



Australian Energy Market Commission

## CONSULTATION PAPER

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

**Rule Proponent(s)**  
COAG Energy Council

23 June 2016

**RULE  
CHANGE**

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AEMC 2016, Register of Large Generator connections, Consultation Paper, 23 June 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.

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# 1 Introduction

On 8 March 2016, the COAG Energy Council (Energy Council) submitted a rule change request to the Australian Energy Market Commission (AEMC or Commission). The rule change request would require transmission network service providers (TNSPs) to create and maintain a register for Large Generator<sup>1</sup> connections, and be required to undertake impact assessments for new Large Generator connections to TNSP networks.

## 1.1 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 subjected to ex-ante incentive based regulation and undertake an economic cost-benefit test to help decide what investment to make; 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<sup>2</sup> 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 at the time but may do so in the future if significant investment in transmission and generation is needed, and the where the location and type of investment is highly uncertain.<sup>3</sup>

The final report of the OFA review also recommended two areas for improving the existing transmission framework in the meantime:

1. regular reporting on the drivers of transmission and generation investment, which could trigger future assessments of whether the transmission frameworks need to change; and
2. increasing information flows to facilitate more efficient investment decisions and co-ordination of investment decisions as well as allowing market bodies to more

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<sup>1</sup> Defined for this rule change request as being generators with nameplate capacity of 30MW or greater.

<sup>2</sup> AEMC, Transmission Frameworks Review, Final Report, 11 April 2013, p. ii.

<sup>3</sup> AEMC, Optional Firm Access, Design and Testing, Final Report Volume 1, 9 July 2015, p. ii.

clearly observe how the current frameworks are functioning in response to a changing environment.<sup>4</sup>

In relation to the second area, the Commission made three recommendations in the OFA final report in order to increase information flows:

1. extend the application for the regulatory investment test for transmission (RIT-T) to apply to relatively large network asset replacements;<sup>5</sup>
2. review the requirements in the Rules on making information about generator funded augmentations available, to identify why such information is not currently available; and
3. increase the level of transparency relating to the effect of transmission connections in the National Electricity Market (NEM) on the network.<sup>6</sup>

The third recommendation forms the basis for this rule change request. The Commission set out in the final report for the OFA review that increasing transparency would assist:

- participants in making more informed 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.<sup>7</sup>

## 1.2 Issues raised in 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 this 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

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<sup>4</sup> AEMC, Optional Firm Access, Design and Testing, Final Report Volume 1, 9 July 2015, p. 9.

<sup>5</sup> It is expected that the Australian Energy Regulator (AER) will submit a rule change request to the AEMC on this issue shortly. For more information, refer to the AER's submission to the Demand Management Incentive Scheme, available at <http://www.aemc.gov.au/Rule-Changes/Demand-Management-Embedded-Generation-Connecton-I>

<sup>6</sup> AEMC, Optional Firm Access, Design and Testing, Final Report Volume 1, 9 July 2015, p. 25.

<sup>7</sup> AEMC, Optional Firm Access, Design and Testing, Final Report Volume 1, 9 July 2015, p. 28.

electricity, and the network investments that a TNSP undertakes in order to meet its jurisdictional reliability standard.<sup>8</sup>

The rule change seeks to amend the Rules 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.<sup>9</sup>

### **1.3 Proposed rule change**

The proposed rule change aims to increase the level of information transparency regarding the co-ordination of generation and transmission investment in the NEM. If made, the rule would have the effect of requiring TNSPs to:<sup>10</sup>

- (a) create and maintain a register of all Large Generator connections commissioned after 1 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 transmission network.

#### **1.3.1 Register of Large Generator connections**

The register of Large Generator connections would contain information including:

- the node the generator is connected to;
- the name of the registered participant responsible for the generator;
- cessation of a person's registration as a generator (where relevant);
- the generator's nameplate capacity; and
- the generator technology type.<sup>11</sup>

The register would apply to generators with nameplate capacity of 30MW or greater that have been connected since 13 December 1998. The register would be made public, accounting for confidentiality obligations to ensure any commercially sensitive information is not disclosed.<sup>12</sup>

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<sup>8</sup> COAG Energy Council, Register of Large Generator connections, 29 February 2016, p. 4.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

### **1.3.2 Impact assessment**

For any new generator connecting to its transmission network, the TNSP would be required to undertake an impact assessment to determine, and demonstrate, the effects that the generator's connection would have on the network.<sup>13</sup> 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, 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 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.<sup>14</sup>

The greater the impact of a generator connection, the more detailed analysis would 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.

### **1.3.3 Energy Council considers the rule change request would meet the NEO**

The Energy Council considers that the rule change request will contribute to the National Electricity Objective (NEO) by promoting efficient investment in electricity services. The Energy Council contends that the rule change will result in:

- more efficient co-ordination between TNSPs and generators in terms of asset investment;
- market bodies being able to make more informed RIT-T submissions;
- increased amount of information for all market participants which will assist decision making and lead to more efficient market outcomes; and
- the AER will have more information when developing incentive schemes and making revenue determinations leading to more efficient TNSP decisions.<sup>15</sup>

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<sup>13</sup> An example of what such effects could be is provided on pages 4-5 of the rule change request.

<sup>14</sup> COAG Energy Council, Register of Large Generator connections, 29 February 2016, p. 4.

<sup>15</sup> COAG Energy Council, Register of Large Generator connections, 29 February 2016, p. 5.

The Energy Council's rule change request included drafting for the proposed rule. The proposed rule can be viewed in the rule change request which is available on the Register of Large Generator connections project page.<sup>16</sup>

#### **1.4 Assessment framework**

The Commission's assessment of this rule change request must consider whether the proposed rule promotes the NEO as set out under section 7 of the National Electricity Law (NEL). The NEO states:

“That the object 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.”

In assessing the rule change proposal against the NEO, the Commission proposes to consider how the proposed rule change is likely to promote efficient investment in electricity services with respect to price. Accordingly, the following principles will be used to guide the assessment of this rule change request:

- **Transparency of information:** to achieve efficient market outcomes all market participants should have equal access to non-commercially sensitive information;  
and
- **Economically efficient:** the value of increasing the transparency of pertinent market information should be greater than the costs imposed in the provision of the information.

#### **Question 1 Assessment framework**

- (a) **Is the assessment framework appropriate for considering the changes proposed in the rule change request?**
- (b) **Are there other relevant considerations that should be included in the assessment framework?**

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<sup>16</sup> See <http://www.aemc.gov.au/Rule-Changes/Register-of-Large-Generator-connections>.

## 2 Issues for consultation

This chapter outlines the aspects of the rule change proposal on which the Commission is seeking stakeholder feedback. The issues for consultation are:

- the details to be included in the register;
- the details to be included in the impact assessment;
- the timeframes proposed under the rule change request; and
- suggested amendments to the proposed rule.

Stakeholders are encouraged to comment on these issues and any other aspect of the rule change request, including the proposed assessment framework.

### 2.1 Details to be included in register

The rule change request proposes that TNSPs must establish and maintain a register of information regarding Large Generator connections, including but not limited to the:

1. node that each Large Generator is connected to;
2. person who is registered by the Australian Energy Market Operator (AEMO) as a Generator in respect of the Large Generator connection at that connection point;
3. technology of the generating unit;
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; and
6. an impact assessment (see section 2.2).

The majority of this information is currently made publicly available by AEMO. The rule change would make this information available on the relevant TNSP website and available alongside the impact assessments.

#### **Question 2      Details to be included in the register**

- (a) Are there other details that should be included in the register?
- (b) Are the proposed details to be included in the register appropriate?

## 2.2 Details to be included in the impact assessment

The rule change request also requires TNSPs to undertake impact assessments for new generation connections. The purpose of the impact assessment is to identify how the generator connection affects the TNSP's network as compared to the absence of the generator. The TNSP must include, if they are considered by the TNSP to be material, the following impacts:

- changes to the costs of ancillary services as such costs relate to the TNSP's network;
- changes to the level and pattern of network congestion;
- differences in the timing of network expenditure for the TNSP;
- changes to the level of interconnector transfer capability;
- changes in network losses.

The impact assessment must be based on historical data.<sup>17</sup> The information made public in the impact assessment has to be considered material to the impacts of the Large Generator connection by the TNSP.<sup>18</sup> The information in the impact assessment must not be in breach of any confidentiality requirements.

### **Question 3      Details to be included in the impact assessment**

- (a) **Are there other details that should be included in the impact assessment?**
- (b) **Are the proposed impacts to be included in the assessment appropriate, eg, changes to the level and pattern of network congestion?**

## 2.3 Timeframes proposed under the rule change request

The rule change request proposes that TNSPs should undertake impact assessments that compare the impacts of a generator connection by assessing the difference between the 12 months prior to the generator being commissioned and the 12 months after being commissioned. The TNSP has until 18 months after the generator is commissioned to publish the impact assessment. The timeframe for impact assessments is discussed further in section 2.5.6.

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<sup>17</sup> The AEMC considers that the purpose of the rule change request is not to require TNSPs to provide an extensive interpretation of the data collected for the impact assessment. Rather the impact assessment is to be based on historical data and not necessarily additional analysis or modelling on the part of the TNSP.

<sup>18</sup> There may be concerns regarding interpretation of the term "material" and "immaterial" with regard to undertaking the proposed impact assessment. However, the AEMC considers the term material has precedence and a relatively well understood meaning within the National Electricity Rules (NER) (eg, the term material is used in the NER clauses relating to the RIT-T).

**Question 4      Timeframe**

- (a) Is the 12 month period for before and after the commissioning of a generator appropriate for assessing the impact of the generator connection upon the network?

## **2.4      Implementation**

According to the proponent, the proposed rules should come into effect as soon as possible allowing for sufficient time for TNSPs to establish the registers. The Commission proposes that the rule should have an implementation date of 1 July 2017 which should allow TNSPs sufficient time to prepare and establish the register.

**Question 5      Implementation**

- (a) Do stakeholders agree with the date for implementing the proposed changes?

## **2.5      Suggested alternative approach**

The Commission considers that a number of alternative amendments to the proposed rule change may assist in better achieving the objective and principles discussed in Chapter 1, and are proposed below for consultation.

### **2.5.1      Commissioning date**

The rule change request proposes that TNSPs must undertake an impact assessment for new Large Generator connections. The impact assessment must cover the period 12 months before and after the commissioning date of Large Generator. The proposed rule defines this date as "the completion of commissioning of the connection and connected facilities of a large generator connection". The AEMC considers that the definition of commission date could amended to "the *commencement* of commissioning of the connection and connected facilities of a large generator connection", as we understand that this is a more widely accepted term.

### **2.5.2      Updating register**

The Commission considers that the proposed rule may be ambiguous regarding the circumstances in which the register of Large Generator connections should be updated, and those which would require an impact assessment to be undertaken. A possible way to address this issue would be to make a rule that would require:

- TNSPs to update the register of Large Generator connections by the transmission annual planning report (TAPR) publishing date<sup>19</sup> each year, but the TNSP would have the option of updating the register more frequently;
- TNSPs, when updating the register, are to include any alteration or modification to the connection of a Large Generator already contained in the register; and
- 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.

### **2.5.3 Clarification of ancillary services costs**

The Commission considers that clause 5.18B(c)(iv) in the proposed rule may be unclear as to which ancillary services are proposed to be reported upon. A possible way to address this issue would be to make a rule that would clarify that any changes to ancillary services costs reported in the impact assessment should be changes in the costs of ancillary services relating "specifically" to the TNSP.

### **2.5.4 Publishing date of impact assessment**

The Commission considers that the proposed rule may be unclear as to how the publishing dates of the impact assessment would align with the publishing date of the TAPR. To reduce administrative burden, ideally both documents would be published at the same time, ie, the register and impact assessments could form an appendix to the TAPR. We acknowledge that the proposed rule may not allow for TNSPs to publish impact assessments with the TAPR if the impact assessment must be completed within 18 months of the commencement of commissioning of a Large Generator connection. To address this, the AEMC proposes to amend the drafting to require TNSPs to publish the register, and impact assessments, by the TAPR publishing date falling immediately after 18 months of the completion of the commissioning of the Large Generator connection.

### **2.5.5 Replacement of maximum power generation capacity**

The Commission considers that clause 5.18A(b)(4) of the proposed rule may be unclear as to what 'maximum power generation capacity of all generating units comprised in the large generator connection' refers to. The AEMC proposes to replace this with 'total nameplate rating capacity of all generating units comprised in the large generator connection'.

#### **Question 6 Suggested amendments to the proposed rule**

**(a) Do stakeholders have any comments regarding the suggested possible**

<sup>19</sup> The TAPR publishing date is 30 June each year.

amendments to the proposed rule?

(b) Are there any other amendments that stakeholders consider necessary?

### 3 Process for this rule change

This chapter outlines the process the Commission will be following for the rule change request. The chapter explains the designation of the rule change as non-controversial and outlines the key dates for the rule change process.

#### 3.1 Treatment as a non-controversial rule change

The Commission considers that the rule change request should be subject to the expedited rule making process under section 96 of the NEL on the grounds that it considers the rule change request to be non-controversial. Section 87 of the NEL defines a 'non-controversial rule' as 'a rule that is unlikely to have a significant effect on the national electricity market'. The Commission considers that this rule change is unlikely to have a significant impact on the NEM. This is because the proposed rule would increase the amount of information available to market participants. The Commission does not anticipate that the proposed changes, if made, would result in a significant impact to transmission businesses or any other market participants.

Rule changes that are considered to be non-controversial may be processed under an expedited (faster) process under which there is only one round of consultation.<sup>20</sup> The Commission proposes to use this expedited process to consider the rule change request provided that it does not receive any valid requests not to use the expedited process by 7 July 2016. To be valid, an objection should set out the reasons why the rule change request will have a significant impact on the NEM.

If there are no valid objections to the expedited process, the final determination will be published on 18 August 2016. The time for making the final determination on this rule change under the expedited process has been extended by two weeks as it raises issues of sufficient complexity or difficulty.<sup>21</sup> While the rule change is considered appropriate for an expedited process, it warrants an extension of the time between the publication of the consultation paper and the final determination from six weeks to eight weeks. The extension allows more time to consider submissions to the consultation paper.

#### 3.2 Key dates

Given the tightly defined nature of the issue, and the comprehensive background information provided in the rule change request, the AEMC will not be releasing a more detailed consultation paper. Submissions are however invited in relation to the matters identified above, and any other relevant issue.

The **key dates** for stakeholders in this process are as follows:

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<sup>20</sup> The AEMC has published a notice under sections 95 and 96 of the National Electricity Law to commence and assess this rule change request as a non-controversial rule.

<sup>21</sup> Section 107 of the National Electricity Law.

- Commencement of this rule change process: 23 June 2016
- Objections to an expedited process to be received by: 7 July 2016
- Submissions to the proposal to be received by: 21 July 2016
- Final decision to be published under an expedited process by: 18 August 2016

## **4 How to lodge a submission**

The Commission invites written requests not to make a rule under the expedited process and written submissions on this rule change proposal.

All enquiries on this project should be addressed to Declan Kelly on (02) 8296 7861.

### **4.1 Lodging a request not to make a rule under an expedited process**

Written requests not to make a rule under the expedited process in section 96 of the National Electricity Law must include reasons for the request, and must be lodged with the Commission by 7 July 2016, either online or by mail, in accordance with the requirements specified below.

### **4.2 Lodging a submission to this rule change request**

Written submissions on the rule change request must be lodged with Commission by 21 July 2016, either online or by mail, in accordance with the requirements specified below.

Where practicable, submissions should be prepared in accordance with the Commission's guidelines for making written submissions on rule change requests.<sup>22</sup> Please note that the Commission publishes all submissions on its website, subject to a claim of confidentiality.

### **4.3 Lodging a submission electronically**

Electronic submissions, or requests not to make a rule under the expedited process, must be lodged online via the Commission's website, [www.aemc.gov.au](http://www.aemc.gov.au), using the "lodge a submission" function and selecting the project reference code: ERC0205.

The request or submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

Upon receipt of the electronic request or submission, the Commission will issue a confirmation email. If this confirmation email is not received within three business days, it is the submitter's responsibility to ensure the request or submission has been delivered successfully.

### **4.4 Lodging a submission by mail or fax**

The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated. The request or submission should be sent by mail to:

Australian Energy Market Commission

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<sup>22</sup> This guideline is available on the Commission's website.

PO Box A2449  
Sydney South NSW 1235

The envelope must be clearly marked with the project reference code: ERC0205.

Alternatively, the submission may be sent by fax to (02) 8296 7899.

Except in circumstances where the submission has been received electronically, upon receipt of the hardcopy submission the Commission will issue a confirmation letter.

If this confirmation letter is not received within 3 business days, it is the submitter's responsibility to ensure successful delivery of the submission has occurred.

## Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	See AEMC
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
OFA	Optional Firm Access
RIT-T	regulatory investment test for transmission
TAPR	transmission annual planning report
TFR	Transmission Frameworks Review
TNSPs	transmission network service providers