Australian Energy Market Commission

RULE CHANGE

CONSULTATION PAPER

National Electricity Amendment (Changes to normal voltage) Rule 2012

Rule Proponent(s)
International Power

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About the AEMC

The Council of Australian Governments (COAG), through its then Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. In June 2011 COAG announced it would establish the new Standing Council on Energy and Resources (SCER) to replace the MCE. The AEMC has two principle functions. We make and amend the national electricity, gas and energy retail rules, and we conduct independent reviews of the energy markets for the SCER.

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1 Introduction

On 10 April 2012, International Power (the Proponent) submitted a rule change request to the Australian Energy Market Commission (AEMC or Commission) in relation to the consultation process for changes to normal voltage.

This Consultation Paper has been prepared by the staff of the AEMC to facilitate public consultation on the rule change request and does not necessarily represent the views of the AEMC of any individual Commissioner of the AEMC.

This paper:

- sets out a summary of, and a background to, the rule change request;
- identifies a number of questions and issues to facilitate the consultation on this rule change request; and
- outlines the process for making submissions.

2 Background

This rule change request seeks to ensure that a network service provider (NSP) would be required to comply with the existing provisions within clause 5.3 of the National Electricity Rules (NER or rules) for establishing or modifying a connection, in the event that a proponent seeks to change the normal voltage level at a connection point.

Clause 5.3 of the NER sets out the processes and procedures to be followed by connection applicants and NSPs in establishing a new connection or modifying an existing connection.

2.1 Normal voltage

Normal voltage is the voltage level at which a transmission or distribution line normally operates. The level is set to meet the design rating limits of the line. Connected parties must meet the level of the normal voltage specified at their connection point.

Figure 2.1 Worked example of normal voltage

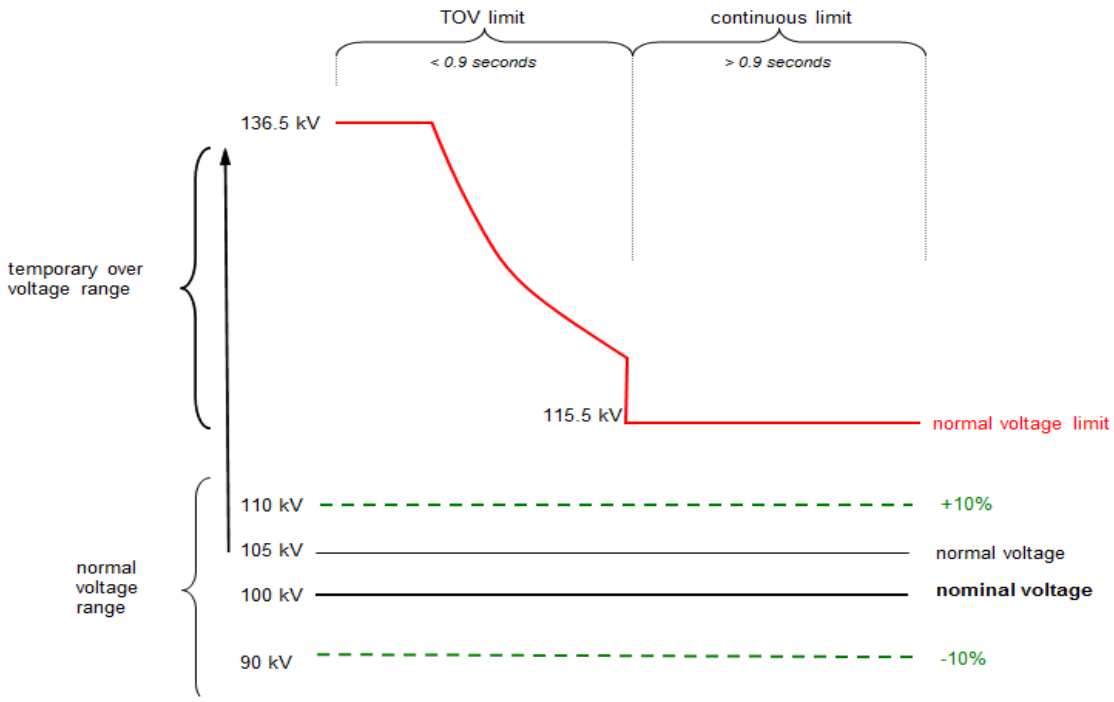

Figure 2.1 sets out an example of how normal voltage is applied under the current rules. The normal voltage level, represented by the black dashed lines, is contained within ±10% of the nominal voltage level. The bold black line represents the nominal

voltage level, which can be described as a fixed voltage level that excludes any voltage fluctuations.

In figure 2.1, the nominal voltage level is set at 100 kV. However, in practice, the voltage is likely to operate at a 'normal' level which is set between the upper limit of 110 kV and the lower limit of 90 kV. The normal voltage level also determines the reference level against which the temporary over voltage (TOV) limit is set. The TOV limit is a voltage surge that can occur at a level of up to 30% above the normal voltage level. In this instance, if the normal voltage level is 105kV, the TOV is 136.5 kV. Connected parties must be able to operate at the TOV level for up to 0.9 seconds.

The normal voltage continuous limit shown in figure 2.1 represents the maximum level of voltage that connected participants must be able to withstand for voltage surges that are greater than 0.9 seconds in duration. The continuous limit is set at 10% above the level of the normal voltage. In this instance, the continuous limit is 115.5 kV.

While participants are expected to be able to operate at the normal voltage level, changes in the normal voltage level can pose problems for connected parties due to the TOV limit. For instance, if a market participant is operating at the normal voltage level of 105 kV, it must be able to withstand a TOV limit of 136.5 kV. However, if the normal voltage level is changed to 110 kV, this means that the TOV would change to 143 kV. While the requirement to operate at a TOV limit may be brief, voltage surges can be extreme in magnitude, which means that unplanned changes to the normal voltage level have the potential to physically impact connected equipment. It could also result in additional costs for market participants if changes to physical equipment are required.

2.2 Related rule change requests

This rule change request relates to the following two rule change requests that were recently submitted to the Commission:

- Definition of temporary over voltage limits rule change request submitted by Hydro Tasmania
- Connecting embedded generators rule change request submitted by Climate Works, Seed and Property Council.

2.2.1 Definition of temporary over voltage limit rule change request

This rule change request was submitted by Hydro Tasmania on 5 May 2011. The purpose of Hydro Tasmania's rule change request was to change the definition of the limit allowed for TOV at a connection point.

Hydro Tasmania proposed to:

- separate the regulation of TOV limits from the level of normal voltage; and
- set a reference voltage from which TOV limits can be determined while maintaining normal voltage at its current level.

The AEMC determined not to make a rule in relation to this rule change request as it was not satisfied that the proposed rule was likely to contribute to the achievement of the National Electricity Objective (NEO). The potential benefits of the proposed rule were considered by the Commission to be outweighed by the following considerations:

- a change to TOV limits at one connection point may create network conditions that are better suited to some existing connected participants but it could potentially be a barrier to entry by increasing the costs for new connections; and
- technical limitations would appear to prevent an effective application of the proposed rule at the George Town connection point in Tasmania, the only current likely application of which the Commission was advised of.

The Commission's final determination rejecting Hydro Tasmania's TOV rule change proposal was made in January 2012. During consultation on the Commission's draft determination, the Proponent raised concern about the potential lack of process in the current rules in relation to making changes to the normal voltage level, and indicated it would submit a rule change request to address this issue.[1]

2.2.2 Connecting embedded generators rule change request

On 18 April 2012, the AEMC received a rule change request from Climate Works, Seed and the Property Council, relating to the connection process under the Chapter 5 of the NER. The Commission is currently preparing its draft determination on this request. The proponents consider the current provisions are not clear and do not provide sufficient certainty to connection applicants. The proponents' perceived problems with the existing arrangements, and how they suggest addressing the problems, are as follows:

- The connection process under Chapter 5 of the NER is insufficiently prescriptive. The uncertainty can result in significant delays in projects and therefore increases the costs to connection applicants.
- There is a lack of a technical standard under the NER for embedded generators. This means that the technical requirements are not transparent and can vary markedly between distributors.
- The current provisions under the rules for determining connection costs and charges are not clear and transparent.

1 International Power, Submission to AEMC Draft determination on '*Definition of Temporary Over Voltage*', rule change, December 2011.

This interacts with the 'Changes to normal voltage' rule change proposal submitted by International Power. International Power's proposed solution is to amend the glossary definition of normal voltage to include a reference to clause 5.3 of the NER to require NSPs to consult with affected parties prior to making changes to normal voltage. Therefore, any changes made to Chapter 5 of the NER under the 'Connecting embedded generators' rule change could also impact clause 5.3 of the NER, and as a result, International Power's proposed changes to the NER.

3 Details of the rule Change Request

The Proponent is concerned that the definition of 'normal voltage' in the glossary of the NER suggests that the normal voltage level can be varied through an agreement with AEMO and the relevant NSP, without a requirement to comply with the consultation processes set out in clause 5.3 of the NER for establishing a new connection or modifying an existing connection. The glossary in the rules provides the following definition for normal voltage:

> "In respect of a connection point, its nominal voltage or such other voltage up to 10% higher or lower than nominal voltage, as approved by AEMO, for that connection point at the request of the Network Service Provider who provides connection to the power system."

The Proponent seeks to address the problem it has identified by providing a reference to clause 5.3 in the definition of 'normal voltage' in the glossary of the NER.

> "In respect of a connection point, its nominal voltage or such other voltage up to 10% higher or lower than nominal voltage, as approved by AEMO, for that connection point at the request of the Network Service Provider who provides connection to the power system, in accordance with clause 5.3."

The Proponent considers that its rule change proposal would meet the National Electricity Objective (NEO) as it:

- reduces the potential for network and generation capacity being constrained due to unplanned changes to the normal voltage level;
- reduces the likelihood that connected parties have to incur unexpected costs to upgrade plant and equipment; and
- reduces the potential that a severely impacted participant could be required to disconnect if it is unable to comply with the new normal voltage level.

The Proponent states that the following benefits are likely to be realised through the rule change:

- reduced likelihood of normal voltage fluctuations, which can impact negatively in participants; and
- lower likelihood of changes having to be made to connection agreements due to unexpected changes to the defined normal voltage level

The Proponent has also acknowledged that the rule change is likely to impose the following costs on affected parties:

- costs associated with the additional time required for consideration by the Australian Energy Market Operator(AEMO) and NSPs of the potential impact of changes to normal voltage; and
- costs associated with changing connection agreements for affected parties.

Given the nature of the rule change, we consider that it is likely that it would impact NSPs, existing and connecting generators, large energy users, and AEMO.

4 Assessment Framework

The Commission's assessment of this rule change request must consider whether the rule change request is likely to, contribute to the achievement of the NEO. 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."

In assessing the rule change request against the NEO, the AEMC will consider the likely long term costs and benefits of adopting the rule change request compared to the counterfactual of not making the proposed change to the NER. It will also consider whether the proposed rule satisfies the rule making test in that it will, or is likely to, contribute to the achievement of the NEO.

In assessing the rule change request against the NEO, issues to be considered include the following:

- how consultation requirements with respect to changes to the normal voltage level may affect system reliability and security;
- in the absence of consultation, the likelihood of physical risks to market participants and the extent to which system safety may be compromised;
- the parties the rule change request is likely to impact and how it may impact them;
- the effect of the rule change request on the efficiency of investments and the provision of services in the National Electricity Market; and
- whether the proposed solution should be modified to achieve the same intent but better contribute to the achievement of the NEO.

The assessment framework will be reviewed following the receipt of submissions and the AEMC's own analysis.

5 Issues for Consultation

In taking into consideration the assessment framework and potential requirements to implement the proposed rule change, we have identified a number of issues for consultation. These issues relate to both the problem and the proposed solution that has been identified by the Proponent.

These issues outlined below are provided for guidance. In preparing submissions, stakeholders are encouraged to comment on these issues as well as any other aspect of the rule change request or this paper, including the proposed assessment framework.

5.1 Scope of the problem

As outlined above, the Proponent is concerned that the definition of 'normal voltage' in the glossary of the NER suggests that the normal voltage level can be varied through an agreement with AEMO and the relevant NSP, without a requirement to comply with the consultation processes set out in clause 5.3 of the NER for establishing or modifying a connection. Under the current definition of normal voltage in the NER, normal voltage may be varied by up to 10% higher or lower than the nominal voltage level.

Consultation is a key tool in promoting transparency and efficiency in the market. However, in some instances, the costs of consultation may outweigh the benefits to the broader market. Therefore it is important to understand the extent to which changes to the normal voltage level may impact different parties and the market more broadly, as this will assist in determining the scope of the identified problem and whether any changes to the NER are required.

To gauge the scope of the problem that has been identified by the Proponent, we propose to consider the following factors:

- the triggers or events that may lead to changes to the normal voltage level;
- the parties that may be impacted by changes to normal voltage and the nature and significance of those impacts; and
- how often the normal voltage level is likely to be changed.

How often the normal voltage level has been changed and how frequently it may change in the future are important factors in understanding whether such changes are common or are limited to specific circumstances. For instance, if changes to normal voltage occur frequently, it would need to be considered whether consultation requirements could become too onerous on NSPs and market participants relative to the impacts on participants.

Alternatively, if the normal voltage level is only likely to be changed in limited circumstances but has to be done within a short time span to manage generation or network constraints, consultation requirements may affect system reliability and

market efficiency. Similarly, understanding the triggers that may lead to market participants seeking a change in the normal voltage level will assist in determining what type of consultation requirements (if any) should be imposed on market participants.

Understanding how changes to normal voltage may impact market participants, NSPs and AEMO will also help to determine whether consultation is necessary. If consultation is considered necessary, an understanding of impacts will assist in determining how broad consultation should be and the time that should be allowed for consultation. However, we note that the broader and more extensive consultation requirements are, the more time it will take for NSPs and AEMO to finalise and approve any requests to change the normal voltage level. There may be also be a need for consultation if the impacts on market participants have the potential to be severe, even if changes to the normal voltage level rarely occur.

We consider that changes to normal voltage are likely to affect distribution networks and transmission networks, as well as AEMO, generators, large users, and new generation entrants. There is also the potential that changes to normal voltage could affect market participants in other regions who are not connected to the network where the voltage change is occurring, as changes to normal voltage are likely to lead to changes in power flows across the market. This also has the potential to affect the system reliability and security of the National Electricity Market (NEM) more broadly, as well as the commercial interests of a wide range of market participants. We are interested in stakeholder comments on which parties may be affected by changes to normal voltage and the significance of impacts that may occur.

Current industry practice

The NER does not set out a specific process for dealing with requests to change the normal voltage level. Therefore, it is important to understand the current industry practice in dealing with changes to normal voltage because this will assist in gauging whether there should be a formal process set up within the rules to manage changes to the normal voltage level, or whether any existing informal consultation arrangements between industry players or the requirements in clause 5.3 of the NER are sufficient.

AEMO has indicated that it is aware of two instances where the normal voltage has been changed. Both instances occurred in George Town in Tasmania on Transend's network, with the first instance in November 2006 and the second in June 2009.

The first instance in November 2006 involved an increase in normal voltage at George Town, Tasmania from 220 kV to 231 kV. The nomination of 231 kV normal voltage at George Town was effective in removing a potential constraint on Basslink and allowed for increased power flows on Basslink. However, it meant that participants who wished to connect to George Town at 220 kV were required to design and build their plant to ensure it was capable of continuous operation at 254 kV (231 kV + 10%) under the requirements for TOV, despite the fact that it is not physically possible for the voltage at George Town to rise to this level.

The Proponent has noted in its rule change request that the normal voltage level at George Town has been varied on request by Hydro Tasmania without the processes in clause 5.3 of the NER being followed, which appears to relate to this first instance of the change to normal voltage in George Town in November 2006. However, it is unclear whether Transend undertook any informal consultation processes with affected parties before seeking approval from AEMO to make this change.

The second instance of a change in normal voltage was in June 2009 and involved a change to the normal voltage at George Town from 231 kV back to 220 kV. This change was made as Aurora Energy Tamar Valley's (AETV) combined cycle gas turbine could not cope with a normal voltage of 231 kV, as it would have been required to meet a TOV level of 254 kV. In its response to Commission's consultation paper on Hydro Tasmania's 'Definition of temporary over voltage limits' rule change request, AETV power stated the following:

> "In the instance of AETV's combined cycle gas turbine (CCGT) the settings on the gas turbine and the steam turbine transformer protection agreed with Transend Networks … and the manufacturer were determined on the basis that the permitted TOV is based on nominal voltage. There is a small margin between the protectional operation setting and the allowed TOV and any increase in the allowable TOV would result in a high risk of protection operation and disconnection of the CCGT[2]"

We also note that in February 2006, the National Electricity Market Management Company (NEMMCO) submitted a rule change proposal on "Technical Standards for Wind Generation and Other Generator Connections". This rule change dealt with issues pertaining to the technical performance standards of generators. The rule change was completed by the AEMC in March 2007, which resulted in the current glossary definition of "normal voltage" and the extended use of the normal voltage concept into Schedule S5.2 of the NER.

Prior to this the NER did not provide for the potential that normal voltage could be changed within bands of ±10% of the nominal voltage level. As a result, there is the potential that generators which connected prior to March 2007 would not have installed equipment capable of coping with such a change.

We are therefore interested in understanding whether connecting parties are likely to take into account the ±10% limit when connecting to a network. For instance, we note that AETV connected to the network in George Town, Tasmania after the amendment to the NER was made, which indicates that generators may not account for potential changes to the normal voltage level within ±10% of the nominal voltage level. If this is consistent with practices by other generators, changes to normal voltage without adequate consultation could have adverse impacts for connected generators.

Further, while the glossary definition of normal voltage in the NER refers to a requirement on NSPs to consult with AEMO about changes to normal voltage, AEMO's

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2 Aurora Energy (Tamar Valley) Pty Ltd, Submission to AEMC consultation paper on '*Definition of Temporary Over Voltage Limits*', 10 August 2011, p.3.

role in approving the change and the process it undergoes in approving changes is not set out in the NER. Therefore, it is important to understand what factors AEMO takes into account to approve changes to normal voltage, or whether they are dependent on the NSP for information about how the proposed change is likely impact the network and broader market.

If details on the process for changing normal voltage are contained in connection agreements between a NSP and a connection applicant/connected party, this may result in additional administrative costs on the affected parties. We also note that it could increase the length of time in processing applications for new connections.

Question 1 Scope of the problem

1. **What are some of the potential triggers that give rise to a change in the normal voltage level?**
2. **In the absence of consultation:**
   - **(a) Could a change to the normal voltage level impose significant administrative, capital, and operational costs on generators?**
   - **(b) Could a change to the normal voltage level cause existing market participants to exit the market? Could it create barriers to entry for new entrants?**
   - **(c) Are there likely to be impacts to system reliability and security if the normal voltage level is changed?**
3. **How often is the normal voltage level likely to be changed?**
4. **How would a change to the normal voltage level impact the following parties:**
   - **(a) Generators**
   - **(b) New entrants**
   - **(c) AEMO**
   - **(d) Large users**
   - **(e) NSPs**
   - **(f) Broader market?**
5. **Do connected parties/connection applicants have provisions in their connection agreements that obligate NSPs to notify them of any planned changes to the normal voltage level? If not, is this likely to require changes to connection agreements?**
6. **Do NSPs consult informally with affected parties in the event that the**

normal voltage level needs to be changed? If so, how widely do they consult? Do NSPs use the provisions contained within clause 5.3 of the NER as a guide?

7. **Do generators take into account potential changes to normal voltage within 10% higher or lower of the nominal voltage level in connecting to a network?**

8. **Would consultation requirements:**

   (a) **provide benefits to connected parties, and if so, what would be the nature and value of these benefits?**

   (b) **create material time delays to process new connections?**

   (c) **improve system reliability and security relative to the current arrangements?**

9. **How does AEMO currently approve changes to normal voltage?**

5.2 Assessment of proposed solution

As discussed earlier, the Proponent seeks to impose consultation requirements on NSPs by providing a reference to clause 5.3 of the NER in the glossary definition of normal voltage. Clause 5.3.3(b1)(7) of the NER includes the only reference to NSPs being required to provide information on normal voltage to connection applicants and states that a NSP must notify a connection applicant if the normal voltage level deviates from the nominal voltage level. However, there do not appear to be any specific obligations within clause 5.3 of the NER that establishes consultation requirements specifically for changes to normal voltage. Further, while clause 5.3.3(b1)(7) of the NER requires NSPs to provide information on deviations from the nominal voltage level to connection applicants, it does not require them to provide this information to existing connected parties where the normal voltage level has changed or where a change is being considered.

The provisions in clause 5.3 are largely limited to imposing consultation requirements on NSPs with respect to connection enquiries and preparing applications to connect for connection applicants.

These provisions also focus primarily on the individual relationship between a NSP and a connection applicant only, rather than wider relationships between NSPs and connected parties, and any other parties more broadly that may be affected by changes to the normal voltage level. It also deals primarily with information to be provided to connection applicants, although we note that the provisions in clause 5.3 of the NER are also intended to apply to connected parties who are seeking to modify an existing connection. Under clause 5.3.5(d) of the NER, when preparing an offer to connect, NSPs are required to consult with other registered parties with whom they have connection agreements as well as AEMO. This is required if they consider the terms

and conditions of those agreements will be affected. However, it is unclear whether NSPs refer to this clause in practice when considering making changes to the normal voltage level.

Given the convoluted nature of clause 5.3, it is important to consider whether it is the appropriate clause to deal with consultation requirements for changes to normal voltage. If clause 5.3 of the NER is not considered appropriate, it may be necessary to consider drafting a new rule that deals specifically with consultation for changes to normal voltage. Alternatively, there may be existing consultation processes in the NER which could be used instead of drafting a new rule.

Appendix A contains a high level summary of clause 5.3 of the NER. It should be noted that the summary does not extensively capture each of the provisions, but rather, provides an overview of each of the sub clauses within clause 5.3 to gain a better understanding of the issues it deals with, the timing associated with each process, and the parties that are subject to the obligations.

If a new consultation process is required, further consideration may be needed to assess whether NSPs require additional guidance on the parties they consult with and the length of the consultation process. Further consideration may also be needed on whether AEMO requires additional guidance with respect to approving or rejecting changes to normal voltage.

Question 2 Assessment of proposed solution

1. **Given the current industry practice, is there a need for a formal consultation process within the rules?**
2. **Is the Proponent's proposed solution likely to provide a timely and efficient consultation process?**
3. **If additional consultation is required, who should NSPs have to consult with and what should be the timeframe for this consultation?**
4. **If additional consultation is required, do NSPs and AEMO need additional guidance on what factors they should consider in deciding whether changes to normal voltage should be made and the timing for the approval of changes to normal voltage?**
5. **Do stakeholders have views on any alternative solutions which could be used instead of clause 5.3 of the NER?**

6 Lodging a Submission

The Commission has published a notice under section 95 of the National Electricity Law (NEL) for this rule change proposal inviting written submission. Submissions are to be lodged online or by mail by 20 September 2012 in accordance with the following requirements.

Where practicable, submissions should be prepared in accordance with the Commission's Guidelines for making written submissions on rule change proposals.[3] The Commission publishes all submissions on its website subject to a claim of confidentiality.

All enquiries on this project should be addressed to Sandhya Jaishankar on (02) 8296 7800.

6.1 Lodging a submission electronically

Electronic submissions must be lodged online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code ERC0148. The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

Upon receipt of the electronic submission, the Commission will issue a confirmation email. If this confirmation email is not received within 3 business days, it is the submitter's responsibility to ensure the submission has been delivered successfully.

6.2 Lodging a submission by mail

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

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Or by Fax to (02) 8296 7899.

The envelope must be clearly marked with the project reference code: ERC0148.

Except in circumstances where the submission has been received electronically, upon receipt of the hard copy 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.

3 This guideline is available on the Commission's website.

Abbreviations

AEMO	Australian Energy Market Operator
NEL	National Electricity Law
NEM	National Electricity Market
NEMMCO	National Electricity Market Management Company
NEO	National Electricity Objective
NER or rules	National Electricity Rules
NSP	network service provider
TOV	temporary over voltage

A Summary of provisions under clause 5.3 of the NER as they relate to consultation requirements

Table A.1 High level summary of clause 5.3 of the NER

Rule	Main subject matter	Summary of provisions
5.3.1 - process and procedures	Sets out that clause 5.3 deals with process and procedures for establishing or modifying an existing connection	• Defines terms for 'establish a connection' - which includes modifying an existing connection or altering a plant but does not include alterations to generating plant (i.e. 5.3.9 is inapplicable) • Explains the applicability of clause 5.3
5.3.2 - connection enquiry	Sets out responsibilities for both connection applicants and NSPs in relation to connection enquiries	**1** • If the information in a connection enquiry is inadequate for a NSP to process, it must advise the connection applicant within 5 days as to what other information is required • a NSP must advise a connection applicant within 10 days of the receipt of the enquiry • if a NSP thinks a connection enquiry should be jointly examined by more than one NSP, they must advise the connection applicant. They must also do the same if the NSP considers that another NSP might be more appropriately suited to processing the application.
5.3.3 - response to connection enquiry	Sets out responsibilities on NSPs when responding to a connection enquiry.	• A NSP must liaise with other NSPs if it believes that compliance with the terms and conditions of its other connection agreements will be affected by the new connection enquiry. It may include this information in its response to the connection applicant. • A NSP must provide the following information within 10 days to a connection applicant: — the identity of other parties involved in planning to make the connection, or those that

		must be paid for TNSP or DNSP services in the relevant jurisdiction; — whether any of those parties need to enter into connection agreements with connection applicant for the provision of services; — whether any service provided by the NSP is contestable in the relevant participating jurisdiction; and — a preliminary program showing proposed milestones for connection and access activities which may be modified from time to time by agreement of the parties. • Allows registered participants, AEMO or interested party to request the Reliability Panel to determine whether an Australian standard or international standard may be adopted as a plant standard. • Within 20 days of receipt of the connection enquiry, NSPs must provide a connection applicant with the following details: — automatic access standards; — minimum access standards; — applicable plant standards; — negotiated access standards that will require AEMO's involvement in accordance with clause 5.3.4A(c); and — the normal voltage level, if that is to change from the nominal voltage level. • Within 20 days after receipt of enquiry, a NSP must provide to the connected applicant written advice on the further information that the connection applicant must provide to enable the NSP to assess an application to connect, including the following: — details of connection applicant’s connect requirements and specification of the facility to be connected;

		— details of the connection applicant's reasonable expectations of the level and standard of service of power transfer capability that the network should provide; — a list of the technical data to be included with the application to connect; — commercial information that indicates the ability of the connection applicant to meet prudential requirements; — the amount of the application fee payable on lodgement of an application to connect; and — any other relevant information.
5.3.4 - application for connection	Sets out responsibilities of connection applicants, NSPs and AEMO with respect to an application to connect.	• A person who has made a connection enquiry under 5.3.2 may submit an application to connect. • For technical requirements where the proposed arrangement will not meet the automatic access standards nominated by the NSP, the connection applicant must submit a negotiated access standard proposal. • Clause 5.3.4A sets out obligations on the connection applicant, NSPs and AEMO with respect to accepting/rejecting the negotiated access standard proposal.
5.3.5 - preparation of offer to connect	Sets out obligations on NSPs and connection applicants in relation to preparing/receiving an offer to connect	• Upon receipt of an application to connect which meets access standards criteria, a NSP must prepare an offer to connect. • A NSP must use reasonable endeavours to advise the connection applicant of risks associated with planning and environmental laws not contained in the rules. • The connection applicant must provide any additional information to the NSP for the application to connect to assess the technical performance and costs of the required connection. • A NSP must consult with registered participants (with whom it has connection agreements) and AEMO to determine whether the terms and conditions of those

		connection agreements will be affected to maintain quality of supply to existing registered participants in accordance with the rules. • A DNSP must consult the relevant TNSP if an application to connect involves the connection of generating units having a nameplate rating of 10MW or greater to a distribution network to ascertain impacts on fault levels, line reclosure protocols, and stability aspects. • A TNSP consulted under the above must determine reasonable costs of addressing those matters for inclusion in the offer to connect and the DNSP must make it a condition of the offer to connect that the connection applicant pay these costs. • A TNSP must include any other costs payable by the connection applicant in the offer to connect.
5.3.6 - offer to connect	Deals with NSPs providing an offer to connect to a connection applicant	• Subject to clause 5.3.3(b)(6), the NSP processing the application to connect must make an offer to connect the connection applicant's facilities to the network within the time period specified in the preliminary program. • The offer to connect must contain the proposed terms and conditions for connection to the network, including, the automatic access standard or the negotiated access standard and the terms/conditions of the kind set out in schedule 5.6. • The offer to connect must be fair and reasonable and must be consistent with the safe and reliable operation of the power system in accordance with the rules. • A NSP must use reasonable endeavours to provide the connection applicant with an offer to connect in accordance with the reasonable requirements of the connection applicant, e.g. location of the proposed connection point, standard of power transfer capability etc. • Both the NSP and connection applicant are entitled to negotiate with each other in respect of the provision of connection and any other matters relevant to the provision of connection. All negotiations must be done in good faith. • An offer to connect in respect of a distribution network made to an embedded generator

		or a market network service provider, must conform with the relevant access arrangements set out in rule 5.5.
5.3.7 - Finalisation of connection agreements	Sets the process and respective obligations on all parties for finalising connection agreements	• If a connection applicants accepts an offer to connect, it must negotiate and enter into a connection agreement with each relevant NSP identified in accordance with clauses 5.3.3(b)(3) and (4). • The connection agreement must include proposed performance standards with respect to each of the technical requirements identified in schedules 5.3, 5.3 and 5.3(a). • Each connection agreement must be based on the offer to connect as varied by agreement between the parties. • Within 20 business days of execution of the connection agreement, the NSP responsible for the connection point and registered participant must notify AEMO that a connection agreement has been entered into between them and forward to AEMO relevant technical details of the proposed plant and connection with details as specified in clause 5.3.7(g)(2)-5.3.7(g)(5).
5.3.8 - provision and use of information	Sets out responsibilities on both NSPs and connection applicants with respect to the confidentiality of data	• Any data provided under rule 5.3 is confidential and must be provided in good faith and should also not be disclosed or made available by the recipient to a third party unless specified in the rules. • Data and information to be provided under this rule 5.3 may be shared between a NSP and AEMO for the purpose of enabling: — a NSP to advise AEMO of ancillary services; and — either party to: (i) assess the effect of a proposed facility on the performance of the power system, another proposed facility/alteration; and (ii) assess proposed negotiated access standards; or

		(iii) determine the extent of any required augmentation or extension. • A NSP may disclose data and information to be provided to another NSP if it considers it to be materially relevant. • A person intending to disclose information must first advise the connection applicant of the extent of disclosure. • A registered participant who is aware of information being disclosed must advise AEMO within 5 days if the information is incorrect.