

RECEIVED 8 MAR 2016



Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Pierce *John*

Transmission Frameworks – Detailed Design and Testing of an Optional Firm Access Framework

I am writing to you with regard to the Australian Energy Market Commission's (AEMC) final report on Optional Firm Access, Design and Testing sent to the Council of Australian Governments Energy Council on 25 June 2015.

The Energy Council thanks the AEMC for its comprehensive examination of the issues identified in the terms of reference issued on 25 February 2014 and has noted the Commission's recommendations.

The Energy Council supports the recommendation to amend the National Electricity Rules to implement obligations on transmission network service providers to create a public register of information on generator connections.

It has agreed to submit a rule change request to the AEMC that would require transmission network service providers to create and maintain a public register containing information on generators connected to the transmission network. The register would include information on the effect that a new generator's connection would have on the network.

This rule change seeks to improve the level of information transparency on the co-ordination of generation and transmission investment in the National Electricity Market. The rule change proposal is attached for your consideration.

If you have any questions about the Energy Council's response to recommendations from the final report on Optional Firm Access, Design and Testing, please contact Ms Nicole Metherell, Manager of the COAG Energy Council Secretariat on (02) 6243 7788.

Yours sincerely

A handwritten signature in blue ink, appearing to be 'Josh Frydenberg', written in a cursive style.

The Hon Josh Frydenberg MP

Chair

COAG Energy Council

29 February 16

REGISTER OF LARGE GENERATOR CONNECTIONS
RULE CHANGE REQUEST
29 February 2016

1. Name and address of rule change proponent

COAG Energy Council

GPO Box 9839

Canberra ACT 2601

2. Rule change proposal

The proposed rule aims to improve transparency on the effect of generation connections on the transmission network. The rule would increase information about the level of co-ordination of generation and transmission investment in the National Electricity Market (NEM).

Each Transmission Network Service Provider (TNSP) would be required to create and maintain a public register, which would contain information on generators with a capacity over 30 MW that are, and will be, connected to its network. For each generator connected to the TNSP's network since 1998, the register would include information on the generator's ownership, technology type, capacity and location. The register would also record any permanent retirements of generators from the wholesale market.

In addition, a TNSP would be required to undertake an assessment for a new generator connecting to the transmission network, which would include the impacts of the generator's connection on the network. In undertaking the impact assessment, the TNSP would use historical data to identify the effect of the large generator connection on the network, compared with the absence of that connection to the network – but only where these impacts are considered to be material. The impact assessment would be published in the register.

TNSPs would be required to include a detailed description of relevant methodologies or data used in quantifying each impact.

This impact assessment would need to be undertaken and completed within 18 months of the completion of commissioning the large generator connection.

Finally, confidentiality obligations contained in the National Electricity Rules (NER) will apply to ensure commercially sensitive information is not published as part of, or in connection with, the register.

3. Background to the rule change request

Over the past five years, the Australian Energy Market Commission (AEMC) has completed two comprehensive reviews of the transmission arrangements that underpin the NEM.

The Transmission Frameworks Review (TFR) was completed in April 2013. In this review the AEMC identified a number of concerns with the efficiency of the co-ordination between transmission and generation investment in the NEM. These included:

- the lack of clear and cost-reflective locational signals for generators, such that locational decisions do not take into account the resulting transmission costs;
- TNSPs estimating the benefits of transmission development, where those benefits are better known to generators, and the risk of inefficient decisions being borne by consumers rather than by the decision-maker; and
- the resultant planning of the transmission networks not being co-optimised to minimise the combined costs of generation and transmission.

The TFR developed an integrated package of market arrangements for the provision and utilisation of the transmission system, known as optional firm access (OFA), which was designed to be an integrated solution to address identified concerns. While OFA had the potential to deliver long-term benefits to the NEM, the AEMC recognised there were likely costs and risks associated with its introduction. Therefore, the AEMC recommended that a design and testing program of the OFA model should be commissioned.

In June 2015, the AEMC completed the OFA, Design and Testing review (OFA review). In this review, the AEMC developed, tested and assessed the OFA model and found that in the current investment environment, the introduction of OFA would not contribute to the achievement of the National Electricity Objective (NEO). However, the AEMC concluded that circumstances could arise in the future where OFA would contribute to the NEO. In particular, where:

- there is a need for additional generation and transmission investment; but
- the investment is occurring in an environment where the location and type of investment is highly uncertain.

In order to prepare for such a future, the AEMC recommended periodic reporting and assessment of the drivers for transmission and generation investment. This would ensure that the transmission frameworks respond and adapt to change in a timely manner.

Further, and as noted above, the OFA model was developed in response to concerns about the efficiency of the co-ordination between transmission and generation in the NEM. In particular, that in an environment where the location and type of transmission and generation is uncertain, the current mechanisms for co-ordination may be inadequate.

During the course of the TFR and OFA review, numerous stakeholders argued that there is no evidence of inefficient co-ordination in the NEM. However, the AEMC concluded that inefficiencies may occur due to the fact that generation and transmission investment happen through two separate processes and could impact interconnector investment in the NEM. Some investment in interconnectors is expected to result in net market benefits associated with the increased capacity and flows between regions. However, generators have located along interconnector flowpaths, in some cases degrading the capacity, and reducing the inter-regional benefits that were expected for the interconnectors.

Therefore, in the OFA review the AEMC recommended that it would be beneficial to improve transparency regarding the level of co-ordination between transmission and generation investment in the NEM. In competitive markets, such information would be readily available.

The AEMC made a number of recommendations to changes to the current regulatory framework, for the purpose of increasing information flows. One of the recommendations – creating a register of the effect that large generator connections have on the network – is the subject of this rule change request.

4. Nature and scope of the issues the rule change seeks to address

This rule change will seek to improve the level of information transparency on the co-ordination of generation and transmission investment in the NEM. In particular, it will require; an assessment of the effects a large generator connection would have on a TNSP's network; and increased information transparency around the co-ordination of generation (such as, the generator's connection) and transmission (such as, the effects on the network, including the new set of network constraints).

Currently, generation and transmission investment decisions occur separately. Although the investment decisions may be indirectly influenced by each other, depending on the level of information that can flow between these two parties. The separation of investment decisions are:

- investment in generation assets is market-driven, and amongst other things, takes into account expectations of future demand, the location of the energy source, access to land and water and proximity to transmission; while
- transmission businesses have statutory obligations to maintain reliability of supply to end-users. They are subject to ex ante incentive-based regulation and undertake an economic cost-benefit test to help decide what investments to make.

As set out in the OFA review, the differences in generation and transmission investment and separate processes have the potential to result in a development path that does not minimise the total system costs faced by consumers. For example, a generator connecting to the network can change network congestion patterns, which could lead to a lower fuel cost generator being constrained off. It can also impact on the reliability of supply of electricity, and the network investments that a TNSP undertakes in order to meet its jurisdictional reliability standard.

More effective sharing of investment information between the generator and transmission sectors could lead to more efficient investment decisions. The exchange of accurate and meaningful information could be factored into investment decisions, which would ultimately lead to lower electricity costs for consumers.

Therefore, improving the level of information about the effects that large generation connections have on the transmission network can improve the efficient co-ordination of transmission and generation investment.

While some of the information that would be contained in the register is currently publicly available elsewhere (for example, a list of registered participants can be found on AEMO's

website)¹, it would be beneficial to have the information all in one place, along with the impact assessment.

5. Proposed rule

The proposed rule would require each TNSP to create and maintain a public register, which would contain information on large generator connections (over 30 MW in capacity) within its network in the NEM. This information would include:

- the node the generator is connected to;
- the name of the registered participant that is responsible for the generator;
- the capacity that the generator would operate at;
- the technology of the generator.

In addition, for any new generator connecting to its transmission network, the TNSP would be required to undertake an impact assessment to determine the effects that the generator's connection would have on the network. The impact assessment would also need to be published in the above mentioned register.

In undertaking the impact assessment, the TNSP would be required to use historical data to identify the effect of the large generator connection on the network, as compared with the absence of that connection to the network. This assessment would compare the impacts for the 12 month period following the date that the generator is commissioned to the 12 month period prior to the generator being commissioned. TNSPs would be required to consider a range of potential impacts on the network. These include the effects of the connection on network congestion and the level of interconnector transfer capability – but only where changes to these aspects following the generator's connection were considered material. The greater the impact of a generator connection, the more detailed analysis will be required in the impact assessment.

TNSPs would also be required to include a detailed description of the methodologies used to undertake the impact assessment.

A TNSP would be prohibited from publishing confidential information as part of, or in connection with the register, subject to satisfying any relevant exemptions contained in clause 8.6.2 of the National Electricity Rules (NER).

The impact assessment will help to demonstrate the effect that the generator connection would have on the network. For example, TNSPs may have invested in expanding the capacity of an interconnector, based on a regulatory investment test (RIT-T) assessment carried out under the NER that considered the investment would result in net market benefits associated with the increased capacity and flows between regions. It might be expected that the investment would allow cheaper cost generation in one region to displace higher cost generation in another region. However, if a new generator locates along interconnector flowpaths, it could reduce the level of interconnector transfer capability. This could result in inefficient outcomes, in particular where:

- a generator is more expensive than the interconnector, but can still be dispatched because of the resulting constraints on the transmission system;

¹ See: <http://www.aemo.com.au/About-the-Industry/Registration/Current-Registration-and-Exemption-lists>

- a generator is cheaper than the interconnector, but the generator's dispatch displaces the interconnector on a more than one for one basis, so in effect, reduces the supply of cheaper generation – which is exacerbated if market power then results in a region; or
- the generator is the same or cheaper than generation sourced over the interconnector, but could have been achieved by building a cheaper transmission line than an interconnector all the way between two regions.

It is proposed that the outcomes would be documented in the impact assessment that the TNSP would make under this rule. As a result, this proposed rule would increase the transparency of the effect that a generator connection would have on the network and the level of information about the co-ordination of generation and transmission investment in the NEM.

The proposed rule would be included in Chapter 5, Part B, of the NER, where the other network development reporting and information provision obligations on the TNSP can be found. The intent is that this proposed rule would have no effect on the generator connection process.

6. Contribution to the National Electricity Objective

The National Electricity Objective (NEO) is set out in section 7 of the Law. The NEO states:

“The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- a) price, quality, safety, reliability and security of supply of electricity; and*
- b) the reliability, safety and security of the national electricity system.”*

As noted above, efficient co-ordination of transmission and generation investment requires accurate and meaningful information being exchanged between generation and transmission sectors, and investment decisions incorporating this information. Efficient co-ordination between sectors contributes to efficient investment in both networks and generation.

Therefore, the proposed rules contribute to the NEO by increasing the transparency of information that is available to the generation and transmission sectors. This should help to promote more efficient decisions being made by market participants.

The public release of market information for transparency purposes generally supports the NEO where the costs of information provision are clearly less than the potential benefits of information release. In assessing the rule change request, the costs of extracting, providing and publishing the data, as well as issues of confidentiality, would need to be considered. The materiality of these costs would need to be compared against the materiality of the potential benefits that would result from an increase in the availability of information.

This increased transparency would help participants (for example, generators as well as consumers) make more informed submissions to RIT-T processes, since they will have more information about what other generation connections exist. It is also considered that the provision of information about the effect generator connections have on the network may assist market participants in making efficient investment decisions. It allows all market participants, market bodies and interested stakeholders to have access to the same information in a timely manner.

The AER will also have more information in to assist in the development of TNSP incentive schemes and at the margins will help the AER make revenue determinations in relation to TNSPs.

The proposed rule will therefore promote the efficient investment in, and operation of, electricity services for the long term interests of consumers with respect to efficient investment and operation of generation and transmission in the NEM.

7. Expected costs and benefits associated with the rule change proposal

7.1 Transmission network businesses

TNSPs would face increased costs as a result of this rule change proposal. TNSPs would be required to create and maintain a register. We consider that the creation of the register should be relatively low cost, since this information should be readily available to the TNSPs.

Conducting an impact assessment will increase regulatory costs for the TNSPs. However, such information and assessment could be used in other planning processes that the TNSP undertakes. Further, since the impact assessment would be based on historical data, the costs to the TNSP of collating the data should be fairly low.

7.2 Generators and consumers

There should be no costs for generators or consumers associated with this rule change proposal. Generators would not need to provide more information than they otherwise would to the TNSPs. Nor would they be required to do so in order to have this information published. Generators and consumers should benefit, through being able to provide more informed submissions to RIT-T processes.

7.3 AER

There should be no substantial costs to the AER. However, it is expected that the AER would be provided with improved information in the development of TNSP incentive scheme and at the margins to help make revenue determinations for TNSPs.

7.4 Other

The proposed rule would help governments and market bodies in terms of considering policy development issues. The proposed rule would allow for increased information on the co-ordination of generation and transmission investment.

Reporting on this information would also help to identify whether there are inefficiencies relating to generation and transmission investment co-ordination, which could be addressed by regulatory change. For example, increasing information transparency could help in revealing demand for access that could be more efficiently managed by regulatory change.

8. Timing

The proposed rules should come into effect as soon as possible, allowing sufficient time for TNSPs to establish registers and populate them with relevant historical data. As noted above, part of the register will need to be maintained for all generators that have connected since 12 December 1998.

However, the impact assessment will only need to be completed for new generators commissioned since the time that this rule was made.

Proposed Draft Rule

New rule 5.18A Register of large generator connections

a) For the purposes of this clause 5.18.A:

large generator connection means:

- (1) all *generating units* which have a *nameplate rating* of 30 MW or greater; or
- (2) are part of a group of *generating units connected* at a common *connection point* with a combined *nameplate rating* of 30 MW or greater,

that are owned, operated or controlled by a *Generator* and are connected to the *Transmission Network Service Provider's network*.

TAPR date means the date under clause 5.12.2 by which a *Transmission Network Service Provider* must publish its *Transmission Annual Planning Report*.

b) A *Transmission Network Service Provider* must establish and *publish*, on its website, a register of information regarding large generator connections, including but not limited to the:

- (1) location of the *connection point* for each large generator connection;
- (2) person who is registered by *AEMO* as a *Generator* in respect of the large generator connection at that *connection point*;
- (3) technology of the *generating unit* (e.g. hydro, open cycle gas turbine, steam sub-critical etc)
- (4) maximum power *generation capacity* of all *generating units* comprised in the large generator connection;
- (5) cessation of a person's registration with *AEMO* as *Generator* in respect of the large generator connection, where relevant;
- (6) impact assessment of that large generator connection, prepared in accordance with rule 5.18B.

c) Subject to satisfying any relevant exemptions contained in clause 8.6.2, the *Transmission Network Service Provider* must not *publish confidential information* as part of, or in connection with, the register.

d) The *Transmission Network Service Provider* must:

- (1) include in the register the details contained in paragraphs (b)(1)-(5), for all large generator connections, since 13 December 1998; and
- (2) by the TAPR date each year, include in the register the details contained in paragraph (b)(1)-(6) for all large generator connections, since the date the register referred to in paragraph (b) is established.

New rule 5.18B Impact assessment of Large Generator Connections

- a) Within 18 months of the completion of commissioning of the *connection* and *connected facilities* of a large generator connection (**commission date**), the *Transmission Network Service Provider* must prepare an assessment of the impact of that large generator connection on its *network* (**impact assessment**).
- b) The purpose of the impact assessment is to identify the effect of the large generator connection on the *Transmission Network Service Provider's network*, as compared with the absence of that connection to its *network*.
- c) The impact assessment must:
 - i) be based on historical data;
 - ii) consider the impacts listed in paragraph (iv) for the 12 months immediately preceding the commissioning date as compared to the 12 months following the commissioning date;
 - iii) be proportionate to the scale and materiality of impacts of the large generator connection;
 - iv) subject to paragraph (v), consider the following impacts where the *Transmission Network Service Provider* considers such impacts are material to the large generator connection:
 - a. changes to the costs of *ancillary services* as such costs relate the *Transmission Network Service Provider's network*;
 - b. changes to the level, and pattern, of *network* congestion;
 - c. differences in the timing of expenditure for the *Transmission Network Service Provider* on its *network*;
 - d. changes to the level of *interconnector* transfer capability;
 - e. changes in *network* losses;
 - v) if the *Transmission Network Service Provider* considers any of the impacts in paragraph (iv) to be immaterial, outline the reasons why it determined such impacts are not material;
 - vi) include a detailed description of the methodologies or data used in quantifying each impact referred to in paragraph (iv).