



Application of NER Clause 6A.7.1(a)(6) to Project EnergyConnect Reopener

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Contents

Application of NER Clause 6A.7.1(a)(6) to Project EnergyConnect Reopener¹

1. Introduction	1
2. Purpose of document.....	1
2.1 Interpretation.....	2
2.2 Experience.....	2
3. Assessment	3
3.1 Assessment required.....	3
3.2 Challenges.....	3
3.3 Implications	4
3.3.1 Reliability	4
3.3.2 Security	4
3.3.3 Summary	5
4. Evidence of PEC Impacts	6
4.1 AEMO Input	7
5. AER Interpretation.....	8
5.1 AER Opinion.....	8
5.2 Comment on AER views.....	9
6. Conclusions	10

Review of NER Clause 6A.7.1(a)(6) and Application to PEC Reopener

1. Introduction

A TNSP may apply for its revenue determination to be revoked and substituted if each of the preconditions in clause 6A.7.1(a) of the National Electricity Rules has been met. Clause 6A.7.1(a)(6) (Criterion 6) is one of the criteria that must be satisfied before a revenue determination for a project can be reopened. This criterion states:

'a failure to rectify the adverse consequences of the event would be likely to materially adversely affect the reliability and security of the relevant transmission system.'

A focus on this criterion has arisen in the context of Transgrid's request to reopen the revenue determination for Project EnergyConnect (PEC), seeking approval for an additional \$1.2 billion in capex beyond the amount previously approved by the AER. In its consultation paper, the AER's provisional view is to reject the request, partly on the basis that it does not satisfy this criterion.

2. Purpose of document

The purpose of this document is to describe how I would assess the requirements of Clause 6A.7.1(a)(6) (criterion 6).

This document provides my opinion on:

- The interpretation and intent of Criterion 6.
- How this should be tested in practice.
- The implications for Project EnergyConnect.
- The appropriateness and workability of the AER's proposed approach.

2.1 Interpretation

The proper legal construction of Clause 6A.7.1(a)(6) and its application in this case is addressed in Counsel's opinion. This report is not intended to vary or comment on that assessment. Instead, the purpose of this report is to explain the practical implications of the AER's interpretation from a system planning and transmission investment perspective.

2.2 Experience

I have over 50 years of experience in the electricity sector and have detailed knowledge of transmission planning, investment and regulation to allow me to form a view on this issue.

I am a professional power system engineer, and commenced my career as a transmission planner in the SECV during the development phase of the main transmission system. I have expertise in power system analysis and transmission planning and played a major role in planning and design for the original interconnection from Victoria to SA. I was heavily involved in the development of VicPool and the NEM, focussing on developing the transmission planning arrangements, network regulation and transmission pricing for the NEM.

Subsequently I had responsibility for both the planning and implementation of transmission investments in Victoria while an Executive General Manager at VPX, VENCORP and SP AusNet. Between 2018 and 2024 I was a Commissioner at the AEMC in a period where a number of rules and reviews relating to transmission planning and regulation were considered.

I was the Chair of the Reliability Panel for 5 years, including when the Panel determined the appropriate market settings and reviewed the form of the reliability standard to consider whether it was fit for purpose given the transition to a system with increased levels of renewable energy sources and storage. As Chair I guided these investigations and as a consequence have a detailed knowledge and understanding of the role and purpose of the Reliability Standard and its relevance and application to the issues raised by this investigation.

3. Assessment

Clause 6A.7.1(a)(6) requires that the adverse consequences of an event would likely materially and adversely affect the reliability and security of the transmission system to allow a reopener to proceed.

For the purposes of this document, I am considering the event to be the non completion or the delay of PEC.

3.1 Assessment required

The impact of the non delivery of a transmission project on the reliability and security of the power system can only be determined by analysing the performance of the power system with and without the project in place.

This is consistent with Transgrid's Application and the Consultation Paper in that an assessment of material adverse effect requires a forward-looking assessment of the counterfactual of the potential reliability and security impacts of the non completion of PEC, compared to completion of PEC.

It is possible to carry out analysis of this type. Modelling power system reliability is mature in the NEM although it is complex and requires sophisticated software and extensive databases. Similarly modelling power system security involves complex power system analysis using sophisticated simulations of the system. However, both these tasks are undertaken in the NEM, particularly by AEMO who need to carry this out to ensure that the operation of the system is safe and secure.

3.2 Challenges

While a "with and without" assessment seems conceptually straightforward there are challenges undertaking this for a realistic power system. In theory it might be possible to model the system with PEC in place and repeat this without PEC and no other changes to any power system.

The result would be a change in the level of unserved energy as the measure of reliability, and this could be used directly to assess materiality.

This modelling would be useful to provide a direct measure of the impact on reliability through the change in USE, but would be special modelling carried out only for this purpose. It does not reflect the actual operation of the power system, or the reliability

modelling normally carried out, for example in the ESOO. An actual power system would respond to maintain the maximum level of reliability by providing extra resources either through bidding or availability or by making additional investment in the longer term.

3.3 Implications

3.3.1 Reliability

In practice modelling of reliability is normally carried out using a model of the system and allowing the available resources to respond to minimise the level of unserved energy. This is how AEMO would model the impact of different scenarios in the NEM for example, a process that AEMO carries out regularly in the preparation of the Electricity Statement of Opportunities (ESO).

The results of the “with and without” analysis therefore has two components which together reflect the impact of the change:

- A change in the level of unserved energy.
- Deployment of different resources required to minimise the unserved energy. These will generally be at a higher cost, and this additional cost is the second component

The outcomes from with and without modelling will exhibit an increased level of USE but the total reliability impact will be masked by the deployment of the additional resources that are incorporated for operation of the power system to compensate for the removal of the transmission project. These changes are transparent and their cost can be determined.

3.3.2 Security

The impact on system security can be assessed in a similar manner, although different power system simulation would be required. The power system must always be operated within its security limits, and AEMO is responsible for setting these, and for operating within them at all times. It is likely that the non-delivery of a project would result in more constraints on the power system to ensure secure operation. For example, interconnection limits would be set to ensure that the system would remain secure in the event of outages within the design criteria, or the system could be operated differently.

This would mean that higher cost options would be required to maintain system security, or the operation of the system would be limited such that efficient resources could not be utilised. In extreme cases this may mean that the constraints on the system would be so significant that some load may not be able to be supplied, that is it could lead to USE.

Again, this does not mean that there is no, or minimal, security impact. This impact may be reflected as a higher system cost. While these might traditionally be thought of as a market benefit, this distinction does not seem to be relevant in this context.

More extreme system security events also need to be considered. There are events which are rare that are not included within the design criteria. However, if they do occur, they have a very large impact on the power system, including the potential for system black. Typically, special control measures are provided to mitigate their impact, but no allowance is made on a pre-contingent basis.

The non delivery of PEC in this case will increase the probability of these rare events occurring, and the severity of them when they do. While the costs of this is very much harder to estimate it is reasonable to expect that they will have a significant economic value that needs to be considered on a probabilistic basis.

3.3.3 Summary

Conceptually the impact of the non-delivery of PEC could be determined using with and without modelling of the power system both for assessing the impact on reliability and security. The modelling is different for each, but in both cases can provide an assessment of the value of the impact arising from non-delivery of the project.

This modelling is complex and time consuming and would represent a very significant amount of work for establishing the case for a reopener against Criterion 6.

PEC is a very significant project that has been proposed and developed over a number of years to meet a well-defined system need. Its impact is well understood and has been the subject of a considerable amount of analysis, specifically in relation to its importance to reliability and security, often in the context of the potential impact of delays in delivering the project. The ESOO in particular has specifically addressed this question.

Given this background, it would be more reasonable to rely on these assessments in considering Criterion 6, rather than the TNSP conducting bespoke modelling for this purpose.

4. Evidence of PEC Impacts

There is a very substantial body of evidence that points to the significant impacts that PEC will have on reliability and security.

A report prepared by GHD titled “Project Energy Connect: Statement of Facts: reliability and security impacts” and submitted as Appendix 6a to Transgrid’s Application identifies numerous documents and sources of information which clearly identify a diverse range of reliability and security benefits attributable to PEC, and the significant cost of alternatives required to compensate for its non-delivery.

This includes:

- RIT-T and various regulatory submissions, including Project Assessment Draft Reports and Project Assessment Conclusions Reports, together with submissions and approvals for Contingent Project Application.
- Electricity Statement of Opportunities.
- Integrated System Plan.
- AEMO Reports on System Security Outlooks.
- Transmission Annual Planning Reports prepared by Transgrid and ElectraNet.

These documents include reliability impacts that would result from the non-delivery of PEC, particularly in South Australia. Since the primary purpose of these reports is to provide information to market participants, and AEMO has specific responsibilities and expertise in preparing these reports it is reasonable to rely on them as providing an expert view on the impact of PEC.

There are specific security impacts that would result if PEC was not completed as planned that are also discussed in these AEMO reports. These relate to the risks and implications for customers particularly in South Australia, and quote a number of impacts in qualitative terms, for example where the potential for islanding of South Australia and the subsequent impact on customers is very much reduced following the commissioning of PEC.

Other benefits may not directly be classed as reliability benefits if a narrow definition is employed (as explained above), but they are very strongly related to the ongoing reliability and security of the power system and clearly demonstrate the significant impact on the system if PEC were not to be completed, or was delayed.

4.1 AEMO Input

The AER wrote to AEMO on 19 May 2026 seeking advice on the reliability and security impacts arising from construction of PEC. AEMO's reply of 1 June 2026 identified material adverse reliability and security issues that would arise, including significant implications for the operation of the power system currently and into the future. Many of these were previously included in AEMO reports including the ESOO and various reports on power system security, as noted in GHD's Statement of Facts.

A particular benefit noted in AEMO's letter is the current requirement for the operation of the system with a minimum number of synchronous machines in service in South Australia required to provide operating confidence for the system in the current stage of transition. This requirement is ongoing pending more operating confidence but adds significant operational costs in the short term and inhibits the longer-term development of more economic approaches for the provision of system services. The completion of PEC would allow this requirement to be relaxed unlocking substantial benefits for operational costs in the short term and broader system benefits and economic power system operation in the longer term.

There is also specific discussion of the challenges emerging in the NEM with the transition to a system with increased levels of renewable and distributed generation. The benefits provided by PEC in relation to increased system strength provision, voltage control and frequency control are identified.

It is important that these impacts be given appropriate weight. They are difficult to cost but the transition to a renewable system is creating operational challenges. These are very evident in South Australia where the transition has occurred more rapidly and where the smaller system is more susceptible to system security and operational issues. PEC fundamentally changes the nature of these issues and delivers substantial benefits as summarised in the AEMO letter, and these by themselves demonstrate the importance of PEC.

5. AER Interpretation

5.1 AER Opinion

The arguments advanced by the AER that underpin its view that a reopener should not be allowed are based on its view that there are alternative measures that can be taken to address any reductions in reliability or security performance.

It is concluded that because these alternatives exist such that adequate performance of the system is maintained then no material adverse impacts can be attributed if PEC does not proceed.

In its Consultation Document, the AER makes the following statement:

Overall, our preliminary view is that an impact consisting solely of potential or likely increase in the cost of maintaining reliability and security, does not constitute an adverse effect on reliability and security, as we have defined it. Likewise, the potential or likely loss of reliability and security improvements, alone, is insufficient to satisfy Criterion 6. Transgrid has identified several reliability and security benefits of PEC. But Transgrid not being able to deliver the benefits of expected reliability and security above the standards set out in the NER or by the Reliability Panel is not the same as an adverse effect within the meaning of Criterion 6.

In other words, the AER has not taken account of the value of the impact as discussed above. It has ignored the fact that the system would have much higher costs to deliver this level of reliability and security, although it recognises that this may be the case.

Similarly, the AER has discounted concerns regarding reliability gaps that are forecast in the ESOO as it suggests that, even without PEC, these are unlikely to be realised because other mechanisms will activate to ensure that there are no adverse effects on reliability.

The AER has noted that a forecast reliability gap in South Australia in 2026 identified in the ESOO published in August 2025 did not emerge because of an agreement with the South Australian Government to extend the operation of Torrens Island B for two years.

The AER also notes that PEC not being completed or delayed may reduce transfer capability between the regions, reduce system strength, and increase the risk of islanding South Australia. However, the AER concludes that this does not constitute a

material impact on reliability or security because operational measures including constraints will be invoked to ensure that the system is always reliable and secure.

Lastly, the AER specifically draws a distinction between an economic benefit and takes the view that this cannot be considered a reliability impact.

In summary, the AER has concluded that there is no material impact on system reliability if alternative measures exist or can be expected to emerge in response to the non-completion of PEC which allow the reliability standard to be achieved, regardless of the cost of applying the alternative solutions.

5.2 *Comment on AER views*

As noted above, the AER appears to have rejected the case for a reopener on the basis that there are alternative means of delivering some of the benefits, or that there is limited value in others. A large part of this assessment seems to be based on the notion that the system will still be capable of meeting the reliability standard or maintaining secure power system operations even in the absence of PEC.

This is an incorrect application of criterion 6 by the AER as it ignores the significant additional cost of operating of the system to achieve the required levels of reliability and security in the absence of PEC.

The AER is also not persuaded by the information included in the reports discussed above. This is a surprising conclusion. Together I consider that the documents and sources identified provide a compelling and diverse set of benefits that are consistent with the original intent of the project. In some cases, particularly the ESOO documents provide a direct impact on expected USE with and without PEC. These changes are very significant in terms of the USE change, in many cases being similar to the reliability standard itself. In other words, the project would halve the level of expected unserved energy and substantially reduce the probability of load shedding, in this case in South Australia.

I do not consider that the AER's interpretation is consistent with the intent of this Criterion or the reopener provisions more generally.

6. Conclusions

The intention of the criterion NER 6A.7.1(a)(6) (Criterion 6) is to ensure that the allowable capex decision could not be reopened unless there is a material adverse impact on security and reliability of supply if no action is taken, in this case leading to PEC not being completed or being delayed.

I consider that the AER's assessment that 'Transgrid has not identified specific reliability and security standards that will no longer be met if PEC is not delivered' is a limited assessment and does not provide a reasonable assessment of the impacts of the non-completion of the project on reliability and security. A more general view needs to be taken in this assessment where the impact has regard to the costs and feasibility of any the options that are required to limit the impact of not completing the project, and which are required to continue to provide a reliable and secure power system in its absence.

This differs from the approach adopted by the AER who considers that the existence of an alternative for provision of reliability and/or security is sufficient to demonstrate that there is minimal impact on the reliability and security of the power system without any consideration of its cost or feasibility. I do not consider that these costs can be ignored when making this assessment. There may also be some impacts to the system arising from non-delivery of the transmission project that are more difficult to cost accurately, but where system operations may become more difficult or the risk may increase substantially. These impacts also need to be included in the assessment.

A high-level assessment of the impact of non-provision of the investment may be sufficient by examining the nature of the corrective action that would need to be employed as a substitute. This is most likely to be possible in the case where the system is closer to the reliability standard threshold, and there is a very obvious increase that would result in the level of USE if the project was not delivered and the Reliability Standard was breached as a consequence.

Any impact on the system that arises if the project is not delivered will impact system reliability and ultimately result in customers requiring the adoption of more costly options. Even if the reliability standard is not immediately breached, the project will enable reliability and security to be maintained at the lowest overall cost, consistent with the original intent of the project.

From the published reports and my interpretation of criterion 6 it is apparent that a failure to complete PEC as planned would be likely to materially adversely affect the reliability and security of the transmission system.

The AER's conclusion that a reopener should be denied on the basis that alternative approaches can deliver continued reliability and security, without considering their cost or feasibility, does not seem consistent with the National Electricity Objective of delivering the most efficient power system for the benefit of customers. It is also an approach that will mean that the reopener provisions are very unlikely to operate as the AEMC had intended, which is to ensure that essential transmission projects are not deferred to the detriment of consumers.