Australian Energy Market Commission

RULE CHANGE

DISCUSSION PAPER

National Electricity Amendment (Transmission Connection and Planning Arrangements) Rule 2016

Rule Proponent(s)
COAG Energy Council

26 May 2016

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Reference: ERC0192

Citation

AEMC 2016, Transmission Connection and Planning Arrangements, Discussion paper, 26 May 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.

Executive summary

On 26 November 2015, the AEMC commenced consultation on a rule change request submitted by the COAG Energy Council that seeks to amend those aspects of the National Electricity Rules (NER) that relate to the arrangements for transmission connection and planning.

The rule change request seeks to:

- improve transparency, contestability and clarity in the connections frameworks while maintaining clear accountability for shared network outcomes;
- enhance the transmission planning and decision making frameworks.

Purpose of this paper

This discussion paper focuses on the connections aspects of the rule change request. It has two objectives:

1. To set out more detail on the Commission's proposed changes to the NER transmission connection framework. These proposed amendments are based on stakeholder input and the Commission's analysis to date.
2. To seek feedback from stakeholders on these proposed changes.

The paper also sets out the Commission's approach to the application of the rule change in Victoria, as a declared network jurisdiction.

Proposed changes to the connections framework

This paper sets out the changes that the Commission proposes to make to reduce the complexity, ambiguity and lack of clarity in the NER transmission connection framework, and to redress the asymmetric power held by TNSPs when negotiating with connecting parties.

In the Transmission Frameworks Review, the Commission concluded that there is lack of clarity in the current NER transmission connection framework. We noted that there is a disconnect between:

- Chapter 5 of the NER, which sets out the connection process and the assets that are required to enable a connection; and
- Chapter 6A of the NER, which governs the economic regulation of services provided by the incumbent TNSP in relation to a connection.

This disconnect, and a general lack of clarity in the NER definitions and service descriptions, means that the NER transmission connection framework is subject to a degree of interpretation by connecting parties and incumbent TNSPs.

As a result, the connection experience can be unpredictable, vary across transmission network boundaries and can result in unsatisfactory outcomes in terms of cost and timeliness. We recognise that connecting parties have had different experiences with the connection process, with this being driven by the culture and practice of the individual TNSP. Making the NER clearer and simpler should make it easier for connecting parties to know exactly what assets and services they are negotiating for, enhance their ability to negotiate on more equal terms with TNSPs, and result in a more predictable connection experience across transmission network boundaries. This conclusion is supported by a number of stakeholders, and as such there is broad stakeholder support for clarifying the NER transmission connection framework.

We consider that further changes can be made to help address the issue of asymmetric power in negotiating. Therefore, in addition to these clarifications, we propose to:

- enhance the transparency of the transmission connection process by requiring TNSPs to publish information about the specifics of connecting to their network, and provide certain information to the connection applicant on request;

- revise the NER principles that underpin the provision of negotiated services and remove the requirement for TNSPs to develop individual negotiating frameworks; and

- clarify the process that applies to the resolution of disputes raised in relation to transmission connections.

Such changes should result in significant improvements to the efficiency of connections to the transmission network.

Contestability arrangements

This paper also sets out two possible approaches to the treatment of identified user shared assets, a category of shared transmission network asset proposed to be established under the rule change request. This category encompasses those assets that are required to facilitate a party's connection, but which form part of the shared transmission network. The rule change request proposes to treat these assets differently to other shared transmission assets by introducing contestability for their ownership and construction.

Submissions to the consultation paper indicate support for a more contestable approach to these assets than that proposed in the rule change request. That is, many stakeholders are of the view that the majority of services for identified user shared assets should be fully contestable. Under such a model, the shared network could be owned and operated by multiple parties, not just the incumbent TNSP. The Commission held a workshop on 9 March 2016 to clarify stakeholder views on the boundaries of contestability for services for identified user shared assets, and discuss how a fully contestable approach would work in practice. The outcomes of the workshop have influenced the discussion in this paper.

Generally, the Commission is supportive of increased contestability. Competition can bring a number of benefits to connecting parties and, ultimately, consumers. However, we consider that any new arrangements should maintain clear accountability for the safe, reliable and secure supply of electricity across the shared transmission network.

We propose to clarify that all services relating to connection assets that are used only by the connecting party (termed dedicated connection assets in the rule change request) can be provided contestably. This is because the risks of inadequate design, construction and operation of these assets fall on that user alone, and the shared network can be protected if appropriate action is taken.

However, because identified user shared assets form part of the shared network, any new arrangements for these assets will need to ensure that the safety, reliability and security of a transmission system can be maintained while enabling generators and loads to connect at efficient cost. This discussion paper sets out two possible models for the provision of services relating to identified user shared assets:

(A) The model proposed in the rule change request, whereby the construction and ownership of identified user shared assets could be provided on a contestable basis, but all other services relating to these assets would be provided by the incumbent TNSP as a negotiated service.

(B) A model whereby the majority of services for identified user shared assets, including operation and maintenance, could be provided on a contestable basis, but the incumbent TNSP would remain ultimately accountable for any impact those assets have on the shared transmission network.

We seek feedback from stakeholders on which model best meets the National Electricity Objective, in particular, which model:

- improves outcomes for connecting parties with regard to the transparency, timeliness, cost and complexity of connections to the transmission network; and
- maintains clear accountability for outcomes on the shared transmission network.

Consultation on this paper

Stakeholders are invited to provide written submissions to this discussion paper, which we will consider before making a draft determination on the rule change request. Submissions close on 30 June 2016. We are also happy to schedule confidential meetings for stakeholders who do not wish to provide a public submission.

We will hold a public forum on this discussion paper in Sydney on 16 June 2016. Information about how to register for this forum is available on the AEMC website.

Contents

1 Introduction

1.1 Background

On 27 July 2015, the COAG Energy Council (Energy Council) made a request to the Australian Energy Market Commission (Commission or AEMC) to make a rule regarding transmission connection and planning arrangements (rule change request). The rule change request is largely based on the connections and planning recommendations made by the AEMC in the Transmission Frameworks Review (TFR), which was completed in 2013.[1] The objective of the recommendations made by the AEMC was to improve transparency, contestability and clarity in the connections frameworks while maintaining clear accountability for shared network outcomes, and to enhance the transmission planning and decision making frameworks.

Specifically, the rule change request proposes to:

- clarify the definitions for connection assets, connection services and classifications;
- enhance contestability in the connection arrangements;
- improve the transparency of information for negotiated transmission services;
- establish a framework for the nomination of independent engineering experts who may provide independent advice around the appropriateness of the technical specifications for a particular connection asset;
- support a nationally coordinated planning approach that ensures both intra-regional and inter-regional options are considered when determining the optimal investment;
- establish a process of formal consultation in the development of the National Transmission Network Development Plan; and
- introduce a uniform approach to Annual Planning Reports.[2]

A detailed description of the rationale for the rule change request and the proposed solution is set out in the consultation paper that was published on 26 November 2015. Submissions to the consultation paper closed on 28 January 2016. 11 submissions were received. The rule change request, the consultation paper and submissions to the consultation paper are available on the AEMC website.[3]

1 http://www.aemc.gov.au/Markets-Reviews-Advice/Transmission-Frameworks-Review

2 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p2.

3 http://www.aemc.gov.au/Rule-Changes/Transmission-Connection-and-Planning-Arrangements

1.2 Purpose of this discussion paper

This discussion paper has two objectives:

1. To set out more detail on the Commission's proposed changes to the NER transmission connection framework. These proposed amendments are based on stakeholder input and the Commission's analysis to date.

2. To seek feedback from stakeholders on these proposed changes.

The paper also sets out the Commission's approach to the application of the rule change in Victoria, as a declared network jurisdiction.

1.2.1 Proposed changes to the NER transmission connection framework

This paper sets out the changes that the Commission proposes to make to reduce the complexity, ambiguity and lack of clarity in the NER transmission connection framework, and to balance out the asymmetric power held by TNSPs when negotiating with connecting parties.

In the TFR, the Commission concluded that there is lack of clarity in the current NER transmission connection framework. We noted that there is a disconnect between:

- Chapter 5 of the NER, which sets out the connection process and the assets that are required to enable a connection; and

- Chapter 6A of the NER, which governs the economic regulation of services provided by the incumbent TNSP in relation to a connection.

This disconnect, and a general lack of clarity in the NER definitions and service descriptions, means that the NER transmission connection framework is subject to a degree of interpretation by connecting parties and incumbent TNSPs.

As a result, the connection experience can be unpredictable, vary across transmission network boundaries and can result in unsatisfactory outcomes in terms of cost and timeliness. We recognise that connecting parties have had different experiences with the connection process, with this being driven by the culture and practice of the individual TNSP. Making the NER clearer and simpler should make it easier for connecting parties to know exactly what assets and services they are negotiating for, enhance their ability to negotiate on more equal terms with TNSPs, and result in a more predictable connection experience across transmission network boundaries. This conclusion is supported by a number of stakeholders, and as such there is broad stakeholder support for clarifying the NER transmission connection framework.

We consider that further changes can be made to help address the issue of asymmetric power in negotiating. Therefore, in addition to these clarifications, we propose to:

- enhance the transparency of the transmission connection process by requiring TNSPs to publish information about the specifics of connecting to their network, and provide certain information to the connection applicant on request;

- revise the NER principles that underpin the provision of negotiated services and remove the requirement for TNSPs to develop individual negotiating frameworks; and

- clarify the process that applies to the resolution of disputes raised in relation to transmission connections.

Such changes should result in significant improvements to the efficiency of connections to the transmission network.

1.2.2 Contestability arrangements

This paper also sets out two possible approaches to the treatment of *identified user shared assets*, a category of shared transmission network asset proposed to be established under the rule change request. This category encompasses those assets that are required to facilitate a party's connection, but which form part of the shared transmission network. The rule change request proposes to treat these assets differently to other shared transmission assets by introducing contestability for their ownership and construction.

Submissions to the consultation paper indicate support for a more contestable approach to these assets than that proposed in the rule change request. That is, many stakeholders are of the view that the majority of services for identified user shared assets should be fully contestable. Under such a model, the shared network could be owned and operated by multiple parties, not just the incumbent TNSP. The Commission held a workshop on 9 March 2016 to clarify stakeholder views on the boundaries of contestability for services for identified user shared assets, and discuss how a fully contestable approach would work in practice. The outcomes of the workshop have influenced the discussion in this paper.

Generally, the Commission is supportive of increased contestability. Competition can bring a number of benefits to connecting parties and, ultimately, consumers. However, we consider that any new arrangements should maintain clear accountability for the safe, reliable and secure supply of electricity across the shared transmission network. Chapter 2 explains the reasoning behind this view.

In chapter 4 of this paper we propose to clarify that all services relating to connection assets that are used only by the connecting party (termed *dedicated connection assets* in the rule change request) can be provided contestably. This is because the risks of inadequate design, construction and operation of these assets fall on that user alone, and the shared network can be protected if appropriate action is taken.

However, because identified user shared assets form part of the shared network, any new arrangements for these assets will need to maintain the safety, reliability and

security of the transmission system while enabling generators and loads to connect at efficient cost. Chapters 5 and 6 of this discussion paper describe two possible models for the provision of services relating to identified user shared assets:

(A) The model proposed in the rule change request, whereby the construction and ownership of identified user shared assets could be provided on a contestable basis, but all other services relating to these assets would be provided by the incumbent TNSP as a negotiated service.

(B) A model whereby the majority of services for identified user shared assets, including operation and maintenance, could be provided on a contestable basis, but the incumbent TNSP would remain ultimately accountable for any impact those assets have on the shared transmission network.

We seek feedback from stakeholders on which model best meets the National Electricity Objective, in particular, which model:

- improves outcomes for connecting parties with regard to the transparency, timeliness, cost and complexity of connections to the transmission network; and
- maintains clear accountability for outcomes on the shared transmission network.

1.3 Scope of this discussion paper

This discussion paper focuses on the connections aspects of the rule change request only. The planning aspects of the rule change request are being progressed separately.[4]

The rule change request asks the AEMC to consider the arrangements for all parties connecting to the transmission network, ie generation, load and distribution networks. The arrangements described in this paper assume that the connecting party is a generator. We are still considering the implications of these arrangements for load, but welcome stakeholder views on whether the arrangements described in this paper would need to be different for the connection of load.

The arrangements for economic regulation of a connection of a distribution network service provider (DNSP) to a transmission network are slightly different to those for generation and load. Physical links or connections between transmission and distribution systems are treated as a prescribed exit service, charged to the DNSP through transmission use of system (TUOS) charges. The Commission is of the view that these arrangements do not need to change. These arrangements are therefore not explicitly covered in this paper.

4 The draft determination on this rule change request, due to be published on 24 November 2016, will set out the Commission's proposed approach to the planning aspects of the rule change request. We held a workshop on 21 April 2016 to discuss the planning aspects of this rule change request. If any stakeholder wants to discuss these aspects with us further, please do not hesitate to contact Claire Richards, (02) 8296 7878, to request a meeting.

1.4 The rule change process

On 3 March 2016, the Commission published a notice under section 107 of the National Electricity Law (NEL) advising that the time for making a draft rule determination on the rule change request has been extended to 24 November 2016. The AEMC determined that an extension was necessary due to the complexity and broad scope of the issues raised by the rule change request, affecting many areas of the NER. The extended timeline has enabled the AEMC to conduct additional stakeholder consultation on this rule change request, including through:

- the publication of this discussion paper;
- a stakeholder workshop; and
- one on one meetings with a significant number of stakeholders.

The revised timeline for the rule change process is set out in Table 1.1.

Table 1.1 Rule change timeline

Milestone	Planned date
Publication of consultation paper	26 November 2015
Close of submissions on consultation paper	28 January 2015
Stakeholder workshop (connections)	9 March 2016
Stakeholder workshop (planning)	21 April 2016
Publication of discussion paper	26 May 2016
Public forum on discussion paper	16 June 2016
Close of submissions on discussion paper	30 June 2016
Additional stakeholder consultation and workshops	July-September 2016
Publication of draft rule determination	24 November 2016
Close of submissions on draft rule determination	19 January 2017
Publication of final rule determination	2 March 2017

1.5 Consultation on this discussion paper

The Commission invites submissions on the issues raised in this discussion paper by 30 June 2016.

Submissions should quote project number ERC0192 and may be lodged online at www.aemc.gov.au or by mail to:

Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

AEMC staff are happy to arrange confidential meetings with stakeholders who would prefer not to provide a public submission.[5]

The Commission will hold a public forum on this discussion paper in Sydney on 16 June 2016. Information about how to register for the forum is available on the AEMC website.

1.6 Structure of this discussion paper

This discussion paper is structured as follows:

- Chapter 2 describes the objectives of the rule change request and the Commission's interpretation of how these objectives are best met.
- Chapter 3 sets out the changes to the NER transmission connection framework that we propose to make in order to improve clarity, and strengthen the negotiating principles.
- Chapter 4 sets out our position on those aspects of the rule change request that relate to dedicated connection assets.
- Chapter 5 describes the model of contestability for identified user shared assets that was proposed under the rule change request.
- Chapter 6 describes a model of contestability whereby most service aspects for identified user shared assets are contestable, but the incumbent TNSP remains ultimately accountable for those services.
- Chapter 7 sets out our approach to the application of the rule change in Victoria, as a declared network jurisdiction.

5 To do so, please get in contact with Claire Richards on (02) 8296 7878.

2 Objectives of the rule change request

The findings of the TFR, and stakeholder input on this rule change request, indicate a number of issues with the current NER framework for connecting to the transmission network:

- The current arrangements are unclear and are therefore open to a degree of interpretation.
- The arrangements do not encourage the incumbent TNSP to provide connection services in a transparent, simple or timely manner.
- The arrangements do not provide connecting parties with sufficient bargaining power to negotiate better outcomes. For example, connecting parties are reluctant to activate the dispute resolution process because doing so might displease the only party that can connect them (ie the incumbent TNSP) or delay the connection process further.

As a result of these issues, connection experiences and outcomes can be unpredictable, complex, lengthy and costly, and may vary across transmission network boundaries.

The Energy Council notes that the objective of the NER connections framework is to deliver efficient connections to those parties seeking to connect to the transmission network. It presents the view that efficient outcomes are more likely to be delivered through the competitive delivery of connection services. However, in line with the Commission's conclusions in the TFR, it stresses the importance of there being clear accountability for the safe, reliable and secure supply of electricity across the shared network.[6]

The objectives of the rule change request can therefore be summarised as:

1. to improve outcomes for connecting parties with regard to the transparency, timeliness, cost and complexity of connections to the transmission network; while
2. maintaining clear accountability for the safe, reliable and secure supply of electricity across the shared transmission network.

These objectives are set out in more detail in the sections below.

The rule change request seeks to achieve these objectives by clarifying aspects of the NER connection framework, amending parts of the connection process and expanding the scope of contestability for transmission connection services while maintaining the incumbent TNSP's obligations regarding the safe, reliable and secure operation of the transmission system.

6 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, pp3-4.

Submissions to the consultation paper and input from stakeholders at the workshop on 9 March 2016 indicate support for a more contestable approach to transmission connections than the model proposed in the rule change request. That is, many stakeholders are of the view that the majority of services required to connect to the transmission network should be fully contestable, including services for those assets required to facilitate a connection but which form part of the shared transmission network (termed *identified user shared assets* in the rule change request). Under such a model, the connecting party (or its chosen contractor) would provide services that have a direct impact on the shared network, such as the operation and maintenance of identified user shared assets.

While increased contestability for the provision of these services may improve the transparency, timeliness, cost and complexity of connections to the transmission network, we consider that any new arrangements should maintain clear accountability for the safe, reliable and secure supply of electricity across the shared transmission network.

The risks of inadequate design, construction and operation of assets that are only used by the connecting party (termed *dedicated connection assets* in the rule change request) fall on that user alone. The shared network can be protected if appropriate action is taken, such as isolating the connection. Consequently, we propose to clarify that all services relating to dedicated connection assets can be provided contestably. This is discussed further in chapter 4.

However, because identified user shared assets form part of the shared network, any new arrangements for these assets will need to ensure that the safety, reliability and security of a transmission system can be maintained while enabling generators and loads to connect at efficient cost. This is discussed further in chapters 5 and 6.

2.1 Cost, complexity, timeliness and transparency of the connection process

Inefficiencies and inconsistencies in the NER transmission connection framework can result in:

- misunderstandings and differing interpretations of the NER, resulting in unpredictable and inconsistent connection experiences between connections and across transmission network boundaries; and
- information asymmetries between the connecting party and the incumbent TNSP, resulting in inefficient connections.

These outcomes are not in the long-term interests of the connecting party or consumers.

The cost, complexity, timeliness and transparency of connection outcomes can be improved by ensuring that the NER connection framework enables parties to negotiate technically and economically efficient outcomes for connection to the transmission

network. The rule change request seeks to amend the NER to clarify certain terms and improve links between chapters so that connecting parties and incumbent TNSPs have a consistent understanding of the NER when negotiating for a connection. The NER should also create confidence in the transmission connection process to encourage investment. Transmission connection arrangements should therefore be predictable and should not allow for interpretation that results in variations across transmission network boundaries.[7]

Parties seeking connection to the transmission network are considered to be sufficiently well resourced and knowledgeable to negotiate efficient outcomes for themselves, and therefore a fully prescribed approach is not required. However, given that the incumbent TNSP has a significant amount of control over connections to its network, a fully unregulated approach is also not appropriate. Connection services are therefore classified as negotiated transmission services for the purposes of economic regulation under the NER. The provision of connection services is guided by the negotiated services arrangements in Chapter 6A of the NER.

However, we share the view of some stakeholders that the incumbent TNSP holds asymmetric power when negotiating with connecting parties under this framework. The rule change request sets out ways to address this imbalance of power. Connecting parties need access to clear, timely and accurate information in order to allow them to negotiate in a more informed manner and to address information asymmetries between themselves and the incumbent TNSP. Requiring the incumbent TNSP to be more transparent in its process and decision making for connections is likely to improve connection outcomes for connecting parties and improve the efficiency of the connection process. Making the NER clearer and simpler should also make it easier for connecting parties to know exactly what assets they are negotiating for, and enhance their ability to negotiate on equal terms with the incumbent TNSP.

The introduction of competition, where appropriate, is also likely to encourage the timely and efficient investment in, and operation of, connection services. This is because it would give connecting parties a greater ability to manage the costs and timing of their connection, and would place competitive pressure on the incumbent TNSP to improve its service offerings.

2.2 Accountability for shared network outcomes

This section sets out the Commission's reasoning why the incumbent TNSP should continue to be accountable for shared network outcomes in its licenced area.

Table 2.1 sets out who the incumbent TNSP is in the five jurisdictions of the National Electricity Market (NEM). In Queensland, NSW, South Australia and Tasmania, the incumbent TNSP plans, constructs and operates (in conjunction with AEMO operations) the transmission system, and arranges connections to it. In Victoria, the functions undertaken by TNSPs in other NEM jurisdictions are split between AEMO

7 This is consistent with the Commission's view of the arrangements for connecting to the distribution network.

and declared transmission system operators (DTSOs).[8] However, AEMO is ultimately accountable for the declared shared transmission network in Victoria and carries out its functions by way of contracts with DTSOs.[9]

Table 2.1 Incumbent TNSP in each NEM jurisdiction

State	Incumbent TNSP
Queensland	Powerlink
NSW	TransGrid
South Australia	ElectraNet
Tasmania	TasNetworks
Victoria	AEMO and DTSOs (including AusNet Services)

The regulatory framework must deliver a safe, reliable and secure shared transmission network

The current regulatory framework established by the NEL, NER and jurisdictional licencing regimes does not contemplate an approach where responsibility for the shared network is split between multiple owners or operators. Compliance with the extensive nature of the obligations placed on TNSPs under the NEL, NER and jurisdictional licencing regimes has the resulting outcome that the safety, reliability and security of the shared transmission network is maintained by the current incumbent TNSPs (ie one party - the incumbent TNSP in each NEM jurisdiction - is responsible for the shared network).[10]

If multiple owners or operators were to be introduced into the current framework, or parts of the shared network were to become unregulated (if say an owner of an identified user shared asset were to be exempted from registration as a TNSP) then the entirety of the current regulatory framework would need to be reviewed to consider whether the above mentioned outcome – a safe, reliable and secure shared transmission network – could still be achieved. Inevitably, given the current framework was not designed to accommodate multiple parties being accountable for a single transmission system, there will be regulatory gaps that would need to be addressed. For example:

8 There are currently four DTSOs in Victoria: AusNet Services (registered as SPI PowerNet), NSW Electricity Networks Operations (formerly registered as Transgrid), Rowville Transmission Facility Pty Ltd, and Transmission Operations Australia.

9 A more detailed description of AEMO's declared network functions in Victoria is set out in chapter 2 of the consultation paper on this rule change request, which is available on the AEMC website.

10 We note that in Victoria, where AEMO is authorised to exercise its declared network functions, TNSP functions are split between AEMO and DTSOs. However, AEMO is ultimately accountable for the declared shared transmission network and carries out its functions by way of contracts with DTSOs.

- Schedule 5 of the NER sets out the planning, design and operating criteria that must be applied by TNSPs to the networks they own, operate or control. This includes requirements relating to frequency, system stability, power transfer capability, voltage, credible contingency events, load shedding, protection systems and fault clearance times. Effectively this requires the incumbent TNSP to, among other things, ensure that equipment connected to its network meets appropriate performance standards.

- Reliability standards ensure that there is enough transmission capacity to transport sufficient generation to meet demand. Under current arrangements, reliability standards are set by each NEM jurisdiction. As the party responsible for the operation of the shared network in its licenced area, the incumbent TNSP is required to meet these reliability standards.

- Incumbent TNSPs have specific obligations under Chapter 4 of the NER regarding power system security. AEMO's powers in these matters have also been established on the assumption that incumbent TNSPs are responsible for their relevant networks.

- TNSPs are responsible for providing AEMO with information to facilitate the procurement of system restart ancillary services. They are also required to prepare and submit to AEMO local black start procedures that would be utilised during a black system event.

- Planning obligations imposed on incumbent TNSPs assume that the TNSP is responsible for all parts of its network.

We therefore do not support a connections framework that results in parties other than the incumbent TNSP being responsible for the operation of the shared transmission network. This view is consistent with the approach taken under the Victorian arrangements for connecting to the transmission network, whereby one party, AEMO, is singularly accountable for outcomes on the declared shared transmission network.[11]

We are of the view that any new arrangements to introduce contestability in connections should not exempt the incumbent TNSP from any of its obligations under the NER.

There should be clear accountability for shared network outcomes

Given the criticality of system security, accountability for outcomes on the shared transmission network should be clearly defined. This is best achieved when one party is singularly accountable for shared network outcomes. The incumbent TNSP is, relative to others, best placed to manage its obligations under the NEL, NER and jurisdictional licencing regimes with regard to the provision of a safe, reliable and secure transmission system. As incumbent operator of the shared network:

11 We note that under the Victorian arrangements AEMO contracts with DTSOs and the connecting party to manage this accountability.

- it has an incentive to manage its compliance with these obligations because it stands to lose (eg through rules based penalties, incentive regimes or reputational losses) if those obligations are not met;

- its size, expertise and reach gives it the information and ability to more effectively manage the risks associated with the operation of its transmission system than other parties;

- it has oversight of the whole transmission network in its licenced area, and therefore takes, in accordance with its regulatory obligations, a holistic view of network operations and transmission planning; and

- it has significant experience in managing the risks associated with operating a shared transmission system, and has the ability to improve its risk management through its ongoing experience.

3 Proposed changes to the NER transmission connection framework

This chapter sets out the proposed changes to the NER transmission connection framework.

3.1 Clarifying aspects of the NER connection framework

3.1.1 The rule change request

In the TFR, we concluded that there is lack of clarity in the current NER transmission connection framework. Specifically, that there is a disconnect between Chapter 5 of the NER (which sets out the connection process and the assets that are required to enable a connection) and Chapter 6A of the NER (which governs the economic regulation of services provided by the incumbent TNSP in relation to a connection). This disconnect means that the NER transmission connection framework is open to a degree of interpretation by connecting parties and incumbent TNSPs.[12] There is broad stakeholder support for the NER being clarified to resolve these issues.

The Energy Council is of the view that this disconnect is compounded by a general lack of clarity in the NER definitions and service descriptions. Specifically, that there is considerable ambiguity in the NER regarding the provision of assets that form part of the shared network and that form an interface with a connection. The rule change request proposes to establish a new category of shared transmission network assets - *identified user shared assets*. This category encompasses those assets that are required to facilitate a party's connection, but which form part of the shared transmission network. It proposes to distinguish these from *dedicated connection assets*, which do not form part of the shared network.

It states that defining these two types of assets will assist in:

- better linking between service classifications in the NER and the assets underpinning their provision;
- clearly defining the services that are to be provided by TNSPs;
- clearly identifying the connection point in each case; and
- distinguishing the different treatment of these assets.[13]

Submissions to the consultation paper indicate that stakeholders largely support the introduction of these two new terms.

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12 Appendix A of the consultation paper on the rule change request sets out further detail on these issues.

13 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, pp4-5.

3.1.2 Commission's proposal

We agree with the arguments put forward in the rule change request for clarifying the NER. There is a need to clarify the assets and services that are required to facilitate a connection to the transmission network and to strengthen the link between Chapter 5 and Chapter 6A so that the arrangements for economic regulation of those assets and services are clear.

We also agree that there is value in separately defining dedicated connection assets and identified user shared assets. Doing so would remove ambiguity and enable a clear distinction between those assets and services that can be provided contestably, and those that must be provided by the incumbent TNSP as a negotiated service under the NER.

To set the foundation for these clarifications, we propose to introduce the following three terms into the NER:

An **identified user group** would be a group of one or more specifically identified generators or large loads[14] that are connected to transmission assets that are, in turn, connected to the shared transmission network at the same connection point.[15]

Dedicated connection assets would be those transmission assets that:

- are developed and constructed for the purpose of connecting an identified user group to an existing transmission network (the "purpose limb");
- used exclusively by the relevant identified user group (the "use limb"); and
- for which the costs of designing, constructing, operating and maintaining are paid for by the identified user group (the "payment limb").

Identified user shared assets would be those transmission assets that:

- are developed and constructed for the purpose of connecting an identified user group to an existing transmission network (the "purpose limb");
- are *not* used exclusively by the relevant identified user group (the "use limb"); and
- for which the costs of designing, constructing, operating and maintaining are paid for by the identified user group (the "payment limb").

The boundary between dedicated connection assets and identified user shared assets should be defined as the first point at which the power flow to/from the connecting

14 As explained in section 1.3, the arrangements described in this paper assume that the connecting party is a generator. We are still considering the implications of these arrangements, including this proposed definition, for load.

15 For clarification, an 'identified user group' could be one connecting party.

party can be isolated from the shared network. In most cases this will be an identifiable isolator or circuit breaker.

The diagrams used in the consultation paper to explain these definitions, the boundaries between the various asset types and the way in which they are proposed to be economically regulated (if at all) were simplified. We acknowledge that they may not have accurately reflected the detail of current arrangements or what is being proposed under the rule change request. We have therefore chosen not to include such diagrams in this paper, and instead have chosen to focus on the principles that underlie the asset definitions (ie the 'limbs' referred to above). We encourage stakeholders to comment on *how* these assets are proposed to be defined, and therefore how services for these assets would be economically regulated. We will also work through how these principles could be applied to real-life examples.

The application of these definitions, when considering what assets will need to be constructed, will differ depending on whether the connection requires the construction of a new substation, or can be facilitated via an existing substation. We welcome stakeholder views on whether these definitions can be consistently applied between both scenarios.

In addition to introducing these new terms and concepts, we will undertake a wholesale review of the connections process relating to transmission as set out in Chapter 5 and the negotiating service provisions in Chapter 6A. The aim of this review will be to:

- clarify all ambiguities throughout these chapters to make it clear:
  - which particular services form part of the connection process;
  - what responsibilities each party (eg, TNSP, connecting party, party providing contestable services) has throughout the connection process; and
  - what information is to be provided at different stages of the connection process.
- strengthen the links between Chapter 5 (the connection process) and Chapter 6A (economic regulation services associated with the connection process); and
- clarify which services are economically 'unregulated'.

We welcome any stakeholder comments on particular sections of the NER that should be considered in this process.

3.2 Defining the services to connect to the transmission network via an identified user shared asset

Table 3.1 sets out the services that are required to connect to the transmission network via an identified user shared asset, and a short description of what each service entails. This table has been compiled based on input from attendees at the stakeholder

workshop held on 9 March 2016.[16] These services are not currently separately defined in the NER. As discussed in chapter 5 and chapter 6 of this paper, it may be necessary to separately define these services so that there is a clear distinction between those services that are to be provided by the incumbent TNSP as a negotiated service and those that can be provided contestably (ie, as an economically unregulated service).

Table 3.1 Services to connect to the shared transmission network via an identified user shared asset

	Service	Description
1	Setting the functional specification (including performance standards)	The setting of technical parameters for the assets' design (eg typical substation parameters, equipment rating, performance requirements, preferred equipment, voltage of connection and protection requirements), construction, operation, maintenance and interface with the shared network
2	Design	The layout and configuration of the assets to meet the functional specification
3	Cut-in works	Works to cut into the existing shared transmission network (often called 'interface works')
4	Construction	Construction of the assets
5	Ownership	Ownership of the assets
6	Operation	Day to day operation of the assets, including decisions about when to undertake maintenance
7	Maintenance	Services required to keep the assets operational, eg replacement of parts

3.3 Implementing the proposed transparency requirements

3.3.1 The rule change request

To enhance the transparency of the connection process, the rule change request proposes that TNSPs be required to publish:

- design standards and philosophies;
- standard form connection contracts; and
- pro-forma preliminary programs, including relevant milestones and indicative timeframes.

16 Some stakeholders will note that this table no longer contains the service 'control'. The Commission is of the view that this service does not need to be defined separately from 'operation'. However, we welcome stakeholder views on whether a separate service definition is required.

It also proposes that, when providing a quote for negotiated services, TNSPs would be required to provide the connection applicant with:

- a range of options (eg, in terms of location and configuration); and
- a reasonable cost breakdown for identified user shared assets.

Submissions to the consultation paper indicate that generators largely support the proposed transparency requirements, explaining that a lack of information, particularly regarding costs, is a key area of contention between connecting parties and incumbent TNSPs.[17] The Clean Energy Council is of the view that the principles and detail that applies to the connection of embedded generators under the NER apply equally to transmission connections and should be directly translated to this rule change.[18]

By contrast, TransGrid and the ENA do not support the proposed requirements. TransGrid is of the view that such arrangements would likely inhibit its ability to compete on a level playing field for the provision of services on a contestable basis, and notes that there is no requirement on businesses in Victoria to disclose cost breakdowns.[19] The ENA suggested that the proposed requirements would work against the interests of connecting parties because:

- they would impose a significant cost burden that would be passed on to the connecting party; and
- the incumbent TNSP might avoid making offers that include innovations or liabilities that are hard to objectively quantify.

The ENA also expresses concern that the connecting party might only use the provided information as a tool for negotiating with other providers. It concludes that the proposed transparency requirements would not be necessary if a fully contestable approach to transmission connections is implemented, because incentives will exist to provide that information to the connecting party.[20]

AEMO is of the view that, while transparency is desirable, the information provided is unlikely to be of much use if the applicant has no choice but to deal with the incumbent TNSP for its connection.[21]

17 GDF Suez, submission on consultation paper, p4; Origin Energy, submission on consultation paper, p2; Clean Energy Council, submission on consultation paper, p2.

18 Clean Energy Council, submission on consultation paper, p15.

19 Transgrid, submission on consultation paper, p3.

20 ENA, submission on consultation paper, p15.

21 AEMO, submission on consultation paper, p4.

3.3.2 Commission's proposal

Feedback from connecting parties indicates that the current NER arrangements do not require or incentivise the incumbent TNSP to provide all necessary information, in a sufficient amount of detail, for the connecting party to make an informed decision about its connection. We therefore see value in amending the NER to enhance the transparency of the transmission connection process. Connecting parties need access to clear, timely and accurate information so that they are able to negotiate in a more informed manner and to address information asymmetries between themselves and the incumbent TNSP.

Table 3.2 sets out the information that the incumbent TNSP should be required to:

- make publically available on its website; and
- provide to a connection applicant on request.

It also sets out whether the incumbent TNSP should be able to charge the connection applicant for information provided on request. Under the existing NER connection process, there is no charge to a connection applicant to submit a connection enquiry. However, the incumbent TNSP can charge a fee to cover the costs of the application process when the connection applicant submits an application to connect.[22] We propose that any charges for information provided by the incumbent TNSP to the connection applicant on request would be in addition to the connection application fee. The TNSP should not be permitted to charge twice for the same information (ie, once through the connection application fee and again through a direct charge). Charges for information provided on request should be set by the incumbent TNSP based on the reasonable costs of providing the requested information.

22 NER, Clause 5.3.3(c)(5).

Table 3.2 Proposed transparency requirements

Information	Via website or direct enquiry	Can the TNSP charge the connection applicant to provide the requested information?	Comments
Design standards			
Substation layouts	Website	No	Typical standards and layouts should be published.
Overhead line structures	Website	No	
Typical primary plant	Website	No	
Design standards	Website	No	
Typical secondary systems	Website	No	
Timescales			
Easement acquisition (generic) Easement acquisition (site specific)	Website Direct enquiry	No Yes	Generic timescales should be published. Site specific timescales could be discussed and negotiated on a project by project basis as part of the connection enquiry/application process, in which case charges may apply.
Substation construction (generic) Substation construction (site specific)	Website Direct enquiry	No Yes	Generic timescales should be published.

Information	Via website or direct enquiry	Can the TNSP charge the connection applicant to provide the requested information?	Comments
Overhead line construction, per km (generic) Overhead line construction, per km (site specific)	Website Direct enquiry	No Yes	Site specific timescales could be provided as part of the connection enquiry/application process, in which case charges may apply.
Underground cable construction, per km (generic) Underground cable construction, per km (site specific)	Website Direct enquiry	No Yes	
Civil works (generic) Civil works (site specific)	Website Direct enquiry	No Yes	
Electrical installation (generic) Electrical installation (site specific)	Website Direct enquiry	No Yes	
Commissioning (generic) Commissioning (site specific)	Website Direct enquiry	No Yes	
Legal			
Connection agreements	Website	No	Standard forms of these agreements and deeds should be published.
Construction agreements	Website	No	

Information	Via website or direct enquiry	Can the TNSP charge the connection applicant to provide the requested information?	Comments
Easement deeds	Website	No	Standard forms of these agreements and deeds should be published.
Relocation deeds	Website	No	
Environmental approvals (generic) Environmental approvals (site specific)	Website Direct enquiry	No Yes	Standard forms or lists of required approvals should be published. Site specific information could be provided as part of the connection enquiry/application process, in which case charges may apply.
Development approvals (generic) Development approvals (site specific)	Website Direct enquiry	No Yes	
Financial			
Amount and terms and conditions of the connection application charge[23]	Website	No	A guide to the structure of the connection application charge, and the terms and conditions under which the charge is paid, should be published.
Relocation of existing assets	Direct enquiry	Yes	Specific information about relocation of existing assets could be provided by the incumbent TNSP, and charges to provide this information may apply. The connecting party would be required to pay for any costs associated with the relocation of assets.

23 For clarification, information about the structure, terms and conditions of the charge should be made available free of charge on the incumbent TNSP's website, but the connecting party would still be required to pay the connection application charge itself.

Information	Via website or direct enquiry	Can the TNSP charge the connection applicant to provide the requested information?	Comments
Operation and maintenance	Website Direct enquiry	No Yes	Operation and maintenance intervals for specific items of plant should be published. These are routine activities irrespective of whether assets are unregulated or regulated and should be in line with good electricity industry practice. Operation and maintenance costs would be harder to publish due to differences in type of plant, number of assets, location etc. Site specific costs could be provided as part of the connection enquiry/application process, in which case charges may apply.

The incumbent TNSP should also be required to provide the connection applicant with a detailed cost breakdown when quoting for the provision of negotiated services. These costs should be sufficiently broken down for the TNSP to justify them, and should be broken down into, at least:

- environmental/ development approval costs;
- easement and land acquisition costs;
- civil works costs;
- primary plant costs;
- secondary system costs; and
- commissioning costs.[24]

3.4 Reviewing the negotiating principles

Under the existing NER each TNSP is required to develop a negotiating framework that sets out the procedure to be followed during negotiations between a TNSP and any person who wishes to receive a negotiated transmission service. This negotiation process is guided by requirements in the NER.[25] The AER must, as part of a transmission determination, make a decision on the negotiated transmission service criteria that will apply to each TNSP. This decision sets out the criteria that are to be applied by a TNSP when negotiating terms and conditions of access to negotiated transmission services, and to be used by an arbitrator in resolving any access dispute about any of the terms and conditions of access.[26] These criteria must give effect to and be consistent with the negotiated transmission service principles.[27]

The negotiated transmission service principles, set out in Chapter 6A of the NER, serve to provide guidance in the negotiation for the provision of a negotiated transmission service by a TNSP.[28] Negotiated transmission services include those services to connect to the transmission network. The negotiating principles cover aspects of negotiation including:

- the basis for pricing; and
- the terms and conditions of access.

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24 For clarity, it is proposed that the incumbent TNSP be required to provide this cost breakdown to the connection applicant at no additional cost.

25 NER, Clause 6A.9.5.

26 NER, Clause 6A.9.4.

27 NER, Clause 6A.9.4(b).

28 NER, Clause 6A.9.1.

The TNSP must comply with its approved negotiating framework and the negotiated transmission service criteria when negotiating the terms and conditions of access for a negotiated transmission service.[29]

3.4.1 The rule change request

The Energy Council is of the view that the current negotiating principles do not adequately cover the issues that are sources of disagreement in connection negotiations including over-specification, timeliness and risk allocation.[30] Several stakeholders agreed with this conclusion in their submissions to the consultation paper.[31]

In line with the recommendations made in the TFR, the rule change request proposes to address this perceived inadequacy by amending the NER to:

- remove the requirement for TNSPs to develop individual negotiating frameworks; and
- update and improve the current negotiating principles and apply them directly to TNSPs through the NER.[32]

The updated principles would reduce the administrative burden on the AER, TNSPs and connecting parties and would reduce the potential for divergence in arrangements across the NEM.[33]

The majority of stakeholders support the proposal to remove the requirement for individual TNSP negotiating frameworks and to update the negotiating principles and enshrine them within the NER.[34] The Clean Energy Council sees the current arrangements as a barrier to a flexible electricity market and suggests that a NER-based negotiating framework would allow the market to adapt more readily to changing market conditions.[35]

The ENA considers that fair regard should be given to the work that has gone into developing the current negotiating frameworks and notes that material changes to the negotiating principles would result in new costs being imposed on TNSPs.[36] The ENA also indicates that, in considering updated negotiating principles, sufficient flexibility

29 NER, Clause 6A.9.2(a).

30 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p15.

31 GDF Suez, submission on consultation paper, p3; Origin Energy, submission on consultation paper, p2; Clean Energy Council, submission on consultation paper, p12.

32 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p15.

33 Ibid.

34 GDF Suez, submission on consultation paper, p3; Origin Energy, submission on consultation paper, p2; Clean Energy Council, submission on consultation paper, p12.

35 Clean Energy Council, submission on consultation paper, p12.

36 ENA, submission on consultation paper, p14.

should remain to allow TNSPs to apply approaches that best suit their individual circumstances.[37]

3.4.2 Commission's proposal

We agree with the Energy Council's conclusions and proposed approach.

The content of TNSPs' existing negotiating frameworks do not appear to vary significantly between businesses or regulatory periods. The negotiating frameworks also do not provide much information or guidance in addition to what is required under the NER, ie the frameworks are very similar to the principles set out in the NER.

The frameworks do not provide adequate clarity on issues that often arise in negotiations for connection services, such as over specification on technical matters, the timeliness of the connection process and risk allocation. This is because the NER negotiating principles are focused on cost and price issues only. In practice, the current negotiating frameworks appear inadequate for facilitating balanced negotiation between a connecting party and the incumbent TNSP. We therefore propose to remove the requirement for TNSPs to develop individual negotiating frameworks. Doing so will reduce administrative burden on the AER and reduce the potential for a divergence in negotiating arrangements between transmission network boundaries.

We agree with the Energy Council that there is value in establishing an amalgamated set of negotiating principles in the NER that apply directly to all TNSPs. We propose to update the NER negotiating principles and combine them with relevant obligations (negotiation rules) to help establish an even balance of power in negotiations between TNSPs and connecting parties regarding all aspects of the provision of connection services, not just cost and price issues.

The negotiation rules would have three main objectives:

- To require the incumbent TNSP and the connecting party to negotiate in good faith to agree the price, standard, conditions and timing of services to be provided.
- To improve the transparency of the negotiation process to enable both parties to understand each other's decisions and requirements.
- To better link the connection process requirements set out in Chapter 5 of the NER with the negotiation process as set out in Chapter 6A of the NER.

The negotiation rules would have the effect of establishing a single negotiation framework applicable to all incumbent TNSPs.

37 Ibid.

Proposed negotiation rules

The draft negotiating rules are set out below. The development of these rules has been informed by the existing principles in the NER, feedback from stakeholders and aspects of TNSPs' existing negotiating frameworks.

- Timeliness:
  - The TNSP and the connecting party are bound by the connection process timeframes set out in Chapter 5 of the NER.
- Information provision:
  - The connecting party must provide information in a timely manner, as reasonably required by the TNSP, to enable the incumbent TNSP to make a proper assessment of the connection application.
  - The TNSP must provide information in a timely manner, as reasonably requested by the connecting party, to enable the connecting party to make informed decisions about whether or not to proceed with the connection.
  - Both parties will keep commercial information that is of a confidential nature in confidence in accordance with the NER.
- Pricing:
  - The principles set out in clauses 6A.9.1 (1)-(10) of the existing NER would continue to apply. We will consider whether an additional principle such as "subject to ensuring the safe, reliable and secure operation by the TNSP of the transmission network in accordance with any applicable requirements and good electricity industry practice, the design of identified user shared assets should minimise the costs to the connecting party" would be appropriate.
  - The connecting party will be required to pay a connection application fee. The amount of the application fee is to be set in accordance with existing clause 5.3.3 (c)(5) of the NER. The TNSP must set out a guide to the structure of these charges, and the terms and conditions under which a connecting party pays this charge, on its website.
- Future expansions:
  - Assets should be designed so as not to inhibit future expansion.
  - An original connecting party should not be required to bear undue costs in relation to capability for future expansion.
  - A connecting party should be required to pay the capital costs directly associated with its connection.

- The service provided to the original connecting party by means of the identified user shared asset or dedicated connection asset should not be degraded as a result of another party connecting to that asset.

- Any savings in ongoing (eg operation and maintenance) costs following a new party's connection should be shared between the parties on a fair basis.

- Terms and conditions of access:

  - The principles set out in clauses 6A.9.1 (9)-(11) of the existing NER would continue to apply.

- Termination of negotiations

  - The connecting party may terminate negotiations at any time.

  - The TNSP may terminate negotiations if:

    (a) the connecting party becomes insolvent or an equivalent event occurs;

    (b) the connecting party has provided false or misleading information;

    (c) it has reasonable grounds to believe that the connecting party is not negotiating in good faith; or

    (d) it is of the reasonable opinion that the connecting party will not acquire the negotiated transmission service.

- Technical advice:

  - Either party may engage an independent engineer to provide non-binding advice at any stage of negotiations, with the costs to be split equally between both the TNSP and the connecting party.

- Dispute resolution:

  - All disputes arising in relation to the provision of a negotiated transmission service are to be dealt with in accordance with Part K of Chapter 6A of the NER.

Issues to consider

The principles are intended to apply to negotiations for the provision of connection services. However, the NER negotiating principles apply to the provision of all negotiated transmission services. While the overwhelming majority of negotiated transmission services are connection services, it is possible that there are, or will be in future, other negotiated transmission services that do not relate to connections. We welcome stakeholder views on what other services are provided as negotiated services,

whether the proposed principles above would apply to those services, and whether the proposed principles would be flexible for an uncertain future.

The application of the updated negotiating principles would also depend on which services are determined to be negotiated and which services are determined to be contestable under this rule change request. Under the two possible models for identified user shared assets set out in chapters 5 and 6 of this paper, different services are contestable.

- Under Model A, the negotiating principles would not apply to the construction and ownership of identified user shared assets because they are proposed to be provided as contestable services.

- Under Model B, the majority of services for identified user shared assets are contestable services. This means the negotiating principles would only apply when the incumbent TNSP sets the functional specification and provides cut-in works for identified user shared assets.

3.5 Clarifying the dispute resolution process

The NER currently provides two overlapping, inconsistent processes for dispute resolution for connections:

- NER Chapter 6A, Part K provides commercial arbitration for "transmission services access disputes" (meaning disputes about provision of a negotiated service and related access arrangements as part of the connections process); and

- NER Chapter 8, Part B applies a more detailed dispute resolution procedure to "the proposed access arrangements or connection agreements of an Intending Participant or a Connection Applicant".

3.5.1 The rule change request

The rule change request proposes to incorporate a robust dispute resolution process. It recommends that the NER be amended to clarify that the price, terms and conditions of all negotiated services are subject to commercial arbitration processes. It also proposes that the NER clarify that any decision reached through commercial arbitration is binding on the parties, including for example, any instruction to amend the terms of the connection agreement to make them fair and reasonable.[38]

There were few comments on these proposed changes in submissions to the consultation paper. The ENA is of the view that, while the Rules drafting could be improved, the existing dispute resolution arrangements are robust. It submitted that the Chapter 8 dispute resolution process carves out the dispute arrangements under Part K of Chapter 6A. The ENA considers that an effective dispute resolution

38 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p18.

framework is one that is never used, and therefore the current framework can be deemed successful because no disputes have been raised under this process. It argues that the AEMC will need to be convinced that changes will bring about a material promotion of the NEO.[39] We do not agree that the fact that no formal disputes have been raised is evidence that there is nothing wrong with how connections are negotiated.

AEMO notes that connecting parties are unwilling to raise disputes because of the risk of delaying the connection process and damaging their relationship with the incumbent TNSP. It submitted that enhancing the process was therefore unlikely to be useful if the process is never activated in the first place.[40]

In contrast to the ENA, the Clean Energy Council is of the view that the lack of use of the current mechanism likely reflects that it is not fit to manage risks. It submitted that contestability increases the need for an expeditious and binding decision over disputes, and argues that the framework should not create opportunity for TNSPs to use a challenging dispute resolution process to their advantage.[41]

3.5.2 Commission's proposal

We agree with the Energy Council that the dispute resolution process that applies to connection negotiations could be clarified. The fact that the dispute process has not been used, despite the number of issues that have been raised by connecting parties through both TFR and this rule change process, is not an indication that the current dispute resolution framework is fit for purpose. It is more likely that the process has not been used because connecting parties are unwilling to raise disputes because of the risk of delaying the connection process or damaging their relationship with the incumbent TNSP - the only party that can facilitate their connection.

We propose to amend the NER where necessary to confirm that the commercial arbitration process set out in Part K of Chapter 6A applies to all disputes arising from the negotiation of a connection service. The commercial arbitrator appointed under this process would determine whether the price or other terms of any element of a negotiated connection service are appropriate as required by the NER.

3.6 Introducing an ability to engage an independent engineering expert

3.6.1 The rule change request

In submissions to the consultation paper, a number of stakeholders express concern that the cost and complexity of connections may not be reduced if the incumbent TNSP

39 ENA, submission on consultation paper, p18.

40 AEMO, submission on consultation paper, p4.

41 Clean Energy Council, submission on consultation paper, p16.

imposes overly onerous operation and maintenance requirements, or over-specifies an asset's design.[42]

The rule change request proposes that where agreement cannot be reached between the incumbent TNSP and a connecting party on the reasonableness of any technical requirements in the connection process, either party should have the option to call for the appointment of an independent engineering expert to provide its opinion. The choice of engineer would be agreed between the TNSP and the connecting party, and the cost of the engineer's services would be shared equally between the two parties. Where parties are unable to agree on a suitable expert, either the connecting party or the TNSP may request the AER to nominate an independent expert from a panel of technical experts, which would be established and maintained by the AER on advice from AEMO.[43]

AEMO notes that the Australian Standard dispute resolution process already includes a process for appointing an independent expert.[44]

3.6.2 Proposed approach

We see value in establishing a specific ability in the NER for parties to engage an independent expert to 'sense check' technical aspects of a connecting party's connection to the transmission network. The objective of this ability would be to help parties reach a quick agreement on the fundamental aspects of a connection. Stakeholders have indicated that an ability to engage an independent expert would be useful to help them address issues "before a dispute has arisen".

Despite not supporting the proposal, the ENA makes suggestions on how an independent engineering expert could be used to support the connection process. It submitted that any framework should encourage parties to agree on the choice of engineer but that, if agreement cannot be reached, the AER should establish and maintain a panel given it has a similar function for disputes.[45]

We propose that the NER include provisions to the following effect:

- Establish a right for either party (ie the connecting party or the incumbent TNSP) to call for the appointment of an independent engineering expert. The expert is to be selected from a list of accredited experts.

- The incumbent TNSP would be required to inform the connecting party of its right to call for the appointment of an independent engineering expert when

42 GDF Suez, submission on consultation paper, p2; Origin Energy, submission on consultation paper, p1; Major Energy Users, submission on consultation paper, p3; Clean Energy Council, submission on consultation paper, p5.

43 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p17.

44 AEMO, submission on consultation paper, p4.

45 ENA, submission on consultation paper, p17.

responding to a connection enquiry. The expert should be able to be engaged as early as is necessary in the connection process, for example to provide an independent check on the incumbent TNSP's design of an identified user shared asset.

- The list of accredited experts would be established and maintained by the AER. Several stakeholders have pointed out that the pool of experts in the transmission connection space is small, and as such it may be difficult to find truly independent engineers. The Clean Energy Council suggests that this issue could be addressed by allowing overseas businesses to be listed.[46] The ENA is of the view that the AER should be guided by criteria to select engineers that have sufficient professional competence, experience of relevance to the NEM and are truly independent.[47] We agree that experts providing their advice should be independent of the connection under consideration, unless both parties agree otherwise. We suggest that the AER be required to establish a panel of a sufficient number of providers, of broad experiences, so that parties are able to select an expert that is appropriately independent of the connection in question. However, we agree with the ENA that experts providing their advice should have experience relevant to the NEM, and therefore propose that the AER be required to only list experts that have experience in Australia.

- If parties cannot mutually agree who to appoint, the AER will select an expert from the panel. In the event that an expert on the panel is already providing services to either party for the connection in question, the AER would not be able to select that expert, unless both parties consent.

- The costs associated with the expert's advice would be borne equally between the two parties. Requiring both parties to cover these costs incentivises a timely resolution to the issue.

- The above provisions would encourage the connecting party and incumbent TNSP to provide whatever information is reasonably required for the expert to provide its advice.

- The expert's advice would not be binding, but could be taken into account by an arbitrator in a dispute resolution process.

Stakeholders would be unlikely to utilise a right to call for the appointment of an independent engineering expert if the process for doing so is complex, lengthy or expensive. The approach set out above is intended to allow the expert to provide its advice concurrently with other connection processes, and should not be used by either party to stall the connection process.

In its submission to the consultation paper, the ENA recommended that the NER contain the following guidance for the expert:

46 Clean Energy Council, submission on consultation paper, p16.

47 ENA, submission on consultation paper, p17.

- The incumbent TNSP's proposed specification should be reasonable (ie benefits commensurate with costs).
- Regard should be given to the need to reasonably facilitate future connections.
- The incumbent TNSP's proposed specification should be consistent with good industry practice and contribute to a safe, reliable and secure transmission system.[48]

We agree that there is value in the NER containing guidance this effect to provide context for how the expert must approach the issue. However, the specific scope of the expert's remit should be able to be agreed between the incumbent TNSP and the connecting party, not defined in the NER.

48 ENA, submission on consultation paper, p16.

4 Dedicated connection assets

This chapter sets out the proposed arrangements for dedicated connection assets, which broadly comprise the transmission equipment between a substation and a connecting party's plant.[49] The boundary between identified user shared assets and dedicated connection assets would be defined as the first point at which the power flow from the generator could be isolated from the shared network. In most cases this would be an identifiable isolator or disconnector.

Dedicated connection assets is not a term currently defined in the NER. Dedicated connection assets would be defined as set out in section 3.1 of this paper.

Submissions to the consultation paper indicate that stakeholders generally support the fully contestable provision of dedicated connection assets, ie, that these assets would be provided on an economically unregulated basis.

4.1 Rule change request

In the TFR final report, we recommended making dedicated connection assets capable of being constructed, owned, operated and maintained by any party.[50] This is reflected in the rule change request, with the Energy Council proposing that the NER be amended to clarify that all services for dedicated connection asset should be provided as a non-regulated service. This would mean that the construction, ownership, operation and maintenance of dedicated connection assets could be provided by any qualified party.[51]

The rule change request also sets out that:

- Dedicated connection asset owners would be automatically exempt from regulation under Chapter 5 and 6A of the NER, including the need to register as a network service provider. A requirement should be placed on parties owning dedicated connection assets to negotiate access with third parties on reasonable terms.

- Dedicated connection assets could be transitioned to the shared network. For this to occur, an application would be made by an appropriate party to the selected regulatory body to assess the merits of the transition. The assessment would be carried out by the AER, on a case by case basis as required.

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49 We note that other assets may fit the definition of a dedicated connection asset, and in some cases a dedicated connection asset could be connected directly to the shared network (ie not via an identified user shared asset). The applicability of the term 'dedicated connection asset' would need to be determined on a case by case basis in accordance with the policy approach described in chapter 3 of this paper.

50 AEMC, Transmission Frameworks Review, Final Report, 11 April 2013, p152.

51 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p7.

4.2 Commission's proposal

4.2.1 Coverage by the national frameworks

All equipment operated at transmission voltages in participating jurisdictions and interconnected with the rest of the transmission system should be subject to the provisions of the NEL and NER. Introducing dedicated connection assets as a defined term in the NER would remove any ambiguity about whether this is the case or not.

Chapter 6A of the NER would set out clearly that any dedicated connection assets would be provided on a contestable basis, ie, they would be economically unregulated.

If a party wishes to operate part of the transmission network, then it is important that the necessary provisions are in place so that the safety, reliability and security of the power system is maintained. These provisions, among others, exist within the NER and currently apply to any operator of the transmission network who is registered as a Network Service Provider.

4.2.2 Contestable provision

The provision of all aspects of dedicated connection assets would be fully contestable and provided as a non-regulated service. Connecting parties would have the flexibility to engage any qualified party (or parties) to provide services for such assets. There are sufficient providers, and the barriers to entry are sufficiently low, for a connecting party to find an alternative to the incumbent TNSP for the provision of these services. Since these assets are not part of the shared network, there are no material benefits to consumers in a TNSP operating and maintaining these assets. As the benefits of these assets accrue to the connecting party it is appropriate that this party bears the cost of the operating and maintaining them.

TNSPs should be free to compete to provide dedicated connection assets in all parts of the NEM as an unregulated service, provided they comply with the requirements of the AER's transmission ring-fencing guideline and the TNSP's cost allocation methodology. Further consideration will need to be given to whether the ring-fencing requirements are appropriate and are sufficient to encourage competition for the provision of services for dedicated connection assets.

Most stakeholders have indicated that they support the provision of services for dedicated connection assets being fully contestable. They argue that this will reduce the costs associated with connection since competitive pressure would be placed on the providers of such services.[52]

52 AGL, submission on consultation paper, p4; AusNet Services, submission on consultation paper, p2; Energy Australia, submission on consultation paper, p1; ENA, submission on consultation paper, p10.

Clarifying that dedicated connection assets are fully contestable will reduce ambiguity and facilitate competition in the provision of these assets, which will be beneficial for connecting parties and consumers.

4.2.3 Registration

Consistent with clarifying that all transmission equipment is subject to the provisions of the NEL and the NER, is that any party owning transmission voltage equipment should be required to either register as a TNSP, or gain exemption from the AER from the requirement to register.

The rule change request set out that it would be inappropriate for any party owning transmission assets to be required to register as a TNSP, and so be subject to all of the obligations under the NER. It therefore proposed that there would be an automatic exemption, which would not impose a significant burden on the dedicated connection asset owner. The automatic process proposed would be conditional on some aspects relating to third party access.

Some stakeholders, typically generators, agree that the owners of dedicated connection assets should be automatically exempt from registration as a TNSP.[53] For example, the Clean Energy Council considers that anything other than an automatic exemption would result in unnecessary duplication of registration for a generator.

In contrast, AEMO believes that dedicated connection asset owners should be required to register as a TNSP and comply with Chapter 4 of the NER, which requires Registered Participants to follow instructions from AEMO for power system security purposes, but could be exempted from specified chapters of the NER (particularly Chapter 6A and parts of Chapter 5 of the NER).[54] AEMO also considers that the local TNSP and AEMO should be informed about changes to dedicated connection assets that could affect power flows. The ENA also considers that dedicated connection asset owners should be subject to the requirements of Chapter 5 in order to maintain the integrity of the transmission system.[55]

As discussed above, we consider that all equipment operated at transmission voltages in participating jurisdictions and interconnected with the rest of the transmission system should be subject to the provisions of the NEL and NER. It is therefore appropriate that parties owning these assets are registered.

However, we acknowledge that not all of the requirements placed upon TNSPs under the NER may be applicable to dedicated connection assets. For example, some requirements in Chapter 5 of the NER require TNSPs to participate in planning processes, which would not be necessary for the owner of a dedicated connection asset.

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53 AGL, Submission on consultation paper, p.5; GDF Suez, Submission on consultation paper, p.3; Clean Energy Council, Submission on consultation paper, p8.

54 AEMO, Submission on consultation paper, p.3.

55 ENA, Submission on consultation paper, p.11.

Therefore, we propose to create a new sub-category of registration in the NER - the dedicated transmission connection asset owner. Such parties would be required to register with AEMO. The conditions of registration, as set out in the NER, would be that:

- third party access to these assets would be explicitly contemplated (see section 4.2.4 below), with this occurring through a negotiate/arbitrate framework; and
- the assets must enable the generator to meet any performance standard that must be met.

This will make it clear that owners of these assets will be exempt from other requirements of TNSPs under the NER, eg the requirement to have a transmission determination approved by the AER.

4.2.4 Third party access

As explained above, a condition of registration for owners of dedicated connection assets is that parties would be able to negotiate access with third parties on reasonable terms.

Several stakeholders disagree that this should be a condition of registration, and instead are of the view that third party access should be negotiated on a commercial basis between the owner of the dedicated connection asset and the access seeker.

We disagree with this. It is our understanding that users who request and finance dedicated connection assets (or "extensions") currently have generally had sole use of those assets, with most generators and load locating close to the existing network. However, the development of the network is changing. Generators may, in future, locate further away from the existing shared network, eg, wind-powered generators locating around favourable wind resources. Such connections are likely to require longer dedicated connection assets and are consequently more likely to provide options for other users wishing to gain access to the transmission network. This is also the case with some of the large LNG facilities and unregulated networks being constructed in Queensland.

Therefore, setting out that third party access is a condition of the registration would mean that there were arrangements in place to set out a process for both gaining third party access, and dealing with disputes that may arise in this context.

We consider that:

- access should only be offered if the asset has spare capacity, or the new connecting party funds any upgrade that facilitates unconstrained operation of the asset; and
- access should only be provided if the existing connecting party's business interests would not be materially disadvantaged. Business interests excludes limiting or minimising competition from new entrants.

The majority of stakeholders agree that third party access to dedicated connection assets should only occur if it would not disadvantage the original connecting party.[56]

4.2.5 Transition to the shared network

Similar to third party access to dedicated connection assets, most stakeholders acknowledge that there may be a situation where it makes sense for the local TNSP to acquire the dedicated connection asset and transition it into the shared network. These stakeholders consider that such a transition should only occur if it is not to the disadvantage of the original connecting party.[57]

Generators are generally of the view that the AER would be the appropriate body to oversee the transition of the asset to the shared network, but maintain that the oversight should be light-handed and operate on a case by case basis.[58] The Clean Energy Council agree that transitions to the shared network should be case by case but did not consider the AER to be the appropriate regulatory body to oversee the transition. Instead, transitions should be resolved on a commercial basis.[59] The ENA is of the view that TNSPs, not the AER, are the appropriate body to determine whether a transition should occur.[60]

We consider that the arrangements around transitioning assets to the shared network should be clear and transparent when investments in dedicated connection assets are made. The NER should have a mechanism for the transition of dedicated connection assets into the shared network. Decisions about when assets should be transitioned should be made on a consistent basis, with no room for variation. Box 4.1 sets out recent examples of assets transitioning into the shared network, demonstrating that the process for the transition is currently unclear.

56 AGL, submission on consultation paper, p5; Clean Energy Council, submission on consultation paper, p10; ENA, submission on consultation paper, p12; GDF Suez, submission on consultation paper, p3; Origin Energy, submission on consultation paper, p2.

57 AGL, submission on consultation paper, p5; Clean Energy Council, submission on consultation paper, p11; GDF Suez, submission on consultation paper, p3; Origin Energy, submission on consultation paper, p2.

58 AGL, submission on consultation paper, p5; GDF Suez, submission on consultation paper, p3; Origin Energy, submission on consultation paper, p2.

59 Clean Energy Council, submission on consultation paper, p11.

60 ENA, submission on consultation paper, p13.

Box 4.1 Examples of assets transitioning into the shared network

In 2002, Powerlink identified through a regulatory test a solution to increasing supply from South West Queensland to South East Queensland that utilised an asset owned by the Millmerran Power Station (MPS). Prior to the commissioning of the network augmentation, the asset was a non-regulated connection asset. The asset owned by MPS became part of the shared network. However, there was no change to the cost treatment of the assets, which remained non-regulated in status, with MPS entering into an unregulated transmission agreement with Powerlink.[61]

A similar situation occurred to assets relating to the Kogan Creek Power Station (KCPS). Powerlink identified through a RIT-T assessment that an upgrade was needed to support the network in Brisbane and an asset owned by KCPS was utilised in the solution. In this instance, the AER approved the inclusion of these assets in Powerlink's asset base and so the assets became part of the prescribed shared network. Unlike the previous example, the asset is now paid for by Powerlink's customers through TUOS charges.[62]

Since we consider that the arrangements should be clear, transparent and predictable we do not consider that a case by case assessment is the best way to facilitate transition of dedicated connection assets. Instead, there should be two triggers in the NER where this transition could occur. These are:

1. where a DNSP connects to the dedicated connection asset; or

2. where a TNSP is augmenting the existing shared network to facilitate additional capacity, and the most efficient option would be to utilise the dedicated connection asset (as identified in a RIT-T assessment).

Clearly outlining the circumstances where assets can be transitioned would provide certainty for connecting parties.

Appropriate provisions would also need to be made to ensure that in the event of a dedicated connection asset transitioning into the shared network, the original owner:

- is able to negotiate for a fair price for the asset; and

- has access to the dispute resolution process.

61 See https://www.aer.gov.au/system/files/InterGen%20(Australia)%20Pty%20Ltd%20(28%20October%202011).pdf .

62 See http://www.aer.gov.au/system/files/Powerlink%20draft%20decision.pdf.

5 Identified user shared assets Model A: The rule change request

This chapter sets out the model for the provision of identified user shared assets that was proposed under the rule change request, which largely reflects the model that was recommended by the AEMC in the TFR. This chapter also sets out some possible improvements that could be made to the model, based on input received from stakeholders.

5.1 Detailed description of model

5.1.1 Boundaries of contestability

Under this model, some services to connect to the shared transmission network via an identified user shared asset would be contestable. Submissions to the consultation paper on this rule change request indicate that stakeholders largely support increased contestability in the provision of services to connect to the transmission network, specifically in relation to identified user shared assets.[63] Several generators note that significant cost and time savings can be achieved when a proponent is able to contract with the service provider of its choice.[64]

The ENA note that TNSPs already seek to capture the benefits of contestability by outsourcing construction and other services for negotiated transmission services. It therefore concluded that a large degree of the benefits of competition are already being achieved.[65] While we acknowledge that this may be the case, the benefits of the incumbent TNSP outsourcing these service aspects are not always made clear or passed on to the connecting party.

Table 5.1 sets out the boundaries of contestability for identified user shared assets under Model A. See section 3.2 of this paper for the Commission's interpretation of what each service in the table below entails.

63 AGL, submission on consultation paper, p1; Energy Australia, submission on consultation paper, p1; GDF Suez, submission on consultation paper, p2; Major Energy Users, submission on consultation paper, pp1-2.

64 AGL, submission on consultation paper, p1; Energy Australia, submission on consultation paper, p1.

65 ENA, submission on consultation paper, p7.

Table 5.1 Boundaries of contestability for identified user shared assets under Model A

Service	Contestability
Setting the functional specification (including performance standards)	Not contestable. Incumbent TNSP provides as a negotiated service.
High-level design	
Cut-in works	
Construction	Contestable.
Ownership	Contestable, subject to the agreement of terms with the incumbent TNSP regarding operation and maintenance.
Operation	Not contestable. Incumbent TNSP is accountable for the impact that the provision of these services has on the operation of the shared transmission network. These services are negotiated services, therefore charges for providing them are determined in accordance with the NER framework for the provision of negotiated services.
Maintenance	

The NER would need to be amended to allow for the construction and ownership of identified user shared assets to be provided by parties other than the incumbent TNSP. The services set out in the table above are not currently separately defined in the NER. It is likely that the NER would need to clearly define each of these services, or at the very least, to define 'construction' and 'ownership' as distinct from the other services, so that there is no risk of overlap between the services provided by the incumbent TNSP on a negotiated basis and those provided contestably.

The rule change request proposes that a fall back option be established to require the incumbent TNSP to provide construction and ownership services for identified user shared assets if asked by the connecting party to do so. In that event, the rules that underpin the incumbent TNSP's provision of negotiated services would apply. However, feedback from stakeholders suggests that a workably competitive market would exist, citing the extent of competition for contestable transmission works in Victoria as evidence, and therefore that there would be no need for the incumbent TNSP to be a 'last resort' provider of these services. We support this conclusion in relation to construction and ownership services, and propose that there be no requirement for the incumbent TNSP to provide construction and ownership services for identified user shared assets as negotiated services if asked. These services would be provided on a purely contestable basis, subject to the incumbent TNSP's functional specification and high-level design.

Under this model, the incumbent TNSP would be able to provide construction and ownership services on an unregulated basis, provided that it complies with the requirements of the AER's transmission ring-fencing guideline and the TNSP's cost

allocation methodology. Further consideration will need to be given to whether the ring-fencing requirements are appropriate and are sufficient to encourage competition for the construction and ownership of identified user shared assets.

The incumbent TNSP would provide all other service aspects as a negotiated service, subject to the revised negotiation rules that are discussed in section 3.4.

5.1.2 Ownership

The rule change request proposed that the connecting party would be able to retain ownership of identified user shared assets if it can agree terms to allow the incumbent TNSP full operation and maintenance rights.

In its submission to the consultation paper, GDF Suez expresses support for this proposal but notes that there is a risk the incumbent TNSP would impose onerous operation and maintenance requirements on the connecting party. To prevent this becoming a barrier to contestable ownership, it proposes that the NER contain a negotiating framework that the incumbent TNSP and connecting party be required to adhere to when negotiating the terms and conditions of ownership.[66] The rule change request seeks to address these concerns by revising the NER negotiating principles and allowing the connecting party to call for the appointment of an independent engineer.[67]

The Clean Energy Council is of the view that an owner of identified user shared assets should be able to freely sell and transfer ownership to another party, irrespective of the incumbent TNSP's operation and maintenance regimes. It asks that the contractual arrangements between the owner of the identified user shared assets and the incumbent TNSP not place terms on the ownership structure of these assets.[68]

We agree that the owner of an identified user shared asset should be able to transfer ownership to another party freely, so long as the operation and maintenance of that asset can continue to be carried out as agreed between the connecting party and the incumbent TNSP. This means that the asset owner is entirely passive, and confers all operational rights through contract. We do not propose to place restrictions on how identified user shared assets can be owned.

Similarly, the NER would not seek to prevent the connecting party from transferring ownership of identified user shared assets to the incumbent TNSP after construction.[69] How this transfer would occur would be subject to terms agreed between the incumbent TNSP and the connecting party. Such a transfer is likely to have a number of implications that would need to be worked through, including tax, land and associated leasing and equipment warranties.

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66 GDF Suez, submission on consultation paper, p2.

67 These aspects of the rule change request are discussed in chapter 3.

68 Clean Energy Council, submission on consultation paper, p15.

69 For clarification, ownership by the incumbent of the asset would be provided as a negotiated service, ie that asset would not form part of the incumbent TNSP's regulatory asset base.

5.1.3 Registration

Section 11(2) of the NEL requires that:

> "A person must not engage in the activity of owning, controlling or operating, in this jurisdiction, a transmission system or distribution system that forms part of the interconnected national electricity system unless:
>
> - the person is a Registered participant in relation to that activity; or
> - the person is the subject of a derogation that exempts the person, or is otherwise exempted by AEMO, from the requirement to be a Registered participant in relation to that activity under this Law and the Rules."

It is important that the party operating identified user shared assets is registered as a TNSP and subject to the relevant obligations of the NER that relate to the safe, reliable and secure operation of the shared transmission system. Under this model, the incumbent TNSP operates the asset and will therefore already be registered as a TNSP.

The rule change request proposed that, if identified user shared assets are owned by a party other than the incumbent TNSP, that party would be automatically exempt from registration as a TNSP. However, it proposed that a condition of this exemption would be for the connecting party to allow the incumbent TNSP to operate and maintain the assets.

We consider that a presumptive right to an exemption, as proposed under the rule change request, would unnecessarily constrain the AER's existing ability under the NER to exempt parties from registration as a TNSP. It is more appropriate to require owners of identified user shared assets to register and exempt them from certain obligations than it is to exempt those parties from registration and place conditions on that exemption.

Under this model, a separate sub-category of registration for owners of identified user shared assets would be established. A limited set of NER obligations would apply to this registration category, including a requirement for that party to engage the incumbent TNSP to operate and maintain the assets.

5.1.4 Third party access

As explained above, the connecting party (or its selected contractor) would be able to retain ownership of identified user shared assets if it can agree terms with the incumbent TNSP to allow the incumbent TNSP full operation and maintenance rights. This would also include the ability for the incumbent TNSP to facilitate future connections to those assets and network expansion where necessary in accordance with the transmission access arrangements under Chapter 5 of the NER.

This paper has so far assumed that a connecting party's connection to the transmission network requires an entirely new substation (and associated connection assets) to be built, ie a 'greenfield' connection. However, as has been noted by a number of stakeholders, it is becoming increasingly likely that connecting parties will seek connection to the transmission network via an existing substation, ie a 'brownfield' connection. In these circumstances, the following principles should apply:

1. The party who necessitated the construction of the original identified user shared asset should not be able to decide whether or not another party can connect to that asset. Allowing the original connecting party to make these sorts of decisions would raise cross-ownership and competition concerns. For example, an existing generator could prohibit a new generator from connecting in order to preserve competitive advantage in the wholesale market.

2. The new connecting party should be required to pay the capital costs directly associated with its connection.

3. The service provided to the original connecting party by means of the identified user shared asset or dedicated connection asset should not be degraded as a result of another party connecting to that asset.

4. Any savings in ongoing (eg operation and maintenance) costs following a new party's connection should be shared between the parties on a fair basis.

Under this model, the first principle will always apply because the incumbent TNSP is responsible for making decisions about future connections to identified user shared assets in accordance with the NER. However, the NER should be amended to require all connection agreements to contain arrangements that address the remaining principles.

We note that AEMO has developed a set of principles for the allocation of costs between parties connecting to the same terminal station in Victoria. Application of these principles is intended to result in several outcomes, including that "future applicants connecting to the same terminal station will pay their actual cost of connection to the terminal station and a share of the cost associated with the provision of negotiated transmission services paid by existing applicants."[70] We agree with this principle, but note that such cost sharing arrangements would need to be incorporated into the connection agreement in order to be utilised.

5.1.5 Asset sizing

Origin Energy proposes that the NER set out that the connecting party should only bear the cost of the portion of the identified user shared asset required for its connection if the incumbent TNSP deems it appropriate to design that asset beyond the

70 AEMO, Cost allocation policy for Victorian terminal stations - Negotiated transmission services, 30 May 2012, p7.

specification needed for the connecting party.[71] We acknowledge that the incumbent TNSP may seek to design substations to accommodate future connections, for example if it is more economic to do so, and we understand that this is often the case.

The incumbent TNSP would not be prevented from designing a larger identified user shared asset to meet reliability standards or maximise market benefits. However, the incremental costs of building the larger asset should be recovered from TUOS customers in accordance with the NER cost allocation principles so that the connecting party only bears the cost of the portion of the asset that is reasonably required for its connection.

The incumbent TNSP may also wish to choose to oversize an identified user shared asset if it considers that another party might connect to the transmission network via that asset in the future. If this is the case, we consider that the incumbent TNSP should be required to pay the incremental costs (eg design and construction costs) of that oversizing with unregulated revenue. That is, the incumbent TNSP would be taking on the risk of oversizing the asset, not the original connecting party.

Some connecting parties may also wish to oversize an identified user shared asset, for example to accommodate the connection of a second stage of a generation project. It is within the connecting party's right to do so, provided that they pay for this. Under this model, the connecting party would negotiate arrangements for the functional specification, design, cut-in works, operation and maintenance for the oversized identified user shared asset with the incumbent TNSP as a negotiated service. The ownership and construction of those assets would be contestable.

Allowing a connecting party to oversize an identified user shared asset in anticipation of its own future connection to that asset may seem unfair to other parties who may also be seeking to connect to the transmission network at a similar time or location. However, this approach is consistent with the framework of economic regulation for these assets under Model A, ie that connections are negotiated commercially under a negotiating framework. Further, this approach does not prevent a new party seeking connection to those assets and paying the incremental costs of its connection over and above the original connecting party's reserved capacity (ie, capacity that has been 'reserved' by a connecting party for future use as set out in its connection agreement with the incumbent TNSP).

5.1.6 Contractual arrangements

Under this model, contractual arrangements between the connecting party and the incumbent TNSP will include arrangements for the provision of all services relating to identified user shared assets except ownership and construction. The connection agreement underpins the relationship between the incumbent TNSP and the connecting party with regard to that party's 'connection' to the network, and is governed by the NER.

71 Origin Energy, submission on consultation paper, p1.

The contractual arrangements should also include lease, transfer or other terms to allow the incumbent TNSP to facilitate future connections to the assets and network expansion where necessary. As noted above, the NER would likely need to set out how this lease or transfer would occur, so that competition concerns are limited and cross-ownership neutrality between transmission and generation assets is preserved.

The connecting party will, if it chooses, contract with a third party (or the incumbent TNSP on an unregulated basis) for the ownership and construction of the identified user shared assets. Any risks that may arise as a result of a contestable ownership or construction would presumably be managed by the connecting party and the incumbent TNSP before the asset is commissioned and that TNSP takes responsibility for its operation and maintenance.

5.2 The connection process

The connection process under this model would largely reflect current arrangements, with a few additional steps. Competition would also be promoted in relation to the provision of construction of identified user shared assets.

The incumbent TNSP would be required to publish information about the specifics of connecting to its network, and provide the connection applicant with information when quoting for the provision of negotiated services, in accordance with the new NER transparency provisions set out in section 3.3.

The incumbent TNSP would set the functional specification for, design and provide the cut-in works for the identified user shared assets. Either party could request that an independent engineering expert be engaged to provide advice on technical issues, or activate the dispute resolution process to resolve disagreements regarding the provision of these services.[72]

The connecting party would then select a party to own and construct the assets. Construction of the assets would commence in accordance with the terms of the connection agreement between the connecting party and the incumbent TNSP. The terms and conditions governing the provision of ownership and construction services, including cost, would be determined on a commercial basis between the connecting party and its chosen contractor. These services could also be provided by the incumbent TNSP on an unregulated basis, subject to the requirements of the NER transmission ring-fencing guideline and the TNSP's cost allocation methodology.

The incumbent TNSP would provide operation and maintenance services as a negotiated service. The connecting party would negotiate the terms and conditions for provision of these services, including price, with the incumbent TNSP in accordance with the revised NER negotiation rules (see section 3.4).

The connecting party (or asset owner, if not the connecting party) would be able to retain ownership of identified user shared assets but it would be required to agree

72 These proposals are set out in chapter 3.

terms with the incumbent TNSP to allow the incumbent TNSP full operation, control and maintenance rights. This would also include the ability for the incumbent TNSP to facilitate future connections to those assets, and network expansion where necessary, in accordance with the transmission access arrangements under Chapter 5 of the NER. This may extend to negotiating appropriate leases, depending on the status of the land on which the asset is constructed. It may be necessary to include some obligations in the NER regarding:

- compliance by the connecting party with such contractual arrangements (given the incumbent TNSP's obligations to operate and maintain the asset, and comply with relevant obligations regarding the safety, reliability and security of the shared network; and

- what these contractual arrangements should be required to address (eg in the event of insolvency on the part of the connecting party/ asset owner).

There will also need to be some process by which the incumbent TNSP officially assumes responsibility for the operation and maintenance of the identified user shared assets once constructed, eg to check that the asset has been constructed in accordance with the functional specification and design requirements.

5.3 Summary of model

Under this model for identified user shared assets, the connecting party has more control over the cost and timing of its connection to the transmission network than under current arrangements. The cost of its connection may be reduced if it is able to save money by having the identified user shared assets constructed by a third party. Input from stakeholders suggests that construction is where the largest cost savings are likely to be made if the service is opened to competition. The connecting party is also likely to have more transparency on the cost of construction than under current arrangements if it is able to seek quotes, including from the incumbent TNSP, for this service.

Because the incumbent TNSP retains responsibility for the design of identified user shared assets, it may therefore not entirely resolve connecting parties' concerns about incumbent TNSPs' over-specification of assets. Prescriptive design requirements might restrict innovation and the benefits that could be achieved through contestable construction, although it is unclear how much scope for innovation there is in the design of identified user shared assets. However, the revised negotiating principles are designed to bolster the connecting party's bargaining power when negotiating with the incumbent TNSP on the asset's functional specification and design. Similarly, the ability to request that an independent engineering expert be engaged may help the connecting party and incumbent TNSP come to an appropriate middle ground on these service aspects.

Under this model, the incumbent TNSP retains responsibility for those services for identified user shared assets that have a direct impact on the shared network, ie operation and maintenance. Responsibility for managing the risks associated with the

provision of these services, including their impact on the shared network, lies clearly with the incumbent TNSP. As set out in chapter 2, we consider that the incumbent TNSP is, relative to other parties, best placed to manage those risks. As incumbent owner/operator of the shared network:

- it has an incentive to manage the risks because it stands to lose if those risks are not appropriately managed;
- its size, expertise and reach gives it the information and ability to better manage the risks than other parties; and
- it has significant experience in managing these types of risks, and has the ability to improve its risk management through more experience.

Stakeholders are encouraged to provide their views on:

- whether the complexities associated with this model, particularly during the construction and operation phases, can be resolved to meet the objectives of the rule change request; and
- what costs and benefits would arise as a result of implementing this model.

6 Identified user shared assets Model B: Increased contestability with TNSP accountability

This chapter sets out a model under which the majority of services for identified user shared assets, including operation and maintenance, could be provided by parties other than the incumbent TNSP. However, the incumbent TNSP would remain ultimately accountable for any impact those assets have on the shared transmission network.

6.1 Background to this model

A number of stakeholders have expressed the view that increased contestability for the provision of services for identified user shared assets would better achieve the objectives of the rule change request.

6.1.1 Boundaries of contestability

Several generators are of the view that only allowing contestability in ownership and construction of identified user shared assets (as under Model A), and requiring the incumbent TNSP to take on all other service aspects, would limit the benefits that can be achieved from competition for these services. Energy Australia considers that contestable construction, financing and ownership of a project is unlikely to be viable without control of operation and maintenance services as well.[73]

Several stakeholders consider it would be unreasonable to require the incumbent TNSP to assume responsibility for the operation and maintenance of identified user shared assets that they didn't build, and propose that the connecting party be responsible for all service aspects.[74] AEMO is of the view that requiring the incumbent TNSP to assume responsibility for assets it did not build may add costs and unacceptable risks for the connecting party. It also notes that transfer requirements can be complex and costly, and may negate the benefits of having the asset constructed contestably.[75] AusNet Services highlights the arrangements in Victoria as evidence that several service providers now operate as credible alternatives to AusNet Services, and therefore proposes that the rule change promote contestability to the extent possible. It considers that such an approach would:

- result in a more efficient allocation of risk, because the incumbent TNSP would not have to operate and maintain unfamiliar assets or procure additional parts to maintain it to a suitable standard;

73 Energy Australia, submission on consultation paper, pp1-2.

74 Ausgrid, submission on consultation paper, p2; Major Energy Users, submission on consultation paper, p3; Transgrid, submission on consultation paper, p2.

75 AEMO, submission on consultation paper, p2.

- encourage the connecting party to consider whole of life cycle costs, not just upfront costs; and
- simplify the contractual arrangements governing the connection.[76]

The ENA supports contestability for the operation and maintenance of identified user shared assets for similar reasons.[77]

These views were reinforced and echoed by a number of stakeholders at the workshop on 9 March 2016.

6.1.2 Accountability for shared network outcomes

A number of stakeholders are of the view that a more contestable approach for identified user shared assets than that proposed in the rule change request would not compromise the safety, reliability and security of the shared transmission system. AGL submitted that flexibility in how identified user shared assets are delivered can be achieved without compromising the ability of the incumbent TNSP to control the technical quality of the connection to ensure the reliability and security of the power system.[78] AusNet Services is of the view that service reliability and allocation of risk can be adequately managed through contractual arrangements.[79] The Clean Energy Council shares a similar view, submitting that the premise of a single TNSP being the only measure for retaining clear lines of accountability is not well demonstrated, and that alternative models of operating the shared network should be considered.[80]

AEMO acknowledges that accountability for outcomes on the shared network is necessary, but expresses the view that the incumbent TNSP is not the only party capable of providing certain network services, including design, operation and maintenance. It notes that most TNSPs outsource construction, operation and maintenance work to engineering firms, using a range of techniques to manage the risks associated with that. It therefore supports a model under which all services for identified user shared assets are contestable, submitting that accountability can be maintained through minimum technical standards for protection and control systems, and provisions that allocate liability for outcomes on the shared network if that asset fails.[81] AusNet Services shares a similar view, and suggests that the connection agreement with the incumbent TNSP would include accountability and liability provisions regarding safety, reliability and security of the shared network.[82]

76 AusNet Services, submission on consultation paper, pp1-3.

77 ENA, submission on consultation paper, pp1,7.

78 AGL, submission on consultation paper, p3.

79 AusNet Services, submission on consultation paper, p1.

80 Clean Energy Council, submission on consultation paper, p5.

81 AEMO, submission on consultation paper, p2.

82 AusNet Services, submission on consultation paper, p3.

The ENA notes that TNSPs are currently legally responsible for the reliability of their entire licenced area, but expresses the view that this is "more likely an approach centred on convenience and history rather than what is in the long term interests of consumers."[83] It therefore considers that "extending contestability to the ownership and operation of [identified user shared assets] will serve to better promote the safety, security and reliability of the network. When the party constructing the asset knows that it also bears responsibility for its operation, control and maintenance it means that it has an incentive to take into account the full costs of the connection, including the ongoing operating and maintenance costs."[84]

However, for reasons set out in chapter 2 of this paper, we are of the view that any new arrangements should maintain clear accountability for the safe, reliable and secure operation of the shared transmission system. The model set out in this chapter therefore permits contestability to the extent proposed by stakeholders, but makes clear that the incumbent TNSP is ultimately accountable for the safety, reliability and security of shared assets in its licensed area, including identified user shared assets, and any downstream impact that those assets may have on the shared transmission network.

6.2 Detailed description of model

6.2.1 Boundaries of contestability

Table 6.1 sets out the boundaries of contestability for identified user shared assets under Model B. See section 3.2 of this paper for a description of what each service in the table below entails.

Table 6.1 Boundaries of contestability for identified user shared assets under Model B

Service	Contestability
Setting the functional specification (including performance standards)	Not contestable. Incumbent TNSP provides as a negotiated service.
High-level design	Contestable.
Cut-in works	Not contestable. Incumbent TNSP provides as a negotiated service.
Construction	Contestable, but incumbent TNSP is accountable for the impact that the provision of these services has on the operation of the shared transmission network, including by making decisions about operational matters such as switching.
Ownership	
Operation	
Maintenance	

83 ENA, submission on consultation paper, p2.

84 Ibid, p9.

The NER would need to be amended to require the connecting party to have all service aspects relating to identified user shared assets, with the exception of setting the functional specification and providing cut-in works, to be provided contestably.

The services set out in Table 6.1 are not separately defined in the NER. If this model were adopted, the NER would likely need to clearly define each of these services, or at the very least, to define 'functional specification' and 'cut-in works' as distinct from the other services, so that there is no risk of overlap between the services provided by the incumbent TNSP as a negotiated service under the NER and those provided by a third party (or the incumbent TNSP) on an unregulated basis.

The incumbent TNSP could be selected by the connecting party to provide any of the contestable services on an unregulated basis, provided that it complies with the requirements of the AER's transmission ring-fencing guideline and the TNSP's cost allocation methodology. As noted under Model A, further consideration will need to be given as to whether the requirements of the transmission ring-fencing guideline are appropriate and are sufficient to encourage competition for the provision of services for identified user shared assets.

Under this model there would be no requirement for the incumbent TNSP to be a 'service provider of last resort', for example in the event that the connecting party cannot find an appropriate provider for contestable services. The benefits of this model hinge on there being a threat of competition to elicit more efficient outcomes from the incumbent TNSP. If no market exists, there would be no threat of competition and the incumbent TNSP would be able to provide all contestable services on an entirely unregulated basis, ie not under the NER-based framework for the provision of negotiated services. This may result in inefficient outcomes for the connecting party and ultimately, consumers. However, we acknowledge that a number of stakeholders have indicated their expectation that a market will exist for the provision of these services.

This model may need to place an obligation on the incumbent TNSP to accept the connecting party's decision regarding the provision of contestable services and to assume responsibility for the performance of the identified user shared assets. Without such an obligation, the incumbent TNSP could veto the connecting party's decision to have the services provided contestably, and the model would not work.

Some stakeholders have suggested that the NER should contain guidance on how the functional specification is to be set. The purpose of this guidance would be to help the connecting party and incumbent TNSP reach agreement on a functional specification that will enable competition but also allow the incumbent TNSP to meet its obligations regarding the provision of a safe, reliable and secure transmission network.

6.2.2 Registration

Under this model, any party operating an identified user shared asset should be registered as a TNSP and be subject to relevant obligations under the NER. This view is shared by a number of stakeholders, including TNSPs, who argue that anyone who

operates infrastructure at transmission voltages should be subject to the same NER obligations as they are. AEMO agrees that these parties should be registered because it is only able to issue directions to registered participants to maintain or re-establish a secure and reliable power system.

We are of the view that a party registered as a generator for participation in the NEM should not also be able to register as a TNSP for the purposes of operating shared transmission assets. This structural separation has been in place since the electricity industry was deregulated, with the generation and retail sectors subject to competition and structurally separated from monopoly transmission and distribution networks. In order to maintain this structural separation under Model B, a generator would have to appoint a third party to register as a TNSP to operate identified user shared assets on its behalf.

Because many services for identified user shared assets would be contestable under this model, some TNSP obligations under the NER would not apply to these parties, for example:

- TNSPs are required under the NER to submit a transmission determination in respect of prescribed transmission services and negotiated transmission services. Because the services being provided are contestable, the requirement to submit a transmission determination would not apply.

- Part K of Chapter 6A of the NER covers commercial arbitration for disputes about the terms and conditions of access to prescribed and negotiated transmission services only. Again, because the services being provided are contestable, that aspect of the NER would not apply. However, we consider that the provision of contestable services for identified user shared assets should be subject to a mechanism for dispute resolution. It may therefore be necessary to expand the applicability of Part K of Chapter 6A of the NER, or establish a separate dispute resolution process for these services.

These parties would also be required to comply with any relevant jurisdictional requirements, for example a requirement to obtain a transmission licence.

6.2.3 Third party access

Views expressed by several stakeholders at the workshop on 9 March 2016 indicated support for a model under which third party access to contestably owned and operated identified user shared assets would be determined on a commercial basis based on the costs and benefits of access being granted. However, we are concerned that allowing the incumbent operator of those assets to make decisions about third party access in accordance with its own interests raises competition concerns and may threaten cross-ownership neutrality between transmission and generation assets if the owner of the asset is affiliated with the generator.[85] For example, if a generator's affiliate owns

85 These concerns do not extend to generators owning dedicated connection assets, which is most cases will only be used by the connecting party.

an identified user shared asset (part of the shared network), it may have a commercial incentive to prevent or frustrate access to that asset by another generator, or unfairly restrict that generator's operations once connected. The potential for such behaviour may deter entry to, or limit competition in, electricity generation.

It also contradicts a fundamental premise under which the NEM was designed - the separation of generation and transmission. In the TFR, we concluded that TNSPs should not be able to control generation assets and generators should not be able to control shared transmission assets because both would have the ability (and incentive) to control the network in such a way that discriminates in favour of its downstream generation business and/or against its generation business's competitors.[86]

As described under Model A, we propose that the following principles would guide how third party access to identified user shared assets should be granted:

1. The party who necessitated the construction of the original identified user shared asset should not be able to decide whether or not another party can connect to that asset. Allowing the original connecting party to make these sorts of decisions would raise cross-ownership and competition concerns. For example, an existing generator could prohibit a new generator from connecting in order to preserve competitive advantage in the wholesale market.

2. The new connecting party should be required to pay the capital costs directly associated with its connection.

3. The service provided to the original connecting party by means of the identified user shared asset or dedicated connection asset should not be degraded as a result of another party connecting to that asset.

4. Any savings in ongoing (eg operation and maintenance) costs following a new party's connection should be shared between the parties on a fair basis.

Under this model, the asset operator would either be the incumbent TNSP, or a third party that is required to be registered as a TNSP (as discussed in section 6.2.2 above). In both cases, the NER third party access provisions would apply.

In line with the approach set out in Model A, the NER should be amended to require all connection agreements to contain arrangements that address the remaining principles.

6.2.4 Contractual arrangements

The contractual arrangements to support this model of contestability would likely be complex. The incumbent TNSP is likely to want to manage the risks associated with its accountability for contestably-provided services through contracts with the connecting party and/or its chosen service provider. For example, the performance of identified

86 AEMC, Transmission Frameworks Review, Final Report, April 2013, pp184-186.

user shared assets, and any downstream impact their operation has on the shared network.

The connecting party and incumbent TNSP may choose to allocate responsibility, risk and liability for identified user shared assets through contractual arrangements. Putting all of these arrangements in the connection agreement would put a significant amount of weight on the connecting party and incumbent TNSP reaching agreement on arrangements through the connection agreement - an agreement that is governed by the NER. Compliance with the connection agreement may also be harder to enforce.

Alternatively, the incumbent TNSP, connecting party and its chosen contractor may choose to enter into separate agreements that govern how the assets are to be operated and maintained in accordance with the functional specification set by the incumbent TNSP. These agreements would presumably also contain any additional requirements set by the incumbent TNSP to enable it to meet its obligations with regard to the safety, reliability and security of the shared network. They may also need to set out the arrangements that would apply in the event that the owner or operator of the asset becomes insolvent or is otherwise unable to perform its obligations.

Under either option, it would ultimately be up to the incumbent TNSP and the connecting party to enter into arrangements that allow the incumbent TNSP to meet its obligations.

The arrangements that would be necessary to accommodate the connection of an additional party would likely be complicated, and would raise issues such as appropriate metering, liability for downstream activities, coordination of outages and prioritisation of constraints.

The connecting party would also need to enter into agreements with its selected contractor/s for the provision of contestable services, eg construction, operation and maintenance.

6.3 The connection process

The incumbent TNSP would be required to publish information about the specifics of connecting to its network, and provide the connection applicant with information when quoting for the provision of negotiated services, in accordance with the new NER transparency provisions set out in section 3.3. The scope of information provided by the incumbent TNSP when quoting for negotiated services would be limited to setting the functional specification and cut-in works only.

The incumbent TNSP would set the functional specification and provide cut-in works for the identified user shared assets. The connecting party would negotiate with the incumbent TNSP for the provision of these services in accordance with the negotiating rules set out in the NER, and any additional NER guidance on the provision of these services.

The connecting party would then select who will provide the remaining services. The incumbent TNSP would be able to compete to provide these services on an unregulated basis. Detailed arrangements for the provision of these services would be established commercially. The obligation to provide these services in a way that allows the incumbent TNSP to meet its obligations under the NER would lie with the connecting party.

6.4 Summary of model

Connecting parties' major concern with the current transmission connection framework is that the incumbent TNSP has a significant amount of control over the timeliness, complexity, cost and transparency of connection outcomes. The rule change request, and the model supported by a number of stakeholders where more services for identified user shared assets are contestable, attempt to address this power imbalance by introducing contestability. This is based on the assumption that contestability would provide the connecting party with some choice, and would impose competitive discipline on the incumbent TNSP to improve its service offerings.

It is not clear that Model B will successfully address this power imbalance. Because the incumbent TNSP is required to be ultimately responsible for the performance of identified user shared assets, it is likely to want to be heavily involved in decisions about how the contestable services would be provided, eg how the asset is designed or operated. Connecting parties may perceive this to be an issue because the incumbent TNSP retains a significant amount of control over connection outcomes.

A possible eventuality under this model is that the shared network in each NEM jurisdiction is owned and operated by multiple parties. As set out in chapter 2 of this paper, we consider that one party (ie the incumbent TNSP in each NEM jurisdiction) should be responsible for the safe, reliable and secure operation of the transmission system.

This model relies on both the connecting party and the incumbent TNSP reaching agreement on the appropriate arrangements to design, build, operate and maintain identified user shared assets in a way that allows for contestability but enables the incumbent TNSP to meet its obligations with respect to the safe, reliable and secure operation of the shared transmission network. As such, it requires both parties to be comfortable with the allocation of responsibility and risks between themselves, presumably through contractual arrangements.

Stakeholders are encouraged to provide their views on:

- whether the complexities associated with this model, particularly during the construction and operation phases, can be resolved to meet the objectives of the rule change request; and
- what costs and benefits would arise as a result of implementing this model.

7 Arrangements for Victoria

7.1 Introduction

The process for connecting to the transmission network under Chapter 5 of the NER applies in all NEM jurisdictions. However, the transmission connection and planning arrangements are different in those jurisdictions where AEMO is authorised to exercise its declared network functions. As such, the rule change request seeks to isolate most of the proposed changes from any jurisdiction where AEMO is authorised to exercise its declared network functions.[87] Victoria is the only NEM jurisdiction where AEMO is authorised to exercise these functions.

This chapter sets out our preliminary views on how the policy set out this paper might apply in declared network jurisdictions.

7.1.1 Current arrangements in Victoria

Where declared network function arrangements are applied, there is a separation of ownership of the declared transmission system from certain aspects of operation and control of that system. AEMO is accountable for the provision of the shared network, procuring services from DTSOs such as AusNet Services who own and operate the shared assets. This has implications for the process to connect to the shared network. AEMO is responsible for assessing all new connections against the NER requirements, but is not responsible for providing the assets associated with connection. If a connection requires an augmentation to the declared shared network, AEMO will determine whether the augmentation is contestable or non-contestable.[88] If AEMO determines that the augmentation is contestable, the connection applicant can nominate a DTSO of its choice to build, own and operate the contestable assets, or it can ask AEMO to select the DTSO through an invitation to tender. If AEMO determines that the augmentation is not contestable, the assets will be provided by the incumbent DTSO, ie AusNet Services.

87 Under the NEL, jurisdictions can declare AEMO to have declared network functions (Part 5, Division 2, Subdivision 3, section 50C). AEMO's declared network functions include: to plan, authorise, contract for, and direct augmentation of the declared shared network; to provide information about the planning process for augmentation of the declared shared network; to provide information and other services to facilitate decisions for investment and the use of resources in the adoptive jurisdiction's electricity industry; to provide shared transmission services by means of, or in connection with, the declared shared network; any other functions, related to the declared transmission system or electricity network services provided by means of or in connection with the declared transmission, conferred on it under the National Electricity Law or the Rules; and any other functions, related to the declared transmission system or electricity network services provided by means of or in connection with the declared transmission system, conferred on it under a law of the adoptive jurisdiction.

88 An augmentation is contestable if its capital cost is reasonably expected to exceed $10 million and it is capable of providing a distinct service as defined in clause 8.11.6(a) of the NER.

7.1.2 Rule change request

The NEL restricts the AEMC's ability to make rules in relation to AEMO's declared network functions. As such, the rule change request seeks to isolate most of the proposed changes to the transmission connection and planning framework from any jurisdiction where AEMO is authorised to exercise its declared network functions. However, it asks the AEMC to provide advice on:[89]

- where the changes cannot be adopted in jurisdictions for which AEMO is authorised to exercise its declared network functions and should not apply at all; and
- where the changes could be adopted, but with some modification.

Under the NEL, a request for a rule regulating AEMO's declared network functions may only be made by:

- AEMO;
- a DTSO that is a party to a network agreement with AEMO;[90] or
- a Minister of an adoptive jurisdiction, ie the Victorian Minister.[91]

The AEMC may only make a rule that has effect with respect to Victoria if it is satisfied that the proposed rule is compatible with the proper performance of AEMO's declared network functions.[92] Further, the AEMC may only make a rule that affects the allocation of powers, functions and duties between AEMO and a DTSO if:

- AEMO consents to the making of the rule; or
- the rule is requested by a Minister of an adoptive jurisdiction, ie the Victorian Minister.[93]

Each policy decision will need to be worked through on a case by case basis in accordance with these parameters.

Our preliminary views on how the policy set out this paper might apply in declared network jurisdictions are set out below.

89 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p21.

90 There are currently four DTSOs in Victoria: AusNet Services (registered as SPI PowerNet), NSW Electricity Networks Operations (formerly registered as Transgrid), Rowville Transmission Facility Pty Ltd, and Transmission Operations Australia.

91 See section 91(7) of the NEL.

92 See section 91(8) of the NEL.

93 See section 91(9) of the NEL.

7.2 Proposed changes to the NER transmission connection framework

Chapter 3 of this paper sets out the proposed changes to the NER transmission connection framework, specifically:

- clarifying aspects of the NER connection framework;
- implementing the proposed transparency requirements;
- strengthening the negotiating principles and developing negotiation rules;
- clarifying the dispute resolution process; and
- introducing an ability to engage an independent engineering expert.

These proposed changes are of general application across the NEM. We consider that these proposed changes are just as applicable to declared network jurisdictions as they are to other jurisdictions. We also do not consider that the proposed changes relate to the regulation of AEMO's declared network functions; nor the allocation of powers, functions and duties between AEMO and a DTSO. We also consider them to be compatible with the proper performance of AEMO's declared network functions. Therefore, we propose that the changes set out in chapter 3 would be made, and would apply in Victoria.

Given that AEMO only has a role in assessing new connections against the NER requirements, some of these provisions may have limited utility in Victoria. However, we consider it is important to have a consistent framework for connections across the NEM (with this recognised by submissions to the consultation paper), and so consider these arrangements should apply.

The proposed definitions for dedicated connection assets and identified user shared assets should also apply in Victoria. These definitions may need to be modified slightly to reflect that the provision of connection assets in Victoria is already contestable. Amending the definitions, rather than the terms themselves, would promote consistency where possible with other jurisdictions, which would make it easier for those parties connecting in several transmission network areas.

7.3 Dedicated connection assets

Chapter 4 sets out our proposed model for dedicated connection assets.

In declared network jurisdictions, all connection assets are contestable. Therefore, we consider that this definition and approach to dedicated connection assets can be adopted in Victoria. We also do not consider that the proposed changes relate to the regulation of AEMO's declared network functions; nor the allocation of powers, functions and duties between AEMO and a DTSO. We also consider them to be compatible with the proper performance of AEMO's declared network functions.

Therefore, we propose that the changes set out in chapter 4 would be made, and would apply in Victoria.

The provision of dedicated connection assets would be subject to jurisdictional requirements - parties must register with the Essential Services Commission as a DTSO in order to provide such services. These provisions would be maintained.

7.4 Identified user shared assets

Chapters 5 and 6 set out two different models for the treatment of identified user shared assets.

Both of these models set out that the incumbent TNSP would remain ultimately accountable for any impact identified user shared assets have on the shared transmission network. We consider that such a model is consistent with the arrangements in declared network jurisdictions, where AEMO is ultimately responsible for the planning of, connection to, and augmentation of the declared shared network.

At this stage we consider that both models are broadly compatible with the performance of AEMO's declared network functions, and so would be relatively straightforward to implement in Victoria:

- Model A specifies that the incumbent TNSP must provide most services for a party's connection to the transmission network, while construction and ownership can be provided on an economically unregulated basis. However, this is still consistent with the Victorian model, where the incumbent TNSP (being, for these purposes, AEMO) can choose to contract out for services, but maintains ultimate responsibility for outcomes on the shared network.

- Model B is more consistent with the Victorian arrangements, where the majority of services for identified user shared assets, including operation and maintenance, could be provided by parties other than the incumbent TNSP.

There may need to be some minor modifications to the definition of identified user shared assets to reflect the arrangements in declared network jurisdictions, but broadly we consider these arrangements could apply and be implemented. This would preserve the national framework for connections, which is currently set out in Chapter 5 of the NER.

Nevertheless, we will need to work through the detail of the chosen model to determine whether it affects AEMO's declared network functions. For example, in Victoria if a connection application requires an augmentation to the declared shared network (eg an identified user shared asset to be constructed), AEMO determines whether the augmentation is "contestable" or "non-contestable". Contestable works are

defined as works for which construction is open to competition.[94] Both of the Models A and B define in the rules what services can be provided on a contestable basis. Therefore, in this sense, adopting either of the above models may be considered to be changing AEMO's declared network functions.

As we work through the detailed drafting of the selected model, we will need to consider the various provisions that support and regulate AEMO's declared network functions in line with the guide set out in section 7.1.2.

As with dedicated connection assets, the provision of identified user shared assets would still be subject to jurisdictional requirements.

94 http://www.aemo.com.au/Electricity/Network-Connections/Vic_Generator_Transmission_New-Connection/Support/Network-Augmentation

Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	See AEMC
DNSP	Distribution Network Service Provider
DTSO	Declared Transmission System Operator
Energy Council	COAG Energy Council
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
STPIS	Service Target Performance Incentive Scheme
TFR	Transmission Frameworks Review
TNSP	Transmission Network Service Provider
TUOS	Transmission use of system