Australian Energy Market Commission

RULE DETERMINATION

National Electricity Amendment (Register of Large Generator connections) Rule 2016

Rule Proponent(s)
COAG Energy Council

1 September 2016

Inquiries

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

E: aemc@aemc.gov.au
T: (02) 8296 7800
F: (02) 8296 7899

Reference: ERC0205

Citation

AEMC 2016, Register of Large Generator connections, Rule Determination, 1 September 2016, Sydney

About the AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

Summary

The Australian Energy Market Commission (AEMC or Commission) has made a rule, which is a more preferable rule, that requires transmission network service providers (TNSPs) to:

- establish, maintain and publish a register of information in respect of large generator[1] connections; and
- undertake impact assessments for new large generator connections to the transmission network.

The rule change request was submitted by the COAG Energy Council on 8 March 2016.

The register of Large Generator connections will contain information including:

- the location of the connection point the generator is connected to;
- the name of the registered participant responsible for the generator at the relevant connection point;
- the date of cessation of a person's registration as a generator (where relevant);
- the generator's nameplate rating capacity; and
- the generator technology type.

The TNSP will be required to include details of the following in the impact assessment if the TNSP considers that such changes have a material impact on its network:

- changes to the ancillary service requirements as such requirements relate specifically to the TNSP's network;
- changes to the level and pattern of network congestion;
- changes in the timing of TNSP network expenditure; and
- changes in interconnector power transfer capability.

The expedited rule change process was used for this rule change because the Commission considered that the COAG Energy Council's proposal was a request for a non-controversial rule. One objection to the expedited rule change process was received. The Commission considered the objection to be lacking in substance and therefore the rule change process was expedited.

1 Defined in the final rule as being a generating unit, or part of a group of generating units connected at a common connection point, with a nameplate rating of 30MW or greater.

The Commission has determined to make a final rule, since it considers it will contribute to the National Electricity Objective (NEO). This is because it considers the final rule is likely to promote efficient investment in electricity services with respect to price by increasing the level of transparency relating to the effect of transmission connections in the National Electricity Market (NEM).

The Commission has made a more preferable rule because it is satisfied that, having regard to the issues raised in the proposed rule, the final rule will likely better contribute to the NEO than the proposed rule. The final rule makes clear that, in Victoria, AEMO will be responsible for establishing, maintaining and publishing the register and impact assessment as the jurisdictional planning body for that jurisdiction, resulting in information being displayed consistently across jurisdictions. A number of minor amendments to the proposed rule have also been made to clarify the operation of the provisions in response to stakeholder submissions.

Contents

1 COAG Energy Council's rule change request

1.1 The rule change request

On 8 March 2016, the COAG Energy Council (Energy Council or proponent) made a request to the Australian Energy Market Commission (AEMC or Commission) to amend the National Electricity Rules (NER) to require transmission network service providers (TNSPs) to:

- establish, maintain and publish a register of information in respect of large generator[2] connections; and
- undertake impact assessments for new large generator connections to the transmission network.

1.2 Background

Currently, transmission and generation investment decisions are driven by separate processes:

- TNSPs 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 assist investment decisions; and
- investment in generation assets is market driven and, amongst other things, involves consideration of factors such as expectations of future demand, availability of an energy source and proximity to transmission infrastructure.

These two processes were considered in the Transmission Frameworks Review (TFR) completed by the AEMC in April 2013[3] with the review identifying a number of concerns with the efficiency of the co-ordination between transmission and generation investment.

Following the conclusion of the TFR and at the request of the Energy Council, the AEMC commenced design and testing of the Optional Firm Access (OFA) model, publishing a final report in July 2015. In this report, the AEMC concluded that OFA did not contribute to the National Electricity Objective (NEO) at the time but may do so in the future if significant investment in transmission and generation is needed, and where the location and type of investment is highly uncertain.[4]

---

2 Defined in the final rule as being a generating unit, or part of a group of generating units connected at a common connection point, with a nameplate rating of 30MW or greater.

3 AEMC, Transmission Frameworks Review, Final Report, 11 April 2013, p. ii.

4 AEMC, Optional Firm Access, Design and Testing, Final Report Volume 1, 9 July 2015, p. ii.

The final report of the OFA, Design and Testing review also recommended several ways to improve the existing transmission framework in the meantime. This included increasing the level of transparency relating to the effect of transmission connections in the National Electricity Market (NEM) on the network.[5]

This forms the basis for the rule change request considered in this determination. The Commission set out in the final report for the OFA, Design and Testing review that increasing transparency would assist:

- participants in making more informed regulatory investment test for transmission (RIT-T) submissions as there will be more available information regarding existing generation connections; and
- government and market bodies assess the current framework's functionality, the effect that a generator connection has on the network and the extent to which co-ordination of generation and transmission is being achieved.[6]

1.3 Rationale for the rule change request

The differences in current arrangements for generation and transmission investment processes, as set out above, have the potential to result in investments that do not provide the most efficient solution, ie that do not minimise the total system costs faced by consumers. For example, a generator connecting to the network may not consider network congestion issues that could arise from connection at that location in the transmission network. By connecting at a particular part of the network, the generator may cause network congestion resulting in a higher-cost generator being dispatched at the expense of a lower-cost generator. It could also impact on the reliability of supply of electricity, and the network investments that a TNSP undertakes in order to meet jurisdictional reliability standards.

The rule change request sought to amend the NER to improve the level of transparency on the co-ordination of generation and transmission investment. More effective sharing of information between generation 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.

1.4 Solution proposed in the rule change request

The rule change request aimed to increase the level of information transparency regarding the co-ordination of generation and transmission investment in the NEM. The suggested solution in the rule change request was to require TNSPs to:[7]

5 More information relating to the recommendations made in the Optional Firm Access, Design and Testing review can be found in the final report available on the AEMC website, http://www.aemc.gov.au/Markets-Reviews-Advice/Optional-Firm-Access,-Design-and-Testing.

(a) establish, publish and maintain a register of information regarding all large generator connections commissioned after 12 December 1998; and

(b) undertake impact assessments for all new large generator connections (ie, those connections made after the proposed commencement of this rule) to determine the impact of generator connections on the TNSP's network.

The details of the register and impact assessments are discussed in section 3.

1.5 Commencement of rule making process

On 23 June 2016, the Commission published a notice under section 95 of the National Electricity Law (NEL) advising of its intention to commence the rule making process and consult in respect of the rule change request. A consultation paper identifying specific issues and questions for consultation was also published with the rule change request. Submissions closed on 21 July 2016.

The Commission received three submissions on the rule change request. They are available on the AEMC website.[8] A summary of the issues raised in submissions and the Commission's response to each issue is contained in Appendix A.

The Commission was of the view that the rule change request was a request for a non-controversial rule. Accordingly, the Commission proposed to expedite the rule change request under section 96 of the NEL, subject to any written requests not to do so. The closing date for receipt of written requests was 21 July 2016.

The Commission received one written request not to expedite the rule change request. The Commission decided that the reasons contained in the written request for not expediting the rule change request under section 96 of the NEL were lacking in substance. Accordingly, the rule change request was considered under an expedited process under section 96 of the NEL.

The time for making the final determination on this rule change under the expedited process was extended by two weeks under section 107 of the NEL as the Commission considered that it raised issues of sufficient complexity or difficulty. While the rule change was considered appropriate for an expedited process, it warranted an extension of the time between the publication of the consultation paper and the final determination from six to eight weeks. The extension allowed more time to consider submissions to the consultation paper.

6 Ibid, p. 28.

7 COAG Energy Council, Register of Large Generator connections, 29 February 2016, p. 4.

8 www.aemc.gov.au

2 Final rule determination

2.1 Commission's determination

In accordance with section 102 of the NEL, the Commission has made this final rule determination in relation to the Energy Council's rule change request.

The Commission has made a final rule, which is a more preferable rule (final rule). The final rule contains many of the proposed changes to the NER set out in the rule change request. Aspects of the final rule that differ from the proponent's proposed rule are outlined in chapter 3.

The Commission's reasons for making this final rule determination are set out in section 2.6.

The *National Electricity Amendment (Register of Large Generator connections) Rule 2016 No 7* (rule as made) is published with this final rule determination. The rule as made commences on 1 July 2017. The key features of the final rule are described in chapter 3.

2.2 Commission's considerations

In assessing the rule change request the Commission considered:

- the Commission's powers under the NEL to make the rule;
- the rule change request;
- the fact that there is no relevant Ministerial Council on Energy (MCE) Statement of Policy Principles;[9]
- submissions received during consultation; and
- the Commission's analysis as to the ways in which the proposed rule will or is likely to, contribute to the achievement of the NEO.

2.3 Commission's power to make the rule

The Commission is satisfied that the rule as made falls within the subject matter about which the Commission may make rules. The rule as made falls within the matters set out in section 34 of the NEL, as it relates to the activities of persons (including registered participants) participating in the NEM or involved in the operation of the national electricity system (s. 34(1)(a)(iii)).

9 Under section 33 of the NEL the AEMC must have regard to any relevant MCE Statement of Policy Principles in making a Rule.

2.4 Rule making test

Under section 88(1) of the NEL the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NEO. This is the decision making framework that the Commission must apply.

The NEO is set out in section 7 of the NEL as follows:

> "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."

2.4.1 Compatibility with AEMO's declared network functions

Under section 91(8) of the NEL, the Commission may only make a rule that has effect with respect to an adoptive jurisdiction if it is satisfied that the rule is compatible with the proper performance of the Australian Energy Market Operator's (AEMO) declared network functions The rule is compatible with AEMO's declared network functions because the register of large generator connections and impact assessments are not expected to negatively impact on AEMO's ability to perform its declared network functions. Further, it is compatible with AEMO's declared network functions under section 50C of the NEL, in particular its function of providing information and other services to facilitate decisions for investment and use of resources in Victoria's electricity industry.

2.4.2 Northern Territory legislative considerations not required

From 1 July 2016, the Commission assumed rule making responsibility for parts of the NER[10] adopted by the Northern Territory. As the proposed rule relates to parts of the NER that currently do not apply in the Northern Territory, the Commission is not required to assess the proposed rule against additional elements required by Northern Territory legislation.[11]

---

10 See http://www.aemc.gov.au/Energy-Rules/National-electricity-rules/National-Electricity-Rules-(Northern-Territory) for details about parts of the NER adopted by the Northern Territory.

11 National Electricity (Northern Territory) (National Uniform Legislation) Act 2015.

2.5 Assessment framework

For the rule change request, the Commission considers that the relevant aspect of the NEO is the promotion of efficient investment in electricity services with respect to price.[12]

In assessing the rule change request against the NEO, the Commission considered the following principles:

- Transparency of information: to achieve efficient market outcomes all market participants should have equal access to non-commercially sensitive information; and

- Proportionality: the value of increasing the transparency of pertinent market information should be greater than the costs imposed in the provision of the information.

2.6 Summary of reasons

Having regard to the issues raised in the rule change request and submissions, the Commission is satisfied that the final rule will, or is likely to, contribute to the achievement of the NEO because:

- the rule will increase access to non-commercially sensitive information for all market participants; and

- the value of the information made accessible by the rule is likely to be greater than the costs incurred in providing that information. The information provided by the final rule is likely to assist market participants in making more informed transmission and generation investment decisions while the cost of providing this information is understood by the Commission to be low.

Under s.91A of the NEL, the AEMC may make a rule that is different (including materially different) from a proposed rule if it is satisfied that, having regard to the issues raised by the rule change request, the more preferable rule will, or is likely to, better contribute to the achievement of the NEO than the proposed rule.

The Commission considers that the final rule will, or is likely to, better contribute to the achievement of the NEO than the proposed rule. This is because it makes clear that the register and impact assessment should be undertaken by AEMO in Victoria (as jurisdictional planning body for the state) creating a nationally consistent approach to the provision of this information, and by removing the unclear requirement that impact assessments must be proportionate to the materiality of the impacts at the

12 Under section 88(2), for the purposes of section 88(1) the AEMC may give such weight to any aspect of the NEO as it considers appropriate in all the circumstances, having regard to any relevant MCE statement of policy principles.

connection. A number of minor amendments have also been made to the proposed rule to improve clarity of the rule.

2.7 Civil penalty and conduct provisions

The final rule does not amend any clauses that are currently classified as civil penalty or conduct provisions under the NEL or National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the Energy Council that any of the proposed amendments made by the final rule be classified as civil penalty or conduct provisions.

3 Commission's assessment and decisions

The Commission has analysed the rule change request and assessed the issues arising out of it. For the reasons set out below, the Commission has determined that a rule be made. The Commission's analysis of the rule proposed by the rule proponent is also set out below. This chapter also outlines differences between the final rule and the rule as proposed by the proponent. The Commission notes that in addition to the differences outlined in the rest of the chapter, a number of minor amendments have been made to the proposed rule to better clarify the operation of the provisions.

A summary of issues raised by stakeholders in submissions to the rule change request is available in Appendix A.

3.1 Creation of a register of large generator connections

3.1.1 Energy Council's view

The Energy Council proposed the introduction of a register of information in respect of large generator connections. The register would be maintained and updated by TNSPs and would contain information including:

- the location of the connection point of each large generator connection;
- the name of the registered participant responsible for the generator at the relevant connection point;
- the cessation of a person's registration as a generator (where relevant);
- an impact assessment of large generator connections (as discussed below in section 3.2);
- the maximum power generation capacity of all generating units comprised in the large generator connection; and
- the generator technology type.[13]

The register would apply to individual generators or as part of a group of generating units connected at a common connection point with a nameplate capacity of 30MW or greater[14] that have been connected since 12 December 1998. The register would be made public by requiring that it be published on the TNSP's website and the TNSP would need to ensure that the register did not contain confidential information.

13 COAG Energy Council's rule change request, Register of Large Generator connections, 29 February 2016, p. 4.

14 The register would also include details of generating units comprising a group of generating units connected at a common connection point with a combined nameplate rating of 30 MW or greater.

3.1.2 Stakeholder views

In submissions to the consultation paper, Transmission General Holdings Australia and ENGIE did not consider that requiring TNSPs to create and maintain individual registers of large generator connections on their network would provide any additional benefit. Transmission General Holdings Australia and ENGIE considered that the information that was to be included in the register was being unnecessarily duplicated as much of it is publically available on AEMO's website. Transmission General Holdings Australia also considered that if there was a perceived deficiency in the information made publically available by AEMO, it may be preferable to enhance the information that AEMO must provide to the market.[15]

Energy Networks Australia (ENA) also acknowledged that most of the information that would be included in the register is available on AEMO's website but also considered the information was reasonable for the intended purpose of the register.[16]

3.1.3 Analysis and conclusion

The Commission acknowledges that some of the information that will be contained in the register of large generator connections is currently publicly available on AEMO's website. However, it considers that there is additional benefit in requiring TNSPs to produce individual registers for their networks, since this will increase the transparency of information that is available to the generation and transmission sectors and so promote more efficient decisions being made by both established and new market participants. The information currently made available by AEMO does not include the impact assessments, discussed in section 3.2, and the Commission considers that publishing both the register and impact assessment together on a TNSP's website will be beneficial in terms of providing this information to the market. Further, it is understood that the costs involved in enabling such information provision are low.

As such, the final rule introduces the requirement for TNSPs to establish, maintain and publish a register of information in respect of large generator connections. There are differences between the proposed rule and the final rule to increase clarity regarding the content and implementation of the register.

Specifically, the Commission considers the proposed rule may have been ambiguous regarding the circumstances in which the register should be updated. To clarify, the final rule requires:

- TNSPs to update the register of large generator connections by the transmission annual planning report (TAPR) date[17] each year (including the preparation of impact assessments for new large generator connections as discussed in section

15 TGHA, submission on consultation paper, p.1; ENGIE, submission on consultation paper, p.1.

16 ENA, submission on consultation paper, p.3.

17 Defined in NER clause 5.12.2 as 30 June.

3.2 below), with the TNSP having the option of updating the register more frequently if it considers it appropriate; and

- TNSPs, when updating the register, are to include any changes to the connection of a large generator already contained in the register, as well as adding new large generator connections.

3.2 Impact assessment

3.2.1 Energy Council's view

The Energy Council proposed that for any new large generator connecting to a TNSP's transmission network, the TNSP would be required to undertake an impact assessment to determine the effects that the large generator's connection would have on the TNSP's network.[18] The impact assessment would also need to be published in the above register (and so would be subject to the same confidentiality provisions).

In conducting the impact assessment as proposed by the Energy Council, the TNSP would be required to use historical data to assess the impact of the generator connection. The assessment would consider the 12 month period either side of the date of a large generator being commissioned. In undertaking the proposed impact assessment the TNSP would be required to look at the following impacts if the TNSP considers they are material:

- changes to the costs of ancillary services as relating to the TNSP's network;
- changes to the level and pattern of network congestion;
- differences in the timing of TNSP network expenditure;
- changes in interconnector transfer capability;
- changes in network losses.[19]

The impact assessment must include details that are proportionate to the scale and materiality of impacts of the generator connection. Where TNSPs consider any of the impacts above to be immaterial, they would be required to outline their reasons. TNSPs would also be required to include a detailed description of the methodologies used to undertake the impact assessment.

3.2.2 Stakeholder views

ENGIE considered that the information that would be included in the impact assessment would be of interest to market participants but was concerned that

18 An example of what such effects could be is provided on pages 4-5 of the rule change request.

19 COAG Energy Council, Register of Large Generator connections, 29 February 2016, p. 4.

requiring some of the information to be provided by TNSPs may not be appropriate. ENGIE also suggested that the impact assessments should consider the impact on ancillary service requirements instead of ancillary service costs as the TNSP is in a good position to comment on requirements but should not be asked to speculate on the prices at which such services might be offered.

ENGIE indicated that TNSPs would need to determine loss factors in a manner that would be consistent with AEMO's method for determining loss factors which involves a complex calculation process, a process ENGIE considered TNSPs as not being well placed to carry out.[20] The ENA also did not consider the inclusion of reporting on network losses in the impact assessments to be an efficient or meaningful outcome, indicating that the results are highly sensitive to load and generation patterns in a TNSP's jurisdiction over the period considered. ENA also noted that AEMO currently publishes data on marginal loss factors that may be of relevance to the intention of reporting on network losses in the impact assessments.[21]

In contrast, Transmission General Holdings Australia did not consider the impact assessment would be likely to provide additional valuable information.[22]

3.2.3 Analysis and conclusion

The Commission considers that the preparation of an impact assessment for each new large generator connection will be beneficial since it will help exchanges of accurate and meaningful information between generation and investment sectors, and incorporation of such information into investment decisions. Therefore, the rule as made introduces the requirement for TNSPs to prepare an assessment of the impact of a new large generator connection.

However, the Commission considers that some of the suggestions made by stakeholders in relation to the wording of the proposed the rule are valid, namely:

- under the final rule, the impact assessment does not require TNSPs to consider whether network losses are material to a new large generator connection. The Commission acknowledges the comments provided by provided by the ENA and ENGIE that TNSPs are not best placed to carry out assessments of network losses in a way that would produce useful information.

- the impact assessment requirements have also been altered to reflect ENGIE's comments regarding the reporting on ancillary services costs in the impact assessment. Under the final rule, the impact assessment requires TNSPs to consider "changes to the ancillary services requirements to the extent such changes relate specifically to the TNSP's network" as opposed to "changes to the costs of ancillary services as such costs relate specifically to the TNSP's network"

20 ENGIE, submission on consultation paper, p.2.

21 ENA, submission on consultation paper, p.4.

22 TGHA, submission on consultation paper, p.2

as was contained in the proposed rule. As indicated by ENGIE, TNSPs are in a good position to comment on ancillary service requirements but reporting on costs may require speculation since these services are procured through a competitive process.[23]

- finally, TNSPs are to only undertake impact assessments for the connection of new large generator connections, not for alterations or modifications to any existing large generator connection. If a generator with nameplate capacity of less than 30MW is modified or upgraded to have a nameplate capacity of greater than 30MW, that generator would become a new large generator connection and would require an impact assessment to be undertaken.

In summary, in undertaking the impact assessment and considering the 12 month period either side of the commissioning date of the large generator connection, TNSP's will be required to consider which of the following impacts it considers to be material to the connection of a new large generator:

- changes to ancillary services requirements to the extent such requirements relate specifically to the TNSP's network;
- changes to the level and pattern of network congestion on its network;
- differences in the timing of network expenditure for the TNSP; and
- changes to the level of interconnector power transfer capability on its network.

To the extent TNSPs consider the above to be immaterial, they are required to outline their reasons and basis for considering such impacts to their network as being immaterial.

The impact assessment requirements have been altered such that details included in the impacts assessment do not need to be proportionate to the scale and materiality of impacts of the large generator connection. The Commission considers that this previous requirement was uncertain in its purpose and meaning, and that the impacts assessment requirements otherwise included are sufficiently clear

3.3 Implementation

3.3.1 Energy Council's views

In the rule change request, the Energy Council recommended the proposed rule should come into effect as soon as possible. The Energy Council proposed that the register will need to be maintained for all new or modified large generators connections since 12 December 1998 and the impact assessment will only need to be completed for new large generators commissioned since the time that the proposed rule comes into effect.

23 ENGIE, submission to consultation paper, p.2.

In the consultation paper, the Commission proposed the rule should have an implementation date of 1 July 2017. The Commission also proposed to amend the drafting to require TNSPs to publish the register, and impact assessments, by the TAPR date falling immediately after 18 months of the completion of the commissioning of the large generator connection.

The rule change request proposed that TNSPs must undertake an impact assessment for new large generator connections. The impact assessment covers the period 12 months before and after the commissioning date of a large generator. The proposed rule defined this date as "the completion of commissioning of the connection and connected facilities of a large generator connection". In the consultation paper, the AEMC suggested amending the definition of commission date to "the commencement of commissioning of the connection and connected facilities of a large generator connection", as it was understood to be a more widely accepted term.

3.3.2 Stakeholder views

The ENA agreed that the proposed implementation date of the rule was appropriate. The ENA also agreed that the publishing date as proposed in the consultation paper was fair.[24]

Transmission General Holdings Australia considered that if the rule is made, it should be made clear that the rule should only apply to the "incumbent TNSP or the TNSP that is responsible for publishing" the TAPR in an adoptive jurisdiction.[25]

3.3.3 Analysis and conclusion

The rule will come into effect on 1 July 2017. This will allow TNSPs sufficient time to establish their registers and prepare to undertake impact assessments when required. By 1 July 2017 TNSPs will be required to have established the first register of large generator connections for all large generator connections since 13 December 1998.

Going forward, TNSPs are required to, by the TAPR date each year, update and publish the register to include all new and changed large generator connections since the register was established.

Following the commissioning of a new large generator connection on a TNSP's network, the TNSP must prepare an assessment of the impact of that large generator connection by the assessment date.[26]

---

24 ENA, submission on consultation paper, p.5.

25 TGHA, submission on consultation paper, p.2.

26 In the final rule, assessment date is defined as the first TAPR date that falls no earlier than 18 months after the commissioning date for a large generator connection. The commissioning date refers to the date of commencement of commissioning of the connection and connected facilities of that large generator connection.

The rule as made also makes clear that in Victoria, AEMO will be responsible for establishing, maintaining and publishing the register and impact assessment as the jurisdictional planning body for that jurisdiction. This is considered appropriate since it will result in information being displayed consistently across that jurisdiction.

3.4 Differences between the final rule and the proponent's proposed rule

The final rule is a more preferable rule to the rule as proposed by the Energy Council since it includes some differences. These differences include:

- clarification of the timing of updating the register of large generator connections;
- clarification of the circumstances under which a TNSP must prepare an assessment of the impact of a new large generator connection on its network;
- the impact assessment requirements have been altered such that details included in the impact assessment do not need to be proportionate to the scale and materiality of impacts of the large generator connection. The Commission considers that this previous requirement was uncertain in its purpose and meaning, and that the impact assessment requirements otherwise included are sufficiently clear;
- the removal of the requirement for TNSPs to consider changes in network losses in preparing an assessment of the impact of a new large generator connection on its network; and
- making clear that, in Victoria, AEMO will be responsible for establishing, maintaining and publishing the register and impact assessment as the jurisdictional planning body for that jurisdiction. This is considered appropriate since it will result in information being displayed consistently across that jurisdiction;
- other minor amendments and reordering to improve clarity.

Abbreviations

AEMC or Commission	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
ENA	Energy Networks Australia
Energy Council	COAG Energy Council
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
OFA	Optional Firm Access
RIT-T	regulatory investment test for transmission
TAPR	transmission annual planning report
TFR	Transmission Frameworks Review
TGHA	Transmission General Holdings Australia
TNSPs	transmission network service providers

A Summary of issues raised in submissions

Stakeholder	Issue	AEMC response
Transmission General Holdings Australia (TGHA) (p. 1).	The information to be included in the register includes information currently made public by AEMO. TGHA considered that if there is a deficiency in the information made public by AEMO, it may be preferable to enhance that information set as opposed to requiring TNSPs to duplicate the information as this will result in increased costs and adds confusion as to where the information is available.	The Commission acknowledges that there will be some duplication of data when the TNSPs establish their individual registers of large generator connections. It is considered that the costs of reproducing this data will be minor, and will be outweighed by the benefit of having the registers published by each TNSP accompanied by impact assessments for new large generator connections. Requiring TNSPs to publish a register for their network also provides value in clearly distinguishing the TNSP that operates the shared network a large generator is connected to.
Energy Networks Association (ENA) (p. 4).	ENA noted that in reporting on network congestion, the interpretation of the "level and pattern of congestion" is unclear. The ENA suggested an approach to reporting this, which would involve TNSPs collating: • the description and frequency of occurrences of relevant binding equations; and • the introduction of, or amendments/deletions to, constraint equations that result from the introduction of a new large generator. This would be restricted to constraint equations within the jurisdiction of the relevant TNSP.	The rule requires that the TNSPs will be required to include a detailed description of the methodologies or data used in quantifying this impact or, if the TNSP considers this impact immaterial, outline the reasons why it has determined such impacts are not material. The Commission considers that the ENA's proposed approach to reporting the "level and pattern of congestion" appears reasonable, however it is the role of the AER to determine Rules compliance.

Stakeholder	Issue	AEMC response
ENA (p. 4).	The ENA considered it appropriate to be permitted to concurrently publish a high-level Statement of Intent (Disclaimer) with the proposed impact assessments to obviate some potential situations where there might be misunderstanding as to the appropriate use of information provided in these impact assessments.	The Commission does not consider that there is anything in the rule that prohibits a TNSP from including a statement with the impact assessments outlining the intention of the information provided and the extent of its applicability.
ENA (p. 4).	The ENA recommended further clarifying the period of time in which the generator would be assessed. The ENA recommended the assessments should occur for the 12 months before the first generating unit is connected to the transmission system, and for the period 12 months after the TNSPs have been notified by a *Registered Participant* under National Electricity Rules' clause 5.8.5(c) that their commissioning test results demonstrate that a new or replacement item of equipment complies with the National Electricity Rules or the relevant connection agreement or both to the satisfaction of the relevant *Network Service Provider*.	The Commission believes the rule provides sufficient guidance on the period of time over which the generator impacts should be assessed.
ENA (p. 5).	The ENA considered that it should be made explicit that TNSPs should not have a de facto regulatory or compliance role in attributing certain outcomes, to a particular (new) generator.	The intention of the rule is to increase the level of transparency relating to effect of generator connections on the transmission network. The rule requires TNSPs to consider a range of impacts where the TNSP considers these impacts to be material to a large generator connection. The TNSP will have the opportunity to clarify any assumptions made, and the methodology used in reporting the impact assessment.

Stakeholder	Issue	AEMC response
ENA (p. 5).	The ENA asked the AEMC for greater clarity on what the "detailed description of the methodologies or data used in quantifying each impact" required unambiguously means.	Due to the bespoke nature of large generator connections to the transmission network, the Commission does not consider setting out a more detailed definition of this phrase would be beneficial. The rule affords TNSPs flexibility on the methodologies they employ to determine the material impacts of the connection of a large generator.
ENGIE (p. 2).	The only ancillary service that the TNSP should be asked to comment on would be network support and control ancillary services. It would not be appropriate for a TNSP to comment on frequency control ancillary services.	At present, the AEMC considers network support and control ancillary services to be the only ancillary service that applies specifically to a TNSP's network. However, the rule is drafted to not preclude future ancillary services that may apply specifically to TNSPs.
ENGIE (p. 2).	As well as the individual impacts, it is also important that the combined impact of all new generator connections is included in the register.	The Commission acknowledges that there may be additional information made available by requiring TNSPs to consider the combined impact of all new generator connections. However, this would also significantly increase the complexity of the impact assessment and the associated costs. For this reason, the Commission has decided against increasing the scope of the impact assessment to cover the combined impact of all new generator connections.
ENGIE (p. 2).	A better approach to improving transparency than requiring TNSPs to undertake impact assessments	TNSPs are currently able to provide this information, and some TNSPs have included this

Stakeholder	Issue	AEMC response
	for new large generator connections would be TNSPs providing information on the capability of the network to accommodate a range of new generator options. Alternatively, TNSPs could provide advice on the sensitivity of transmission connection points for the future generator connections. For example, TNSPs could indicate what the impact might be at each connection point for a range of potential changes in generation.	information in their most recent TAPRs. For example, see Powerlink's 2016 TAPR.[27] The information made available in the rule as made is seen to be complementary to any other information made public by TNSPs.

27 Powerlink, Transmission annual planning report, 2016, available at https://www.powerlink.com.au/About_Powerlink/Publications/Transmission_Annual_Planning_Reports/Transmission_Annual_Planning_Report_2016.aspx