, ElectraNet notes 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.

2.6.2 AEMO submission

AEMO acknowledged ElectraNet's amendments on fault restoration times and believes the applicable timeframe should be determined by undertaking an economic assessment to balance additional investment costs with restoration times.

AEMO put the view that outcomes should be determined on an individual exit point basis (rather than for each reliability category) so as to provide greater transparency on the fault restoration time at each exit point and the cost associated to meet this time. AEMO suggested that this will also mitigate the occurrence of inefficient investment to meet the required restoration time.

2.6.3 Commission comment

ElectraNet is seeking to cover all restoration components under a best endeavours standard; the Commission is more concerned that diluting the standard would have a negative effect on reliability.

The restoration standards in the revised code (TC/07) for the Category 1, 2 and 4 exit points are virtually unchanged from the current version of the code (ET/06). Category 4 exit point standards vary slightly. Where there is a relationship between Category 4 and 5 exit points for the Adelaide Central Region (ACR), ElectraNet must use its best endeavours to restore at least "N" equivalent capacity within 4 hours of the commencement of the interruption – noting that the best endeavours standard was erroneously omitted from equivalent line capacity restoration in clause 2.8.1(a)(ii)A. This more stringent requirement highlights the importance of maintaining the best possible support arrangements for the ACR.

However, the high level intention of the code is to ensure that the network is planned appropriately to meet the customer demand. It is impractical to provide excessive redundancy, such that operational requirements for maintenance, repair and development can be undertaken without some impact on the immediate capability of the network. While it may be implicit that this is the expectation, it is not unreasonable to acknowledge exceptional circumstances. However, this does not provide for an unlimited extension to the return-to-service times identified as mandatory for each category in the transmission code.

The Commission notes AEMO's suggested approach which, in the event of the full cost benefit approach to exit point upgrades, could be carried out in parallel with the exit point

analysis; hence providing transparency to reliability and restoration standards. Again, such an approach would be dependent on the AEMC review and would be an ideal approach if recommended as a part of the national approach.

Commission's Draft Decision

The Commission will amend clause 2.8.1(a)(ii)A to reflect reciprocal best endeavour restoration standards for Category 4 line and transformer failures. The Category 1 and 2 exit point restoration standards are unvaried from the current code (ET/06) and the Commission will maintain those standards.

A cost benefit approach to setting restoration standards is dependent on outcomes of the AEMC review and would be considered if recommended or mandated.

2.7 Reclassification of Kanmantoo exit point

2.7.1 ElectraNet proposal

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

The code lists Kanmantoo as a Category 1 exit point which requires an 'N' equivalent transmission line and transformer capacity to meet 100% of agreed maximum demand.

An analysis has been undertaken by ElectraNet, using AEMO's probabilistic reliability standards review model, to assess the cost/benefit of increasing the reliability category of the Kanmantoo exit point from Category 1 to Category 2 through the addition of a second transformer. The analysis demonstrates that moving to Category 2 for an incremental cost of \$4.3 million, the net present reliability benefits to customers served by the substation exceed \$13.2 million. The 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 the Commission in the review of the transmission code which began 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 code 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 code. ElectraNet therefore proposes that the Kanmantoo Mine exit point should be assigned to reliability Category 2 on and from 1 December 2016.

2.7.2 AEMO submission

AEMO acknowledged ElectraNet’s comments regarding the reclassification of Kanmantoo substation. AEMO noted that the assessment ElectraNet refers to was performed on the basis that the incremental cost to increase the supply capability for a Category 2 exit point was estimated by ElectraNet to deliver greater benefits than the cost.

The approach taken in the ElectraNet’s economic assessment is consistent with that generally applied by AEMO. However, this approach adopts a general value of customer reliability and aims to make the decision on the appropriate reliability standard on behalf of customers at the point. In this case, AEMO understands that the majority of supply at Kanmantoo goes to a single customer and suggests that the appropriateness of the approach could be questioned.

2.7.3 Commission comment

AEMO’s assessment of the Kanmantoo exit point, as with all other exit points assessed in the 2010 review, only considered ElectraNet’s proposed solution to increase supply capability. Other options were not assessed to determine the most economical solution.

In its economic assessment, ElectraNet noted that the rebuild of the Kanmantoo exit point is a sunk cost of \$10 million. The driver for the rebuild is the condition of the asset. For an extra \$4.3 million an additional transformer can be added thus providing a further layer of reliability.

The substation was established in 1971 to connect the Kanmantoo mine which closed in 1976. This exit point became the sole source of electricity supply to the general area around Kanmantoo. ElectraNet currently has in place a 10MVA transformer which was installed temporarily as an emergency changeover of the original 5MVA unit. This transformer has a 3MVA 11kV supply which is expected to reach capacity in 2017.

The current reliability standard applying to this point is low with no redundancy at any level. The load is relatively low, noting that SA Power Networks recorded a peak demand of 1.4 MW in 2011/12 for the substation. That demand was 24% below the demand of 1.8MW as indicated in ElectraNet’s economic analysis. SA Power Networks’ Electricity System Development Plan (ESDP) of 2012 does not forecast any need for work at the exit point.

Figure 1 SA Power Networks’ 2011/12 Kanmantoo exit point forecast

		2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Peak Load Summer	MW	1.4	1.6	1.7	1.6	1.4
	MVAR	0.5	0.6	0.6	0.5	0.5
	MVA	1.5	1.7	1.8	1.7	1.5
	PF	0.93	0.94	0.94	0.95	0.94
		2007	2008	2009	2010	2011
Peak Load Winter	MW	1.3	1.4	1.4	1.4	1.4
	MVAR	0.3	0.3	0.3	0.3	0.3
	MVA	1.3	1.4	1.4	1.4	1.4
	PF	0.97	0.98	0.98	0.98	0.98
		2012/2013	2013/2014	2014/2015	2015/2016	2016/2017
Forecast (Summer)	MW	2.2	2.4	2.5	2.7	3.0
	MVAR	0.9	1.1	1.2	1.3	1.4
	MVA	2.4	2.6	2.8	3.0	3.3
	PF	0.92	0.91	0.91	0.90	0.90

According to details in ElectraNet's revised revenue proposal, joint planning regarding Kanmantoo has been undertaken with SA Power Networks. It has been agreed that the exit point will be replaced with a 132kV/33kV exit point to properly provide for future requirements of the region. This is in direct contrast to SA Power Networks' 2012 ESDP, which does not forecast the need for any work. ElectraNet reports that the current switchyard layout does not conform to NER requirements and that the mandated conformance requirements cannot be achieved.

The AER's consultant advice re Kanmantoo in the context of its draft revenue determination identified the potential savings of \$5 million by not proceeding with the upgrade noting amongst other things:

- ▲ no detailed condition assessment report has been provided which justifies replacement;
- ▲ capacity increase not required until 2022 so the need for second transformer is unclear; and
- ▲ a second transformer is not required under the ETC as a Category 1 exit point and could be deferred, saving \$5 million.

ElectraNet submitted that the incremental additional cost of \$4.3 million to raise the exit point to Category 2 (\$1.3 million greater than when reviewed by AEMO), makes it appear to be a sensible option.

However, in making its decision, the Commission has to weigh up whether ElectraNet should replace the original transformer and carry out any associated switchyard work to restore the exit point to meet the forecast demand increase under the current provisions of the code, or whether it should reclassify the exit point to Category 2 under a full replacement scenario. Clearly there is a strong case for the former as this outcome would be in the best interests of customers and such costs should be absorbed in the current regulatory period in day to day operational procedures.

Further, the Commission has considered the potential incentives for network service providers to "gold plate" networks, thus providing an over-engineered asset at a cost to all customers. Such outcomes are economically inefficient and do not serve consumers' long-term interests.

ElectraNet's project scope proposes the installation of 2 x 10MVA transformers at the exit point which is an increase in capacity of 400% – 20MVA to serve a 1.5MVA nominal load. This would seem excessive. A single transformer would provide sufficient capacity and allowance for growth at the current reliability standard for the 600 customers supplied from the exit point.

Importantly, it is unclear to the Commission whether other network options have been considered; it may serve the best interests of ElectraNet, and all customers, if a broader approach to network support to all exit points of similar configuration to Kanmantoo were brought into consideration. For example, would a suitably configured mobile substation, which could provide a network support solution for all similar sites around the state, address

transformer failures at Category 1 exit points on an on-going basis? Such options are expressly provided for under the code and warrant consideration.

Commission's Draft Decision

ElectraNet's objectives are unclear in the context of proposing to upgrade the Kanmantoo exit point at a cost to all customers when clearly, the code provides for meeting the required reliability level under its current regulatory obligations. Furthermore, the upgrade proposal, though feasible on a cost/benefit basis, does not appear to demonstrate efficient use of assets from a demand perspective. The Commission believes that ElectraNet should consider other options that provide a broader approach to network support for similar Category 1 exit points.

The Commission has decided therefore, not to upgrade the Kanmantoo exit point from Category 1 to Category 2 at this time.

3. NEXT STEPS

This Draft Decision on ElectraNet's proposed amendments to the Electricity Transmission Code will be open for public consultation until Friday 3 May 2013.

The Commission seeks comments from all interested parties on the issues raised in this Draft Decision Paper within that timeframe.

Following the period of public consultation, and after consideration of any comments received, the Commission will prepare a final decision on the proposed amendments to the Electricity Transmission Code.

The Commission expects to publish that final decision in June 2013 and finalise any code changes prior to 1 July 2013 when the code takes effect.



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