Australian Energy Market Commission

RULE CHANGE

DRAFT RULE DETERMINATION

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

Rule Proponent(s)
COAG Energy Council

24 November 2016

Part A (connections) only

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About the AEMC

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

Summary

This draft determination sets out significant changes to the transmission connections arrangements, as well as changes to enhance the planning arrangements in the National Electricity Market (NEM). These changes will provide for a comprehensive and coherent transmission connection and planning framework.

The draft Rule improves transparency, contestability and clarity in the connections frameworks while maintaining clear accountability for shared network outcomes, as well as enhancing the transmission planning and decision-making frameworks.

The Commission has made this draft determination in response to a rule change request from the Council of Australian Governments' (COAG) Energy Council. The draft determination puts in place arrangements in response to recommendations made in the Australian Energy Market Commission's (AEMC or Commission's) Transmission Frameworks Review, which recommended, amongst other things, reforms to facilitate more efficient connections between generators and transmission businesses, as well as more coordinated planning arrangements.

The Commission's draft rule is a more preferable rule, but is broadly consistent with the intention of the proposals put forward in the rule change request.

Connections aspects

Why is there a need to change the current connections framework?

The AEMC's findings in the Transmission Frameworks Review and stakeholder input on this rule change request to date have highlighted a number of issues with the current Rules framework for connecting to the transmission network. Specifically, the current arrangements:

- are unclear, and are therefore open to a degree of interpretation by connecting parties and Transmission Network Service Providers (TNSPs);
- do not encourage the incumbent TNSP to provide connection services in a cost effective, transparent, simple or timely manner; and
- do not provide connecting parties with sufficient bargaining power to negotiate a better connection process or outcome than what is offered by the incumbent TNSP – for example, connecting parties are reluctant to raise disputes in relation to the connection because doing so might displease the only party that can connect them (that is, the incumbent TNSP) or delay the connection process further.

As a result, connection experiences and outcomes can be unpredictable, unnecessarily complex, lengthy and costly, and may vary across transmission network boundaries. The lack of a consistent approach to transmission connections across the NEM can create confusion for connecting parties, particularly those operating in more than one

jurisdiction. A successful connection may rely on connecting parties learning and accommodating the specific interpretations of a particular TNSP, which can add time and cost to a connection process. It could also result in sub-optimal decisions being made by parties about where to locate their project.

The last decade has seen a rise in the number of parties connected to the transmission network, most notably new wind generators and gas facilities. With falls in technology costs and policy drivers such as the Australian Government's large-scale renewable energy target (RET), an increasing number of new generators and load, including large-scale solar, are expected to seek connection to the transmission network. It is important that the connection framework is fit for purpose for these new connections.

Input from stakeholders indicates that connection costs account for roughly 10 per cent of a proponent's total project costs, and that the total project costs are in the order of several hundred million dollars. Improvements to the way in which parties connect to the transmission network are therefore likely to have an impact on project costs, and ultimately, the costs that are passed on to consumers. For example, the connection costs for a project with total costs of $300 million would be expected to be about $30 million. A ten per cent reduction in these connection costs equates to $3 million in potential savings. Scaling this up against the expected thirty to fifty large-scale generators that the Clean Energy Council considers will seek to connect to the NEM by 2020, equates to savings of over $100 million in the next three years.[1]

Overview of the draft Rule

The draft Rule adopts an approach that allows contestability for as many services as possible, while making it clear that the incumbent TNSPs, termed 'Primary TNSPs' in the draft Rule, remain responsible and accountable for outcomes on the 'shared' transmission network, such as operations and maintenance as well as access. The connection arrangements described below apply equally to generators, loads and Market Network Service Providers (MNSPs) connecting to the transmission network.

The draft Rule clarifies many existing aspects of the connection process, and the framework for economic regulation of services required to connect to the shared transmission network in order to remove ambiguity and scope for interpretation. In particular, the draft Rule defines two types of assets that provide the services required to connect a party to the shared transmission network – identified user shared assets and dedicated connection assets:

- identified user shared assets broadly describe the collection of components that are used to connect a generator, load or MNSP to the 'shared' transmission network and which, once commissioned, form part of the 'shared' transmission network, for example parts of a substation; while

- dedicated connection assets describe the collection of components that are used to connect a generator, load or MNSP to the 'shared' transmission network and which, once commissioned, are able to be isolated from electricity flows on the

1 Clean Energy Council, submission on discussion paper, p. 1.

transmission network, for example the power line that connects parts of a substation to a generating system.

The Commission is aware that stakeholders largely support a more contestable approach to transmission connections since they consider that such an approach will provide faster and cheaper connections. However, the Commission is of the view that the Primary TNSP should continue to be accountable for shared network outcomes in its licenced area. This model therefore allows contestability for as many services as possible, while making it clear that the TNSP has responsibility for control and operation of the shared transmission network, promoting a reliable, safe and secure network for consumers.

The draft Rule clarifies that all services provided for new dedicated connection assets, including design, construction, ownership, operation and maintenance, can be provided by any party on commercial terms. This is because the risks of inadequate design, construction and operation of those 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 transmission network, the new arrangements for these assets makes sure that the safety, reliability and security of the transmission network can be maintained while enabling parties to connect at efficient cost. The Commission considers that this is best achieved when there is one party accountable for outcomes on the shared transmission network. Therefore, the draft Rule allows for the services of detailed design, construction and ownership to be provided on a contestable basis to the extent that they meet a set of criteria as to what is contestable. However, the services of setting the functional specification, providing cut-in works, operation and maintenance of identified user shared assets must be provided by the Primary TNSP as negotiated transmission services.

Regardless of whether the assets required for connection are 'dedicated connection' or 'identified user shared', the draft Rule makes it clear that these assets are transmission systems, and so therefore any party that owns, controls or operates one of these assets is required to be registered as a TNSP or be exempted from that requirement.

In addition, the draft Rule amends the existing process by which parties connect to a transmission network, with the aim of strengthening a connecting party's negotiating power with a TNSP by:

- enhancing the transparency of the connection process by requiring TNSPs to publish certain information about the specifics of connecting to their network on their websites and provide certain information to connection applicants on request;

- strengthening the principles that underpin negotiations for services required to connect to the shared transmission network and removing the requirement for TNSPs to develop individual negotiating frameworks for approval by the Australian Energy Regulator (AER);

- providing for a process by which an independent engineer can be engaged to provide advice on a technical issue related to a connection if either the connecting party or the TNSP requests it; and

- clarifying the process that applies to the resolution of disputes raised in relation to transmissions connections.

The Commission has also considered how distribution network service providers (DNSPs) connect to the transmission network and has concluded the current arrangements are largely appropriate and fit-for-purpose. Therefore, the draft Rule does not change the process of a DNSP connecting to a transmission network, aside from providing for a situation where a DNSP could connect to a dedicated connection asset.

Expected outcomes of the rule change

The draft Rule should make the transmission connection process faster and quicker for connecting parties, as well as giving them more control. This ultimately should lead to lower costs for consumers. Specifically:

- The draft Rule relies on some cost and timing information to be revealed through a competitive market; but also sets out regulatory obligations on the TNSP to provide certain information that will help a connecting party make informed decisions. The combination of these two paths for information being revealed will result in more efficient information being obtained by connecting parties.

- Having the services of detailed design, construction and ownership able to be provided on a non-regulated basis provides the connecting party with more control over the timing of its connection to the transmission network.

- The model also allows for competition in the provision of services for which the Commission and stakeholders consider there already is, or will be, a market. Promoting competition, where appropriate, should result in lower cost outcomes.

- Accountability is clear because the draft Rule provides that identified user shared assets form part of the transmission network and, once commissioned, will be under the full operational control of the Primary TNSP. Therefore, the safe, reliable and secure operation of the transmission network should be promoted.

Victorian arrangements

The framework under which the Victorian connection process is based is fundamentally different to the processes and principles underlying the connection framework used in the rest of the NEM. This is because Australian Energy Market Operator (AEMO) is authorised to exercise declared network functions in Victoria. Given this, the rule change request seeks to isolate most of the proposed changes to the connections framework from any jurisdiction where AEMO is authorised to exercise its declared network functions. The Commission is of the view that the scope of the rule change request does not include consideration of the application of these draft Rules to

AEMO's declared network functions. Therefore, under the draft Rule, the proposed changes to the transmission connections framework will not apply in Victoria.

However, the COAG Energy Council requested the Commission to provide advice on whether the rule changes should, or should not be adopted, in declared network jurisdictions. In the determination, the Commission outlines a number of ways the approaches to connections in Victoria and the rest of the NEM could be harmonised and made more consistent.

Planning aspects

Why is there a need to change the current planning framework?

Currently there a number of mechanisms that work together in the Rules to promote an efficient and transparent transmission network planning process. In turn, they help to promote an efficient, strategic and co-ordinated transmission network. Responsibility for transmission planning in the NEM is shared between AEMO, in its role as National Transmission Planner; and jurisdictional planning bodies, for each region of the NEM, which are typically the local TNSP.

The Commission considers that while the existing planning process is effective, there are a number of measures that could be undertaken to enhance the efficiency of existing arrangements and promote a more coordinated approach to transmission planning.

Overview of the draft Rule

The draft Rule makes a number of enhancements to the planning frameworks, specifically it:

- requires TNSPs to include certain additional information in its Annual Planning Report on key changes since the last Annual Planning Report, the forecasting methodology used for forecast loads and more detailed information regarding network constraints;
- requires the AER to develop a guideline to support consistency across Annual Planning Reports; and
- requires TNSPs to undertake joint planning with other TNSPs where there is the potential for investments in other transmission networks to deliver market and reliability benefits in their own network.

Under the draft Rule the proposed changes to the transmission planning frameworks will apply in Victoria.

Expected outcomes of the rule change

The draft Rule promotes more efficient and consistent arrangements for supporting investment across regional boundaries, potentially lowering prices to consumers over the long-term and promoting a nationally coordinated planning approach. This makes sure that the investment options identified to meet a given investment need take into account all potential options, and are not limited by geography or jurisdiction. Increased transparency and coordination on network planning should also assist market participants, and other interested stakeholders, supporting their own investment and operational decisions.

Implementation

The draft Rule does not contain savings and transitional provisions. A paper outlining a complete savings and transitional proposal, along with draft Rules relating to this component, will be published for comment in mid-January 2017.

Consultation

We invite stakeholders to provide submissions on this draft determination, which we will consider before making a final determination in March 2017.

We will hold a series of meetings with stakeholders during December 2016 and January 2017. Stakeholders wishing to meet with the AEMC should contact Claire Richards at 02 8296 7875 or claire.richards@aemc.gov.au.

Submissions close on 27 January 2017.

Contents

Box 1 sets out a number of key terms that are used throughout this draft determination in the context of transmission connections.

Box 1 Glossary of key terms for connections

connecting party: Not defined in the draft Rule, this term is used throughout this draft determination to describe a load, generator or market network service provider (MNSP) connecting to the shared transmission network. Distribution network service providers (DNSPs) connecting to the transmission network, or any party connecting to the distribution network are not captured in the use of this term throughout this draft determination.

dedicated connection asset: This term is used to describe the collection of components that are used to connect a generator, load or MNSP to the shared transmission network and which, once commissioned, are able to be removed or otherwise isolated from the shared transmission network without affecting the provision of shared transmission services. For example, the power line that connects parts of a substation to a generating system. It is defined in the draft Rule as:

> "The apparatus, equipment, plant and buildings that:
>
> (a) are used for the purpose of *connecting* an *identified user group* to an existing *transmission network;*
>
> (b) are used exclusively by the *identified user group*;
>
> (c) can be electrically isolated from the *transmission network* without affecting the provision of *shared transmission services* to persons who are not members of the *identified user group;*
>
> (d) are not *network connection assets* or part of a *generating system,* a *distribution or transmission system* for which a *Market Network Service Provider* is registered under Chapter 2 or a *Transmission Customer's facility* that utilises electricity *energy;* and
>
> (e) are not part of a *declared transmission system* of an *adoptive jurisdiction*."

identified user group: This term is used to describe one or more generators, loads or MNSPs that are connected to the transmission network via the same connection point. It is defined in the draft Rule as:

> "One or more persons (other than a *Distribution Network Service Provider)* who are *connected* to a *transmission network* at the same single *connection point*."

identified user shared asset: This term is used to describe the collection of components that are used to connect a generator, load or MNSP to the shared transmission network and which, once commissioned, form part of the shared transmission network, for example parts of a substation. It is defined in the draft Rule as:

> "The apparatus, equipment, plant and buildings that:
>
> (a) are used for the purpose of *connecting* one or more *identified user groups* to an existing *transmission network*;
>
> (b) are not used exclusively by the relevant *identified user groups;*
>
> (c) cannot be electrically isolated from the *transmission network* without affecting the provision of *shared transmission services* to persons who are not members of the relevant *identified user groups*; and
>
> (d) are not part of the *declared transmission system* of an *adoptive jurisdiction*."

large DCA service: The draft Rule defines the service provided by means of a large dedicated connection asset as a 'large DCA service' that is subject to a regime for third party access. The service provided by means of a small dedicated connection asset is not subject to this regime. A dedicated connection asset is required to be classified as a large dedicated connection asset if the total route length for any power line forming part of it is 30km or longer. The draft Rule defines large DCA service as:

> "A service provided by means of a *large dedicated connection asset*."

network connection asset: Defined in the draft Rule as:

> "Those components of a *transmission system* which are used to provide *connection services* between *Network Service Providers* (excluding a *Market Network Service Provider*)."

Primary Transmission Network Service Provider: The draft Rule introduces the term Primary TNSP to retain the notion of incumbency because, under the draft Rule, parties other than the incumbent TNSP can be registered as a TNSP with respect to assets used to facilitate a connection. It is defined in the draft Rule as:

> "The *Transmission Network Service Provider* who operates the largest *transmission network* in each *participating jurisdiction* (other than an *adoptive jurisdiction*)."

The draft determination uses the term incumbent TNSP to refer to this party under current arrangements, that is, the existing TNSP in each jurisdiction that is responsible for the shared transmission network in its licensed area and for

processing connections to that network by other parties. The draft determination uses the term Primary TNSP when referring to the arrangements for this party under the draft Rule.

shared transmission network: Not defined in the draft Rule, this term is used throughout this draft determination to describe a transmission network owned, operated and controlled by the TNSP, including all identified user shared assets and network connection assets.

third party DCA: The draft Rule introduces the term third party DCA to describe a dedicated connection asset that is owned, operated or controlled by a party other than the Primary TNSP. It is defined in the draft Rule as:

> "A *dedicated connection asset* for which a person other than the *Primary Transmission Network Service Provider* is registered under Chapter 2."

third party IUSA: The draft Rule introduces the term 'third party IUSA' to describe those parts of an identified user shared asset that are contestable and are owned by a party other than the Primary TNSP. It is defined in the draft Rule as:

> "Those *contestable IUSA components* of an *identified user shared asset* that are not, or will not be, owned or leased by the *Primary Transmission Network Service Provider*."

transmission network: Defined in Chapter 10 of the current Rules as:

> "A *network* within any *participating jurisdiction* operating at nominal *voltages* of 220 kV and above plus:
>
> (a) any part of a *network* operating at nominal *voltages* between 66 kV and 220 kV that operates in parallel to and provides support to the higher voltage *transmission network*;
>
> (b) any part of a network operating at nominal *voltages* between 66 kV and 220 kV that is not referred to in paragraph (a) but is deemed by the *AER* to be part of the *transmission network*."

transmission system: The definition of a transmission system in the current Rules is the transmission network, plus any connection assets. It is amended in the draft Rule to make it clear that this includes all identified user shared assets and dedicated connection assets, even when these are owned by a party different to the Primary TNSP (with these known as 'third party' assets), as well as network connection assets. In addition, the second limb of the definition makes clear that a person who owns, operates and controls the assets must be registered as a TNSP:

> "A *transmission network,* together with the *connection assets* associated with the *transmission network*, which is connected to another *transmission* or *distribution system*.

For a *participating jurisdiction* that is not an *adoptive jurisdiction*, a *transmission system* includes:

(a) a *third party IUSA* that is not the subject of a *network operating agreement*, together with the *connection assets* associated with that *third party IUSA*; and

(b) for the purposes of Chapter 2, a *third party DCA*."

'whole' transmission system: Not defined in the draft Rule, this term is used to collectively describe all infrastructure in the national electricity market (NEM) that are defined as transmission systems, including transmission networks and dedicated connection assets.

Figure 1 conceptualises a number of these terms.

Figure 1 Key concepts and terms in the draft Rule and draft determination

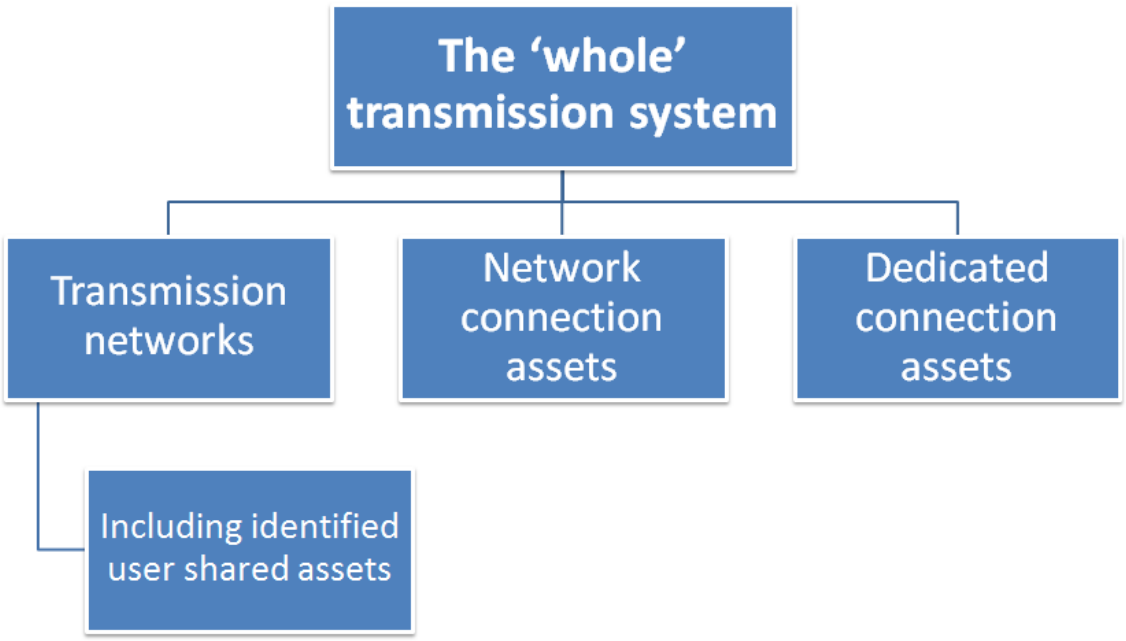
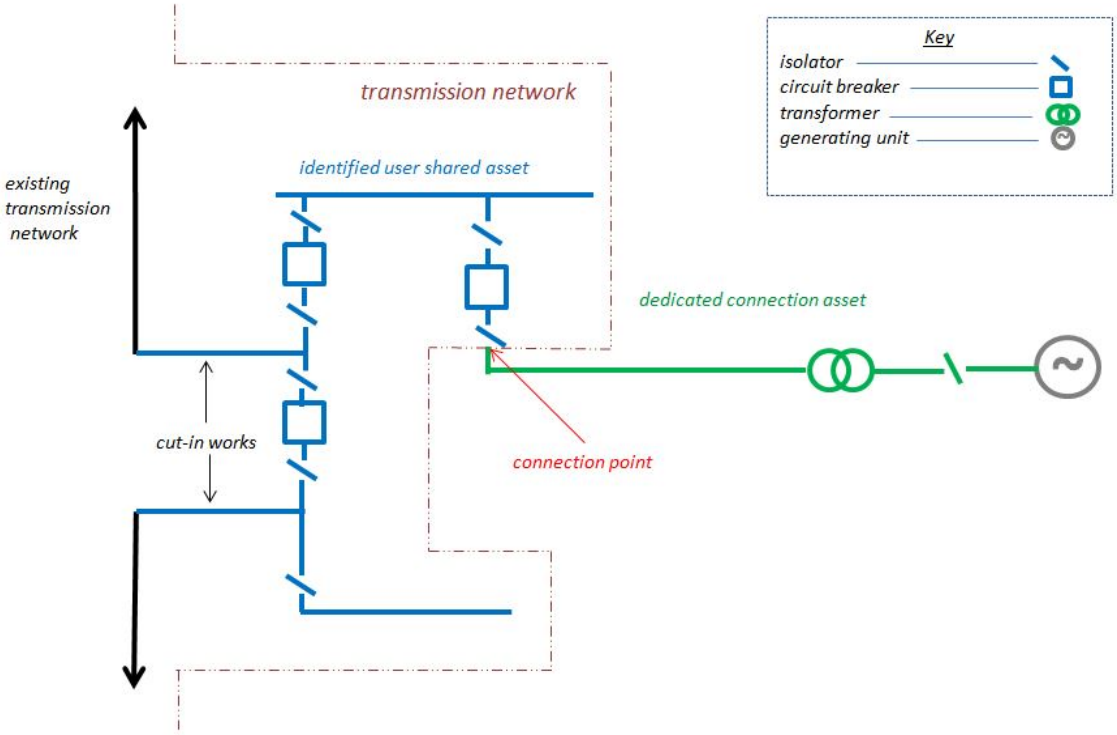


Figure 2 provides a simplified illustration of key terms in the context of connections to the shared transmission network.

Figure 2 **Illustration of key concepts and terms in the draft Rule and draft determination**



1 The COAG Energy Council's rule change request

1.1 The rule change request

On 27 July 2015, the COAG Energy Council made a request to the Australian Energy Market Commission (AEMC or Commission) 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, which was completed in 2013.[2] The objective of the recommendations made by the AEMC in the Transmission Frameworks Review 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 service classifications;
- enhance contestability in the connection arrangements;
- improve the transparency of information provided to seekers of 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 so that both intra-regional and inter-regional options are considered when a Transmission Network Service Provider (TNSP) is 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.[3]

The rule change request and accompanying proposed rule are available on the AEMC website.[4]

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

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

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

1.2 Current arrangements

This section summarises the current arrangements for transmission connections and planning under the National Electricity Rules (Rules). These arrangements are described in further detail in the consultation paper on the rule change request that was published on 26 November 2015.[5]

1.2.1 Connections

The shared transmission network facilitates the secure and integrated operation of the electricity power system and flows of electricity between parties that produce electricity (generators) and those that consume electricity (end users or consumers). This shared transmission network is a meshed network, so it is nearly impossible to separate out those assets that provide services to a particular party from those that provide services to all users of the network.

Generators, large energy users (referred to in this draft determination as load), MNSPs and distribution networks need to connect to the shared transmission network in order to facilitate these flows of electricity. The need for, and ongoing use of, assets that are used to facilitate these connections can be attributed to the party that uses them to connect. Connection arrangements include the process by which these parties connect and the services and assets that are provided in order for them to connect.

The National Electricity Market (NEM) operates under an open access regime in which generators have a right to negotiate a connection to the network in accordance with the Rules, but no right to the regional reference price.[6] Generators earn revenue by being dispatched. The physical dispatch of electricity is determined by dispatch offers from generators, and the level of network congestion.

There are two main parts of the Rules that relate to transmission connection arrangements:

- Part A of Chapter 5, which sets out the connection process, regulates aspects of the technical and contractual arrangements needed to connect, and sets out the obligations on parties throughout the connections process; and
- Chapter 6A, which covers the economic regulation of the provision of transmission services - that is, whether transmission services are to be provided as prescribed, negotiated or non-regulated services and consequently how they are economically regulated - and specifies the terms and conditions of access to

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

6 Clause 5.4A of the current Rules appears to contemplate generators negotiating firm transmission network user access with TNSPs i.e. for generators to negotiate compensation from a TNSP in the event they are constrained off or on the network, in return for an access charge. However, this provision cannot work in practice because the scheme is not mandatory and all generators have open access to the network. This is discussed further in chapter 4.

be applied by TNSPs for the provision of prescribed and negotiated transmission services.

Part A of Chapter 5 - the connection process

Part A of Chapter 5 of the Rules sets out the six main steps by which parties[7] negotiate a connection to the transmission network. These are, by reference to the relevant clauses in the current Rules, summarised as follows:

1. connection enquiry (clause 5.3.2), where the applicant makes an enquiry to the TNSP;

2. response to the connection enquiry (clause 5.3.3), where the TNSP informs the applicant of the information that it must provide the TNSP, and the amount of the application fee;

3. application for connection (clause 5.3.4), where the applicant makes an application to the TNSP to connect to the network and pays the application fee as specified above;

4. preparation of the offer to connect (clause 5.3.5), where the TNSP prepares the offer to connect, with this offer having to be made within a certain time period;

5. offer to connect (clause 5.3.6), where the TNSP makes the offer to the applicant; and

6. finalisation of the connection agreements (clause 5.3.7), where the applicant accepts the offer following negotiations and enters into a connection agreement with the TNSP.

This process is a staged negotiation with defined timeframes for each step in the process. The regime is relatively prescriptive, providing for clear accountability of the TNSP at the various stages of the process. However, the Commission understands that, in practice, there are additional steps in the process as parties exchange relevant information in order to finalise negotiations.

This framework applies to new connections, as well as modifications to existing connections. It also covers the negotiation of costs and the specification of connection assets.

Chapter 5 of the Rules contains provisions relating to technical standards, which define the level of performance required of the equipment that makes up, or is connected to, the power system (e.g. generating plant). These include rules defining:

- the standards to which the system as a whole must perform;[8] and

7 That is, generators, loads, MNSPs and DNSPs.

8 Schedule 5.1 of the Rules. AEMO has a role in negotiating generator performance standards.

- the automatic access standard and minimum access standard for equipment connecting to the power system (known as "access standards") - which become the "performance standards" for each connecting party, once they are negotiated and the connection agreement is in place.[9]

Performance standards are relevant to this rule change because the process by which these are negotiated for a specific connection occurs through the connection process set out above. As such, the process for negotiating performance standards for connecting equipment and the process for negotiating the services and assets that are required for connection to the shared transmission network occur concurrently and are interdependent.

Chapter 6A - economic regulation of transmission services

Chapter 6A of the Rules provides for economic regulation of the following services:

- Prescribed transmission services[10] - The costs of providing these services are recovered from transmission network users, with the revenues that a TNSP can recover for these services regulated by the Australian Energy Regulator (AER) pursuant to the transmission determinations made for each TNSP that provides these services under Chapter 6A.

- Negotiated transmission services[11] - There is no regulation of the revenues that a TNSP can earn for the provision of negotiated transmission services. The terms and conditions, including price, of the provision of these services are negotiated between the TNSP and the party who wishes to receive these services under a framework set out in Chapters 5 and 6A. As part of a TNSP's regulatory determination, the AER approves the negotiated transmission service criteria and negotiating framework that the TNSP will comply with when negotiating access to its negotiated transmission services. Chapter 6A sets out the principles on which the approved framework must be based.

- Chapter 6A envisages that TNSPs may also provide other transmission services that are unregulated, as they do not fall within the definitions of prescribed transmission service or negotiated transmission service. These services are provided by the TNSP outside the Rules framework.

Chapter 6A also sets out a framework for the resolution of disputes about the provision of prescribed or negotiated transmission services.

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9 The access standards define the parameters of the technical obligations on network users and network owners when negotiating the connection of a generating unit, a MNSP or an end use customer. These standards are set out in Schedules 5.2 and 5.3 of the Rules.

10 *Prescribed transmission service* is defined in Chapter 10 of the Rules and broadly includes those services provided in relation to the shared transmission network.

11 *Negotiated transmission service* is defined in Chapter 10 of the Rules and broadly includes those services provide in relation to a party's connection to the shared transmission network.

Assets and services required to connect to the transmission network

Every connection to the shared transmission network requires the TNSP to provide a connection service. However, the current definition of *connection service* in the Rules, below, does not make clear the exact scope of the services required.

connection service

An *entry service* (being a service provided to serve a *Generator* or a group of *Generators*, or a *Network Service Provider* or a group of *Network Service Providers*, at a single *connection point*) or an *exit service* (being a service provided to serve a *Transmission Customer* or *Distribution Customer* or a group of *Transmission Customers* or *Distribution Customers*, or a *Network Service Provider* or a group of *Network Service Providers*, at a single *connection point*).[12]

The Commission understands that a connecting party may require the TNSP to provide some or all of the following assets and services to connect to the transmission network:

- The construction, operation and maintenance of any assets that are required to 'cut-in' to the existing shared transmission network.

- The design, construction, operation and maintenance of new assets (e.g. a substation) that will form part of the shared transmission network to facilitate the connection, or upgrades to existing assets, and/or any other upgrades to the shared transmission network (such as communication or protection systems) that are necessary to meet the requirements of the Rules as a result of that connection.

- The design, construction, operation and maintenance of an "extension" from the party's facilities to the shared transmission network. For example, in the case of a generator connecting, this asset is often considered to be a transmission line that runs from the generating system to the substation on the shared transmission network.

However, as identified in the Transmission Frameworks Review, the Rules do not clearly set out or classify how the services to be provided in relation to the assets described above are to be classified (e.g. prescribed, negotiated or non-regulated). A degree of interpretation is therefore required by both TNSPs and connecting parties to establish their respective rights and obligations with regard to connections. As a result, connection processes can differ depending on which TNSP is involved.

Set out below is the AEMC's understanding of the current practice of most TNSPs for the connection of generation, load and DNSPs. This is intended to illustrate the key concepts and terms that are used in the current connections provisions of the Rules. This section largely reflects what was set out in the consultation paper on this rule change request. In submissions to that consultation paper, several stakeholders disagreed with the AEMC's interpretation of some of the services required to connect to the transmission network and how they are regulated (if at all). The Commission has further developed its understanding of these issues and this section reflects that.

12 See Chapter 10 of the Rules.

Nevertheless, the Commission considers that these differences in the interpretation of the existing Rules demonstrate a need to clarify the Rules to provide clarity on how these assets and services should be dealt with in the connection process.

Similarly, the Commission understands that connecting parties have had different experiences with the connection process as a result of the culture and practice of the individual TNSPs, and that a number of TNSPs are working to improve the overall experience for connecting parties. The Commission is also aware of work that ARENA and the ENA are doing to share lessons on the connection process for large scale solar projects. While the Commission is supportive of these efforts, it considers that there is still value in setting out a clear framework in the Rules that drives a more consistent connection process across TNSPs in differing jurisdictions.

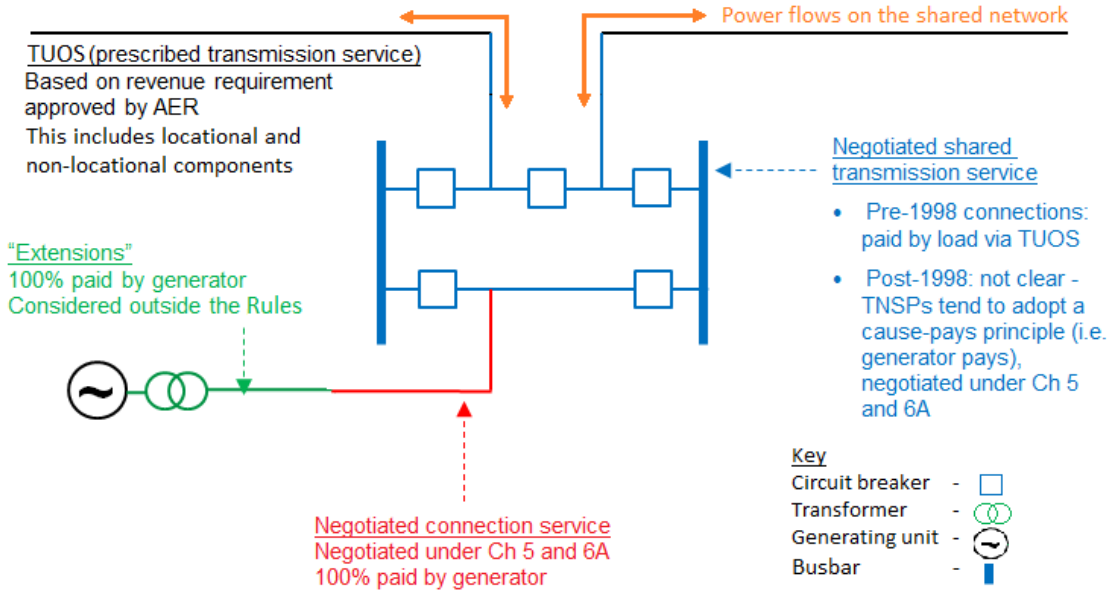
Stakeholder input also indicates that connecting parties face similar experiences when connecting load or generation to the distribution network - that is, the timeliness, cost and complexity of connections to the distribution network can vary between DNSPs depending on their culture, level of experience in connecting parties of a certain type (e.g. renewable generators) and interpretation of relevant regulations. While many of the proposals put forward in this rule change request would be applicable to connections to the distribution network, its scope is limited to connections to the transmission network only. If stakeholders consider that the arrangements set out in this draft determination should apply to connections at the distribution level, a separate rule change request would need to be submitted.

Generator connection

Figure 1.1 provides a simplified illustration of the AEMC's understanding of the services that may be required to connect a new generator to the transmission network, and what form of regulation the provision of these services is subject to.[13] Note that this example is one of a connection where a new substation is needed to connect the generator, i.e. the diagram does not address a generator connecting to the shared transmission network via an existing substation.

13 The Commission understands that the arrangements to connect a MNSP are the same as those for the connection of a generator, although they negotiate different performance standards under the Rules.

Figure 1.1 Current generator connection charging, based on our understanding of current practice



The transmission line at the top of the diagram (shown in black) is part of the shared transmission network. Prior to the connection, this line was unbroken. Services provided by the shared transmission network are paid for by customers through transmission use of system (TUOS) charges. Generators do not pay for shared transmission services.

Other than this black line, everything else in the diagram is new and is constructed to allow the generator to connect. In order to connect the generator, the existing transmission line is cut into (i.e. split) and a new substation is built and connected to it. This service is provided by the incumbent TNSP as a negotiated transmission service. Once operational, all electricity in that part of the network flows through that substation and the substation therefore forms part of the shared transmission network. The new substation is shown in blue.

A physical link or 'connection' is also needed within the TNSP's substation to connect the generator to the new substation, shown in red. This service usually comprises the provision of the physical connection plus any assets that are used exclusively by the generator and are located within the incumbent TNSP's area of control. Most TNSPs consider the connection point to be located at the point where the red and blue lines meet. However, some consider this point to be at the fence that separates the incumbent TNSP's area of control (i.e. the substation) and the generator's land. This physical connection (the assets shown in red) is provided by the TNSP as a negotiated transmission service, and so is paid for fully by the generator.

The generator may also require a new transmission line to be constructed from its facilities to the boundary of the assets that are used to provide the connection service. In this diagram, this new line is referred to as an 'extension', which is consistent with the practice of most TNSPs who consider this line to fall within the definition of

extension under the NER.[14] Under this interpretation, the extension is considered to comprise any assets, most likely power lines, between the generator's facilities and the substation. Depending on how close the generator's facilities are to the substation, this extension could be anywhere from only a few metres long to hundreds of kilometres long.

The AEMC understands that current practice is that the generator may elect to construct and operate this extension itself, engage a third party to do so, or request the TNSP to do so on an unregulated basis. Therefore, TNSPs treat extensions as a non-regulated transmission service on the basis that they are contestable and do not fall within the definition of negotiated transmission service. As such, TNSPs consider that they are not obliged to provide extensions or be subject to their negotiating framework when negotiating any terms and conditions for the provision of extensions. That is, these assets (and the services provided by means of those assets) are considered to sit outside the scope of the economic regulatory framework in the Rules.

Regardless of the uncertainty about how these different services are defined, the practice of all TNSPs is that the connecting generator is required to pay for all of the services that are required for it to connect to the transmission network.[15] The only assets in Figure 1.1 that are not paid for by the connecting generator are those represented by the black line, i.e. the existing shared network. The classification of the services required to connect to the transmission network as either negotiated or non-regulated affects important matters such as how charges and other terms are determined and whether TNSPs are required to provide them, but not who pays for them.

Load connection

This section describes the AEMC's understanding of the services that may be required to connect a new load to the transmission network - that is, customers who are directly connected to the shared transmission network - and what form of economic regulation the provision of these services is subject to. As above, this section assumes that a new substation is needed to connect the load, i.e. it does not address a load connecting to the shared transmission network via an existing substation.

14 See Chapter 10 of the Rules.

15 There may be some circumstances where the services provided by a new substation to a generator could be classified as prescribed transmission services and therefore paid for by all customers, not the generator. This could occur if the TNSP applied the Regulatory Investment Test for Transmission (RIT-T) to the investment because it was a credible option to address an identified network need. However, these circumstances are rare and are not considered in this draft determination. The Commission also notes that generators that were already connected prior to the start of the NEM do not pay any share of the costs of the existing substations to which they are connected, or contribute to the ongoing maintenance of those substations. These connections were grandfathered in 2006 as providing prescribed transmission services under clause 11.6.11 of the Rules.

In order to connect the load, as with generation, the existing transmission line is cut into (i.e. split) and a new substation is connected to it. Once operational, electricity in that transmission network flows through that substation.

Contrary to what the AEMC set out in its discussion paper, the Commission now understands that the practice of the majority of TNSPs in recent years has been to treat the substation as providing a negotiated transmission service (i.e. the same as generators), and so the costs are paid for fully by the load.[16] This means that the services, and regulation of those services, to connect a load are the same as those for a generator. That is:

- a new substation is required, which is treated as a negotiated transmission service and so paid for by the load as a negotiated transmission service provided by the TNSP;
- a physical link or "connection" is required, which is treated as a negotiated transmission service and so paid for by the load as a negotiated transmission service provided by the TNSP; and
- a new transmission line is constructed from the facility to the boundary of the assets used to provide the connection service, which would be treated as an extension, and so the load may elect to construct and operate this extension itself, engage a third party to do so, or request the TNSP to do so as a non-regulated transmission service.

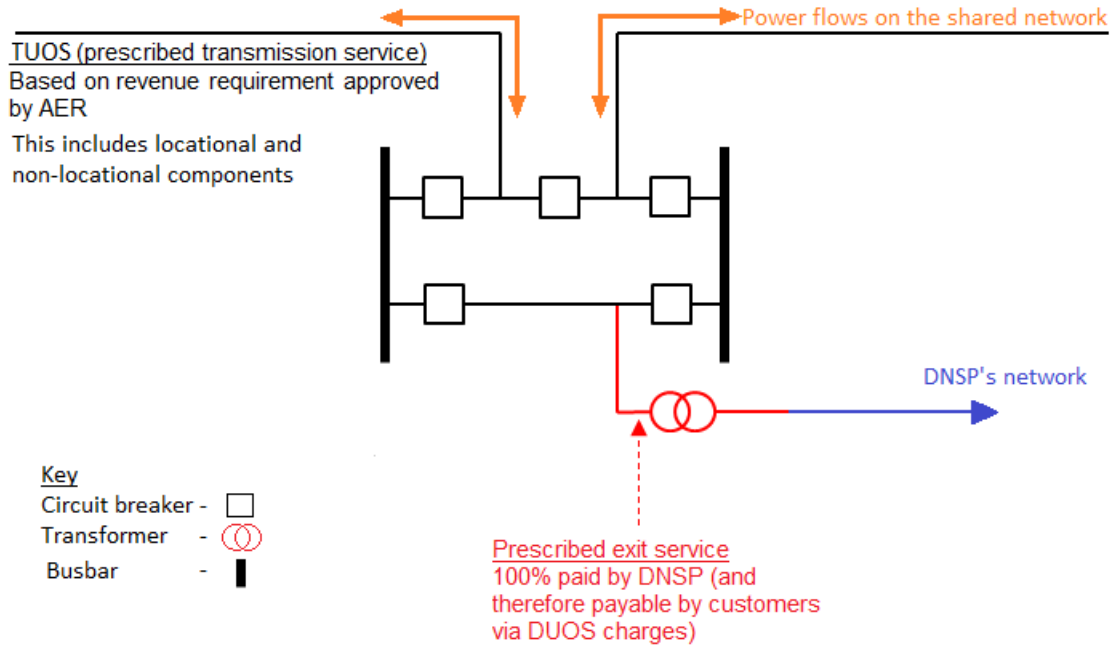
DNSP connection

Figure 1.2 provides a simplified illustration of the AEMC's understanding of the services that may be required to connect a new distribution network service provider (DNSP) to the transmission network, and what form of regulation the provision of these services is subject to.[17] As above, this connection implies that a new substation is needed to connect the DNSP, i.e. the diagram does not address a DNSP connecting to the shared transmission network via an existing substation.

16 The Commission understands that TNSPs' interpretation of the arrangements that apply to the connection of load to the transmission network has changed over time.

17 Under the Rules, DNSPs and TNSPs must undertake joint planning, which includes assessing the adequacy of existing transmission and distribution networks and the assets associated with distribution connection points. Arrangements for the connection of a DNSP to the transmission network under the draft Rule are discussed in appendix E.

Figure 1.2 Current DNSP connection charging, based on our understanding of TNSP practice



For the connection of a DNSP, the substation is considered to form part of the shared transmission network. Unlike a generator or load connection, and as required by the Rules, TNSPs treat this new substation as providing a prescribed transmission service, and so it is paid for by transmission customers.[18]

The costs associated with the provision of prescribed services (i.e. the substation above) are split into locational and non-locational components. That is, a share of the costs are attributed to the connection point at which they are incurred, while the other share of the costs is spread across all customers using a "postage stamp" method (a charge that does not vary by location or the level of utilisation of assets). So, through this method, the connecting DNSP (or the customers on the DNSP's network) should, in practice, pay for some proportion of the costs of the substation.

The physical link or connection (shown in red) is treated as a prescribed exit service,[19] which is charged to the DNSP through TUOS charges. Ultimately, customers pay this through distribution use of system (DUOS) charges.

An 'extension' as such is not required - the physical connection simply links the transmission network to the distribution network, but either the TNSP or the DNSP may need to augment their network to create this proximity.

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18 TNSPs also collect revenue from customers via a prescribed common transmission service charge, which is the sum of non-asset related common service costs and common service asset revenue.

19 Defined in Chapter 10 of the Rules as "A service provided to serve a *Transmission Customer* or *Distribution Customer* or a group of *Transmission Customers* or *Distribution Customers*, or a *Network Service Provider* or a group of *Network Service Providers*, at a single *connection point*).

Arrangements in declared network jurisdictions

Under the National Electricity Law (NEL), jurisdictions can authorise AEMO to exercise declared network functions.[20] Such jurisdictions operate under a different regulatory framework in relation to the planning of investment in, and connection to, the transmission network. Where such arrangements apply, there is a separation of ownership of the declared transmission system from certain aspects of the operation and control of that system. AEMO is responsible for the provision of shared transmission services by means of, or in connection with, the declared shared network, and plans, authorises, contracts for and directs augmentation of the declared shared network. Declared Transmission System Operators (DTSOs) own and operate the system, subject to the functions conferred on AEMO. In relation to connections, broadly, AEMO is responsible for all new generator, load, MNSP and DNSP connections against the Rules requirements, but it is not responsible for providing the assets associated with connection. For generators, large loads and MNSPs, generally the assets associated with connection are provided by a supplier of the connecting party's choice.

Victoria is the only NEM jurisdiction where AEMO is authorised to exercise these functions. Given this, the arrangements to connect to the transmission network in Victoria are different to the arrangements to connect in all other NEM jurisdictions. In Victoria, AEMO is responsible for assessing all new connections to the declared shared transmission system against the Rules 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.[21] 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 a DTSO through an invitation to tender. If AEMO determines that the augmentation is not contestable, the assets will be provided by the incumbent DTSO, typically AusNet Services. A more detailed description of these arrangements is set out in chapter 6 of this draft determination.

1.2.2 Planning

Transmission planning relates to the process of determining the investment needs of the transmission network in general terms, not specific investment decisions. Planning should create an informed basis for making specific investment decisions.

There are a number of mechanisms that work together in the Rules to promote an efficient and transparent planning process for transmission systems. In turn, they help to promote the development of an efficient and coordinated transmission system.

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20 Part 5, Division 2, Subdivision 3, section 50C of the NEL.

21 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 Rules.

Transmission network planning arrangements should assist in strategic decision making across the NEM.

Responsibility for transmission planning in the NEM is shared between:

- AEMO, in its role as National Transmission Planner; and
- jurisdictional planning bodies in each region of the NEM (typically the local TNSP).[22]

Table 1.1 sets out the jurisdictional planning body in each NEM region.

Table 1.1 Jurisdictional planning bodies

Region	Jurisdictional planning body
Queensland	Powerlink
NSW (and ACT)	TransGrid
Victoria	AEMO
South Australia	ElectraNet
Tasmania	TasNetworks

There are a number of different forms of transmission planning, which are described below.

Long-term planning

Long-term planning is focused on the need for major, new transmission investments over the long term. Long-term planning in the NEM is largely undertaken by AEMO as the national transmission planner.[23] In undertaking this function, the National Transmission Planner is required to produce the National Transmission Network Development Plan, which provides "an independent, strategic view of the efficient development of the NEM transmission grid over a 20-year planning horizon."[24] The National Transmission Network Development Plan focuses on major transmission flow paths (that is, those areas of the transmission network connecting major generation or demand centres). Planning is undertaken over a number of different scenarios,

22 The exception to this is in Victoria, where AEMO is the jurisdictional planning body as part of its declared network functions. And, while ElectraNet is the jurisdictional planning body for South Australia, AEMO performs additional advisory functions there.

23 TNSPs may also undertake long-term planning for their own networks, although this is not required under the Rules.

24 See http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/National-Transmission-Network-Development-Plan

covering different economic and government policy outcomes, demand forecasts and also generation scenarios.

Other documents produced by AEMO that are relevant to long-term strategic planning include:

- the National Electricity Forecast report, which provides annual energy and maximum demand forecasts over the next ten years for each NEM region;
- the Electricity Statement of Opportunities, which provides an assessment of supply adequacy in the NEM over the next 10 years, highlighting opportunities for generation and demand-side investment;[25] and
- the NEM Constraint report, which provides details on constraints in the transmission network.

Short-term planning

Detailed transmission planning is undertaken by each of the jurisdictional planning bodies (that is, in most cases, the TNSPs). Under the Rules, parties must produce short-term plans for their network. This is done through annual planning reviews, which must be undertaken by the jurisdictional planning bodies. The results of the annual planning review must be published in an Annual Planning Report by 30 June each year.

Annual Planning Reports draw upon the National Transmission Network Development Plan but outline more specific investment needs and drivers for the network in question. Annual Planning Reports contain details of potential network investments given forecast loads in a particular network. Under the Rules, the plans must cover at least the next ten years. However, typically there is an emphasis on planning needs for the next two to three years.

Project specific planning

TNSPs also carry out project specific planning that relates to a particular investment need and culminates in a particular investment decision. In the NEM there is a separate and distinct process for individual investment decisions, specifically the application of either:

- the Regulatory Investment Test for Transmission (RIT-T), which is applied for all augmentation investments greater than $6 million in value; and
- non RIT-T assessments, where all other assets (for example replacement assets or those less than $6 million in value) must be planned at least cost over the life of the investment.

25 This is required of AEMO under clause 3.13.3(q) of the Rules.

Investment decisions are guided by cost-benefit assessments to identify the investment option that has the highest net benefits.

Last resort planning power

Under the Rules, the AEMC may exercise the last resort planning power, which allows it to direct registered participants to apply the RIT-T to potential transmission projects if they are likely to be cost effective in relieving projected constraints in respect of national transmission flow paths that connect NEM regions. The Commission reports annually on the last resort planning power. To date, it has not identified any gaps in relation to inter-regional transmission planning that would require a direction to a TNSP to undertake a RIT-T.

1.3 Rationale for the rule change request

The COAG Energy Council's rule change request is largely based on the recommendations made by the AEMC in the Transmission Frameworks Review. These recommendations, and a detailed description of the findings on which they are based, can be found in the consultation paper that was published on this rule change request, and in the Transmission Frameworks Review final report itself.[26]

1.3.1 Connections

In relation to connections, the COAG Energy Council considers that there is significant ambiguity in the Rules regarding the provision of assets forming part of the shared network that are required as an interface with a connection.

The COAG Energy Council refers to the AEMC's findings in the Transmission Frameworks Review, which identified a lack of clarity in the Rules in terms of what connection services actually entail; specifically, the assets involved and where the "connection point" (or agreed point of supply) exists in a practical sense. The location of the connection point can affect which part of the services provided by the TNSP in relation to a connection are treated as negotiated transmission services and which are considered to be non-regulated transmission services. The current arrangements are open to TNSP interpretation and discretion about which services they provide and how they are regulated.

The COAG Energy Council also agrees with the AEMC's recommendations in the Transmission Frameworks Review that the negotiating framework does not provide sufficient protection for connecting parties in light of TNSP's negotiating power, which is considered to lead to inefficient outcomes in terms of costs and time taken to connect. The existing principles in the Rules are focused on cost and prices issues and do not adequately cover a number of the issues that are the sources of disagreement in

26 See http://www.aemc.gov.au/Rule-Changes/Transmission-Connection-and-Planning-Arrangements; http://www.aemc.gov.au/Markets-Reviews-Advice/Transmission-Frameworks-Review

connection negotiations, for example perceived over-specification of technical requirements, timeliness and risk allocation.

1.3.2 Planning

The COAG Energy Council cites the AEMC's findings in the Transmission Frameworks Review, which state that some aspects of transmission planning could be improved to better reflect the needs of market participants and the intention of the market, and to promote more efficient transmission investment in the NEM. Specifically, the AEMC noted that:

- the Rules do not explicitly allow for TNSPs to fund investments in a different region to meet an identified need in the region in which it operates. As a result TNSPs may have little or no incentive to consider options in other regions in determining their optimal investment;
- the Rules do not require TNSPs to formally comment on the National Transmission Network Development Plan; and
- the Rules do not require TNSPs to consider the consistency of their Annual Planning Reports with the National Transmission Network Development Plan and other TNSPs' Annual Planning Reports and so TNSPs may adopt different approaches when presenting the outcomes of their annual planning.

1.4 Solution proposed in the rule change request

1.4.1 Connections

The rule change request proposes the following amendments to the Rules to address the issues with transmission connections identified above:

- clarify the definitions for connection assets, connection services and service classifications by introducing two new categories of those assets into the Rules. This would make a clear distinction between services provided by assets that form part of the shared network ("identified user shared network assets") and those services provided by assets used exclusively by the connecting party or parties ("dedicated transmission connection assets");
- enhance and promote contestability in the connection arrangements, while making it clear that TNSPs are accountable for outcomes on the shared network;
- automatically exempt identified user shared network assets from regulation under Chapter 5 and 6A of the Rules, but subject to them being operated, controlled and maintained by the local TNSP;
- automatically exempt dedicated connection assets from regulation under Chapter 5 and 6A of the Rules, but on the condition that third party access be allowed on reasonable terms.

- provide for a mechanism to grant access to dedicated connection assets, and to transition these assets to the shared network if appropriate;
- establish a single set of negotiating principles, contained in the Rules, that apply as a uniform framework to all transmission connections covered under Chapter 5 of the Rules;
- require TNSPs to increase the level of transparency relating to the provision of negotiated transmission services; and
- establish a framework for the nomination of appropriate independent engineering experts who may provide independent advice on the appropriate technical specifications for a particular connection asset, including clarifying the dispute resolution process.

1.4.2 Planning

The rule change request proposes the following amendments to the Rules to address the issues with transmission planning identified above:

- promote the identification and implementation of network investment options, both within and outside a particular region, by introducing:
  - a requirement on TNSPs to consider whether an option in another jurisdiction may also meet their investment needs when preparing their Annual Planning Reports;
  - a requirement on TNSPs to consult with each other on the potential for an inter-regional investment to deliver market and reliability benefits;
  - a requirement to specifically consider investments in other regions as a credible option to meet an identified need in their own network when undertaking a RIT-T; and
  - clarifications to the Rules to ensure that investments in other regions to meet identified needs in a different region are treated as regulated investments;
- introduce a requirement for AEMO to establish a working group consisting of TNSPs to provide input into the development of the National Transmission Network Development Plan; and
- introduce a uniform approach to Annual Planning Reports by providing minimum requirements for the content of Annual Planning Reports and requiring that AEMO report on the consistency of Annual Planning Reports in the National Transmission Network Development Plan.[27]

27 The rule change request proposes that these rules apply to the jurisdictional planning body in each jurisdiction.

1.4.3 Proposed arrangements for declared network jurisdictions

The COAG Energy Council notes that transmission connection and planning arrangements are different in those jurisdictions where AEMO is authorised to exercise its declared network functions.[28] The COAG Energy Council also considers that many of the requirements that would be imposed on TNSPs under the proposed Rule would not be necessary to impose on AEMO because it does not face the same commercial incentives that TNSPs who own, plan, operate and invest in transmission infrastructure do.

The rule change request therefore seeks to isolate most of the proposed rule changes from any jurisdiction where AEMO is authorised to exercise its declared network functions. However, the rule change request asks the AEMC to provide advice on:

- 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.[29].

Chapter 6 sets out the Commission's consideration of, and advice on, these issues.

1.5 The rule making process

On 26 November 2015, the Commission published a notice advising of its commencement of the rule making process and consultation in respect of the rule change request.[30] A consultation paper identifying specific issues for consultation was also published. Submissions closed on 28 January 2016. The Commission received 11 submissions to the consultation paper.

On 3 March 2016, the Commission published a notice under section 107 of the 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 Rules. The extended timeline has enabled the AEMC to conduct additional stakeholder consultation on this rule change request, including through:

- two stakeholder workshops;

- the publication of a discussion paper;

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28 See chapter 6 for a detailed explanation of AEMO's declared network functions and the corresponding impact on arrangements to connect to the transmission network in declared network jurisdictions.

29 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 21.

30 This notice was published under s. 95 of the NEL.

- a public forum on the discussion paper; and
- one on one meetings with a large number of stakeholders.

A discussion paper on the connections aspects of the rule change request was published on 26 May 2016. Submissions closed on 30 June 2016. The Commission received 14 submissions to the discussion paper.

The Commission has considered all issues raised by stakeholders in submissions. Issues raised in submissions are discussed and responded to throughout this draft rule determination. Issues that are not addressed in the body and appendices of this document are set out and addressed in appendix G.

The rule change timeline is set out in Table 1.2.

Table 1.2 Rule change timeline

Milestone	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
Publication of draft rule determination	24 November 2016
Stakeholder meetings	December 2016 - January 2017
Publication of staff paper on transitional arrangements	12 January 2017
Close of submissions on draft rule determination	27 January 2017
Close of submissions on staff paper on transitional arrangements	10 February 2017
Publication of final rule determination	9 March 2017

1.6 Consultation on draft rule determination

The Commission invites submissions on this draft rule determination, including the more preferable draft rule, by 27 January 2017.

Any person or body may request that the Commission hold a hearing in relation to the draft rule determination. Any request for a hearing must be made in writing and must be received by the Commission no later than 26 January 2017.

Submissions and requests for a hearing 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

If any stakeholder wants to discuss aspects of this draft determination with the Commission, please do not hesitate to contact Claire Richards, (02) 8296 7878, to request a meeting.

1.7 Structure of draft rule determination

This draft rule determination addresses both the connections and planning aspects of the rule change request. It is structured as follows:

- Chapter 2 sets out the Commission's draft rule determination, including its assessment framework and summary of reasons for making the draft Rule.
- Appendix A sets out the relevant legal requirements under the NEL for the AEMC to make this draft rule determination.
- Part A: Connections
  - Chapter 3 describes the Commission's detailed assessment framework for the connections aspects of the rule change request.
  - Chapter 4 provides an overview of the draft Rule in respect of connections.
  - Chapter 5 describes the Commission's proposed transitional arrangements.
  - Chapter 6 sets out the Commission's views on the application of the draft Rule in declared network jurisdictions.
  - Appendices B through F detail the Commission's analysis and draft Rule in respect of connections.
  - Appendix G provides the Commission's response to stakeholder comments that are not addressed in appendices B through E.
- Part B: Planning
  - Chapter 7 provides an overview of the draft Rule and sets out the Commission's analysis and draft Rule in respect of planning.
  - Appendix H provides the Commission's response to stakeholder comments that are not addressed in Chapter 7.

2 Draft rule determination

2.1 The Commission's draft rule determination

The Commission's draft rule determination is to make a more preferable draft Rule. The more preferable draft Rule addresses the intent of the COAG Energy Council's rule change request by clarifying aspects of the existing Rules and introducing new provisions to set out a comprehensive, consistent and coherent transmission connection and planning framework.

The Commission's reasons for making this draft determination are set out in section 2.4 and in more detail in the relevant chapters and appendices.

This chapter outlines:

- the rule making test for changes to the Rules;
- the more preferable rule making test;
- the assessment framework for considering the rule change request; and
- the Commission's consideration of the more preferable draft rule against the national electricity objective.

Further information on the legal requirements for making this draft rule determination is set out in appendix A.

2.2 Rule making test

2.2.1 Achieving the national electricity objective

The Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the national electricity objective (NEO).[31] This is the decision making framework that the Commission must apply.

The NEO is:[32]

> "to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system."

31 Section 88 of the NEL.

32 Section 7 of the NEL.

The framework used for assessing whether the proposed rule will, or is likely to, contribute to the achievement of the NEO is set out in section 2.3.

The Commission has also had regard to the form of regulation factors,[33] with these considerations discussed further in appendix A.

2.2.2 Making a more preferable rule

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

Using the assessment framework set out in section 2.3, the Commission has determined that the more preferable draft rule is likely to better contribute to the achievement of the NEO than the proposed rule. The reasons for this are set out in section 2.4.

2.2.3 Northern Territory legislative considerations

From 1 July 2016, the Commission assumed rule making responsibility for parts of the National Electricity Rules adopted by the Northern Territory.[34] Some aspects of the proposed Rule relate to parts of the Rules that apply in the Northern Territory,[35] the Commission is required to assess the proposed Rule against additional elements required by the Northern Territory legislation.[36]

The *National Electricity (Northern Territory) (National Uniform Legislation) Act 2015* allows for an expanded definition of the national electricity system in the context of the application of the NEO to Rules made in respect of the Northern Territory. The Commission must regard the reference in the NEO to the "national electricity system" as a reference to whichever of the following the Commission considers appropriate in the circumstances having regard to the nature, scope or operation of the proposed rule:

(a) the national electricity system;

(b) one or more, or all, of the local electricity systems;

(c) all the electricity systems referred to above.

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33 NEL, Part 1, s. 7A.

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

35 The draft Rule amends Chapter 10 of the Rules and makes minor amendments to Chapter 6 which applies in the Northern Territory. The other amendments made in the draft Rule are to parts of the Rules that do not apply in the Northern Territory.

36 *National Electricity (Northern Territory) (National Uniform Legislation) Act 2015.*

For this rule change, the Commission will regard the reference to the "national electricity system" as a reference to the "national electricity system" and all of the local electricity systems.

The *National Electricity (Northern Territory) (National Uniform Legislation) Act 2015* also provides the Commission with the ability to make a differential Rule that varies in its terms between the national electricity system and the Northern Territory's local electricity system. A differential rule is a Rule that:

(a) varies in its term as between -

  (i) the national electricity system; and

  (ii) one or more, or all, of the local electricity systems; or

(b) does not have effect with respect to one or more of those systems,

but is not a jurisdictional derogation, participant derogation or Rule that has effect with respect to an adoptive jurisdiction for the purpose of s. 91(8) of the NEL.

The Commission has considered whether a differential Rule is required for the Northern Territory electricity service providers and concluded that it is not required in this instance. This is discussed further in appendix A.

2.3 Assessment framework

This section sets out how the Commission assessed whether the proposed rule will, or is likely to, contribute to the achievement of the NEO. This assessment framework is consistent with that set out in chapter 4 of the consultation paper on this rule change request.[37]

The rule change request seeks to amend those aspects of the Rules that relate to transmission connection and planning. The Commission has developed an assessment framework to address this broad scope of issues.

In considering the rule change request, the AEMC has assessed whether the proposed changes would:

- encourage efficient investment in, and operation of, electricity services;
- provide energy services to consumers at an efficient cost while supporting the reliability, safety and security of the transmission network; and
- promote the provision of information in order to incentivise efficient transmission connection and planning arrangements.

Each of these considerations is set out in detail below.

2.3.1 Efficient investment in, and operation of, electricity services

Connecting parties should be able to effectively negotiate efficient outcomes when seeking a connection to the transmission network. These negotiations will result in certain decisions being made, including decisions to invest in particular transmission equipment and decisions about the ongoing maintenance and operation of that equipment.

Connecting parties' objective is to negotiate with the TNSP for the most efficient provision of services to enable their connection to the transmission network, while meeting their specified requirements. Competition in the provision of these services, where appropriate, could contribute to more efficient investment in and operation of these services. Competition should give connecting parties greater ability to manage costs and timing, as well as placing competitive pressure on TNSPs to improve their service offerings.

As inefficiencies in the connection process (e.g. a delay) may be ultimately borne by consumers, changes that would provide incentives for the timely and efficient investment in, and operation of, the services needed to connect to the shared transmission network would be in the long-term interests of consumers.

This would also apply when considering the planning of the shared transmission network. Here, the most efficient development occurs when the TNSP plans to deliver projects that maximise net benefits, being the value of higher reliability and system security less the cost of the project. For this to occur, TNSPs should have sufficient information and incentives to effectively trade off the cost of augmenting and replacing the network against contracting for demand side options, with the value to generators and consumers of relieving congestion and maintaining reliability. This should also include information on investments in other regions that could help maximise net benefits in a different region.

2.3.2 Allowing efficient costs, while preserving system security, safety and reliability

Connecting parties should be able to connect to the transmission network at an efficient price with an agreed level of service and quality in a timely manner. However, system security, safety and reliability should be taken as 'givens' - that is, they are outcomes that should not be compromised by a party's connection to the transmission network. An effective connections regime will therefore make sure that arrangements can be put in place to support system security, safety and reliability, in accordance with the Rules and jurisdictional electricity legislation, while enabling connecting parties to connect at efficient cost.

It is paramount that AEMO and TNSPs have the ability to maintain power system security within a safe operating state. Doing so reduces the potential for damage to

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

assets and human harm. Therefore, there should be clear responsibility for the operation, control and maintenance of the shared transmission network. This includes those assets that are required to facilitate a connection, but which form part of the shared transmission network, since these assets provide services to end-use customers as well as the connecting party and the way in which those assets function can affect system safety, security and reliability.

Increased competition in the provision of services required to facilitate a connection must, therefore, be considerate of the need to maintain clear accountability for outcomes on the shared network.

2.3.3 Transparency and predictability

The arrangements for connecting to the transmission network, and planning for the transmission network, should be clear, consistent and understandable to all participants and interested stakeholders. Clarifying these roles will, in turn, clarify accountability for the safe and secure operation of the transmission network. This should support investor confidence, which should result in benefits to consumers through lower investment costs.

The regulatory arrangements should promote the provision of relevant information. Readily available information (either on planning or connections) can support effective decision-making and the delivery of efficient outcomes. For example, in relation to planning, increased information sharing could contribute to more coordination between TNSPs, and so more efficient investment across the transmission network as a whole. Standardisation of the information provided in Annual Planning Reports should make it easier to examine plans and facilitate comparative analysis, resulting in more informed feedback from interested parties.

In relation to connections, parties seeking a connection need access to clear, timely and accurate information to enable them to make decisions, negotiate in a more informed manner and address the issue of asymmetric power between TNSPs and connecting parties. To create confidence in the transmission connection process and encourage investment, the arrangements must be predictable and should be consistent across locations and between connecting TNSPs.

Further, connection arrangements should be as simple as is practicable to achieve their intended objectives. Where regulation is complex or ambiguous it imposes unnecessary risks and increased costs for businesses. These costs may be passed through to consumers in the form of higher prices.

2.4 Summary of reasons

The more preferable draft Rule made by the Commission is attached to and published with this draft Rule determination. The key features of the more preferable draft Rule are summarised below.

With respect to transmission connections, the more preferable draft Rule:

- clarifies many existing aspects of the connection process and the framework for economic regulation of services required to connect generators, loads and MNSPs to the shared transmission network to remove ambiguity and scope for interpretation;

- clarifies that two types of assets provide the services required to connect to the shared transmission network by introducing the terms dedicated connection asset and identified user shared asset, and establishes a clear distinction between the way in which services provided by means of the two types of assets are regulated and the obligations of the parties who own, control and operate them;

- introduces contestability for the detailed design, construction and ownership of identified user shared assets - where these assets or components of these assets meet certain criteria to be classified as contestable - and defines these services as non-regulated transmission services that can be provided by any party on commercial terms;

- maintains that the Primary TNSP[38] remains accountable for outcomes on its network, even if parts of it (i.e. identified user shared assets) are designed, built and owned by other parties, by requiring such parties to enter into a network operating agreement with the Primary TNSP to give effect to such an outcome;[39]

- provides a process by which an independent engineer can be engaged to provide advice on a technical issue related to a connection if either the connecting party or the TNSP requests it;

- strengthens the principles that underpin negotiations for services required to connect to the shared transmission network and removes the requirement for TNSPs to develop individual negotiated transmission service criteria and negotiating frameworks for approval by the AER;

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

- clarifies the process that applies to the resolution of disputes raised in relation to transmission connections;

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38 Primary TNSP is a new term defined in the draft Rule as "The Transmission Network Service Provider who operates the largest transmission network in each participating jurisdiction (other than an adoptive jurisdiction)." The draft determination uses the term incumbent TNSP to refer to this party under current arrangements, and the term Primary TNSP when referring to the arrangements for this party under the draft Rule.

39 Or where the third party IUSA owner has full TNSP registration, and so can own the assets, the fact that it still needs to obtain operations and maintenance services from the Primary TNSP as a negotiated transmission service.

- clarifies that all services provided for new dedicated connection assets, including design, construction, ownership, operation and maintenance, are non-regulated transmission services and can be provided by any party on commercial terms;

- requires parties who own, operate or control a dedicated connection asset to register with AEMO, or be exempted from the requirement to register, and to classify their dedicated connection assets as either small (under 30km total route length) or large (over 30km total route length);

- sets up a framework by which parties can negotiate access to the services provided by means of a large dedicated connection asset;

- provides clarity about the point at which a large dedicated connection asset is considered to be providing shared transmission services rather than connection services, for example if a DNSP connects to that asset.

With respect to transmission planning, the more preferable draft rule:

- requires TNSPs to include certain additional information in its Annual Planning Report on key changes since the last Annual Planning Report, the forecasting methodology used for load forecasts and detailed information regarding network constraints;

- requires the AER to develop a guideline to support consistency across Annual Planning Reports; and

- requires TNSPs to undertake joint planning with other TNSPs where there is the potential for investments in other transmission networks to deliver market and reliability benefits in their own network.[40]

Further detail on the connections aspects of the draft Rule can be found in chapter 4 and the relevant appendices of this draft determination. Further detail on the planning aspects of the draft Rule can be found in chapter 7.

The Commission is of the view that the scope of the rule change request does not allow the AEMC to consider the application of these Rules in jurisdictions where AEMO is authorised to exercise declared network functions, i.e. Victoria. This is discussed further in chapter 6.

Having regard to the issues raised in the rule change request and during consultation, the Commission is satisfied that the more preferable draft Rule will, or is likely to, better contribute to the achievement of the NEO than the proposed rule.

With respect to connections, the more preferable draft Rule largely reflects the COAG Energy Council's proposal. The key features of the more preferable draft Rule, as summarised above, are consistent with the intention of the proposals put forward in

40 Under the draft Rule, these obligations are placed on the jurisdictional planning bodies, i.e. the Primary TNSP in each jurisdiction and AEMO in Victoria.

the rule change request. However, the more preferable draft Rule contains a greater level of detail to give effect to these proposals, while retaining the COAG Energy Council's policy intent.

More detailed analysis of the reasons for making the more preferable draft Rule as it relates to connections, and why it better meets the NEO than the proposed Rule, can be found in part A of this draft determination.

With respect to transmission planning, the more preferable draft Rule builds on the COAG Energy Council's proposals on the content and consistency of Annual Planning Reports, and provides more detail on these proposals based on stakeholder input and analysis. On the remaining planning aspects of the rule change request, the Commission considers that the more preferable draft Rule will, or is likely to, better contribute to the achievement of the NEO for the reasons set out below.

- The proposed rule would have introduced a formal requirement for TNSPs to provide input into the National Transmission Network Development Plan. Feedback from stakeholders indicates that the existing process for facilitating input on the National Transmission Network Development Plan is positive and includes a broader range of stakeholders than TNSPs alone. The Commission has concluded that the quality of engagement on the National Transmission Network Development Plan would not be improved under such a proposal. The more preferable draft Rule therefore does not include such a requirement.

- While the more preferable draft Rule requires TNSPs to conduct joint planning with other TNSPs, it does not require TNSPs to explicitly consider investment options in other regions in their Annual Planning Reports or when undertaking a RIT-T, as was proposed in the rule change request. The Commission considers that the more general obligation on TNSPs to conduct joint planning will provide TNSPs with more flexibility about when and how to engage with other TNSPs on planning. This is likely to facilitate more efficient coordination between TNSPs than ad hoc consideration when producing an Annual Planning Report or undertaking a RIT-T. The costs of requiring TNSPs to explicitly consider such options in Annual Planning Reports and RIT-Ts are therefore likely to outweigh the benefits.

- The rule change request proposed that the arrangements for the economic regulation of investments in other regions should be clarified. The Commission considers that the arrangements for economic regulation of investments in one region to provide a benefit in another are linked to the arrangements for inter-regional TUOS. Our preliminary view is that, in order for the costs of investments undertaken in a different region to the region with the identified need to be appropriately allocated, changes to inter-regional TUOS arrangements may be required. However, the Commission considers that inter-regional TUOS arrangements are out of the scope of this rule change request. The Commission has therefore not made any amendments to the arrangements for economic regulation of such investments.

More detailed analysis of the reasons for making the more preferable draft Rule as it relates to planning can be found in part B of this draft determination.

The draft Rule does not contain savings and transitional provisions. A paper outlining a complete savings and transitional proposal, along with draft Rules relating to this component, will be published for comment in mid-January 2017.

2.5 Strategic priority

This rule change request relates to the AEMC's 'markets and network' strategic priority. The draft Rule establishes market and regulatory arrangements that provide an environment for business evolution and efficient investment in transmission connection services. The draft rule also introduces new arrangements to facilitate better engagement and increased coordination on planning for the transmission network to facilitate efficient investment in transmission infrastructure.

3 Assessment framework for the connections aspects of the rule change request

The AEMC's findings in the Transmission Frameworks Review and stakeholder input on this rule change request to date have exposed a number of issues with the current Rules framework for connecting to the transmission network. Specifically, the current arrangements:

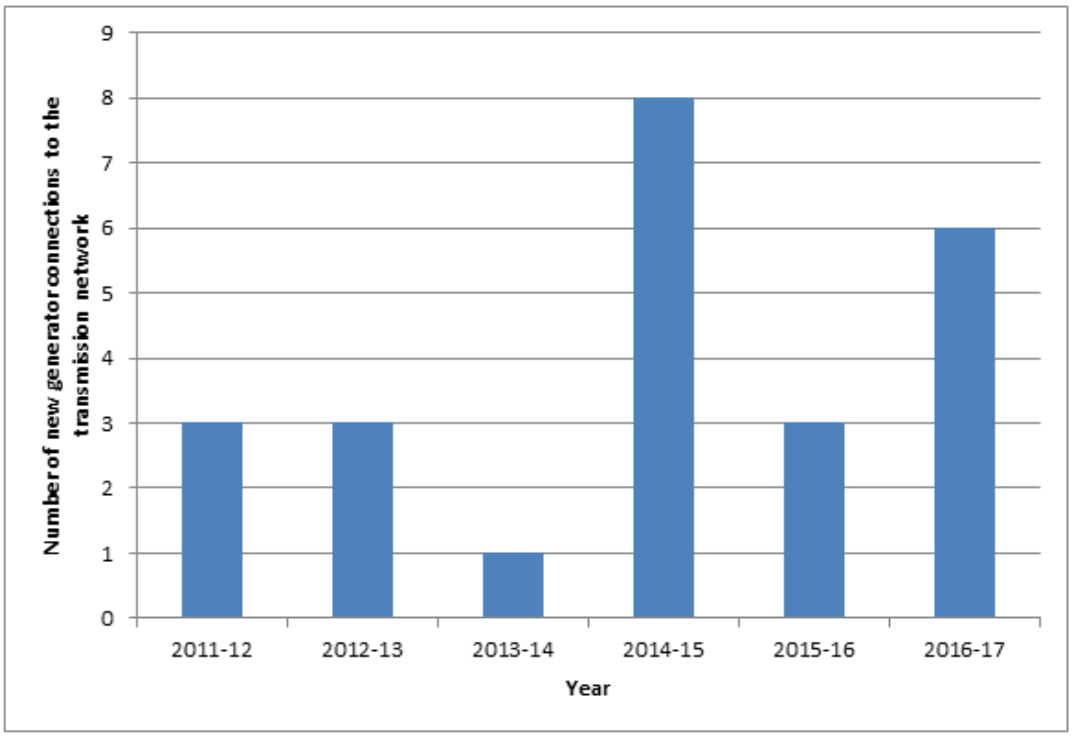
- are unclear, and are therefore open to a degree of interpretation by connecting parties and TNSPs;
- do not encourage the incumbent TNSP to provide connection services in a cost effective, transparent, simple or timely manner;
- do not provide connecting parties with sufficient bargaining power to negotiate a better connection process or outcome than what is offered by the incumbent TNSP - for example, connecting parties are reluctant to raise disputes in relation to the connection because doing so might displease the only party that can connect them (that is, the incumbent TNSP) or delay the connection process further.

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

The last decade has seen a rise in the number of new generators, particularly wind, connecting to the transmission network. Figure 3.1 shows the number of commissioned and forecast to be commissioned generator connections to the transmission network over the past five years.[41]

41 The graph shows new generator projects commissioned. The data for 2016-17 comprises those projects that are forecast to be commissioned in that year.

Figure 3.1 New transmission-connected generators[42]



Source: AEMO Electricity Statement of Opportunities reports

With falls in technology costs and policy drivers such as the Australian Government's renewable energy target (RET), an increasing number of new generators, including large-scale solar and wind, are expected to seek connection to the transmission network over the coming years. For example, the Clean Energy Council expects that, under the RET, thirty to fifty large-scale generators will be seeking to connect to the NEM by 2020.[43] It is important that the connection framework is fit for purpose for these new connections.

Input from stakeholders indicates that connection costs account for roughly 10 per cent of a proponent's total project costs, and that total project costs are in the order of several hundred million dollars. Improvements to the way in which parties connect to the transmission network are therefore likely to have an impact on project costs and, ultimately, the costs that are passed on to consumers. For example, the connection costs for a project with total costs of $300 million would be expected to be about $30 million. A 10 per cent reduction in these connection costs equates to $3 million in potential savings.

The COAG Energy Council notes that the purpose of the Rules 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

42 This graph represents connections to the transmission network by generators only, not load.

43 Clean Energy Council, submission on discussion paper, p. 1.

Commission's conclusions in the Transmission Frameworks Review, it stresses the importance of there being clear accountability for the safe, reliable and secure supply of electricity across the shared network.[44]

The intention of the connections aspects of the rule change request can therefore be summarised as:

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

As set out in section 2.2.1, the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the NEO.[45] The Commission considers that achieving the intention of the connections aspects of the rule change request, as summarised above, will contribute to the achievement of the NEO, and has developed a draft Rule to reflect this intention. Specifically, the draft Rule:

- clarifies many aspects of the Rules connection framework, amends parts of the connection process and expands the scope of contestability for transmission connection services to improve the transparency, timeliness, cost and complexity of the connection process for both connecting parties and TNSPs;[46] and
- maintains the accountability of the Primary TNSP for the safe, reliable and secure operation of the shared transmission network in its licenced area.

The Commission's approach to assessing this aspect of the rule change request against the NEO is set out in the sections below. This approach is consistent with that proposed by the Commission in chapter 2 of the discussion paper published in May 2016,[47] and builds on the assessment framework set out in section 2.3 of this draft determination.

Submissions to the consultation paper, input from stakeholders at the workshop in March 2016 and submissions to the discussion paper indicated that stakeholders largely support 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

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44 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, pp. 3-4.

45 Section 88 of the NEL.

46 Primary TNSP is a new term defined in the draft Rule as "The Transmission Network Service Provider who operates the largest transmission network in each participating jurisdiction (other than an adoptive jurisdiction)." The draft determination uses the term incumbent TNSP to refer to this party under current arrangements, and the term Primary TNSP when referring to the arrangements for this party under the draft Rule.

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

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 and in this draft determination). Under such an approach, the connecting party (or a party of its choice) would provide services that have a direct impact on the shared network, such as the operation and maintenance of identified user shared assets.

While contestability for the provision of these services may improve the transparency, timeliness, cost and complexity of connections to the transmission network for the connecting party, such an approach blurs the incumbent TNSP's accountability for the operation of the shared network, potentially affecting end-use consumers. Inadequate provision of such services may have an impact on 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 one or more connecting parties and are able to be isolated from electricity flows on the shared transmission network (termed dedicated connection assets in the rule change request and this draft determination) fall on these parties alone. In this case, the shared network can be protected if appropriate action is taken, such as isolating the connection. Consequently, the draft Rule clarifies that the design, construction, ownership, operation and maintenance of a dedicated connection asset are non-regulated transmission services and can be provided by any party on commercial terms, subject to registration and compliance with certain obligations.[48]

However, because identified user shared assets form part of the shared network, any new arrangements for these assets need to make sure that the safety, reliability and security of a transmission system can be maintained while enabling generators and loads to connect at efficient cost. As such, the incumbent TNSP should remain accountable for the operation and maintenance (that is, control) of its transmission network, including identified user shared assets.

3.1 Transparency

Inefficiencies and inconsistencies in the connection process can result in information asymmetries between the connecting party and the incumbent TNSP, resulting in inefficient connections. The costs of inefficient connection outcomes are ultimately borne by consumers. A framework that provides for an efficient and transparent process to consider, develop and deliver connections to the shared transmission network benefits all parties, including, in the long-term, consumers.

The Rules do not fully prescribe the connection process or particular connection outcomes for parties seeking a connection to the shared transmission network. This is because:

48 The draft rule as it relates to dedicated connection assets is described further in chapter 4 and appendix D.

- generators, loads and MNSPs are considered to be sufficiently well-resourced and knowledgeable to negotiate their connection; and

- each connection to the shared network can be quite different, requiring a certain flexibility that is difficult to achieve with standardised terms or other outcomes in the Rules.

However, given that the incumbent TNSP has a significant amount of control over connections to its network, and needs this control to help it maintain a safe, secure and reliable network, a fully unregulated approach is also not appropriate. Services required to connect generation, load or an MNSP to the shared transmission network are therefore classified as negotiated transmission services for the purposes of economic regulation under the Rules. The Rules set out certain arrangements that apply to the provision of negotiated transmission services and, together with other arrangements in the Rules, sets out how a generator, load or MNSP can negotiate a connection to the shared transmission network.

Nevertheless, the Commission shares the view of some stakeholders that the incumbent TNSP has a greater degree of control over the connection process and its outcome than the connecting party. Connecting parties need access to clear, timely and accurate information to enable them to negotiate in a more informed manner and to address information asymmetries between themselves and the incumbent TNSP.

The introduction of competition for the provision of services to connect to the shared transmission network, where appropriate, may incentivise the incumbent TNSP to reveal more information if they are competing to provide those services. However, even if certain services are open to competition, connecting parties (and their chosen service providers) still need sufficient information from the incumbent TNSP - information that only it will hold - to enable them to procure these services on a contestable basis. As such, there is still likely to be a need to impose obligations on the incumbent TNSP to provide the connecting party with this information. In the absence of competition for these services, regulation may be required to incentivise the incumbent TNSP to be more transparent in its process and decision-making for connections.

Making the Rules clearer and simpler should also make it easier for connecting parties to know exactly what services they are negotiating for and which assets provide them, and enhance their ability to negotiate on equal terms with the incumbent TNSP.

3.2 Timeliness

Timeliness is a difficult metric to measure because it is subjective and will depend on how the connecting party and the incumbent TNSP prioritise a particular connection. It may also depend on how resourced each party is to process the connection. Further, the benefits of any new regulatory arrangements that seek to improve timeliness may easily be overridden by external factors, such as delays to project financing or planning approvals. These matters are not regulated by the Rules but fall within the scope of influence of the energy sector more broadly. However, any arrangements in the Rules

that provide increased certainty about the timing of a particular connection are likely to improve the efficiency of the connection process, and the final connection outcome.

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

Arrangements that require parties to enter into complex contractual arrangements may also affect the timeliness of a connection. That is, the incremental impact on timeliness of introducing contestability for a particular service could be outweighed by the time it takes to negotiate contractual arrangements with the third party provider of that service, particularly if the incumbent TNSP needs to be involved to allow it to manage its accountability for shared network outcomes.

3.3 Cost

Connecting parties should be able to connect to the transmission network at an efficient cost, while meeting relevant standards to maintain the security, safety and reliability of the shared transmission network. The introduction of competition for the provision of services to connect to the shared transmission network, where appropriate, is likely to encourage efficient investment in, and operation of that service if there is workable competition for it. This is because it would give connecting parties a greater ability to manage the costs of their connection, and would place competitive pressure on the incumbent TNSP to improve its service offering. However, while competition for a particular service may lower the upfront costs of a connection, there is a risk that the ongoing costs to the connecting party could be higher. For example, a contestable provider may be able to construct certain assets at a lower cost than the incumbent TNSP, but it may not hold or be capable of arranging sufficient spares or other resources in a timely manner in the event that urgent repair or maintenance to the asset needs to take place.[49]

Different interpretations of the Rules by TNSPs in different jurisdictions can create inefficiencies in the market generally, as well as for individual proponents. The lack of a consistent approach to process and interpretation of the Rules relating to transmission connections across the NEM can create confusion for connecting parties, particularly those operating in more than one jurisdiction. A successful connection may rely on connecting parties learning and accommodating the specific interpretations of a particular TNSP, which can add time and cost to a connection process. Further, connecting parties consider a range of factors when deciding where to locate a project, for example fuel costs and proximity to existing transmission infrastructure. If the interpretation of the connections framework is very different between incumbent TNSPs, connection costs may be significantly higher in one jurisdiction over another. If this is the case, connection costs may start to comprise a far higher proportion of total

49 It may therefore be prudent for the connecting party to address this risk by using the same equipment as the incumbent TNSP.

project costs in that jurisdiction, potentially causing connecting parties to make sub-optimal decisions about where to locate their project since connection costs provide some locational signals about where generators should locate. Investment in generation should occur where it is most efficient, and should not be determined by differences in connection costs - caused by differing interpretations of the Rules - across jurisdictions.

Arrangements that require parties to enter into complex contractual arrangements may also affect the cost of a connection. That is, the incremental impact on connection costs of introducing contestability for a particular service could be outweighed by the costs associated with negotiating contractual arrangements with the third party provider of that service, particularly if the incumbent TNSP needs to be involved to allow it to manage its accountability for shared network outcomes.

3.4 Unnecessary complexity

Inefficiencies and inconsistencies in the Rules transmission connection framework can result in misunderstandings and differing interpretations of the Rules, resulting in unpredictable and inconsistent connection experiences between connections and across transmission network boundaries. This outcome is not in the long-term interests of the connecting party or consumers. A connections framework that makes roles, responsibilities and expectations clear will help connecting parties and TNSPs to have a consistent understanding of the Rules when negotiating a connection.

The Rules 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.[50]

Arrangements that require parties to enter into a number of contracts may also create additional complexity. For example, while contestability for particular services may bring benefits to the connecting party in terms of the timing and cost of their connection, complex contractual arrangements with multiple parties may be required to establish and maintain the integrity of that connection. The costs and benefits of this therefore need to be weighed up.

Changes to the arrangements by which parties connect to the transmission network are also likely to have implementation costs for connecting parties, TNSPs and other stakeholders. For example, parties may need to develop contracts, train staff and amend internal processes to comply with the new arrangements. There may also be time and cost involved for investors and lenders to become familiar with the new arrangements. The benefits of any new arrangements therefore need to be weighed up against the cost and complexity of implementing those arrangements.

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

3.5 Accountability

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

Table 3.1 sets out who the incumbent TNSP is in the five jurisdictions of the NEM. In Queensland, New South Wales, South Australia and Tasmania, the incumbent TNSP plans, constructs and operates (in conjunction with AEMO, as power system operator) the transmission system, and arranges connections to it. In Victoria, the functions undertaken by TNSPs in other NEM jurisdictions are split between AEMO and DTSOs.[51] However, AEMO is ultimately accountable for the provision of shared transmission network services in Victoria and carries out its functions by way of contracts with DTSOs.[52]

Table 3.1 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, Rules 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, Rules and jurisdictional electricity legislation has the resulting outcome that the safety, reliability and security of the shared transmission network is the responsibility of the incumbent TNSPs (i.e. one party - the incumbent TNSP in each NEM jurisdiction - is responsible for the shared transmission network).[53]

51 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.

52 A more detailed description of AEMO's declared network functions in Victoria is set out in chapter 6.

53 In Victoria, AEMO, under the NEL, is responsible for the provision of shared transmission network services.

If multiple parties were responsible for the operation of the shared network, or services provided by parts of the shared network were to become unregulated, then the entirety of the current regulatory framework would need to be reviewed to consider whether the abovementioned 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 shared transmission system, there will be regulatory gaps that would need to be addressed. For example:

- The schedules in Chapter 5 of the Rule set 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, testing, voltage, credible contingency events, load shedding, protection systems and fault clearance times. Effectively this requires the incumbent TNSP to, among other things, make sure 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 Rules 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.

The Commission therefore does 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. In Victoria, one party - AEMO - is ultimately responsible for the provision of shared transmission services by means of, or in connection with, the declared shared network, and plans, authorises, contracts for and directs augmentation of the declared shared network.[54]

The Commission is 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 Rules or create uncertainty as to how these obligations apply.

54 The legislative and regulatory framework gives AEMO tools to manage these responsibilities, given that it is not the 'owner' of the declared shared network.

There should be clear accountability for shared network outcomes

Given the criticality of system safety, security and reliability, 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, Rules and jurisdictional electricity legislation with regard to the provision of a safe, reliable and secure transmission system. As incumbent operator of the shared network:

- it has an incentive to manage its compliance with these obligations because it stands to lose (for example 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.

4 Overview of the connections aspects of the draft Rule

This chapter provides an overview of the draft Rule as it relates to the connections aspects of the rule change request. A more detailed explanation of these aspects of the draft Rule and the Commission's reasons are set out in appendices B to E of this draft determination. This chapter should be read in conjunction with those appendices and the draft Rule itself.

Sections 4.1 to 4.4 of this chapter discuss the arrangements for generators, load and MNSPs connecting to the transmission network under the draft Rule. Arrangements for DNSPs connecting to the transmission network under the draft Rule are summarised in section 4.5.

The draft Rule does not contain transitional rules. However, the Commission's proposed approach to these arrangements are described in detail in chapter 5.[55]

The draft Rule does not affect the connection arrangements in declared network jurisdictions, i.e. Victoria. See chapter 6 for further information.

4.1 General clarifications to the Rules

The NEM operates under an open access regime in which parties have a right to negotiate a connection to the transmission network, but no right to the regional reference price, i.e. there is no firm access. The service that a connecting party is ultimately negotiating for with a TNSP is power transfer capability at the connection point. This is confused by Rule 5.4A of the existing Rules, which implies that generators are able to negotiate a form of firm financial access with the TNSP and seek compensation from the TNSP in the event that it is constrained on or off, in return for an access charge. However, the Commission considers that this Rule is unworkable due to the fact that all generators have open access to the transmission network and that the scheme is not mandatory.[56] That is, even if a generator negotiated firm access, the TNSP could not prevent other generators from negotiating connection to the network and using capacity on the network if dispatched. Further, because the scheme is not mandatory, if new generators did not opt into the scheme, the TNSP would have no funding to further augment the network or pay compensation to the generator to whom it has provided firm financial access. The draft Rule therefore removes Rule 5.4A to remove this confusion.

The classification of transmission services in the existing Rules as either prescribed transmission services, negotiated transmission services or non-regulated transmission services should make it clear that:

55 A paper outlining a complete savings and transitional proposal, along with draft Rules relating to this component, will be published for comment in mid-January 2017.

56 This conclusion was drawn by the Commission in previous reviews. See AEMC, Transmission Frameworks Review, final report, April 2013, p. 98; AEMC, Optional Firm Access, Design and Testing, final report, volume 1, pp. 23-24.

- connecting parties (i.e. a generator, load or MNSP) alone pay for the costs of the services provided to them by the TNSP to facilitate their connection to the transmission network, i.e. these services as classified as negotiated transmission services; and

- all end-use customers pay for the costs incurred by the TNSP in providing shared transmission services from which they benefit, and which the AER provides economic regulatory oversight, i.e. these services are classified as prescribed transmission services.

However, as noted in chapter 1, the existing Rules do not make it clear what assets are required to connect to the transmission network and how the provision of services for those assets is economically regulated. Therefore, the draft Rule clarifies many existing aspects of the connection process and the framework for economic regulation of services required to connect to the shared transmission network.

The draft Rule separately defines each of the assets and services associated with providing a connection to the transmission network, and creates a stronger link between them, to provide greater clarity on how those services are to be provided - that is, whether a particular service is a prescribed transmission service, negotiated transmission service or non-regulated transmission service. These amendments are intended to make it clear which assets are required for a party's connection to the transmission network and which are provided to benefit all transmission customers.

The draft Rule therefore provides clarity that connecting parties are directly responsible for the payment of costs associated with any new apparatus, equipment, plant and buildings, or upgrades to existing apparatus, equipment, plant and buildings, to enable their connection to the transmission network and to meet their performance standards. But, they are not responsible for the payment of costs associated with any augmentations to the shared transmission network for reasons other than to facilitate their connection. For example, they are not responsible for costs to enable the TNSP to meet its reliability standards.

In particular, the draft Rule defines two types of assets that provide the services required to connect a party to the shared transmission network - identified user shared assets and dedicated connection assets:

- Identified user shared assets broadly describe the collection of components that are used to connect a generator, load or MNSP to the shared transmission network and which, once commissioned, form part of the shared transmission network, for example parts of a substation.

- Dedicated connection assets describe the collection of components that are used to connect a generator or load to the shared transmission network and which, once commissioned, are able to be isolated from electricity flows on the transmission network, for example the power line that connects parts of a substation to a generating system.

The intention of defining these two terms is to establish a clear distinction between the way in which services provided by means of these assets are regulated and the obligations of the parties who own, control and operate them. The arrangements for identified user shared assets and dedicated connection assets under the draft Rule are summarised in sections 4.2 and 4.4 respectively.

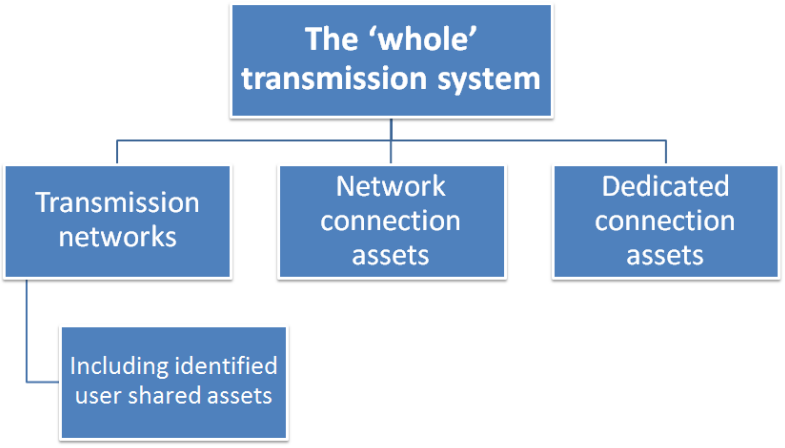
The draft Rule also amends the definition of connection point with respect to transmission connections to make it clear that it is the point at which a connecting party 'connects' to the shared transmission network - that is, the interface between shared transmission assets facilitating flows to end-use consumers (identified user shared assets) and assets that are only used by the parties (dedicated connection assets) connected at that connection point (identified user group).

Further, the draft Rule either amends the definitions of existing terms, or introduces new terms, to provide clarification on the components that make up a transmission system. Specifically, it clarifies that the 'whole' transmission system is comprised of:

- transmission networks - for example those owned, operated and controlled by Primary TNSPs, which include all shared network assets and identified user shared assets that are controlled by those TNSPs (regardless of whether or not the identified user shared assets are owned by them);
- network connection assets - i.e. those assets that connect a Network Service Provider to another Network Service Provider;[57] and
- dedicated connection assets - those assets that are owned, operated and controlled by either the Primary TNSP or a third party and which are used exclusively by one or more generators, or loads, or MNSPs, connected at a connection point on the shared network.

These concepts are represented in Figure 4.1 below.

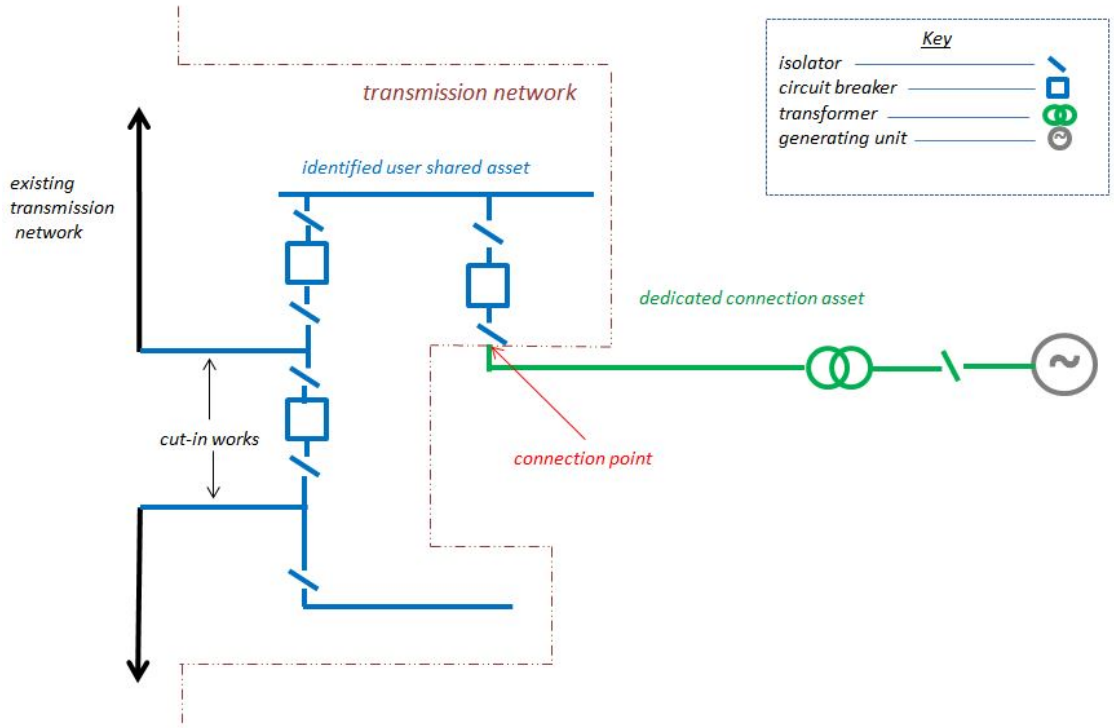
Figure 4.1 Key concepts and terms under the draft Rule



57 Where that Network Service Provider is not a Market Network Service Provider.

Figure 4.2 provides a simplified illustration of these key terms in the context of connections to the shared transmission network.

Figure 4.2 Illustration of key concepts and terms in the draft Rule and draft determination



The draft Rule also provides that dedicated connection assets[58] and identified user shared assets are transmission systems themselves, and therefore that any party who owns, controls or operates one of these assets is required to be registered as a TNSP or exempted from that requirement.

The Commission welcomes feedback on any additional amendments that could be made to the existing Rules to provide further clarity to the Rules connection framework.

4.2 Arrangements for identified user shared assets

The draft Rule introduces the term identified user shared asset, sets out how the services provided for those assets are regulated and places certain obligations on the parties who own, control and operate them. These changes are summarised in the sections below, and set out in more detail in appendix B.

58 A dedicated connection asset is defined as a transmission system for the purposes of the registration requirements under Chapter 2 only.

4.2.1 Contestability of services for identified user shared assets

The draft Rule:

- sets out a detailed description of the services required to connect to the transmission network via an identified user shared asset;
- provides an example of each service; and
- classifies each service as either a negotiated transmission service that can be provided by the TNSP only, or a non-regulated transmission service that can be provided by any party.

Detailed design, construction and ownership

The Commission considers that the benefits of allowing contestability in detailed design, construction and ownership would outweigh the costs. The draft Rule therefore provides that the Primary TNSP must provide the services of detailed design, construction and ownership of an identified user shared asset as negotiated transmission services only if the capital cost of all the assets that make up the identified user shared asset is reasonably expected to be $10 million or less. If the capital cost is reasonably expected to be greater than $10 million, the services of detailed design, construction and ownership of each component of the identified user shared asset are non-regulated transmission services and can be provided on a contestable basis to the extent that the components satisfies the following criteria:

- the assets being constructed are new or a complete replacement of existing assets (and does not involve the reconfiguration of existing assets); and
- the detailed design and construction of the relevant components of the identified user shared asset is separable in that the new assets will be distinct and definable from the existing transmission network.

The TNSP must determine whether each component of the identified user shared asset, or a component of it, meets these two criteria. In the event that the parties do not agree on whether the asset meets or does not meet these criteria, the draft Rule provides a means by which either party could engage an independent engineer to provide technical advice on the matter.

The Primary TNSP will be required to provide the services of detailed design, construction and ownership for those components of identified user shared assets that do not meet these two criteria as negotiated transmission services.

Arrangements for the provision of non-regulated transmission services are to be agreed between the connecting party and its chosen service provider on a purely commercial basis. However, the draft Rule adds a number of arrangements that must be included in connection agreements between a connecting party and the Primary TNSP to accommodate the fact that some services may be provided on a contestable

basis, and to accommodate any transfer of asset components that were provided on a contestable basis to the Primary TNSP.

A party may retain ownership of an identified user shared asset provided that it enters into a network operating agreement with the Primary TNSP for how that identified user shared asset is to be operated and maintained after it is commissioned. Because an identified user shared asset forms part of a transmission system under the draft Rule, any person who owns an identified user shared asset, and is not the Primary TNSP, will be required to register with AEMO as a TNSP, or be exempted by the AER from that requirement. The draft Rule requires that any exemption granted by the AER with respect to such a person be subject to the condition that the person not engage in, or be a related entity[59] of a person that is engaged in, the activity of owning, controlling or operating a generating system that is connected to that identified user shared asset.

Functional specification, cut-in works, operation and maintenance

The draft Rule provides that the services of setting the functional specification, providing cut-in works, operation and maintenance of identified user shared assets must be provided by the Primary TNSP as negotiated transmission services.

The draft Rule maintains that the Primary TNSP is accountable for outcomes on the shared transmission network, which includes identified user shared assets. The draft Rule clarifies that identified user shared assets are taken to form part of the TNSP's transmission network and may be used by the TNSP to provide transmission services to any transmission network user, for example, granting access to the transmission network. This will occur either through the third party identified user shared asset owner having obtained an exemption from being registered as a TNSP, a condition of which is entering into a network operating agreement with the Primary TNSP; or where the third party identified user shared asset owner has full registration as a TNSP.

4.2.2 Sizing of identified user shared assets

The draft Rule sets out a number of principles to provide guidance to connecting parties and transmission network users about how the costs of a TNSP 'oversizing' an identified user shared asset are to be recovered. The intention of the draft Rule is to clarify that:

- the TNSP should provide a connection applicant with a functional specification that is no more than is required for the connection being sought by that connection applicant; but
- the TNSP also has the option to provide a functional specification for an identified user shared asset above what is required for that connection where the TNSP will fund that additional proportion of the identified user shared asset, and

59 Defined in clause 2.5.1(d4) of the draft Rule.

the connection applicant must consider the TNSP's preferred sizing in good faith, but is not required to accept the TNSP's preferred sizing.

Connecting parties can also choose to 'oversize' an identified user shared asset by negotiating arrangements for the provision of functional specification, cut-in works, operation and maintenance services for the oversized asset with the Primary TNSP as a negotiated transmission service. If this occurs, the connecting party will pay the costs of this.

4.2.3 Cost sharing when subsequent parties connect

The draft Rule contains a number of principles and obligations for how the costs of new identified user shared assets, and subsequent connections to those assets by new generators, loads or MNSPs, should be recovered. For example, it includes a principle that a connection applicant should only be required to pay the costs directly incurred as a result of its connection, including its share of costs associated with an identified user shared asset, and that future connecting parties to the same identified user shared asset will pay a proportion of the costs of negotiated transmission services paid by the initial connecting party.

These principles only apply to the provision of negotiated transmission services by the TNSP, not to the provision of non-regulated transmission services.

4.3 Changes to the connection process

The draft Rule amends the existing process by which parties connect to a transmission network. These changes are summarised in the sections below, and set out in more detail in appendix C.

4.3.1 Introduction of an ability for parties to engage an independent engineer

The draft Rule introduces a process by which either the connecting party or the TNSP can engage an independent engineer to provide advice on technical issues relating to a connection to a transmission network. This process is intended to assist the TNSP and the connecting party when negotiating the technical aspects of a connection. The independent engineer process can be used where the services being provided by the TNSP are negotiated transmission services.

The draft Rule sets out the process to be followed to engage an independent engineer, including the selection of the engineer and the scope of the advice sought. The scope of the independent engineer's role will be limited to the provision of advice on technical issues only. The independent engineer will therefore not be able to be used to provide advice on the cost, commercial terms, process or timing of a connection.

The TNSP involved in the engagement of the independent engineer may amend the time period referred to in any stage of the connection process under the preliminary

program to allow for any additional time reasonably required to accommodate the engagement of an independent engineer.

Under the draft Rule, the wholesale energy markets dispute resolution adviser will be responsible for some aspects of the process, specifically:

- establishing and maintaining a pool of firms from which independent engineers may be selected;
- if requested by either party, selecting the independent engineer from the pool if the connecting party and the TNSP cannot agree on the independent engineer to be used; and
- if requested by either party, determining the scope of the advice to be considered by the independent engineer, which it must do in consultation with the parties.

The draft Rule allows the independent engineer to request documents and information from the parties that it reasonably considers to be required to provide its advice and parties must provide the information requested, subject to any confidentiality requirements of the parties. It also requires the independent engineer to have regard to a range of factors when providing its advice, such as the technical requirements of the connection as proposed by either of the parties.

The advice provided by the independent engineer is not binding on the parties.

The costs of the independent engineer, as well as any costs of the wholesale energy markets dispute resolution adviser in relation to the relevant technical matter, is to be borne equally by both parties. The draft Rule does not allow the TNSP to include the costs of an independent engineer in the connecting party's connection application fee. And, as the costs of the independent engineer will be associated with the provision of negotiated transmission services, they will not be costs the TNSP can seek allowance for in its revenue determination.

In addition to providing advice on technical aspects of a connection, under the draft Rule the independent engineer can also be called upon to provide advice on:

- whether a particular component forms part of a dedicated connection asset or an identified user shared asset; and
- whether a particular component of an identified user shared asset[60]is:
  - new or a complete replacement of existing assets and does not involve reconfiguration of existing assets; and
  - distinct and definable from the existing transmission network.

60 Where the total value of the identified user shared asset is reasonably expected to be greater than $10 million.

4.3.2 Updated negotiation frameworks

The draft Rule updates and expands the existing negotiating principles in Chapter 6A of the Rules and moves them to Chapter 5 of the Rules. They continue to apply to all negotiated transmission services. The revised principles are intended to require the TNSP and the connecting party to negotiate in good faith to agree the price, standard, conditions and timing of negotiated transmission services to be provided; and to improve the transparency of the negotiation process to enable both parties to understand each other's decisions and requirements. These principles do not apply to the provision of non-regulated transmission services under the draft Rule.

The draft Rule removes the requirement for TNSPs to prepare and submit to the AER negotiating frameworks as part of its regulatory proposal, and obliges them to comply with the updated negotiating principles when negotiating for the provision of negotiated transmission services with a connection applicant. The AER will therefore no longer need to approve the TNSPs' negotiated transmission service criteria and negotiating frameworks.

4.3.3 New transparency requirements

The draft Rule enhances the transparency of the connection process by requiring TNSPs to publish certain information about the specifics of connecting to their network on their websites and provide certain information to the connection applicant on request. Specifically, TNSPs are required to provide information in relation to the following areas:

- Functional specification, including typical primary plant and design standards.
- Operation and maintenance, including typical operation and maintenance scheduling.
- Timescales, including for easement acquisition and commissioning.
- Legal, including standard form connection and operation and maintenance agreements, and network operating agreements.
- Financial, including the amount and terms of the connection application charge.

The draft Rule sets out what information is to be made available on the TNSP's website, what is to be provided on request from the connecting party and whether the TNSP is able to charge for the provision of that information.

These transparency requirements only relate to the services provided for identified user shared assets that are classified as negotiated transmission services.

4.3.4 Clarifications to the dispute resolution process

The draft Rule clarifies that the commercial arbitration process currently set out in Part K of Chapter 6A of the Rule applies to all disputes relating to the terms and conditions of access for the provision of:

- prescribed transmission services;
- negotiated transmission services; and
- large DCA services.[61]

The draft Rule does this by including provisions in the negotiation principles for TNSPs, the negotiating principles for large dedicated connection assets and elsewhere where relevant to clarify that disputes relating to these services will be progressed through the commercial arbitration process set out in the Rules.

The commercial arbitrator appointed under this process would make a binding determination on whether the price or other terms of any element of the provision of the above services are appropriate as required by the Rules.

The draft Rule has also relocated the commercial arbitration process from Chapter 6A to Chapter 5 of the Rules.

4.4 Arrangements for dedicated connection assets

The draft Rule introduces the term dedicated connection assets, sets out how services will be provided for those assets are regulated and places certain obligations on the parties who own, control and operate them. These changes are summarised in the sections below, and set out in more detail in appendix D.

4.4.1 Contestability of services for dedicated connection assets

The draft Rule clarifies that all services provided for new dedicated connection assets, including design, construction, ownership, operation and maintenance, are non-regulated transmission services and can be provided by any party on commercial terms. That is:

- there is no obligation on any party, including the Primary TNSP, to offer these services; and
- there is no regulated framework for the setting of price and non-price terms and conditions for the provision of these services.

Connecting parties will therefore be able to choose any party to provide these services for dedicated connection assets. It could choose to:

- provide the services itself;
- have the Primary TNSP provide the services as non-regulated transmission services; or
- engage a third party to provide the services.

The arrangements by which that party is engaged will be agreed commercially between the connecting party and its chosen service provider.

4.4.2 Requirement to register as a Dedicated Connection Asset Service Provider

Because a dedicated connection asset is a transmission system under the draft Rule, any person who owns, operates or controls a dedicated connection asset will be required to register with AEMO as a TNSP, or be exempted by the AER from that requirement. Parties that are registered as a Generator or Customer will be required to also register with respect to any dedicated connection assets that they intend to own, operate or control. A party that is registered as a TNSP is taken to be a Dedicated Connection Asset Service Provider under the draft Rule insofar as its activities relate to any of its dedicated connection assets.

The draft Rule requires a TNSP to classify those parts of its transmission system that are dedicated connection assets as large dedicated connection assets or small dedicated connection assets. A dedicated connection asset is required to be classified as a large dedicated connection asset if the total route length for any power lines forming part of it is 30 kilometres or longer. A small dedicated connection asset is one that falls below that threshold length. A TNSP will be required to classify its dedicated connection assets in its application for registration as a TNSP, or through a separate notice to AEMO. AEMO must approve the classification if it is satisfied that the part of the transmission system is a large or small dedicated connection asset (as applicable).

As Registered Participants, Dedicated Connection Asset Service Providers will be subject to a range of existing obligations under the Rules, including those that relate to AEMO's power to issue instructions to Registered Participants to maintain or re-establish power system security. However, these parties will only be required to comply with a rule that is expressed to apply to a Network Service Provider or a TNSP if the rule specifies that it applies to a Dedicated Connection Asset Service Provider.

4.4.3 Third party access to dedicated connection assets

The draft Rule sets up a framework by which generators, loads, DNSPs and MNSPs can negotiate access to the service provided by means of a large dedicated connection asset. Specifically, it defines the services provided by means of a large dedicated

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61 Defined in the draft Rule as a service provided by means of a large dedicated connection asset. This aspect of the draft Rule is discussed in section 4.4.3 below.

connection asset as a 'large DCA service' that is subject to a regime for third party access. Small dedicated connection assets are not subject to this regime.

The draft Rule requires a Dedicated Connection Asset Service Provider to prepare, maintain and publish an access policy for its large dedicated connection asset(s) on its website to provide a framework for applicants to obtain access to large DCA services. The draft Rule sets out the information that this policy is required to contain.

A Dedicated Connection Asset Service Provider (including any TNSPs that own such assets) must lodge its access policy with the AER within 30 days of an asset being classified as a large dedicated connection asset. The AER is required to approve the access policy if it is reasonably satisfied that it complies with the requirements set in the draft Rule. The draft Rule sets out the course of action in the event that the AER does not approve an access policy. A Dedicated Connection Asset Service Provider must comply with its access policy once it is approved by the AER. In addition, a Dedicated Connection Asset Service Provider must report on requests for connection and access to a large dedicated connection asset to the AER when such requests are made and when an agreement for access is entered into, in the manner and form notified by the AER.

The draft Rule sets out a number of principles that Dedicated Connection Asset Service Providers for large dedicated connection assets will be subject to when negotiating access to the large DCA services provided by means of that asset to another party. Parties will also have access to the commercial arbitration process, as set out above.

All other arrangements regarding that generator, load, DNSP or MNSP's connection to the dedicated connection asset will need to be negotiated and addressed between the relevant parties on a commercial basis.

4.4.4 Transition of dedicated connection assets to the shared transmission network

The Commission has concluded that there are no fundamental limitations in the existing Rules that prevent a TNSP transitioning a dedicated connection asset that it owns to form part of its transmission network if it demonstrates, through a relevant process (e.g. a RIT-T) that transition of the asset is the most efficient option to address the identified network need. The draft Rule has therefore not been amended to create a separate mechanism by which this could or should occur.

However, the draft Rule makes clear that if a DNSP connects to a dedicated connection asset:

- The part of the asset used to convey electricity to the DNSP (i.e. provide a shared transmission service) ceases to be a dedicated connection asset and instead forms part of the transmission network of either:
  - the Primary TNSP (if the asset is owned by them); or

- if prior to the DNSP connecting, the asset was owned, controlled and operated by a Dedicated Connection Asset Service Provider other than the Primary TNSP, that person.

- Because the part of the asset that is used to provide shared transmission services ceases to be a dedicated connection asset, the person that owns, operates or controls the asset will no longer be a Dedicated Connection Asset Service Provider and will need to seek registration as a TNSP in respect of the relevant asset and comply with all the obligations of the TNSP in respect of that asset.[62]

- To the extent the shared transmission services provided by the asset are prescribed transmission services, the TNSP for that asset will be subject to regulation under Chapter 6A of the Rules unless exempted by the AER from that requirement.

Arrangements regarding the original connecting party's (or parties') connection to the transmission network via that asset once it has transitioned to the shared transmission network will need to be addressed between that party and the relevant NSP on a commercial basis.

4.5 Arrangements for DNSPs

The draft Rule does not change the process for connecting a DNSP to a transmission network under Chapter 5 of the Rules. Since a DNSP connecting to a transmission network will only be provided with prescribed transmission services, not negotiated transmission services, none of the aspects of the draft Rule referred to in the sections above will apply to the services provided by a TNSP to connect a DNSP. As such, the arrangements for the connection of a DNSP to the transmission network will be slightly different to the arrangements by which load, generation and MNSPs connect under the draft Rule. Minor amendments to the Rules have been made to reflect this, most notably the introduction of the term distribution connection asset.[63]

The draft Rule also maintains the current arrangements by which the services provided by the TNSP to connect a DNSP are economically regulated. That is, if through planning and application of the RIT-T, if applicable, the TNSP determines that a new substation is needed to connect a DNSP to the transmission network, the TNSP will design, build, own, operate and control that substation. The TNSP will provide these services as prescribed transmission services and will recover the costs of doing so from transmission customers, which include DNSPs. The draft Rule does not provide for contestability in the provision of these services, as is the case under the draft Rule for generator, load and MNSP connections.

The TNSP will continue to provide the physical link that connects a distribution network to its network as a prescribed transmission service that is paid for by the

62 If the Primary TNSP owns, operates and controls the asset, that part of the asset that provides shared transmission services will be taken to be part of its transmission network.

63 Defined in Chapter 10 of the draft Rule.

DNSP. Customers connected to that DNSP's network will pay those costs through DUOS charges. This will also be the case in the event that the DNSP connects to an existing substation that is already providing services to other connecting parties.

These arrangements are set out in more detail in appendix E.

5 Implementation of the connections aspects

This chapter sets out the proposed steps and timetable for implementing the draft Rule if a final Rule is made in the same form as the draft Rule, and the interim steps that will need to be undertaken by market institutions and industry before the commencement of the new provisions of the Rules. This chapter focuses on the implementation of the connections elements of the draft Rule. The implementation of the planning arrangements are discussed in chapter 7.

In determining an appropriate date for the new Rules to commence, the Commission has considered the timeframes required for:

- TNSPs to develop and publish the information required by the new transparency provisions on their websites, and to review their business processes for compliance with the new Rules;
- the AER and AEMO to amend relevant guidelines and procedures to take into account allowing parties to register in the new sub-categories of registration that are proposed e.g. of the Dedicated Connection Asset Service Provider, as well as seek exemptions from the requirements to register as a TNSP where parties wish to own, operate and control dedicated connection assets, or own identified user shared assets;
- the AER to develop procedures relating to the approval of access policies for large dedicated connection assets;
- the AER to make any changes needed in relation to its approach for negotiated transmission services; and
- the wholesale electricity market dispute resolution adviser to establish a pool of independent engineers.

The Commission has also considered how implementation of this rule change is likely to interact with those connection applications that are currently underway, or that may be started prior to the commencement date of the new Rules.

The Commission has set out below how it intends that the package of provisions contained in the draft Rule would commence, and be applied if a final rule is made in the same form as the draft Rule. However, the draft Rule does not contain draft savings and transitional provisions. A paper outlining the complete savings and transitional proposal, along with draft Rules relating to this component, will be published for comment in mid-January 2017.

5.1 Implementation date

The Commission proposes a commencement date of **1 January 2018** for the new Rules relating to the connections element of this rule change. Therefore, any parties that wish to seek connection to the transmission network after this date will follow the new Rules.

This indicative timeframe gives parties approximately nine months after the final determination[64] is made to amend IT and business systems, procedures and/or guidelines to comply with the new provisions under the Rules.

The three key aspects of the connections framework (i.e. the connection process, identified user shared assets and dedicated connection assets) have been designed as an integrated, holistic package to improve transparency, contestability and clarity in the connections framework while maintaining clear accountability for shared network outcomes. Given that these aspects of the draft Rule have been designed to operate as a package the Commission considers these arrangements should be implemented at the same time.

The Commission has chosen the indicative commencement date by balancing the considerations of allowing stakeholders sufficient time to prepare for the changes against the benefits of the draft Rule commencing immediately.

It is worth noting that currently negotiating frameworks are approved by the AER as part of the transmission determination for each TNSP. As discussed in appendix C.2 the draft Rule removes the requirements for TNSPs to produce negotiating frameworks and for the AER to approve negotiated transmission service criteria, and instead enshrines negotiating principles into the Rules. If the new Rules come into effect on 1 January 2018, it is intended that they will essentially 'override' any current negotiating frameworks and negotiated transmission service criteria that TNSPs have, that are in transmission determinations for a regulatory control period that has commenced or will commence in the future.

The Commission's preference is for this approach, since the Rules that the Commission is proposing to make in this regard simply elevate what is in the existing frameworks and approved principles into the Rules - as well as adding new principles in order to strengthen the arrangements. This means that there is a low risk of inconsistency between any negotiating frameworks and negotiated transmission service criteria in transmission determinations in place on the commencement date and the Rules. Further, connecting parties should be advantaged by the draft Rule (if made), and so we do not consider that there be any concerns in relation to this.

The Commission understands that the AER is comfortable with the above approach. We note that this is the only component of the TNSP's determinations that is affected by the draft Rule.

64 Currently scheduled for 9 March 2017.

The alternative would be to wait until each TNSP's regulatory determination has ended in order to start the new Rules. This would be undesirable since:

- given that the recommendations are a 'package' it would mean delaying the implementation of the connections framework for a number of years (in some cases to 2022); and
- it would mean that the connections framework would start at different times in different jurisdictions, potentially creating distortions in investment between jurisdictions.

5.2 Implementation requirements for the draft Rule

Before the new Rules commence, various parties must undertake a number of interim steps in order to be able to comply with the new Rules (if made).

The Commission proposes that the draft Rule require the following steps to occur prior to 1 January 2018:

- TNSPs will need to prepare, and publish, on their websites the information set out in Schedule 5.10 of the draft Rule. TNSPs will also need to modify their business processes to take account of the fact that connection applicants may request further information from the TNSP in relation to a particular connection.
- In addition, TNSPs will need to generally review and update their IT and other systems and procedures in order to take account of the new definitions and obligations relating to how connections to their networks are dealt with (e.g. amending standard form connection agreements in order to comply with the new inclusions for connection agreements). It is likely that the more resourced and experienced connecting parties will do the same.
- The AER will need to update some of its guidelines e.g. the electricity network service provider registration exemption guideline. These guidelines will need to reflect the new sub-category of TNSP registration (a Dedicated Connection Asset Service Provider), and the conditions that are imposed on exemptions granted by the AER in relation to network service providers under the draft Rule, specifically those set out in clause 2.5.1(d3)-(d5) of the draft Rule.
- The AER will also need to put in place procedures relating to its function of approving and enforcing access policies for Dedicated Connection Asset Service Providers with large dedicated connection assets, as per clause 5.2.7(c) and 5.2A.8 of the draft Rule.
- AEMO will need to develop an application form, in order to reflect the new sub-category of TNSP registration of Dedicated Connection Asset Service Provider. This will also need to allow TNSPs to classify those parts of its transmission system, which are dedicated connection assets, into large dedicated connection assets and small dedicated connection assets.

- The wholesale electricity market dispute resolution adviser will need to establish a pool of persons from which the independent engineer may be selected in accordance with clause 5.4 of the draft Rule.

As noted above, the Commission considers that the timeframe between the proposed date for the final determination to be published, and the implementation date set out above, give the above parties sufficient time to undertake these steps.

5.3 Transition to new arrangements

5.3.1 Connection agreements that are signed, and in place

It is proposed that any final Rule made will not affect connection agreements entered into prior to 1 January 2018.

5.3.2 Modification of existing connection agreements

In relation to a connection agreement entered into prior to 1 January 2018, if the connecting party wishes to modify the connection after 1 January 2018, this will be treated as a modification of an agreement for negotiated transmission services. All elements covered by the connection agreement will be deemed to be negotiated transmission services, and so the new arrangements for these services will apply to the negotiation of the modifications i.e. access to the independent engineer, the negotiating rules, access to the dispute resolution process, and the transparency provisions. Therefore, given that these will be treated as negotiated transmission services, none of the contestable elements would apply to a connection modification.

The Commission considers that having the new arrangements for negotiated transmission services apply to the modification of existing connection agreements will provide the connecting party with increased bargaining power when negotiating with a TNSP, and so be beneficial to connecting parties.

5.3.3 Connection enquiries currently underway

In terms of the current connection process under the Rules, the process starts with the 'connection enquiry' under Rule 5.3.2, where a connection applicant must make a connection enquiry with the TNSP before making an application to connect. The connection applicant is not obligated to proceed to the connection application stage after making a connection enquiry.[65]

Therefore, the Commission considers that anyone who is at the connection enquiry stage at 1 January 2018 could proceed under the old Rules' connection process.

65 This is consistent with ENA's submission to the consultation paper (p. 9) which noted that arrangements will be needed for connection negotiations that are in train at the time of transition to the new framework. The ENA recommended that connection negotiations that have already commenced should continue under the framework they commenced under.

However, if a party thought it would be beneficial to connect under the new Rules, then it could withdraw its enquiry and submit a new one under the new Rules, which as noted above would be beneficial to connecting parties since they would have increased bargaining power when negotiating with the TNSP, as well as access to increased contestability associated with its connection.

The Commission considers that this change would allow connecting parties to access the benefits of the new Rules connection process as soon as possible, if they desired this.

5.3.4 Existing identified user shared assets

There are a number of existing assets that form part of the transmission network that would meet the definition of an identified user shared asset under the draft Rule, or that are currently being constructed i.e. those connection assets that were provided as negotiated transmission services by the TNSP under the current transmission services framework (post-2006). The draft Rule will not affect the existing regulatory treatment of those assets or the contractual arrangements under which they were put in place.

The Commission considers this approach is consistent with the approach taken at the time of the final determination on the Economic Regulation of Transmission Services rule change in 2006, which introduced the current transmission service arrangements, and grandfathered those connection assets that were provided as prescribed transmission services under clause 11.6.11 of the Rules.[66]

5.3.5 Existing dedicated connection assets

There are also a number of existing assets that would meet the definition of dedicated connection assets under the draft Rule, or that are currently being constructed. As discussed in appendix D stakeholders currently have different interpretations of the regulatory treatment of these assets under the Rules. As also discussed in that appendix, the Commission considers that it should be put beyond doubt that owners, operators and controllers of dedicated connection assets are subject to the NEL and the Rules in respect of those assets since form part of the whole transmission system.[67] The draft Rule therefore makes it clear that, while dedicated connection assets do not form part of the shared transmission network because they can be electrically isolated from it, they do form part of the 'whole' transmission system.

Given that the Commission wishes to put beyond doubt that dedicated connection assets are subject to the NEL and the Rules, it is important to have visibility of where and what these current dedicated connection assets are. Therefore, the Commission proposes to put in place a registrable exemption by which, after 1 January 2018 owners, controllers or operators of these assets would be required to register as a TNSP. Unless

66 See: http://www.aemc.gov.au/Rule-Changes/Economic-Regulation-of-Transmission-Services#

67 Under the draft Rule, dedicated connection assets are defined as transmission systems for the purposes of registration.

the parties apply to the AER to have their assets 'registered', the owners, controllers and operators of these assets would be in breach of the Rules. For the avoidance of doubt, these parties would only be in breach of the Rules relating to registration as a TNSP. None of the new obligations relating to dedicated connection asset service providers would apply to these parties.

5.3.6 Preservation of Rule 5.4A and Chapter 6A for Victoria

As is discussed in chapter 6, for the amendments to Chapter 6A of the Rules, the Commission proposes to preserve the operation of Chapter 6A (as it applies immediately before the commencement date of the final rule) in Victoria as part of the transitional arrangements. This will mean that in order to apply any subsequent changes to Chapter 6A after the final Rule commences to the declared transmission system in Victoria will require an amendment to the savings and transitional provision. The same approach is being taken in relation to Rule 5.4A and its associated definitions.

6 Application of draft rule in declared network jurisdictions

6.1 Introduction

The process for connecting to the transmission network under Chapter 5 of the Rules 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 those functions. Further, the rule change request submitted by the COAG Energy Council requested that the AEMC, in progressing the rule change request, provide advice on:

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

This chapter sets out our views on the above.[68]

6.2 Background

6.2.1 AEMO's declared network functions

Under the NEL, jurisdictions can declare AEMO to have declared network functions.[69] AEMO's declared network functions are:

- 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;

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68 The Commission notes that AEMO is currently consulting on reforms to the Victorian connection process so that AEMO does not have to be a party to the connection agreements affecting a connection to the transmission system. The Commission agrees with AEMO's conclusions in that document regarding the rule change that is the subject of this draft determination. That is, while the reforms being proposed are related to the matters being considered here, they are distinct from this rule change request. See: http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Generator-Transmission-Connection-Reform

69 Part 5, Division 2, Subdivision 3, section 50C.

- 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 system, conferred on it under the NEL 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.

Victoria is the only jurisdiction in the NEM where AEMO has declared network functions. In Victoria, the functions undertaken by TNSPs elsewhere are split between AEMO and Declared Transmission System Operators (DTSOs).[70] AEMO is accountable for the provision of the shared network, procuring services from DTSOs (such as AusNet Services), who own and operate the shared network assets.

6.2.2 Transmission connections in Victoria

Given the above, in Victoria, the regulatory and legislative framework for how parties connect to the transmission network is different – it is regulated by provisions in the NEL, Chapters 5 and 8 of the Rules. This means that the process for how parties connect to the transmission network is different to other jurisdictions, which just follow the process set out in Chapter 5 of the Rules.

Broadly, AEMO is responsible for assessing all new generator, load, MNSP and DNSP connections against the Rules requirements, but it is *not* responsible for providing the assets associated with connection. For generators and large loads, generally the assets associated with connection are provided by a supplier of the connecting party's choice.

This translates to the following process being undertaken for connections in Victoria:

- If a connection requires an augmentation to the declared shared network (e.g. the construction of a new substation or terminal station as they are known in Victoria) – an "identified user shared asset", AEMO will determine whether the augmentation is contestable, non-contestable, or some combination of both.

- If AEMO determines that the augmentation is contestable, then the connection applicant can either:

    - nominate a DTSO of its choice to build, own and operate the contestable assets (essentially it would conduct a private tender to determine who it wishes to appoint to provide these services); or

70 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. The incumbent DTSO is AusNet Services.

- ask AEMO to select the DTSO, with AEMO running a tender process to select the most appropriate party.

- If AEMO determines that an augmentation is not contestable, the services will be provided by the incumbent DTSO, e.g. AusNet Services. Typically these are the interface works because they are considered "not separable" from the incumbent's network.

- In deciding whether or not something is contestable, AEMO is required to follow a series of criteria set out in Part 8 of Chapter 8 of the Rules. Specifically, the Rules defines that an augmentation is a contestable augmentation if:

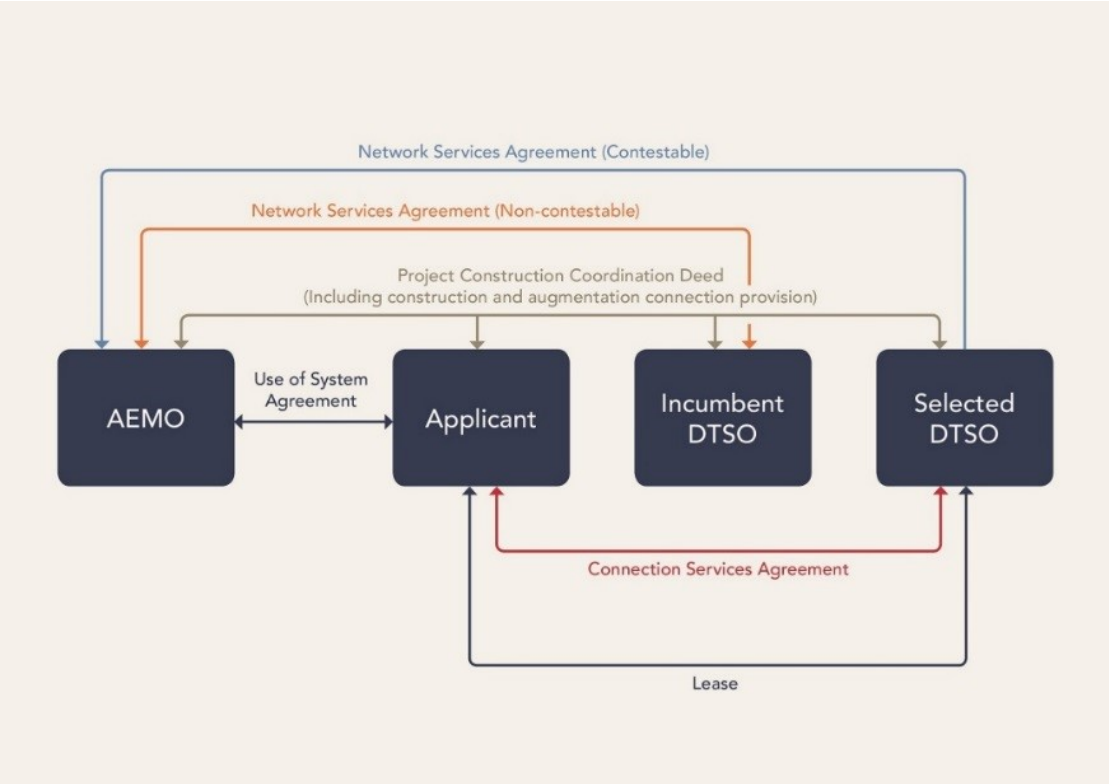
  - the capital cost of the augmentation is reasonably expected to exceed $10 million; and

  - the augmentation is a separable augmentation, i.e. where the augmentation will result in a distinct and definable service to be provided by the contestable provider to AEMO; and the augmentation will not have a materially adverse effect on the incumbent DTSO's (e.g. AusNet Services') ability to provide services to AEMO under any relevant network agreement.

- Regardless of whether the augmentation is contestable or non-contestable, AEMO will provide the equivalent of a 'functional specification' that the provider of the assets must use.

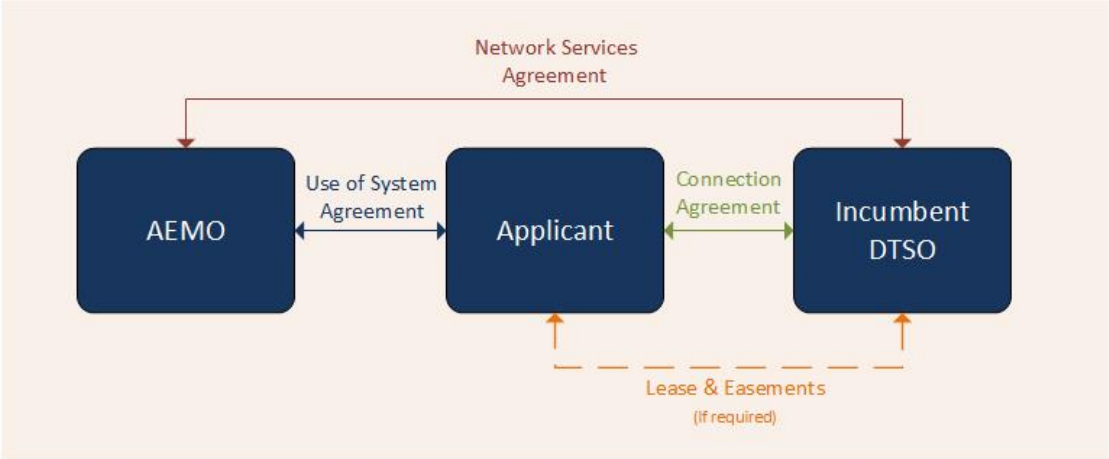
Given these differences, the contractual arrangements for a connection in Victoria are also different to other jurisdictions. In other jurisdictions, only one connection agreement or contract is likely to be required i.e. that between the connection applicant and the TNSP. However, because of the above framework, which means that more parties have roles in Victoria, there are also more parties required to be party to contracts, as well as more contracts generally required. It can be seen from the figures below that where the augmentation is non-contestable, or where the party selects the incumbent DTSO, the contractual arrangements are simpler. This is because there are fewer parties to allocate risks and accountability for the shared network between.

Figure 6.1 Contracts for a contestable augmentation in Victoria



Source:
https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Network-connections/Victoria-transmission-connections---process-overview/Stage-4---Contracts

Figure 6.2 Contracts for a non-contestable augmentation in Victoria, or where the incumbent DTSO has won the contestable augmentation bid



Source:
https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Network-connections/Victoria-transmission-connections---process-overview/Stage-4---Contracts

6.3 Application of rule change in Victoria

6.3.1 Ability to make a rule in Victoria

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; or
- a Minister of an adoptive jurisdiction, i.e. the Victorian Minister.[71]

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.[72]

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, i.e. the Victorian Minister.[73]

6.3.2 Our conclusion on our ability to make Rules in Victoria

In addition to these NEL requirements, the rule change request seeks to isolate most of the proposed changes to the connections framework from any jurisdiction where AEMO is authorised to exercise its declared network functions i.e. Victoria.

Given the above, the Commission is of the view that the scope of the rule change request does not include consideration of applying these Rules to AEMO's declared network functions. However, the Energy Council has requested the AEMC to provide advice on whether the changes should, or should not be adopted, in declared network jurisdictions. The Commission's view on this is set out in section 6.4 below.

As noted above, the draft Rules are not intended to regulate AEMO's declared network functions in Victoria. The Commission has adopted the following drafting approach in the draft Rule in order to implement this position:

- for the amendments to Chapters 2, 5, 8 and 10, the draft Rule provides that the amendments to relevant clauses do not apply in relation to connection and access

71 See section 91(7) of the NEL.

72 See section 91(8) of the NEL.

73 See section 91(9) of the NEL.

to a "declared transmission system"[74] i.e. the draft Rule sets out that new provisions do not apply in respect of the declared transmission system and preserves the operation of existing provisions as they relate to the declared transmission; while

- for the amendments to Chapter 6A, the Commission proposes to preserve the operation of Chapter 6A (as it applies immediately before the commencement date of the final rule) in a transitional arrangement. This will mean that in order to apply any subsequent changes to Chapter 6A after the final Rule commences to the declared transmission system will require an amendment to the savings and transitional provision. The same approach is being taken in relation to Rule 5.4A and its associated definitions. For further information on this see chapter 5.

6.4 Advice on application to Victoria

6.4.1 Stakeholder comments

In submissions to both the consultation paper and discussion paper, stakeholders were generally of the view that there would be benefit in harmonising the transmission connection and planning arrangements across the NEM, for example:

- AGL suggested that the rule change presented an opportunity to streamline the Victorian arrangements;[75] and

- the ENA agreed with AGL, suggesting that the Commission should use the rule change as an opportunity to better align the Victorian arrangements with the rest of the NEM.[76]

The Clean Energy Council and Australian Energy Council also expressed similar sentiments.[77]

6.4.2 AEMC conclusions and advice

The Commission considers that the framework on which the Victorian connection processes is based is fundamentally different to the processes and principles underlying the connection model used in the rest of the NEM:

- In the other states, there is a single, for-profit entity as TNSP who is responsible for assessing and providing services (e.g. construction) associated with

74 The term "declared transmission system" is defined in the National Electricity Law as having the meaning given to it in the application Act of an adoptive jurisdiction (a jurisdiction that has authorised AEMO to exercise its declared network functions). Currently Victoria is the only adoptive jurisdiction in respect of AEMO's declared network functions and the Victorian transmission system and any augmentations of that system is a "declared transmission system".

75 AGL, submission on consultation paper, p. 2.

76 ENA, submission on discussion paper, p. 5.

77 Submissions on discussion paper: Clean Energy Council, p. 12; Australian Energy Council, p. 2.

connections. A single entity trades off the relative costs and benefits of operational and investment decisions, and is subject to financial incentives under the regulatory regime.

- In Victoria, there is single not-for-profit entity who is responsible for assessing connections, but not for providing assets associated with connections. AEMO is responsible for determining what works are 'contestable' and so are procured through a competitive tender process, and what works are 'non-contestable' and so provided by the incumbent DTSO.

As noted above, this is also reflected in different regulatory frameworks for transmission connections.[78] Given this, achieving alignment between the Victorian arrangements and arrangements elsewhere in the NEM is likely to be difficult due to these different underlying philosophies. However, the Commission does consider that with a number of changes, the approaches to connections between Victoria and the rest of the NEM could be harmonised and made more consistent.

In order for these proposed arrangements to apply to declared network jurisdictions the Commission considers that there would need to be the following changes to the connections framework in declared network jurisdictions:

- As per the current arrangements, AEMO would have ultimate accountability for the declared shared transmission network, with its functions carried out by way of contracts with DTSOs in order to allocate responsibility, risk and liability. As discussed in chapter 3, the Commission considers that one party should be accountable for shared network outcomes in a particular jurisdiction. Given the criticality of system security, safety and reliability, accountability for outcomes on the shared transmission network should be clearly defined. This is best achieved when one party is ultimately responsible for the provision of shared transmission services.

- AEMO would play the role of the independent engineer, not a party selected from a Panel. Indeed, AEMO currently plays a role in relation to connections under the current Victorian arrangements, which in part provides the outcome the independent engineer process is intended to provide.[79] Stakeholders' greatest concern with the Victorian arrangements is the complexity of the contractual arrangements[80] - it would therefore seem to serve no purpose to

78 Victorian arrangements are bounded by specific provisions set out in the NEL and Chapters 8 and 5 of the Rules; whereas the arrangements in other jurisdictions are just bounded by the NEL and Chapter 5 of the Rules.

79 Indeed, AEMO recognises that in the past it has played a role in guiding an applicant through the connection process and mediating disagreements between it and the TNSP. It has also been involved in resolving issues arising between the incumbent DTSO and that selected DTSO. See: AEMO, Victorian Connections Reform, November 2016, p. 16.

80 For example, the Clean Energy Council noted in a submission to the consultation paper for this rule change that it is the contractual nature of the Victorian connection arrangements that makes completing a connection extremely challenging. See: Clean Energy Council, submission on consultation paper, p. 1.

introduce an additional party (i.e. the independent engineer) into that process. Indeed, this could also be seen to be introducing more complexity and time into the connections process.

- There would no longer be a role for AEMO in running a tender process for contestable augmentations that are related to connection as the design, ownership and construction of identified user shared assets would be contestable.[81] As noted above, under the current arrangements connection applicants have a choice of nominating a DTSO of their choice (decided by running a private tender) or asking AEMO to select a DTSO. The Commission understands that no recent connecting parties in Victoria have asked AEMO to select a DTSO on their behalf, and so the Commission considers that this would in practice not be a significant change from the arrangements today.[82]

- There would need to be recognition of the existence of 'dedicated connection assets' i.e. assets that are used to connect a party to the shared network, which are paid for by that party, and which are only 'used' by that party. These could be provided by any party. Currently, there is not an equivalent concept in declared network jurisdictions (although typically all assets for connection are already provided 'contestably').

- Given that the Commission is preserving the operation of Chapter 6A and Rule 5.4A and associated definitions in a savings arrangement for Victoria, it would result in a clearer, more consistent framework if Victoria adopted these changes as well, and so only one of Chapters 5 and 6A would apply across the NEM. Therefore, the arrangements regarding negotiating frameworks (see appendix C.2), and the arrangements facilitating the deleting of Rule 5.4A could also be adopted in Victoria, with no impact on the declared network functions.

If these changes were adopted, then the Commission considers that the frameworks between the various jurisdictions would be broadly harmonised in relation to connections across the NEM, which would be beneficial for connecting parties since there would be two somewhat similar, transparent frameworks for connections.

There would, of course, be some differences between the various frameworks. For example, Section 50H of the NEL provides for how disputes arising from a party attempting to negotiate a network agreement or augmentation connection agreement in a declared network jurisdiction are resolved. This difference would need to be maintained, subject to changes to the NEL, but, if the changes flagged above were made the philosophies of the framework across the NEM would be much more aligned.

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81 Although this function would need to be maintained for other augmentations of the shared network i.e. those that would provide a 'net market benefit' under the RIT-T.

82 In their proposals relating to Victorian Connections Reform, AEMO are also proposing that this obligation under the Rules is removed. See: AEMO, Victorian Connections Reform, November 2016, p. 10.

A Legal requirements under the NEL

This appendix sets out the relevant legal requirements under the NEL for the AEMC to make this draft rule determination.

A.1 Draft rule determination

In accordance with s. 99 of the NEL the Commission has made this draft rule determination in relation to the rule proposed by the COAG Energy Council.

The Commission's reasons for making this draft rule determination are summarised in section 2.4.

A copy of the more preferable draft rule is attached to and published with this draft rule determination. Its key features are described in section 2.4.

A.2 Power to make the rule

The Commission is satisfied that the more preferable draft Rule falls within the subject matter about which the Commission may make rules. The more preferable draft Rule falls within s. 34 of the NEL and as it relates to:

- the operation of the national electricity system for the purposes of the safety, security and reliability of that system; and
- the activities of persons (including registered participants) participating in the national electricity market or involved in the operation of the national electricity system.

Further, the more preferable draft Rule falls within the matters set out in schedule 1 to the NEL as it relates to:

- the registration of persons as Registered participants or otherwise for the purposes of this Law and the Rules, including the deregistration of such persons or suspension of such registrations;
- the exemption of persons from the requirement to be Registered participants;
- the operation of generating systems, transmission systems, distribution systems or other facilities;
- the augmentation of transmission systems and distribution systems;
- access to electricity services provided by means of transmission systems and distribution systems;

- the regulation of revenues earned or that may be earned by owners, controllers or operators of transmission systems from the provision by them of services that are the subject of transmission determination;
- the assessment, or treatment, by the AER, of investment in transmission systems for the purposes of making a transmission determination;
- terms and conditions for the provision of electricity network services, or any class of electricity network services (including shared transmission services);
- disputes under or in relation to the Rules between persons; and
- the attainment of a national strategic perspective for transmission planning and coordination.

A.3 Commission's considerations

In assessing the rule change request the Commission considered:

- its powers under the NEL to make the rule;
- the rule change request;
- submissions received during the first and second rounds of consultation;[122]
- the Commission's analysis as to the ways in which the proposed rule will or is likely to, contribute to the NEO; and
- the form of regulation factors in making a Rule that specifies an electricity network service as a negotiated network service.[123]

The Commission has not considered the revenue and pricing principles.[124] This is because the Commission considers that these are not relevant here. While the draft Rule changes the process associated with a transmission determination (by removing the requirement for the AER to approve a negotiating framework and negotiated transmission service criteria as part of a determination), this does not directly affect, or change, regulated revenues or the provision of direct control services as discussed in these factors.

There are no current Ministerial Council on Energy Statements of Policy Principles.[125]

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122 That is, the consultation paper and discussion paper, which can be found on our website. See: http://www.aemc.gov.au/Rule-Changes/Transmission-Connection-and-Planning-Arrangements

123 NEL, Part 1, s 2F and s 88A.

124 NEL, Part 1, s 7A and s 88B.

125 Under section 33 of the NEL the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for Energy.

A.3.1 Form of regulation factors

The Commission has had regard to the form of regulation factors as set out in section 2F in the NEL. In particular, the analysis and conclusions set out in appendices B to F draw on the Commission's consideration of the form of regulation factors. In particular, the Commission has considered:

- the presence and extent of any barriers to entry in a market for electricity network services[126] e.g. the Commission sought input from a number of generators and renewable energy developers to inform its understanding of whether introducing competition to the services provided in relation to identified user shared assets would be beneficial (see section B.2.4);

- the presence and extent of any network externalities (that is, interdependencies) between an electricity network service provided by a NSP and any other electricity network service provided by the NSP, as well as, between an electricity network service provider by a NSP and any other service provided by the NSP in any other market[127] e.g. the draft Rule places additional transparency requirements on TNSPs, which will provide connecting parties with more information, and so strengthen a connecting party's negotiating power with the TNSP (see section B.2.4);

- the extent to which any market power possessed by an NSP is, or is likely to be, mitigated by any countervailing market power possessed by a network service user or prospective network service user[128] e.g. the Commission has elevated the current negotiating frameworks to the Rules in order to strengthen a connecting party's negotiating power with a TNSP (see section C.2.2);

- the presence and extent of any substitute, and the elasticity of demand, in a market for an electricity network service in which a NSP provides that service, and in a market for electricity[129] e.g. the Commission considers that some services associated with connection can be provided on a contestable basis since a workably competitive market is likely to exist (see sections B.2.4 and D.2.4); and

- the extent to which there is information available to a prospective network service user or network service user, and whether that information is adequate, to enable the prospective network service user or network service user to negotiate on an informed basis with a NSP for the provision of an electricity network service to them by the NSP[130] e.g. the draft Rule places additional transparency requirements on TNSPs, which will improve the understanding of

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On 1 July 2011 the MCE was amalgamated with the Ministerial Council on Mineral and Petroleum Resources. The amalgamated Council is now called the COAG Energy Council.

126 NEL, Part 1, s 2F(a)

127 NEL, Part 1, s 2F(b) and (c).

128 NEL, Part 1, s 2F(d).

129 NEL, Part 1, s 2F(e) and (f).

130 NEL Part 1, s 2F(g).

the connections framework and so promote more efficient decisions being made by both established and new market participants (see section C.3.2).

A.3.2 Declared network functions

The Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper performance of Australian Energy Market Operator (AEMO)'s declared network functions.[131] The draft Rule is compatible with the performance of those functions as it leaves those functions unchanged. Further detail on the Commission's assessment of this issue is set out in Chapter 6.

A.3.3 Application to Northern Territory

The *National Electricity (Northern Territory) (National Uniform Legislation) Act 2015* allows for an expanded definition of the national electricity system in the context of the application of the NEO to rules made in respect of the Northern Territory, as well as providing the Commission with the ability to make a differential rule that varies in its terms between the national electricity system and the Northern Territory's local electricity system.

The Commission has considered whether a differential rule is required for the Northern Territory electricity service providers and concluded that it is not required in this instance. This is because the provisions of the draft Rule either do not currently apply in the Northern Territory or are redundant because of other provisions that do not apply.

A.4 Civil penalties

A.4.1 Moved provisions

The Commission's draft more preferable Rule moves a number of provisions in Chapter 5 of the Rules that are currently classified as civil penalty provisions under Schedule 1 of the National Electricity (South Australia) Regulations to other locations in Chapter 5. These provisions are as set out in Table A.1 below. The Commission considers that these clauses should continue to be classified as civil penalty provisions and therefore proposes to recommend to the COAG Energy Council that the Regulations are amended to reflect the new rule numbering.

131 Section 91(8) of the NEL.

Table A.1 Moved clauses that the Commission recommends should continue to attract a civil penalty

New clause reference	Old clause reference	Who the obligation is imposed upon	Recommendation
5.3A.12(b)	5.4AA(b)	*Network Service Provider*	Retain
5.3AA(h)	5.5(h)	*Distribution Network Service Provider*	Retain
5.6.2(a)	5.4.2(a)	*Registered Participant* or the person intending to be registered as a *Generator*	Retain
5.6.2(b)	5.4.2(b)	*Registered Participant* or the person intending to be registered as a *Generator* and the *Network Service Provider*	Retain

A.4.2 Amended provisions

The Commission's draft more preferable Rule amends the following clauses of the Rules as set out in Table A.2 below. These are currently classified as civil penalty provisions under NER Schedule 1 of the National Electricity (South Australia) Regulations. The Commission considers that these clauses should continue to be classified as civil penalty provisions and therefore does not propose to recommend any change to their classification to the COAG Energy Council.

Table A.2 Amended clauses that the Commission recommends should continue to attract a civil penalty

New clause reference	Old clause reference	Who the obligation is imposed upon	Recommendation
5.2.3(e)	N/A	*Network Service Provider* including *Dedicated Connection Asset Service Provider*	Retain
5.3.3(b)	N/A[132]	*Network Service Provider*	Retain
5.3.3(c)	N/A[133]	*Network Service Provider*	Retain
5.3.6(b), (b2), (j)	N/A	*Network Service Provider*	Retain

The Commission cannot create new civil penalty provisions. However, it may recommend to the COAG Energy Council that new or existing provisions of the NER be classified as civil penalty provisions. The new provisions that the Commission is recommending to the COAG Energy Council as civil penalty provisions are set out below in Table A.3. The Commission considers that the new provisions should be classified as civil penalty provisions for the reasons set out in the table.

132 Amendment is in the body of the clause 5.3.3(b), imposing additional obligations and responsibilities on the Network Service Provider which now also attracts a civil liability penalty.

133 Amendment is in the body of the clause 5.3.3(c) which does not amend in a material way the obligations and responsibilities of the Network Service Provider.

Table A.3 New clauses that the Commission recommends should attract a civil penalty

New clause reference	Old clause reference	Who the obligation is imposed upon	Recommendation
2.5.1(d5)	N/A	*Dedicated Connection Asset Service Provider*	This clause should be classified as a civil penalty provision because the obligations imposed on the *Dedicated Connection Asset Service Provider* by the AER would be directed towards the operation of a safe, reliable and secure power system, which is key to the effective operation of the NEM.
5.2.7(b)	N/A	*Dedicated Connection Asset Service Provider*	This clause should be classified as a civil penalty provision because the obligation imposed on the *Dedicated Connection Asset Service Provider* to ensure that the *dedicated connection asset* meets its performance and system standards and it complies with its *connection agreement* with the relevant TNSP is key to the effective operation of the NEM.
5.2A.6(c)	N/A	*Dedicated Connection Asset Service Provider*	This clause should be classified as a civil penalty provision because the obligations on Dedicated Connection Asset Service Providers to comply with its access policy and those negotiating principles set out in schedule 5.12 are important to the transparency and predictability in the national transmission system for effective operation of the NEM.
5.2A.8(d)	N/A	*Dedicated Connection Asset Service Provider*	This clause should be classified as a civil penalty provision because the obligation to produce an *access policy* is essential to providing third party access to *large dedicated connection assets* which is key to the effective operation of the NEM.
5.3.6(b4)	N/A	*Primary Transmission Network Service Provider*	This clause should be classified as a civil penalty provision because it is a key obligation on the *Primary Transmission Network Service Provider* in the connection process to enable connection applicants to get offers from other parties for contestable elements of identified user share assets in order to promote efficient connections.

A.4.3 Deleted provisions

The Commission does not consider any other provisions of the draft Rule should be classified as civil penalty provisions. However, the draft Rule deletes a clause that is currently a civil penalty provision. Therefore, the Commission considers that this rule should no longer continue to be classified as a civil penalty provision because it is being deleted and therefore will propose to the COAG Energy Council that its classification is changed. See Table A.4 for further details.

Table A.4 Deleted clauses that no longer attract a civil penalty

New clause reference	Old clause reference	Who the obligation is imposed upon	Recommendation
5.3.6(i)	Deleted	N/A	Deleted

A.5 Conduct provisions

The Commission's draft Rule does not propose any changes to conduct provisions.

B Identified user shared assets

This appendix outlines the Commission's draft Rule in relation to the arrangements for identified user shared assets, a new term introduced as part of the draft Rule.[134] Specifically, it sets out the:

- current arrangements under the Rules for these types of assets;
- approach put forward by the COAG Energy Council for these assets;
- views of stakeholders in submissions to the consultation paper and the discussion paper, as well as those expressed at the public forum and in one-on-one meetings;
- Commission's analysis of the rule change request and stakeholder views; and
- Commission's conclusions and a description of the draft Rule.

This appendix should be read in conjunction with chapter 3 of this draft determination.

As set out in chapter 1, the existing Rules set out whether the TNSP provides services related to a connection as prescribed transmission services or negotiated transmission services. However, the Commission is aware that there are different interpretations of how the services required to connect a load to the transmission network via assets that would fall within the definition of an identified user shared asset are economically regulated. That is, whether the TNSP provides these services as prescribed transmission services or as negotiated transmission services. To remove this ambiguity, the draft Rule makes it clear that the economic regulation of the services required to connect a load to the transmission network is the same as for the connection of a generator or MNSP.[135] The term 'connecting party' in this appendix is therefore used to refer to either a generator, load or MNSP.[136] Arrangements for the connection of a DNSP to the transmission network are set out in appendix E.

B.1 Definition of identified user shared asset

B.1.1 Background

The term 'identified user shared asset' is not currently defined in the Rules. However, under current arrangements the Commission considers it would broadly comprise those assets that are built to facilitate a party's connection to the 'shared' transmission

134 These arrangements will apply to generation, load and MNSPs seeking to connect to the transmission network.

135 That is, the costs of connecting to the transmission network are borne by the connecting party itself - be they a load or a generator - not through TUOS charges.

136 Although the technical standards associated with a connection differ depending whether it is a load, generator or MNSP connecting, as set out in the Schedules to Chapter 5 of the Rules.

network and which, once commissioned, form part of that network, for example, parts of a substation on a transmission network. These assets are often referred to as 'connection assets'.[137] Services provided in relation to these types of assets under current arrangements are typically provided by the incumbent TNSP as negotiated transmission services.[138]

B.1.2 COAG Energy Council's view

In the rule change request, the COAG Energy Council presented the view that making a clear distinction between services provided by those assets that form part of the shared transmission network and those provided by assets used exclusively by the connecting party or parties would help to:

- better link the Rules service classifications with the assets that underpin their provision;
- clearly define the services to be provided by TNSPs;
- clearly identify the connection point in each case; and
- clearly identify the different treatment of these assets.[139]

The rule change request therefore proposed to introduce the following definitions into the Rules.

identified user shared network asset

A *shared transmission network asset*:

1. designed and constructed to connect an *identified user group* to an existing *transmission system*; and
2. fully funded by the member or members or the *identified user group*.

transmission network asset

1. any component of the transmission lines (i.e. the high tension electrical conductors, insulators, supporting structures and appurtenant land); or
2. equipment associated with the operation of a transmission line or an associated substation or switchyard.

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137 Defined in Chapter 10 of the Rules as "those components of a *transmission or distribution system* which are used to provide *connection services*."

138 As currently defined in Chapter 10 of the Rules, negotiated transmission services include those "connection services that are provided to serve a transmission network users, or group of transmission network users, at a single transmission network connection point, other than connection services that are provided by one NSP to another NSP". Current arrangements for these services are set out in more detail in section 1.2.

139 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, pp. 4-5.

identified user group

One or more persons who generate or consume large quantities of electricity, and who are connected to the shared network at the same point.

The rule change request also proposed to define the term 'dedicated transmission connection asset' to describe those assets that are built to facilitate a party's connection to the transmission network but which, once commissioned, do not form part of the transmission network. These assets are discussed in appendix D.

The rule change request proposed to define the boundary between dedicated connection assets and identified user shared assets, specifically as the "first point at which power flow from the generator or to a major load customer can be isolated from the shared network".

These proposals are consistent with the approach recommended by the Commission in the Transmission Frameworks Review.

B.1.3 Stakeholder views

Submissions to the consultation paper

Definition of identified user shared asset

In submissions to the consultation paper, a number of stakeholders supported the proposal to separately define dedicated connection assets and identified user shared assets.[140]

AusNet Services did not consider that there was any need to distinguish between dedicated connection assets and identified user shared assets. It suggested that a single definition covering both would simplify the rule change.[141] This position aligns with AusNet Service's view that all assets associated with a party's connection to the shared transmission network (that is, both identified user shared assets and dedicated connection assets) should be provided on a contestable basis.

Boundary between identified user shared assets and dedicated connection assets

GDF Suez (now Engie) considered that the proposed boundary between dedicated connection assets and identified user shared assets would provide a clear line of demarcation between the two asset types.[142] AGL was of the view that, conceptually, the proposed boundary was appropriate, but noted that sometimes this point of coupling may be best located at a circuit breaker or transformer that is part of an

140 Submissions on consultation paper: AGL, p. 5; GDF Suez, p. 2; Origin Energy, p. 1.

141 AusNet Services, submission on consultation paper, p. 4.

142 GDF Suez, submission on consultation paper, p. 2.

identified user shared asset. It therefore asked that the rule change provide flexibility for parties to negotiate the connection point and its location.[143]

The ENA contended that the boundary between different asset types does not necessarily define the connection point. It stressed the importance of defining the connection point, given certain obligations are dependent on its location, e.g. metering and performance standards.[144]

The Clean Energy Council submitted that it is practical to locate the physical connection point as close as possible to the intersection between dedicated connection assets and identified user shared assets. It explained that access standards and power transfer capability are negotiated at the connection point, and that marginal loss factors are calculated there. The Clean Energy Council noted that the relationship between the connection point and the metering point is another complication, and asked that the Rules not inadvertently reduce freedoms available to connecting parties to put in place arrangements that accommodate their specific connection.[145]

Submissions to the discussion paper

Definition of identified user group

In the discussion paper, the Commission expressed support for the arguments put forward in the rule change request for clarifying the assets and services that are required to facilitate a connection to the shared transmission network and to strengthen the link between the existing Chapters 5 and 6A of the Rules so that the arrangements for economic regulation of those assets and services are clear.

The Commission also agreed that there was value in separately defining dedicated connection assets and identified user shared assets. Doing so would remove ambiguity and enable a clear distinction to be made between those assets and services that are unregulated, and those that must be provided by the incumbent TNSP as a negotiated transmission service under the Rules.

The Commission therefore proposed to define the terms 'identified user shared assets' and 'identified user group' as below, subject to legal drafting.

identified user shared assets

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

143 AGL, submission on consultation paper, p. 4.

144 ENA, submission on consultation paper, pp. 2,9.

145 Clean Energy Council, submission on consultation paper, p. 7.

- for which the costs of designing, constructing, operating and maintaining are paid for by the identified user group (the "payment limb").

identified user group

A group of one or more specifically identified generators or large loads that are connected to transmission assets that are, in turn, connected to the shared transmission network at the same connection point.

Submissions to the discussion paper indicated that most stakeholders supported the proposal to separately define dedicated connection assets and identified user shared assets, and the proposed definitions.[146]

Some stakeholders questioned the need to define the term 'identified user group'. The Clean Energy Council submitted that the term seemed to be a new definition for a generator or load that would be seeking connection, and may therefore be unnecessary.[147] AGL noted that, while it is possible that other users may want to access the same connection assets (as is implied in the definition of identified user group) this rarely, if ever, happens.[148]

Boundary between dedicated connection assets and identified user shared assets

In line with the proposal put forward in the rule change request, in the discussion paper the Commission proposed to define the boundary between identified user shared assets and dedicated connection assets as the first point at which power flows to or from the connecting party could be isolated from the shared network. The Commission suggested that, in practice, this boundary would most often be at an identifiable isolator or disconnector.

In its submission to the discussion paper, Infigen stated that linking the definition of connection point to the boundary between the two assets could create confusion.[149] No other stakeholder commented on this aspect of the discussion paper in their submission.

B.1.4 Analysis and conclusions

The Commission considers that it is important to clearly define what each of the assets and services associated with a connection to the transmission network are, and how they are regulated, if at all. Precisely defining what identified user shared assets and dedicated connection assets are establishes a clear distinction between the way in which the two types of assets are regulated and the obligations of the parties who own, operate and control them. This is particularly important under the draft Rule, where some of the services provided in relation to identified user shared assets are

146 Submissions on discussion paper: AGL, p. 3; AEMO, p. 5; Clean Energy Council, p. 4; ENA, p. 1; EnergyAustralia, p. 1; PIAC, p. 3; Transmission General Holdings Australia, p. 3.

147 Clean Energy Council, submission on discussion paper, p. 4.

148 AGL, submission on discussion paper, p. 3.

149 Infigen, submission on discussion paper, p. 2.

contestable and others are to be provided exclusively by the Primary TNSP as negotiated transmission services.[150]

Different interpretations of the Rules by TNSPs in different jurisdictions can create inefficiencies in the market generally, as well as for individual proponents. The lack of a consistent approach to process and interpretation of the Rules relating to transmission connections across the NEM can create confusion for connecting parties, particularly those operating in more than one jurisdiction. A successful connection may rely on connecting parties learning and accommodating the specific interpretations of a particular TNSP, which can add time and cost to a connection process.

Further, connecting parties consider a range of factors when deciding where to locate a project, for example fuel costs and proximity to existing transmission infrastructure. If the interpretation of the connections framework is very different between TNSPs, connection costs may be significantly higher in one jurisdiction over another. If this is the case, connection costs may start to comprise a far higher proportion of total project costs in that jurisdiction, potentially causing connecting parties to make sub-optimal decisions about where to locate their project since connection costs provide some locational signals about where generators should locate. Investment in generation should occur where it is most efficient, and should not be determined by differences in connection costs - caused by differing interpretations of the Rules - across jurisdictions.

Clearly defining what identified user shared assets and dedicated connection assets are establishes a clear distinction between the way in which the two types of assets are economically regulated and the obligations of the parties who own, operate and control them.[151] This is particularly important under the draft Rule, where there is increased contestability for the services provided in relation to identified user shared assets. The draft Rule contains amendments to the definitions of a number of existing terms in the Rules, such as transmission system and connection assets, and makes consequential changes, to provide increased clarity on the assets and services required to facilitate a connection to the transmission network.[152]

A common issue that has emerged in discussions with stakeholders on this rule change request is a lack of clarity about the term 'connection point' in the context of connections to the 'shared' transmission network. This lack of clarity stems from the

150 Primary TNSP is a new term defined in the draft Rule as "The Transmission Network Service Provider who operates the largest transmission network in each participating jurisdiction (other than an adoptive jurisdiction)." The draft determination uses the term incumbent TNSP to refer to this party under current arrangements, and the term Primary TNSP when referring to the arrangements for this party under the draft Rule.

151 Note that the arrangements for the connection of a DNSP to the transmission network are different to the arrangements for the connection of load and generation under the draft Rule. Arrangements for connection of DNSPs are set out in appendix E.

152 Specifically, Rule 5.2A.4 of the draft Rule sets out how the various services required to connect to the transmission network are classified under the draft Rule.

current ambiguity about how assets and services that are required to facilitate a connection to the 'shared' transmission network are treated in the Rules.[153]

This appendix focuses on the arrangements for identified user shared assets - the arrangements for dedicated connection assets are discussed in more detail in appendix D; while the arrangements for how distribution networks connect to the transmission network are discussed in more detail in appendix E.

Definitions

The draft Rule defines the term identified user shared asset as below.[154]

identified user shared asset

The apparatus, equipment, plant, and buildings that:

(a) are used for the purpose of *connecting* one or more *identified user groups* to an existing *transmission network;*

(b) are not used exclusively by the relevant *identified user groups;*

(c) cannot be electrically isolated from the *transmission network* without affecting the provision of *shared transmission services* to persons who are not members of the relevant *identified user groups;* and

(d) are not part of the *declared transmission system* of an *adoptive jurisdiction*.

This definition is different to that which was proposed in the discussion paper and the rule change request. The 'payment limb' that was proposed in the discussion paper has been removed because the Commission considers that this principle is sufficiently covered off by the 'purpose limb' - that is, "used for the purpose of connecting one or more identified user groups to an existing transmission network" - and the associated changes to clarify how services provided by means of those assets are economically regulated. The words "cannot be electrically isolated from the transmission network without affecting the provision of shared transmission services to persons who are not members of the relevant identified user groups" have been introduced to further clarify that these assets are not electrically separable from the transmission network used to provide shared transmission services.

The Commission considers that this definition provides greater clarity around what identified user shared assets are and the purpose they serve than the definition proposed in the rule change request. The draft Rule also makes it clear that these assets form part of the transmission network.[155]

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153 This ambiguity is discussed in further detail in section 1.3.1.

154 See identified user shared asset in the draft Rule.

155 Network is defined in the draft Rule as "The apparatus, equipment, plant and building used to convey, and control the conveyance of electricity to customers (whether wholesale or retail) but excluding any connection assets. In relation to a Network Service Provider, a network owned operated or controlled by that Network Service Provider. For a participating jurisdiction that is not

The term third party IUSA, defined below, has been introduced in the draft Rule to describe those identified user shared assets that are owned by a party other than the Primary TNSP.[156]

third party IUSA

Those *contestable IUSA components* of an *identified user shared asset* that are not, or will not be, owned or leased by the *Primary Transmission Network Service Provider.*

The draft Rule introduces the term Primary Transmission Network Service Provider, defined as follows:

Primary Transmission Network Service Provider

The *Transmission Network Service Provider* who operates the largest *transmission network* in each *participating jurisdiction* (other than an *adoptive jurisdiction*).

Ownership of identified user shared assets is discussed in section B.3.

The draft Rule also defines the term identified user group as below.[157]

identified user group

One or more persons (other than a *Distribution Network Service Provider)* who are *connected* to a *transmission network* at the same single *connection point.*

As noted in section B.2.3, a number of stakeholders queried the need to define this term, which was proposed in the rule change request.

The draft Rule defines this term to reflect that more than one party (i.e. a generator, load or MNSP) could share a connection point,[158] For example if a generator connects to an existing dedicated connection asset that was built to facilitate a load's connection and the load maintains its connection point with the shared transmission network and puts in place appropriate metering arrangements with the generator. The draft Rule does not include the proposed wording in the rule change request that the identified user group would be comprised of "specifically identified parties". The Commission considers that there is no need for these parties to be "specifically identified" by anyone, as it should be clear whether parties are using a common dedicated connection asset to connect to the transmission network.

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an adoptive jurisdiction: (a) an identified shared user asset owned, controlled or operated by a Primary Transmission Network Service Provider (including under a network operations agreement) forms part of that provider's transmission network; and (b) a third party IUSA that is not the subject of a network operations agreement constitutes a transmission network of the person registered as a Transmission Network Service Provider for that asset.

156 See third party IUSA in the draft Rule.

157 See identified user group in the draft Rule.

158 This party could not be a DNSP, since TNSP-DNSP connections have different arrangements, as set out in appendix E.

Clarity on what identified user shared assets are, how they are regulated and how they are distinguished from other transmission assets will help support transparency and predictability in the Rules connections framework. Making the Rules clearer and simpler in this regard should make it easier for connecting parties to:

- know exactly what assets and services they are negotiating for when seeking a connection to the shared transmission network;
- enhance their ability to negotiate on more equal terms with TNSPs; and
- result in a more predictable connection experience across transmission network boundaries.

Transitional arrangements for existing assets that would fall under the definition of identified user shared asset when the final Rule, if made, commences are addressed in chapter 5.

Boundary between dedicated connection assets and identified user shared assets

The draft Rule does not explicitly define the boundary between dedicated connection assets and identified user shared assets. This is because not all assets that would fall under the definition of a dedicated connection asset or identified user shared asset would necessarily have a physical boundary with the other. Defining this boundary may therefore have practical limitations. Instead, the draft Rule relies on the definitions of these terms being sufficiently detailed so that it is clear what assets fall into which category, and therefore how they are treated under the Rules. A party should be able to take an asset, assess it against the various limbs as set out in the definitions, and determine what type of asset it is. Another party should be able to assess it against those same definitions and get the same result.

The draft Rule provides parties with the ability to seek the advice of an independent engineer on whether a particular component forms part of a dedicated connection asset or form part of an identified user shared asset.[159]

However, the Commission considers that the existing definition of connection point should be amended to put it beyond doubt that it is a point at which power flows to or from a connecting party can be isolated from the transmission network - that is, the interface between assets that provide 'shared' transmission services and assets that provide services for the connecting party alone, not an arbitrary point such as the substation fence. If there are multiple points of isolation the parties can agree one of those points. As several stakeholders have noted, the connection point represents a physical boundary for where responsibilities between the Primary TNSP and the connecting party start and finish. The connection point is typically where performance standards are set, metering occurs, Transmission Use of System (TUOS) charges are

159 Clause 5.4.1(b)(2) of the draft Rule. Arrangements for the engagement of an independent engineer are set out in section C.1.

determined and frequency control ancillary service needs are calculated.[160] The draft Rule modifies the existing definition of connection point as below to make this clear.[161]

connection point

In relation to a *declared shared network* and a *distribution network* (other than an *embedded network*), the agreed point of supply established between *Network Service Provider(s)* and another *Registered Participant*, *Non-Registered Customer* or *franchise customer* and includes a *parent connection point*.

In relation to other *transmission networks*, the point at which power flows to or from the person *connected* to the *transmission network* can be isolated from the *transmission network*. If there is more than one such point, the *Network Service Provider* and that person will agree which point is the *connection point* in their *connection agreement*.

In relation to an *embedded network*, the *child connection point*, unless otherwise specified.

Note:

This definition reflects the changes made to the definition of connection point under the National Electricity Amendment (Embedded Networks) Rule 2015 No.15.

This definition, alongside the definitions of identified user shared asset and dedicated connection asset, still affords connecting parties and TNSPs some flexibility in how identified user shared assets and dedicated connection assets are designed, and therefore where the connection point is located and relevant obligations are determined. Clarifying these terms establishes a clear distinction between the way in which the two types of assets are regulated and the obligations of the parties who own, control and operate them.

B.2 Contestability of services for identified user shared assets

B.2.1 Background

Table B.1 sets out the Commission's understanding of the services that are required to connect to the transmission network via an identified user shared asset. These services, and their descriptions, were developed based on input from attendees at the stakeholder workshop on 9 March 2016 and the Commission's own analysis. These services are not currently distinguished in the existing Rules.[162]

160 Although the Commission recognises that there are current examples in the NEM where this may not be the case.

161 See the definition of connection point in the draft Rule.

162 The draft Rule defines these in more detail. This is discussed further in section B.3.4.

Table B.1 Services provided in relation to an identified user shared asset

Service	Description
Functional specification	The setting of technical parameters for the assets' design (e.g. typical substation parameters, equipment rating, performance requirements, preferred equipment, voltage of connection and protection requirements), construction, operation, maintenance and interface with the shared network.
Detailed design	The layout and configuration of the assets to meet the functional specification.
Cut-in works	Works to cut into the existing shared transmission network (often called 'interface works').
Construction	Construction of the assets.
Ownership	Ownership of the assets.
Operation and maintenance (i.e. control)	Day to day operation of the assets, including decisions about when to undertake maintenance, and services required to keep the assets operational, e.g. replacement of parts.

Generally, all services for existing assets that would fall under the definition of identified user shared asset in the draft Rule are provided by the Primary TNSP as negotiated transmission services. This is on the basis that they are connection services that are provided to serve a Transmission Network User.[163,164] Unless parties otherwise agree, the Primary TNSP provides the services set out in Table B.1. The terms and conditions, including price, of the provision of those services will be negotiated between the connecting party and the TNSP under the negotiating framework and negotiated transmission service criteria that are approved by the AER at each TNSP's revenue determination (with this guided by requirements in the Rules), and following the process set out in Chapter 5.

A more detailed description of the current arrangements for connecting to the shared transmission network is set out in chapter 1.2.

163 Limb (b) of the current definition of negotiated transmission service in the Rules states that negotiated transmission services include "Connection services that are provided to serve a Transmission Network User, or group of Transmission Network Users, at a single transmission network connection point, other than connection services that are provided by one Network Service Provider to another Network Service Provider to connect their networks where neither of the Network Service Providers is a Market Network Service Provider".

164 This is not the case in Victoria, where the construction, ownership, operation and maintenance of an asset that would broadly be captured by the term 'identified user shared asset' can be provided by a party other than the incumbent DTSO, if AEMO has determined that the augmentation is contestable.

B.2.2 COAG Energy Council's view

The COAG Energy Council proposed that connecting parties would be able to choose who constructs the identified user shared assets required to facilitate their connection to the shared transmission network. That is, it proposed that the connecting party could either require the incumbent TNSP to construct these assets as a negotiated transmission service, or engage another party to do so on a non-regulated basis. This would effectively create a fall back option for the TNSP to provide these services if asked. The rule change request also proposed that the connecting party, or its chosen service provider, could retain ownership of the identified user shared assets if it can agree terms with the local TNSP to allow the TNSP full operation, control and maintenance rights over those assets, including the ability for the TNSP to facilitate future connections and network expansion where necessary.[165]

B.2.3 Stakeholder views

Submissions to the consultation paper

Stakeholders largely supported increased contestability in the provision of services to connect to the shared transmission network, noting that significant cost and time savings can be achieved when a connecting party can contract with the service provider of its choice.[166]

The ENA noted that TNSPs already seek to capture the efficiency benefits of contestability by outsourcing construction and other services for negotiated transmission services, and therefore concluded that a large degree of the benefits of competition are already being achieved.[167] AEMO noted that asset transfers can be complex and costly, and so if only construction is contestable, the benefits of this could be negated.[168]

Operation and maintenance services (i.e. control)

TNSP providing operation and maintenance services

A number of parties expressed concern that the cost and complexity of connections may not be reduced if the incumbent TNSP imposes overly onerous operation and maintenance requirements, or over-specifies the asset's design.[169] AEMO considered that giving the TNSP control over the design process could add costs and restrict

165 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, 23 July 2015, p. 6.

166 Submissions on consultation paper: AGL, p. 1; EnergyAustralia, p. 1; GDF Suez, p. 2; Major Energy Users, pp. 1-2.

167 ENA, submission on consultation paper, p. 7.

168 AEMO, submission on consultation paper, p. 2.

169 Submissions on consultation paper: GDF Suez, p. 2; Origin Energy, p. 1; Major Energy Users, p. 3; Clean Energy Council, p. 5.

innovation.[170] Origin Energy proposed that this issue be addressed by requiring the incumbent TNSP to justify its design philosophy.[171]

AGL was supportive of the proposal for the incumbent TNSP operating and maintaining identified user shared assets, but noted that it was unclear how the risks and costs of maintenance, operation and relative service priority would be allocated when the asset is shared with other users. It considered it appropriate to set regulatory obligations regarding the ownership, construction, maintenance and operation of identified user shared assets.[172] The Major Energy Users questioned whether it could be assured that the costs of the incumbent TNSP operating, controlling and maintaining identified user shared assets would be lowest cost.[173]

Operation and maintenance services opened to contestability

Several generators were of the view that only allowing contestability in ownership and construction, and requiring the TNSP to take on all other service aspects, would limit the benefits that can be achieved from competition. For example, EnergyAustralia suggested that the benefits of competition would be maximised if third parties who own identified user shared assets could also provide operation and maintenance services for them. It noted that contestable construction, financing and ownership of a project was unlikely to be viable without control of these service aspects.[174]

Some considered it unreasonable to require the incumbent TNSP to assume responsibility for the operation and maintenance of identified user shared assets that they had not built, and proposed that the connecting party be responsible for all service aspects.[175] The ENA suggested that such an approach (i.e. restricting contestability) would involve coordination issues, the inappropriate allocation of risk to other parties (i.e. the incumbent TNSP), and more complex Rules drafting in order to make sure that the connecting party takes into account the ongoing costs of assets when building them.[176]

AusNet Services explained that it needs to be assessed as to whether it is technically possible for a third party to construct, own, operate and control the assets, i.e. whether the asset is "separable". It explained that a technical assessment of separability would need to consider:

- whether the asset is physically separable from the shared network;
- whether the asset is operationally separable from the shared network; and

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170 AEMO, submission on consultation paper, p. 2.

171 Origin Energy, submission on consultation paper, p. 1.

172 AGL, submission on consultation paper, pp. 2-3.

173 Major Energy Users, submission on consultation paper, p. 3.

174 EnergyAustralia, submission on consultation paper, pp. 1-2.

175 Submissions on consultation paper: AusGrid, p. 2; ENA, pp. 1, 7; Major Energy Users, p. 3; TransGrid, p. 2.

176 ENA, submission on consultation paper, pp. 1,7.

- whether access to and operation of the asset can be carried out safely.

It concluded that, if these requirements can be satisfied, then the operation and maintenance of identified user shared assets should be opened to contestability.[177]

Ownership

GDF Suez submitted that the requirement for a connecting party wanting to retain ownership of the asset to agree terms with the TNSP to allow them full operation and maintenance rights could allow TNSPs to impose onerous requirements on connecting parties. To prevent this becoming a barrier to contestable ownership, it suggested that the Rules include a negotiating framework that the TNSP and connecting party must adhere to when negotiating on ownership terms and conditions.[178]

Requirement for the incumbent TNSP to provide ownership and construction services if asked

Several TNSPs proposed that there be no requirement for the incumbent TNSP to provide ownership and construction services as a negotiated transmission service if asked.[179] AusNet Services submitted that there is already an active market for the provision of these services, which negates the need for the incumbent TNSP to provide a 'fall back' option.[180] The ENA submitted that having regulation only apply to the incumbent TNSP would mean that:

- costs are imposed on one party, resulting in an uneven playing field;
- only the incumbent TNSP would be required to follow the Rules dispute resolution process, which might colour the offer or open the tool to abuse by the connecting party knowing that the incumbent TNSP is obliged to undertake the investment;
- the cost transparency required of the incumbent TNSP might only be used to obtain better offers from other providers, which would be a waste of resources;
- transparency obligations would constrain the ability for the incumbent TNSP to make an innovative offer that adds value because it is hard to objectively justify the cost of taking on a liability; and
- the incumbent TNSP is exposed to risks under the service target performance incentive scheme but others are not, the costs of which would be built into the incumbent TNSP's offer.[181]

177 AusNet Services, submission on consultation paper, p. 3.

178 GDF Suez, submission on consultation paper, p. 2.

179 Submissions on consultation paper: ENA, p. 6; TransGrid, p. 2.

180 AusNet Services, submission on consultation paper, p. 2.

181 ENA, submission on consultation paper, p. 8.

Management of risks

AusNet Services was of the view that service reliability and allocation of risk can be adequately managed through contractual arrangements.[182] The Clean Energy Council shared 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.[183] The ENA noted that TNSPs are responsible for the reliability of their licenced area, but expressed the view that this is more likely an approach centred on convenience and history than the long term interests of consumers. It therefore proposed that all service aspects be fully contestable, suggesting that such an approach would better promote system safety, security and reliability.[184]

AEMO acknowledged that accountability for outcomes on the shared network is necessary, but expressed the view that the incumbent TNSP is not the only party capable of providing certain network design. It noted 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 supported 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' transmission network if that asset fails.[185]

Submissions to the discussion paper

Boundaries of contestability

In line with the conclusions in chapter 3 of this draft determination, the Commission concluded in the discussion paper that, under any approach to contestability for identified user shared assets, the incumbent TNSP should remain accountable for shared network outcomes in its licenced area.

Box B.1 describes what the Commission means when it refers to incumbent TNSPs being accountable for outcomes on the 'shared' transmission network, a concept that is referred to throughout this determination.

182 AusNet Services, submission on consultation paper, pp. 1,3.

183 Clean Energy Council, submission on consultation paper, p. 5.

184 ENA, submission on consultation paper, pp. 2,9.

185 AEMO, submission on consultation paper, p. 2.

Box B.1 TNSP's accountability for outcomes on the shared transmission network

TNSPs are responsible for the safety, security and reliability of their transmission network. These responsibilities are a function of jurisdictional legislation as well as the NEL and Rules. The trigger for imposition of jurisdictional obligations therefore varies by jurisdiction. For example, in NSW:

- transmission network safety is primarily a function of NSW legislation;
- transmission network reliability is primarily a function of jurisdictional reliability standards and licence conditions, although there are interactions with the national electricity framework, such as with Chapter 6A of the Rules and the National Network Reliability Principles; and
- transmission network security - that is, performance within the technical envelope - is primarily a function of Chapter 4 of the Rules

Table B.2 sets out the two possible approaches to contestability for the services provided in relation to identified user shared assets put forward in the discussion paper.

Table B.2 Approaches to contestability for identified user shared assets in the discussion paper

Service	Model A	Model B
Setting the functional specification	Not contestable. Incumbent TNSP provides as a negotiated transmission service.	Not contestable. Incumbent TNSP provides as a negotiated transmission service.
High-level design		Contestable.
Cut-in works		Not contestable. Incumbent TNSP provides as a negotiated transmission service.
Construction	Contestable.	Contestable, but the incumbent TNSP accountable for the impact that the provision of these services has on the operation of the shared transmission network.
Ownership	Contestable, subject to the agreement of terms with the incumbent TNSP regarding operation and maintenance.	
Operation and maintenance (i.e. control)	Not contestable. Incumbent TNSP provides as a negotiated transmission service.	

Some stakeholders preferred Model A over B. The SA Department of State Development supported Model A because it was concerned that Model B would allow a contractual reallocation of compliance with the functional specification and performance standards away from the incumbent TNSP. It argued that it would be unclear who would be accountable if a problem arose, and considered that the model would add significant complexity to the connection process.[186]

While it preferred Model A over Model B, AGL considered that neither model presented an appropriate way forward. It proposed that contestability be limited to construction only because the bulk of potential savings in connection works are construction costs, which are generally a small fraction of total project costs.[187]

A number of stakeholders expressed support for Model B over Model A, with reasons provided typically at a principles level:

- Model B would encourage the greatest level of competition while keeping overall accountability with the incumbent TNSP.[188]
- Competition has been delivering connections successfully in Victoria, and the wider market is ready for similar levels of contestability.[189]
- The complexity of Model B is not a significant barrier to effective competition - regulation should not be the default option.[190]
- There would be fewer coordination issues under Model B, it would avoid any inappropriate allocation of risk and would make sure that the party who owns the asset takes into account whole of life costs during design and construction.[191]
- Model B allows contractual arrangements to ensure provision of services to the required level, and the appropriate allocation of risk.[192]

However, while these stakeholders expressed support for Model B over Model A, many acknowledged that they had concerns with how Model B would work in practice, such as:

- The contractual arrangements under Model B would likely be more complex than those in Victoria because parties will need to go through the learning curve that

186 SA Department of State Development, submission on discussion paper, pp. 2-3.

187 AGL, submission on discussion paper, pp. 2,4.

188 Submissions on discussion paper: Infigen, p. 2; Australian Energy Council, p. 2.

189 Submissions on discussion paper: Clean Energy Council, p. 1; AEMO, p. 1.

190 EnergyAustralia, submission on discussion paper, p. 3.

191 ENA, submission on discussion paper, p. 2. Similar sentiments were expressed by EnergyAustralia who noted that third parties will only be competitive if they are able to offer an integrated and complete service. See: EnergyAustralia, submission on discussion paper, p. 3.

192 Transmission General Holdings Australia, submission on discussion paper, p. 2.

has already been addressed in Victoria.[193] Such complex contractual arrangements may add time and cost to transmission connections for incremental benefit over Model A.[194]

- The level of risk attributed to the incumbent TNSP is likely to prompt TNSPs to behave in a way that undermines the potential benefits of contestability.[195]
- There is a risk that the incumbent TNSP will not cooperate to secure a connection agreement with the connecting party if it loses the bid to provide contestable services.[196]
- Regardless of the extent of contestability that there might be under Model B, there remains a significant bias towards employing the services of the incumbent TNSP. If a connecting party cannot find sufficient competition for a service, they will have to deal with the incumbent TNSP without the protection of the negotiating rules.[197]

Few stakeholders provided detailed comments on how these issues could be addressed, or the arrangements that would need to be put in place to enable the incumbent TNSP to manage its accountability for outcomes for end-use consumers on its transmission network. Further, several stakeholders called for a detailed cost-benefit analysis to determine whether this complexity would outweigh the model's possible benefits.

A number of stakeholders asked the Commission to consider alternative models. The Commission's analysis of each model, including Model B, are set out in appendix F.

B.2.4 Analysis and conclusions

The Commission's assessment framework

Given the criticality of system safety, security and reliability, accountability for outcomes on the shared transmission network should be clearly defined. As explained in detail in chapter 3 this is best achieved when one party is responsible for outcomes on the 'shared' transmission network. The Primary TNSP is, relative to others, best placed to manage its obligations under the NEL, the Rules and jurisdictional electricity legislation with regard to the provision of a safe, reliable and secure transmission network for the reasons set out in chapter 3.

193 AEMO, submission on discussion paper, p. 2.

194 Clean Energy Council, submission on discussion paper, p. 9.

195 AEMO, submission on discussion paper, p. 1.

196 Clean Energy Council, submission on discussion paper, p. 9.

197 Origin Energy, submission on discussion paper, p. 3.

However, there are also a number of benefits of competition for the provision of services to connect to the shared transmission network. For example, competition, where appropriate, may:

- give connecting parties a greater ability to manage the timing and costs of their connection; and
- place competitive pressure on the TNSP to reveal more information or improve its service offerings if it is also competing to provide those services.

Considering whether competition for the provision of some services to connect to the transmission network should be permitted therefore requires thought about whether it allows the Primary TNSP to continue to manage its accountability for shared network outcomes. There are also trade-offs to be made between the benefits of increased competition and the complexity and prescription required in a regulatory framework to give effect to these benefits.

The Commission has used the criteria described in chapter 3 and set out below to determine whether a particular model will, or is likely to, meet the NEO:

1. transparency;
2. timeliness;
3. cost;
4. unnecessary complexity; and
5. accountability.

The Commission's analysis of the various possible models has sought to determine which model has the greatest net benefits while maintaining clear accountability for outcomes on the shared network. That is, the approach to the provision of services for identified user shared assets (and the underlying regulatory framework) that has the greatest net benefits in terms of supporting a transparent, timely and cost reflective connection with no unnecessary complexity, while maintaining clear accountability, is the one that is most likely to achieve the NEO.

The Commission's conclusions and a summary of the draft Rule are set out in the next section. The Commission's assessment of the draft Rule against the above criteria are described in section B.5. Appendix F sets out the Commission's analysis of the alternative models proposed by various stakeholders compared to the model set out in the draft Rule.

The Commission has also reviewed the arrangements of other jurisdictions that are considering, or already have, arrangements that allow for contestability in services

provided in relation to transmission or distribution infrastructure.[198] The Commission's analysis of these models shows that many largely reflect the model set out in the draft Rule in that they permit contestable construction for assets that form part of the shared network but require operation and maintenance services to be provided by the incumbent asset owner or operator. Other models involve far greater involvement from either the system operator or other party - for example the system operator undertakes planning and makes all investment decisions - than the approach set out in the draft Rule and those models considered in appendix F.[199]

Stakeholder survey

The Commission sought input from a number of generators and renewable energy developers to inform its understanding of whether introducing competition to the services provided in relation to identified user shared assets would be beneficial. Specifically, the Commission asked these stakeholders to provide their views on:

- the extent to which each service set out in Table B.1 currently drives total connection costs; and
- how much benefit they see in contestability for each of these services, having regard to whether there is, or could be, a market for that service and whether there is much scope for parties other than the incumbent TNSP to provide that service.

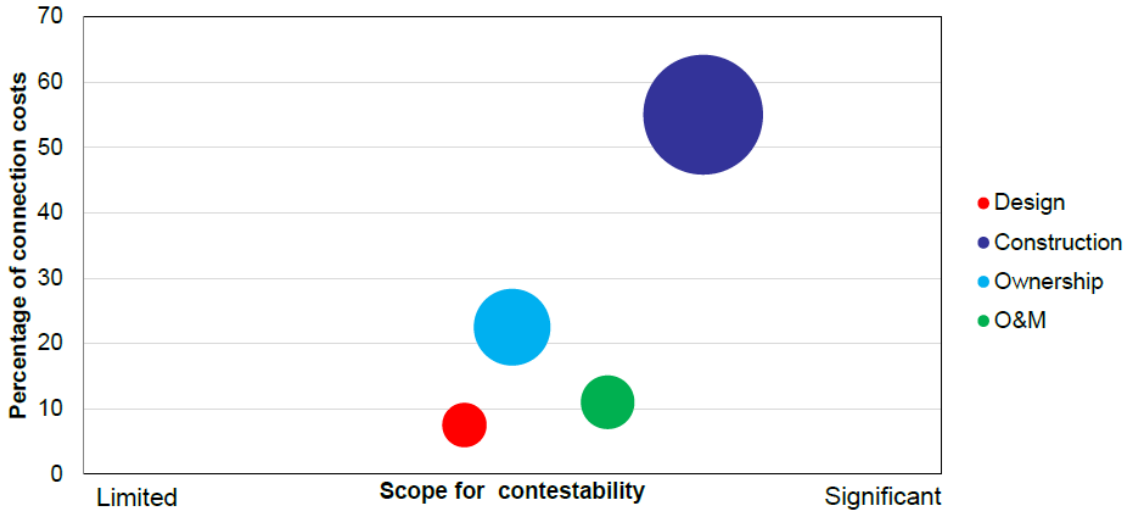
Respondents' answers to each of the above are summarised in Figure B.1 below.[200] The x-axis indicates the scope for contestability, ranging from limited to significant scope for contestability. The y-axis represents the extent to which each service drives total connection costs, and uses the mid-point of the range of responses. To help visualise the scale of potential savings of contestability for each service, the size of the bubbles reflects the proportion of the service in total connection costs.

198 For example, the United Kingdom, Ireland and Alberta. In Australia, NSW and South Australia have put in place arrangements that allow for contestability in design and construction of assets required to connect to the distribution network.

199 These can be considered more similar to the current Victorian model, which, as we set out in chapter 6, operates under a different regulatory framework.

200 Only seven stakeholders provided responses. Respondents were asked to provide approximate figures and qualitative responses. As such, these results should be taken as indicative only.

Figure B.1 Stakeholder survey - benefits of contestability



As the figure shows, respondents largely agreed that construction costs are the most significant contributor to total connection costs, and that there is the greatest scope for this service to be provided contestably. These responses have informed the Commission's conclusions and draft Rule as set out in the next section.

The draft Rule

Table B.3 sets out the services required to connect to the transmission network via an identified user shared asset, provides an example of each service, classifies each service as either a negotiated transmission service that can be provided by the TNSP only, or a non-regulated transmission service that can be provided by any party as defined under the draft Rule.[201] The purpose of separately defining these services in the draft Rule is so that there is a clear distinction between those services that are to be provided by the Primary TNSP as a negotiated transmission service and those that can be provided as a non-regulated transmission service. The draft Rule also requires that the provision of those services classified as non-regulated transmission in the table below be subject to a 'contestability threshold', discussed later in this section.

201 Clause 5.2A.4(a) of the draft Rule.

Table B.3 Transmission service classification and contestability for identified user shared assets under the draft Rule

Asset	Service	Example of service	Classification
transmission network including *identified user shared asset*	Functional specification for identified user shared asset	Provision of: • preferred equipment suppliers; • land/access requirements; • design specifications; • remote monitoring and communication requirements; • protection, control and metering requirements; • minimum operating conditions; • SCADA interface requirements; • equipment ratings; and • equipment protection ratings.	non-contestable
identified user shared asset	Detailed design for identified user shared asset	Provision of: • site plan; • single line diagrams;[202]	contestable

202 The Commission considers that single line diagrams should form part of the detailed design service, as opposed to the functional specification. The Commission expects that the functional specification in the context of contestability would, for example, provide for a certain level of capacity (perhaps for a defined range of conditions) at a

Asset	Service	Example of service	Classification
		• asset layout and configuration; • preferred vendor equipment; • civil, structural, mechanical and electrical detailed design; • issued for construction drawings; • as built drawings; • tender specifications; • cable schedules; • protection settings; • applicable technical studies; • earthing design; • lightning protection; and • insulation co-ordination, consistent with the functional specification.	
transmission network	Cut-in works	Interface works which cut into the existing shared transmission network, these may include tower realignment, protection control and communications requirements	non-contestable

certain level of performance. This level of performance may then be able to be achieved through a range of equipment options, and a single line diagram could not be drawn until that was decided.

Asset	Service	Example of service	Classification
contestable IUSA components	Construction / ownership of contestable identified user shared asset components	Construction and/or ownership of a substation	contestable
non-contestable IUSA components	Construction / ownership of non-contestable identified user shared asset components	Installation and ownership of supervisory control and data acquisition systems and cabling forming part of the *Primary Transmission Network Service Provider's* control system	non-contestable
identified user shared asset owned by the *Primary Transmission Network Service Provider*	Control, operation and maintenance	*Primary Transmission Network Service Provider* provides operation and maintenance services	non-contestable
third party IUSA where the owner, controller or operator seeks an exemption from registration under Chapter 2	Control, operation and maintenance under a *network operating agreement*	See clause 5.2A.7	non-contestable

third party IUSA not registered under Chapter 2 by the *Primary Transmission Network Service Provider*	Control, operation and maintenance	*Primary Transmission Network Service Provider* to provide operation and maintenance services	non-contestable
dedicated connection assets	All development aspects	Design, construction, maintenance and ownership of a power line connecting a *facility*	contestable

As discussed in section B.3.2, the rule change request proposed that a fall back option be established to require the Primary 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 Primary TNSP's provision of negotiated services would apply. A number of stakeholders have suggested that this fall back option is not preferred since it would not create a level playing field for TNSPs, as well as the fact that there is already competition for the provision of similar services in Victoria and so a workably competitive market is likely to exist in other jurisdictions. The Commission supports these views.

The draft Rule therefore imposes no obligation on the Primary TNSP to provide detailed design, construction or ownership services for identified user shared assets as negotiated transmission services where the asset service has met the contestability threshold. Under those circumstances, the Primary TNSP will be able to provide contestable detailed design, construction and ownership services as non-regulated transmission services, provided that it complies with the requirements of its cost allocation methodology and transmission ring-fencing guideline.

The Commission considers that defining the services outlined in Table B.3 maintains clear, explicit accountability for the transmission network, and opens up contestability for services that stakeholder input and Commission analysis suggest have the greatest benefits in terms of reducing the costs of a connection and giving the connecting party more control over timing. The Commission therefore considers that the benefits of contestability of this approach are not outweighed by its costs - both in terms of the costs of implementing these arrangements and the certainty that clear accountability for outcomes on the transmission network through the Rules provides. This is discussed in further detail below.

Functional specification and cut-in works

Connections to the transmission network, regardless of whether some services are non-regulated or not, necessarily requires the involvement of the relevant TNSP to determine the minimum technical parameters for a connection to its network to enable that TNSP to manage the safety, reliability and security of its transmission network. Similarly, a connecting TNSP is best placed to provide the cut-in (or interface) works required to facilitate the connection of new assets to its transmission network since it can manage the provision of these works in a way that will not affect the service end-use customers receive. As such, the draft Rule provides that any services associated with setting the functional specification and providing cut-in works must be provided by the Primary TNSP as negotiated transmission services.

Arrangements for the provision of these services will therefore be negotiated between the connecting party and the TNSP under the Rules that relate to the provision of negotiated transmission services. The following aspects of the draft Rule will therefore be relevant to the provision of functional specification and cut-in works: transparency requirements for TNSPs, the ability to request the engagement of an independent

engineer to provide advice on technical matters, the revised negotiating principles and the ability to access commercial arbitration.[203]

Detailed design and construction

The approach set out in the draft Rule for detailed design and construction is broadly similar to what was proposed in the rule change request and Model A in the Commission's discussion paper. However, it expands the scope of services open to contestability to include 'detailed design'. Enabling competition for the provision of detailed design services is likely to encourage innovation in the way in which identified user shared assets, including primary plant and civil works, are built to meet the TNSP's functional specification.

Input from stakeholders to date and the Commission's analysis indicates that there already is, or will be, a market for the provision of detailed design and construction services for identified user shared assets.[204] The input and analysis set out above has also shown that construction costs are the largest driver of overall connection costs, and that contestability in both the detailed design and construction of identified user shared assets has significant potential to reduce these costs. Further, both of these services can be provided in a way that does not affect flows to end-use consumers on the transmission network because they are all carried out before the asset is commissioned and so forms part of the transmission network.

Under the draft Rule the provision of detailed design and construction services for identified user shared assets that are contestable identified user shared asset components under the criteria in the Rules can be provided on a non-regulated basis, subject to the Primary TNSP's functional specification. Arrangements for the provision of these services are to be agreed between the connecting party and its chosen service provider on a purely commercial basis. The draft Rule therefore does not specifically address these arrangements.

Schedule 5.6 of the existing Rules sets out that connection agreements must contain the specific conditions that have been agreed to for connection and access to the transmission network. The draft Rule adds a number of new conditions that must be covered off in the connection agreement, including:

- the arrangements for the provision of services relating to non-contestable IUSA components;[205] and

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203 These aspects of the draft Rule are discussed in appendix C.

204 For example, we note that AEMO publishes a list of service providers that have expressed interesting in constructing contestable augmentations to the Victorian network. Four construction companies - in addition to the current TNSPs registered in Victoria - have expressed an interest. See: http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Network-connections/Victoria-transmission-connections---process-overview/Victoria-contractor-panel

205 Clauses (m) of Schedule 5.6 of the draft Rule.

- in the event that the connection applicant obtains services related to contestable IUSA components from a party other than the Primary TNSP but intends to transfer ownership of some or all of those components to that TNSP:
  - arrangements for the transfer of ownership of those components upon energisation of the identified user shared asset to the Primary TNSP (if applicable) and how any defects liabilities will be managed;
  - provision of information reasonably required to properly provide operation and maintenance services for the life of those components including plans and methodologies of manufacturing, construction process, health, safety and asset management manuals; and
  - the functional specifications for those components.[206]

Ownership

Under the draft Rule, ownership of identified user shared assets is a non-regulated transmission service that can be provided to the connecting party by any party on commercial terms, if they meet the criteria set out in the draft Rule.

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 AER, from the requirement to be a Registered participant in relation to that activity under this Law and the Rules."

Under the draft Rule, the definition of transmission system includes, amongst other assets, a third party IUSA.[207] As set out in section B.2, a third party IUSA is those contestable components of an identified user shared asset that are not, or will not be, owned or leased by the Primary TNSP. As such, the requirement to be registered as a TNSP is triggered for those third party owners of identified user shared assets. As with any person who owns, controls or operates a transmission system, the Rules allow a person who owns an identified user shared asset to apply to the AER to be exempt from the requirement to register as a TNSP. However, the draft Rule requires that any exemption granted by the AER with respect to such a person be subject to the conditions that the person:[208,209]

206 Clauses (n) of Schedule 5.6 of the draft Rule.

207 A transmission system includes a third party IUSA that is not the subject of a network operating agreement and any associated connection assets.

208 Clause 2.5.1(d3) of the draft Rule.

- not engage in the activity of owning, controlling or operating a generating system that is connected to that third party IUSA, or be a related entity of a person that is engaged in the activity of owning, controlling or operating a generating system that is connected to that third party IUSA; and

- must have entered into a network operating agreement for that third party IUSA.

Allowing a generator, or a related entity of a generator, to own a transmission asset which connects it to the shared transmission network could raise competition concerns. For example, even if the generator was a 'passive' owner, it may still have the ability to exert influence over the Primary TNSP's granting of access to that asset to competing generators by contractual means, the veracity of which could not be tested given the confidential or private nature of such contracts. If access to an identified user shared asset is frustrated, this may result in an inefficient duplication of assets to enable a new party to connect, which is likely to increase the costs of connection and, ultimately, consumers. It may also mean that a new generator is forced to connect at a location that is sub-optimal. The purpose of requiring that TNSP exemptions for identified user shared assets be subject to this condition is therefore to limit the incentive that a generator connected to the identified user shared asset, or a related entity of that generator, may have to prevent or frustrate another party's access to the transmission network by way of that asset. Further, including this provision bolsters the current access regime as set out in the Rules.

The draft Rule introduces a direct obligation for generators to comply with this restriction, and any other conditions imposed by the AER.[210] The Commission proposes to recommend that this clause be classified as a civil penalty provision to provide a more direct mechanism in the Rules for the AER to enforce breaches of these conditions. This clause would only apply to those parties who are exempt from the requirement to register as a TNSP with respect to an identified user shared asset.

The Commission has not imposed a similar condition on market customers connected to an identified user shared asset that they own. The Commission considers that the incentive for market customers to frustrate or prevent access is less than for generators. However, the Commission welcomes feedback as to whether the same concerns may arise for market customers.

If the owner of the identified user shared asset is not the Primary TNSP, the draft Rule provides that any exemption the asset owner gets from the requirement to register as a TNSP in respect of the identified user shared asset is subject to the condition that the

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209 Clause 2.9.3 of the Rules allows parties to apply to the AER for an exemption from the requirement to register. The AER must allow that exemption if the applicant notifies the AER of the identity of a person (an "intermediary") to be registered instead of the applicant; the applicant provides the AER with the written consent of the intermediary to act as intermediary in a form reasonably acceptable to the AER and AER notifies the applicant that it approves of the intermediary. The AER must approve the intermediary if the applicant establishes that, from a technical perspective, the intermediary can be treated for the purpose of the Rules as the applicant with respect to the relevant transmission system, with which the applicant is associated.

210 Clause 2.5.1(d5) of the draft Rule.

owner enter into a network operating agreement with the Primary TNSP to facilitate the operation and maintenance - i.e. control - of the asset once it is commissioned.[211] This aspect of the draft Rule is discussed further under the subheading titled 'Operation and maintenance' below.

Arrangements for the provision of non-regulated ownership services are to be agreed between the connecting party and its chosen service provider on a purely commercial basis. Similarly, any transfer of ownership of the asset, including to the Primary TNSP upon commissioning, would be for those parties to agree on a purely commercial basis. The draft Rule therefore does not address these arrangements, and so leaves it up to the relevant parties to commercially negotiate an ownership option that is preferable to it. However, we note that if a third party owns the identified user shared asset and is exempt from the requirement to register as a TNSP, the ownership of the assets will always be subject to the network operating agreement between the owner and the TNSP.

Operation and maintenance, i.e. control of the asset

Identified user shared assets form part of the transmission network to which they are connected and, by definition, are not able to be electrically isolated from it without affecting flows of electricity across the 'shared' transmission network. In order to meet the obligations in respect of the safety, security and reliability of the supply of electricity to the end-users connected to its network, the Primary TNSP must be able to control the operation and maintenance of, and access to, all assets that form part of that network. As such, the draft Rule provides that the operation and maintenance of identified user shared assets (regardless of whether they are third party IUSA or owned by the Primary TNSP) must be provided by the Primary TNSP as negotiated transmission services.[212] The connecting party will pay the costs associated with the TNSP's provision of these services.

Arrangements for the provision of these services will be negotiated between the connecting party and the TNSP under the Rules that relate to the provision of negotiated transmission services. As such, the following aspects of the draft Rule will be relevant to the provision of operation and maintenance services: transparency requirements for TNSPs; the ability to request the engagement of an independent engineer to provide advice on technical matters; the revised negotiating principles; and access to commercial arbitration.[213]

As set out above, the NEL requires any person who owns, controls or operates a transmission system to register or be exempt from the requirement to register. However, the Primary TNSP, as the party who is responsible for the control (i.e. operation and maintenance) of identified user shared assets in its network under the draft Rule, will already be registered as a TNSP with respect to its transmission system.

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211 See clauses 2.5.1(d3)(2) and 5.2A.7(a) of the draft Rule.

212 Clause 5.2A.4(a) of the draft Rule.

213 These aspects of the draft Rule are discussed in appendix C.

There is therefore no separate obligation for the TNSP to register to operate and maintain the identified user shared assets in its network.

If the owner of the identified user shared asset is not the Primary TNSP, the draft Rule provides that any exemption the asset owner gets from the requirement to register as a TNSP in respect of that identified user shared asset is subject to the condition that the owner enter into a network operating agreement with the Primary TNSP to facilitate the operation and maintenance - i.e. control - of the asset once it is commissioned.[214] If the owner of the identified user shared asset wishes to register as a TNSP with respect to that asset, it must still enter into arrangements with the Primary TNSP that recognise that the Primary TNSP must provide operation and maintenance services for that asset.

network operating agreement

An agreement described in clause 5.2A.7.

The draft Rule requires the asset owner and the Primary TNSP to negotiate a network operating agreement in relation to the third party IUSA,[215] in accordance with the principles set out in Schedule 5.11 of the draft Rule, as applicable.[216] The term of the network operating agreement must be for a period of time which is at least equal to the term of the longest connection agreement of a member of the initial identified user group for the third party IUSA.[217] The agreement is also required to include the terms and condition of the kind set out in Part B of Schedule 5.6 to provide for the Primary TNSP to:[218]

- have operation and control of the third party IUSA (including the rights and obligations to maintain that asset) for an agreed charge or charging methodology;
- have an option to purchase the third party IUSA at fair market value at the expiry or early termination of the network operating agreement;
- alter, replace or augment the third party IUSA;
- have the right to connect other persons to the third party IUSA in accordance with the Rules;
- have unrestricted use of, and access to, the third party IUSA; and

214 Clause 5.2A.7(a) of the draft Rule.

215 Clause 5.2A.7(a) of the draft Rule.

216 Clause 5.2A.7(b)(3) of the draft Rule.

217 Clause 5.2A.7(c) of the draft Rule.

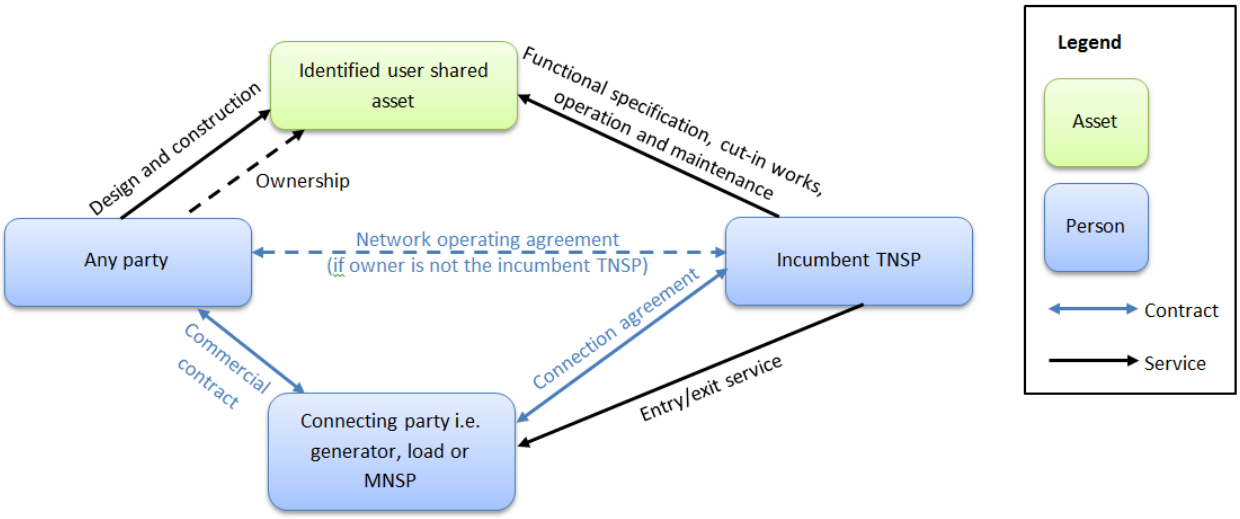
218 Clause 5.2A.7(d) of the draft Rule.

- treat the third party IUSA as forming part of the Primary TNSP's transmission network in all material respects and provide transmission services to any Transmission Network User in accordance with the Rules.[219]

The Commission considers that these new conditions will help to address the concerns raised by several TNSPs that they will be required to operate and maintain an asset that they did not design or build. TNSPs will be responsible for setting the functional specification, and having this obligation provides a means by which the TNSP can make sure that the identified user shared asset can interface safely, reliably and securely with the rest of the transmission network. The Commission also considers it important that the Primary TNSP remain responsible for setting the functional specification and operating and maintaining of identified user shared assets because doing so will support an efficient approach to the planning and operation of the transmission network.

Figure B.2 sets out the Commission's views on the indicative contractual arrangements that would be in place to support this approach under the draft Rule.

Figure B.2 Indicative contractual arrangements for identified user shared assets under the draft Rule



The services provided by 'any party' could conceivably be carried out by multiple parties - that is, the connecting party could contract with one person to design and build the identified user shared asset, and another to own it. The dotted lines show that the network operating agreement would only need to be put in place if the connecting party chooses a person other than the Primary TNSP to own the identified user shared asset and seeks exemption from the requirement to register as a TNSP. The Commission notes that these arrangements would be simpler if the ownership of the

219 Transmission Network User is defined in the draft Rule as: "in relation to a transmission network, a Transmission Customer and: (a) a Generator whose generating unit; (b) a Network Service Provider whose network; (c) to the extent that a Dedicated Connection Asset Service Provider is not already one of the persons listed above, a Dedicated Connection Asset Service Provider whose dedicated connection asset, is connected to the transmission network."

identified user shared asset was not contestable. However, it considers that the benefits from having flexibility in having contestable ownership outweigh the additional complexity associated with the contractual arrangements.

Third party access

While an identified user shared asset might be owned by a party other than the Primary TNSP, under the draft Rules the Primary TNSP will have full operational control over the identified user shared asset under the network operating agreement, subject to seeking exemption from the requirement to register as a TNSP. As such, the identified user shared asset will form part of the TNSP's transmission network. The draft Rule provides that the network operating agreement must allow the Primary TNSP to provide transmission services to any transmission network user, for example, granting access to the transmission network.[220]

Contestability threshold

While the Commission considers that there is likely to be workable competition for the provision of detailed design, construction and ownership services for identified user shared assets, there are many different assets that are needed to facilitate a connection to the shared transmission network, including:

- primary plant, e.g. transformers;
- secondary systems, e.g. SCADA and communications systems; and
- civil works, e.g. earthgrid and benching.

For some of these assets, it would be neither feasible nor practicable for the services of detailed design, construction and ownership to be provided on a contestable basis. This is for several reasons.

The first is that equipment may be embedded deep in the meshed network. For example, communications equipment may need to be upgraded or installed at a location that is some distance from the node at which a party is connecting. Such equipment needs to be able to interface with existing communications equipment, and needs to be installed in a controlled environment because it has implications for the safe, reliable and secure supply of electricity to end-use consumers. Access to the site at which that equipment is located may also be an issue, as could compatibility with that equipment if the upgrade or replacement is being undertaken by a party other than the party who originally arranged its installation.

Establishing a framework to enable such assets to be provided contestably would require a comprehensive set of Rules arrangements. For example, an interface specification would need to be established to set out how the new assets were to interface with existing assets. This may also require long and complex negotiations

220 Clause 5.2A.7(d) of the draft Rule.

between the Primary TNSP, the connecting party and the party undertaking the detailed design, construction and/or ownership of those assets. The Commission notes that such assets are considered to be non-contestable in Victoria, and therefore are provided by the incumbent DTSO. Enabling contestability for the provision of these services for such assets would impose additional risks on the Primary TNSPs, who are accountable for shared network outcomes, with limited means of managing these risks.

Another reason is that the costs and benefits of having some services opened to contestability may be relatively low. In some cases, for example if a connecting party is seeking connection to an existing substation, i.e. a brownfield connection, the costs of establishing new identified user shared assets to that substation would be relatively low compared to establishing a new substation, i.e. a greenfield connection. If that is the case, it is unlikely that many providers would see a strong benefit in providing detailed design, construction and ownership services for these assets. As such, there are likely to be limited benefits in allowing services for these types of assets to be provided contestably.

The final reason is that there may be interface issues at existing substations. A number of stakeholders have noted that parties are increasingly seeking connection to the transmission network via an existing substation, as opposed to building a new substation. Enabling the construction of new assets within an existing, live substation will have complications. This may mean interfacing with live transmission equipment that form part of the shared transmission network that supplies end-use consumers. Such an approach would increase risks for the Primary TNSP who, as the party with operational control of the shared transmission network, is accountable for outcomes on that network. The presence of both the contestably-appointed service provider and the Primary TNSP may be considered an unnecessary duplication of resources, resulting in increased costs for connecting parties.

The Commission considers that the costs of allowing contestability in the three scenarios described above would outweigh the benefits. The draft Rule therefore provides that the Primary TNSP must provide the services of detailed design, construction and ownership as negotiated transmission services only if the capital cost of all components of the identified user shared asset is reasonably expected to be $10 million or less. If the capital cost of all components of the identified user shared asset is reasonably expected to be greater than $10 million, the services of detailed design, construction and ownership of each component of the identified user shared asset are non-regulated transmission services and can be provided on a contestable basis to the extent the relevant component satisfies the following criteria:

- the assets being constructed are new or a complete replacement of existing assets (and does not involve the reconfiguration of existing assets); and

- the detailed design and construction of the identified user shared asset is separable in that the new assets will be distinct and definable from the existing transmission network.[221]

The TNSP must determine whether each component of the identified user shared asset meets these two criteria. In the event that the parties do not agree on whether the asset meets or does not meet the technical criteria set out above[222], the draft Rule provides a means by which either party can engage an independent engineer to provide technical advice on the matter.[223] The Commission considers that this is an appropriate role for the independent engineer to play since the criteria are technical in nature. Further, if parties do not agree on the Primary TNSP's assessment, either party could choose to raise a formal dispute under the commercial arbitration provisions set out in the Rules.[224]

If the asset does not meet the contestability criteria, all services provided in relation to that asset will be provided by the Primary TNSP as negotiated transmission services. All of the arrangements under the draft Rule that relate to the provision of negotiated transmission services, such as the negotiating rules, access to a commercial arbitration process and the independent engineer, will apply to the provision of these services.[225]

The Commission considers that setting out clear criteria in the Rules for contestability is preferable to requiring parties to agree the contestability for such services for each individual connection. Doing so provides more clarity to connecting parties and Primary TNSPs, should limit disagreements between the connecting party and the Primary TNSP and should reduce the risk of costly negotiations. It is also a common approach to investments in transmission infrastructure in other jurisdictions, as explained in Box B.2.

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221 Clause 5.2A.4(c) of the draft Rule. These concepts are based on provisions in Chapter 8 of the Rules that relate to how augmentations are deemed to be contestable in Victoria. See Box B.2.

222 That is, clauses 5.4A.4(c) and (d) of the draft Rule, relating to whether the component is a new or a complete replacement of existing assets, or that the detailed design and construction of the identified user shared assets is separable in that the new assets will be distinct and definable from the existing transmission network.

223 Clause 5.4.1(b)(3) of the draft Rule.

224 Detailed arrangements on the appointment of an independent engineer and dispute resolution are discussed in appendix C.

225 These aspects of the draft rule are discussed in appendix C.

Box B.2 Contestability thresholds in other jurisdictions

Victoria, Australia

Part H of Chapter 8 of the Rules relates to augmentations in the declared transmission systems where AEMO exercises declared network functions. Specifically, the Rules state that an augmentation is a contestable augmentation if:

- the capital cost of the augmentation is reasonably expected to exceed $10 million; and
- the augmentation is a separable augmentation, i.e. where the augmentation will result in a distinct and definable service to be provided by the contestable provider to AEMO; and the augmentation will not have a material adverse effect on the incumbent declared transmission system operator's ability to provide services to AEMO under any relevant network agreement.[226]

Great Britain

Ofgem, the government regulator for gas and electricity markets in Great Britain, is currently implementing a contestable approach to investments in transmission infrastructure. Ofgem has established the following criteria to determine what types of transmission investments are contestable:

- the value of the transmission investment must be £100 million or above;[227]
- the assets are completely new or are a complete replacement of existing transmission assets;
- ownership between these assets and other (existing) assets can be clearly delineated.

Ireland

In Ireland, parties connecting to the shared transmission network have the right to construct part or all of their connection. However, certain activities, works and assets are determined to be non-contestable, including:

- certain limited works and assets due to the particular location that cannot be safely separated from existing 'live' transmission system
- works and assets that are required for system protection and communication; and
- deep reinforcement works and assets.

226 Rule 8.11.6 of the Rules.

227 Ofgem determined that this was the level at which the benefits of competition would outweigh the costs, and would attract strong market interest.

B.3 Asset sizing

B.3.1 Background

Under current arrangements, TNSPs typically set the functional specification for and design what would fall within the definition of identified user shared asset under the draft Rule.[228] The Commission understands that incumbent TNSPs may seek to design substations to accommodate future connections, or to meet broader reliability standards. In particular, generators have a perception that TNSPs 'oversize' assets used for connection. Oversizing such assets might involve purchasing additional land, providing room for additional bays or specifying rating of equipment above the requirements of the connecting party. Connecting parties may also choose to oversize such assets, for example in anticipation of connecting a second stage of a generation project.

The existing Rules do not provide explicit clarity on how the costs of this oversizing is being recovered - whether from the party that requires the asset to connect to the transmission network, or all transmission customers through TUOS charges. As a result, some TNSPs have sought to provide their own guidance on these matters.

B.3.2 COAG Energy Council's view

The COAG Energy Council did not propose any arrangements for the sizing of identified user shared assets in its rule change request, but it did recognise the issue that some TNSPs may wish to oversize assets.[229]

B.3.3 Stakeholder views

Submissions on consultation paper

The Commission did not raise the issue of asset sizing in its consultation paper. However, in commenting on the proposal that the incumbent TNSP would design identified user shared assets, Origin Energy proposed that the connecting party should only bear the cost of the portion of the asset required for its connection if the incumbent TNSP deems it appropriate to design an asset beyond the specification needed for the connecting party.[230]

228 Current arrangements are described in detail in section 1.2.

229 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 15.

230 Origin Energy, submission on consultation paper, p. 1.

Submissions on discussion paper

In the discussion paper, the Commission noted that both TNSPs and connecting parties might wish to oversize an identified user shared asset. These scenarios, and the views put forward by the Commission on each, are summarised below.

- A TNSP may wish to design a larger identified user shared asset to help it meet its reliability standards or to maximise market benefits, and should not be prevented from doing so provided that it recovers difference between what is required for connection and what is to meet an identified need in the provision of prescribed transmission services in accordance with the cost allocation principles in the Rules.

- A TNSP may wish to design a larger identified user shared asset if it considers that another party might connect to the transmission network via that asset in the future, and should not be prevented from doing so provided that it does not recover the costs of this oversizing from customers through TUOS.

- A connecting party may wish to oversize an identified user shared asset and should not be prevented from doing so provided that it pays the costs of doing so.[231]

The Clean Energy Council supported the Commission's approach to asset sizing. It agreed that connecting parties should not be burdened with the costs of oversizing assets to allow for competing future connections, or risk a second mover taking the incumbent's reserved capacity.[232]

AEMO agreed that it would be helpful if the Rules specified the extent to which TNSPs should seek substation designs that incorporate expected efficient network development. It noted that flexible substation designs can significantly reduce the costs of future connections and reduce system security risks, but can cause the original connecting party to bear unnecessary costs. AEMO considered that there was scope to set a monetary limit on the additional costs that an incumbent TNSP may require to allow for future development.[233]

B.3.4 Analysis and conclusions

The Commission considers that connecting parties should only bear the cost of the services reasonably required for their connection, unless they wish to do otherwise. This means they should not be required to pay for oversized assets as part of connection services. Connecting parties should only bear the risk of oversizing an identified user shared asset if they are able to manage these risks. The Commission also considers that consumers should not bear this risk. While the Commission recognises

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

232 Clean Energy Council, submission on discussion paper, p. 11.

233 AEMO, submission on discussion paper, p. 5.

that this, in some circumstances, may mean that optimal efficiency is not achieved (i.e. if one party planned and made investment decisions about connection assets), this is a necessary outcome of introducing contestability into the connections process. It would be inefficient to allow a party (e.g. the connecting party) to bear the risks of oversizing, if it is not able to manage those risks (i.e. when they would choose to do so).

As noted above, while the existing Rules set out that the price for negotiated transmission services should be based on the costs of providing that service, the Commission considers that the Rules could provide connecting parties or transmission customers with further clarity about how the costs of a TNSP's oversizing are to be recovered. The draft Rule aims to assist in this regard by setting out the following principles to provide guidance on how parties should approach and negotiate this issue. These broadly reflect the approach proposed by the Commission in its discussion paper:[234]

- The Primary TNSP should provide a connection applicant with a functional specification that is no more than is required for the connection being sought by that connection applicant.
- The Primary TNSP also has the option to provide a functional specification for an identified user shared asset above what is required for that connection where the Primary TNSP will fund the proportion of the identified user shared asset that is above what is required for the connection.
- The connection applicant must consider the TNSP's preferred sizing in good faith, but is not required to accept the TNSP's preferred sizing.[235]

Therefore, under these principles, the Primary TNSP would not be prevented from oversizing. However, it would have to signal to the connection applicant what would be required, and how much the TNSP would contribute in order for the assets to be oversized.[236] The TNSP would be able to fund the assets depending on why it wishes to oversize:

- if it is to provide prescribed transmission services, then this part of the cost of the asset should be recovered from transmission customers in accordance with the existing cost allocation methodology; while

234 Principle 12 of Schedule 5.11 in the draft Rule.

235 The Commission considers that the connection applicant should not have to accept the TNSP's preferred sizing, because doing so may have an impact on the timeliness of their connection to the transmission network, for example if the TNSP has to undertake a RIT-T process to determine cost recovery arrangements for the oversizing.

236 For example, additional works to identified user shared assets may be necessary in order for the direct connected load to receive the relevant reliability standard i.e. in addition to the negotiated and non-regulated transmission services that are provided to a party connecting. For example, static var compensation may need to be installed deeper in the network. In this case, modifications to the transmission network are to enable the TNSP to meet its reliability standard obligations, and so are to the benefit of all consumers in that region, so any such investments are for the purpose of providing prescribed transmission service and so paid for by consumers through TUOS charges.

- if the TNSP wishes to oversize an asset in anticipation of future connections, it will not be entitled to seek a revenue allowance to fund this oversizing.

In this way, the connecting party only bears the cost of the portion of the asset that is reasonably required for its connection. Regardless, the connection applicant must agree to the oversizing occurring.

A connecting party 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 and the identified user shared assets still meets the functional specification provided by the TNSP. Under the draft Rule, the connecting party would negotiate arrangements for the provision of functional specification, cut-in works, operation and maintenance services for the oversized asset with the Primary TNSP as a negotiated transmission service. The services of ownership and construction of those assets would be contestable, provided that they meet the contestability threshold.

Clarity on this issue will provide greater transparency in the connections framework, and should allow for more efficient negotiations between connecting parties and Primary TNSPs on their rights with regard to asset sizing, and consequently how the costs of doing so are to be recovered.

B.4 Cost sharing

B.4.1 Background

As explained in detail in section 1.2, connecting parties should only pay for the minimum assets and services that are required to enable their connection to the transmission network. The Commission notes that it is becoming increasingly likely that connecting parties will seek connection to the transmission network via an existing identified user shared asset, i.e. a 'brownfield' connection, rather than building an entirely new identified user shared asset, i.e. a 'greenfield' connection. However, this can create a first mover disadvantage because the first connecting party will pay the full costs of the identified user shared asset needed to facilitate its connection, but subsequent connecting parties will only pay the incremental costs of connecting to that asset.

The Commission understands that some TNSPs have put in place informal arrangements to resolve this first-mover disadvantage. In Victoria, AEMO has developed a cost allocation policy for terminal stations, i.e. a substation, that 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."[237,238]

B.4.2 COAG Energy Council's view

The COAG Energy Council did not propose any cost sharing arrangements for identified user shared assets in its rule change request.

B.4.3 Stakeholder views

In the discussion paper published on this rule change request the Commission proposed that the Rules should set out a number of principles by which costs could be shared between parties connected to the same identified user shared asset to facilitate efficient connections to existing assets.[239] There were no specific comments from stakeholders on this aspect of the discussion paper in relation to this.

B.4.4 Analysis and conclusions

As explained in section B.3.4, the Primary TNSP will have full operational control over the identified user shared assets in its network under the draft Rule even if the assets are owned by a third party.[240] This includes the ability for the Primary TNSP to facilitate future connections to those identified user shared assets and network expansion where necessary in accordance with the transmission access arrangements in Chapter 5 of the Rules.[241]

However, the Commission is of the view that a set of principles in the Rules will promote a consistent approach to cost sharing between TNSPs. Such arrangements are also likely to provide a number of benefits, including:

- fewer 'cut-ins' to the transmission network, thereby improving the security of electricity flows in that network;

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237 See https://www.aemo.com.au/-/media/Files/PDF/Cost_allocation_policy_negotiated_transmission_services.ashx

238 The Commission notes that AEMO proposes in its Victorian Connection Reform to place provisions into the Rules to allow AEMO to apply its cost allocation policy in Victoria. See: AEMO, Victorian Connections Reform, November 2016, p. 16.

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

240 This will occur either through a third party IUSA owner seeking exemption from the requirement to register as a TNSP, and entering into a network operating agreement with the Primary TNSP; or, where the third party IUSA owner has full TNSP registration entering into appropriate arrangements that recognise that they need to obtain operation and maintenance services from the Primary TNSP as a negotiated transmission service.

241 See clause 5.2A.7 of the draft Rule.

- lower overall connection costs and better utilisation of existing identified user shared assets, which is expected, ultimately, to reduce costs to connection applicants and so consumers;

- shorter lead times for applicants connecting to an existing identified user shared asset; and

- increased likelihood of multi-connection identified user shared assets being connected to additional transmission lines in the future, reducing constraints for individual connections.

The draft Rule therefore contains a number of principles and obligations for how the costs of new identified user shared assets, and subsequent connections to those assets, should be recovered. These include:

- The price for a negotiated transmission service should be subject to adjustment over time to the extent that the assets used to provide that service are subsequently used to provide services to another person, in which case such adjustment should reflect the extent to which the costs of that asset is being recovered through charges to that other person.[242]

- The connection applicant should only be required to pay the costs directly incurred as a result of its connection.[243] That is, its proportion of any costs associated with new identified user shared assets required as a result of its connection.

- Subsequent connection to identified user shared assets by other connecting parties should not adversely affect the negotiated transmission services provided to the original identified user group for that identified user shared asset.[244]

- Subject to the above principle relating to paying costs directly incurred as a result of connection, future connecting parties to the same identified user shared asset should pay for a proportion of the costs paid by the identified user group for negotiated transmission services. The proportion of costs will be calculated with respect to: the relative capacity of the connection applicant's generating plant; or the relative number of bays; or respective bays in the identified user shared asset, with the applicable cost sharing methodology determined as appropriate by the nature of the negotiated transmission services.[245]

The Commission considers that these cost sharing principles can only apply to the provision of negotiated transmission services by the TNSP, by definition the basis for determining the price of non-regulated services is not regulated under the Rules. This is reflect in the draft Rule. The Commission recognises that this minimises some of the

242 Clause 6 of Schedule 5.11 of the draft Rule. This is an existing provision that was previously in Clause 6A.9.1(6) of the Rules.

243 Clause 11 of Schedule 5.11 of the draft Rule.

244 Clause 13 of Schedule 5.11 of the draft Rule.

245 Clause 14 of Schedule 5.11 of the draft Rule.

efficiencies that could be achieved with arrangements for cost sharing, but acknowledges that this is a necessary consequence of not having all services associated with connection being provided as the same type of transmission service.

B.5 Assessment of model for contestability set out in the draft Rule

This section sets out the Commission's assessment of the boundaries of contestability under the draft Rule against the criteria set out above and described in detail in chapter 3.

B.5.1 Transparency

In workably competitive markets, information required for parties to make efficient decisions is readily available. However, if there is a lack of competition, additional regulation may be required to require parties who hold certain information to reveal it.

The draft Rule relies on some information being revealed through competition, and other information being revealed by requirements on the TNSP, specifically:

- allowing connecting parties to choose who designs, constructs and owns any assets associated with connection will reveal cost and timing information related to the provision of these assets i.e. this information will be revealed through the competitive market; while

- a connecting party (and its chosen service provider for services that are open to competition) will still need certain information from the TNSP to enable its connection to the transmission network. No party knows the TNSP's network as well as that TNSP. This information might not be revealed in the absence of regulation.

The draft Rule therefore sets out some obligations on the TNSP to provide information that will help the connecting party to make informed decisions about the services that are to be provided by the TNSP as negotiated transmission services, and those that can be provided by other parties. The Commission considers the combination of these two paths for information being revealed will result in the most efficient information being obtained by connecting parties, and so, efficient connection and investment decisions being made.

This combination of competition and regulatory obligations to reveal information is likely to provide greater transparency than current arrangements and the model set out in the rule change request.

B.5.2 Timeliness

Having the services of detailed design, construction and ownership able to be provided on a non-regulated basis gives the connecting party with more control over the timing of its connection to the transmission network. That is, provided the identified user

shared asset meets the contestability threshold, the connecting party will be able to select the contractor of its choice to design and build the asset at a commercially agreed timing and cost. Therefore, this addresses one of the major criticisms of the current connections framework i.e. that connecting parties do not have sufficient control over the timing of the process.

Under this model there is a risk that the Primary TNSP will delay or otherwise inhibit a party's connection if its bid to provide non-regulated transmission services to that party was unsuccessful. As such, connecting parties may be pressured into awarding the contract to the Primary TNSP, which would undermine the benefits of competition.[246]

However, the Commission expects that such a scenario is unlikely to eventuate in practice. The draft Rule puts in place a set of revised negotiating principles to bolster a connecting party's bargaining power in negotiating the timeliness, cost and technical requirements of a connection. The Rules also provide for a fairly prescriptive connection process that requires the TNSP to provide information (such as the functional specification) within set timeframes (e.g. clause 5.3.3(b(7)). Further, parties will have the ability to request the engagement of an independent engineer to provide advice on the technical aspects of a connection.[247] Finally, the fact that TNSPs will still be able to earn revenue from providing the operation, maintenance and control of these assets as a negotiated transmission service means that the loss of revenue from not being chosen for construction services is not as severe as if all the components of a connection service were contestable.

This model necessarily requires a handover from the party that constructed the identified user shared asset (provided that asset was constructed by a third party as a non-regulated transmission service) to the Primary TNSP for operation and maintenance once commissioned. While this may introduce a small time lag into the process, the draft Rule puts in place arrangements intended to make this as smooth a transition as possible.[248] Connecting parties have an incentive to make sure that their asset meets the Primary TNSP's requirements because the Primary TNSP will not assume operation and maintenance responsibility for that asset until it does so. The draft Rule also imposes a requirement on the connecting party and the Primary TNSP to have a network operating agreement in relation to contestable identified user shared asset components where the third party IUSA owner has sought an exemption from registration as a TNSP. This agreement will set out terms and conditions related to the ongoing operation and maintenance of the assets by the TNSP, including third party access to that asset by other parties.[249] This agreement will have been negotiated prior to the assets being commissioned, therefore minimising any potential disagreements at that stage.

246 The Clean Energy Council raised this as a concern. See: Clean Energy Council, submission discussion paper, p. 9.

247 These aspects of the draft rule are discussed in appendix C.

248 See section B.3.4.

249 See clause 5.2A.7 of the draft Rule.

On balance, the Commission considers that the draft Rule will provide connecting parties with more certainty and control over the timeliness of their connection to the transmission network.

B.5.3 Cost

In theory, if there is competition in the various markets for these services, allowing as many services as possible to be provided on a contestable basis should reduce costs. This model allows for competition in the provision of services that stakeholders consider there already is, or will be, a market for. These are also the services that stakeholders largely consider will benefit connecting parties the most in terms of reducing the timing and costs of their connection.

The Commission recognises that requiring the Primary TNSP to provide operation and maintenance services for identified user shared assets, regardless of whether they built them, may not encourage the connecting party to consider the full costs associated with the services provided over the lifetime of the assets. Some stakeholders have suggested that this may encourage connecting parties to choose a design and construction option that has the lowest upfront costs, but high ongoing operation and maintenance costs. However, the Commission considers that this risk is small. Connecting parties have an incentive to make sure that the asset by which it connects to the transmission network is functional since these assets facilitate how the connecting party gets access to the wholesale market. A poorly constructed asset that requires significant augmentation or maintenance following commissioning is unlikely to be in the commercial interests of the connecting party, whose objective is presumably to access the wholesale market via that asset or draw electricity from the transmission network via that asset to supply an industrial facility. Further, the connecting party will be paying the costs of the Primary TNSP operating and maintaining the asset for the life of the asset. Connecting parties therefore have an interest in findings ways to lower ongoing operation and maintenance costs by making the handover process as smooth as possible and building assets that the Primary TNSP will be able to operate and maintain.

There are fewer ongoing asset management risks under this model than there are if operation and maintenance services could be provided by a party other than the Primary TNSP. This is because the Primary TNSP can utilise its scale and scope efficiencies in responding to urgent repairs or maintenance of identified user shared assets. For example, the Primary TNSP is likely to hold spares or have the capacity to arrange contingency resources at short notice, because it is required to operate and maintain the remainder of its transmission network. Third party providers of operation and maintenance services may not have these same capabilities. The costs and time taken to carry out urgent repairs and maintenance are therefore likely to be greater if a third party is responsible for providing these services.

Providing that the Primary TNSP is to have full operational control of the transmission network, including identified user shared assets, is also efficient in the context of

network planning.[250] Such an approach, as opposed to enabling third parties to control parts of the transmission network, supports a holistic approach to transmission planning. A single party that considers the planning of the whole network it controls supports efficient decision-making, which is in the long-term interests of consumers.

This model also negates any needs for lengthy, complex and costly contractual negotiations between the connecting party and the Primary TNSP in relation to operations and maintenance. Such arrangements would need to be in place if the connecting party or its selected provider was able to operate and maintain an identified user shared asset because the identified user shared asset is not electrically separable from the Primary TNSP's transmission network.

Overall, this model has the potential to significantly lower connection costs by enabling competition in the provision of services that have the greatest scope to do so.

B.5.4 Unnecessary complexity

This model potentially requires fewer complex contractual arrangements involving multiple parties. The regulatory framework does not mandate complex arrangements. The relationships between parties and associated contractual arrangements that underpin this model are linear. Under the Rules, there would only need to be two agreements (i.e. the connection agreement and the network operating agreement) between the connecting party and the Primary TNSP. The connecting party is likely to contract with its chosen service provider for any contestable elements, but this agreement would be unregulated.

Third party access is also clear under this model. As is explained in section B.3.4, the Primary TNSP's ability to provide access to its network is extended to identified user shared assets under the draft Rule. The network operating agreement must provide the Primary TNSP with full operational control of the identified user shared asset, including the right to grant access to and augment the identified user shared asset.[251] The model therefore does not need to regulate how other parties might seek access to an identified user shared asset that is controlled by a party other than the Primary TNSP.

Therefore, the Commission considers that this model provides clearer arrangements that the approach proposed in the rule change request.

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250 This will occur either through a third party IUSA owner seeking exemption from the requirement to register as a TNSP, and entering into a network operating agreement with the Primary TNSP; or, where the third party IUSA owner has full TNSP registration entering into appropriate arrangements that recognise that they need to obtain operation and maintenance services from the Primary TNSP as a negotiated transmission service.

251 If the third party IUSA owner has full TNSP registration it will still need to enter into appropriate arrangements that recognise that they need to obtain operation and maintenance services from the Primary TNSP as a negotiated transmission service.

B.5.5 Accountability

Accountability is clear in this model because the draft Rule provides that identified user shared assets form part of the transmission network and, once commissioned, will be under the full operational control of the Primary TNSP. As such, the accountability for faults or any other issues with identified user shared assets is clearer than with the other models considered.

Under this model it is also clear that the Primary TNSP retains the obligations under jurisdictional electricity legislation that are imposed on operation and controllers of transmission networks.[252]

The Commission has therefore concluded that this model makes it clear that the Primary TNSP has control over its transmission network.

252 In its submission to the discussion paper, TasNetworks noted the system protection schemes it has in place to achieve transfers across Basslink and connect generation greater than the maximum generator contingency of 144MW in Tasmania. These schemes are provided by TasNetworks as unregulated transmission services when negotiating new connections to its network and are intended to maintain power system security. Under the model set out in the draft Rule, TasNetworks will retain responsibility for the operation and control of its transmission network, including identified user shared assets. As such, there should be no impact on TasNetworks' ability to provide these schemes.

C Connection process

This appendix outlines the Commission's draft Rule in relation to the proposals to improve the connection process for the provision of negotiated transmission services. Specifically, it discusses the proposals to:

- enable the connecting party or TNSP to engage an independent engineer for the provision of technical advice relating to connections to the transmission network;
- improve the negotiating frameworks, which guide negotiations between connecting parties and the TNSP when the TNSP provides negotiated transmission services;
- improve the transparency of transmission connections; and
- clarify the dispute resolution process that applies to the terms and conditions of access for the provision of negotiated transmissions services.

For each of the four areas outlined above, this appendix sets out:

- the current arrangements in the connection framework;
- the approach put forward by the COAG Energy Council;
- the views of stakeholders in submissions to the consultation paper and the discussion paper, as well as those expressed at the public forum and through one-on-one meetings;
- the Commission's analysis of the rule change request and stakeholder views; and
- the Commission's conclusions and draft Rule.

C.1 Independent engineer

C.1.1 Background

Under the current arrangements connecting parties and TNSPs do not have a Rules-based mechanism to engage an independent engineer to provide advice on technical disagreements that may arise in the negotiation of connection services. There is nothing to prevent the connecting party and the TNSP agreeing to seek independent advice outside the Rules, however, the TNSP:

- faces little incentive to fund the independent advice; and
- is not obliged to share information with the adviser or have regard to their advice.

During the Transmission Frameworks Review, as well as this rule change, connecting parties have expressed frustration regarding a perceived over-specification of technical requirements by the TNSP in the negotiation of a connection to the transmission network. Connecting parties have indicated that they are hesitant to initiate the dispute resolution process in regard to these technical requirements due to the risk of increasing the costs and length of the connection process. Connecting parties are also wary of damaging their relationship with the TNSP as the TNSP is ultimately responsible for providing the connecting party with access to the 'shared' transmission network.

C.1.2 Detailed design of the independent engineer process

The concept of an independent engineer providing advice on technical matters that arise throughout the negotiation of connection services was supported by stakeholders in the discussion paper. The Commission has made a draft Rule which provides for a process under which an independent engineer can be appointed to provide advice on technical issues related to connection where the services being provided by the TNSP are negotiated connection services. Further detail on the draft Rule is provided below.

Objective of the independent engineer

COAG Energy Council's view

The COAG Energy Council proposed in their rule change request that where agreement cannot be reached between the 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 advice. The COAG Energy Council considered that providing for access to independent technical experts would allow for testing as to whether the technical specifications around the connection assets are appropriate for the service being provided and the level of risk to the shared network.[253]

Stakeholder views

In its submission to the consultation paper, the Clean Energy Council supported the ability to nominate an independent engineer as they considered it would be a helpful improvement for early resolution of any issues that could arise.[254] AEMO was not convinced that the proposal to prescribe a role for an independent engineer would be effective.[255] It proposed an alternative approach where the connection applicant would be able to select who determines the technical requirements of the connection in

253 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 17.

254 Clean Energy Council, submission on consultation paper, p. 16.

255 AEMO, submission to consultation paper, p. 4.

the first instance, e.g. an approved independent expert instead of the TNSP.[256] In its submission to the consultation paper, the ENA also did not see value in introducing the ability to engage an independent engineer, arguing that previous disagreements relating to connections have historically not been about technical issues but related to a lack of clarity in the Rules.[257]

In submissions to the discussion paper, stakeholders were more supportive of introducing the ability to engage an independent engineer.[258] The Australian Energy Council and the ENA both suggested that the presence of an independent engineer would provide comfort to both parties in the proposed negotiation.[259] AGL believed that the introduction of an independent engineer would correct the power imbalance currently present in negotiations.[260]

Commission's analysis and conclusions

The draft Rule introduces a process by which an independent engineer can be engaged to provide independent advice on technical issues relating to a connection to the transmission network. This process is intended to assist negotiations between the TNSP and the connecting party by allowing for the use of advice from an independent party in resolving technical issues relating to: provision of negotiated transmission services; whether assets are dedicated connection assets or identified user shared assets; and whether assets meet technical criteria to be contestable identified user shared asset components. The independent engineer should provide a timely and cost-effective mechanism for seeking advice on technical issues relating to a connection.

Under the draft Rule the role of the independent engineer is limited to the provision of advice on technical matters, and the following issues are not considered technical matters under the draft Rule:

- the cost or commercial terms of the connection; or
- the process relating to the connection; or
- the timing of the connection.

If the independent engineer was required to consider aspects such as costs, which can be unique to individual businesses and also commercial-in-confidence in relation to competitive businesses, it would reduce the ability of the independent engineer to provide advice in a timely manner. As the above non-technical aspects do not fall within the independent engineer's expertise, the Commission considers asking the

256 AEMO, submission to consultation paper, p. 4.

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

258 Submissions on discussion paper: PIAC, p. 10; Australian Energy Council, p. 1; Infigen, p.2; ENA, p. 1; Clean Energy Council, p.6; EnergyAustralia, pp. 1-2; Origin Energy, p. 3.

259 Submissions on discussion paper: Australian Energy Council, p. 1; ENA, p. 1.

260 AGL, submission on discussion paper, p. 2.

independent engineer to address them would reduce the likelihood of the advice being provided actually assisting the resolution of the issue the independent engineer was engaged to advise upon.

When an independent engineer may be used

COAG Energy Council's view

The COAG Energy Council's proposal to introduce the independent engineer is intended to improve negotiations between connecting parties and TNSPs in relation to negotiated transmission services e.g. connections.[261]

Commission's analysis and conclusions

The draft Rule provides for the ability for either the TNSP or the connecting party to call for an independent engineer to provide advice on technical issues relating to a connection to the transmission network. The independent engineer process under the Rules can be used where the services being provided by the TNSP are negotiated transmission services (e.g. non-contestable services provided in respect of identified user shared assets).

The independent engineer process under the Rules cannot be used in relation to technical issues relating to non-regulated transmission services (e.g. the construction of dedicated connection assets). As providers of non-regulated transmission services are not able to exercise the same monopoly negotiating power as a TNSP may be able to in the provision of negotiated transmission services, the Commission considers that the Rules do not need to provide a process for the engagement of an independent engineer in respect of these services.

Facilitation role

COAG Energy Council's view

For the independent engineer process to operate effectively, there is a role for a third party to facilitate the engagement of the independent engineer. In the rule change request, the COAG Energy Council proposed that this facilitation role would be undertaken by the AER in conjunction with advice provided by AEMO.[262]

261 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 14.

262 Ibid., p. 17.

Commission's analysis and conclusions

The Commission considers that a party should be responsible for facilitating the engagement of independent engineers when the connecting party or TNSP identifies a technical issue on which they require advice and are unable to agree on an independent engineer to provide this advice or on the scope of the advice required.

The Commission considers the wholesale energy market dispute resolution adviser is the appropriate body to facilitate the independent engineer appointments where parties cannot agree on an engineer or on the scope of the advice required. The wholesale energy market dispute resolution adviser's current role includes the establishment of a pool of persons to resolve disputes under the Rules and the selection of appropriate consultants from a pool to constitute a dispute resolution panel when required. The wholesale energy market dispute resolution adviser therefore has the capability and the experience to establish a pool of independent engineers to provide technical advice in relation to connections and to appoint an independent engineer to provide advice where the parties cannot agree on an engineer.

Under the draft Rule, this "facilitation role" of the wholesale energy market dispute resolution adviser is separate and distinct from its role in relation to the dispute process set out in Chapter 8.

In relation to the independent engineer process, under the draft Rule the wholesale energy market dispute resolution adviser is responsible for:

- establishing and maintaining a pool of firms from which independent engineers may be selected;[263]
- if requested by either party, selecting the independent engineer if the connecting party and the TNSP cannot agree on the independent engineer to be used;[264] and
- if requested by either party, determining the scope of the advice to be considered by the independent engineer, which it must do in consultation with the parties.[265]

Establishing the pool of independent engineers

COAG Energy Council's view

In the rule change request the COAG Energy Council proposed that the AER would be able to advise that the size of the pool is adjusted in response to the demand for its services.[266]

263 Clause 5.4.2(a) of the draft Rule.

264 Clause 5.4.4(a)(4) and (b) of the draft Rule.

265 Clause 5.4.4(a)(5) and (b)of the draft Rule.

Stakeholder views

In its submission to the consultation paper, the Clean Energy Council suggested allowing international engineering experts to be considered eligible for the pool as many of the parties in Australia with relevant experience may be already engaged in contracts or bidding for works and so may be conflicted.[267] By contrast, in its submission, the ENA considered that the parties must have experience in the NEM to be eligible.[268]

Commission's analysis and conclusions

In the draft Rule the wholesale energy market dispute resolution adviser, in selecting engineers or other suitably qualified experts for the pool, will be required to have regard to the need for sufficient experience and expertise in technical matters involved in connections to the transmission network. The wholesale energy market dispute resolution adviser will also be required to review the composition of the pool every two years to maintain a sufficient size and make sure the composition is appropriate.

The Commission considers that creating a pool of firms from which independent engineers can be selected should allow parties to engage an engineer who has sufficient independence and is suitably experienced with the relevant various technical issues that can arise in the provision of negotiated transmission services. In addition, the wholesale energy market dispute resolution adviser should be afforded the flexibility to determine the size of the pool that is sufficient to address the need to independent engineers and the flexibility to determine the level of expertise required to be eligible for the pool. By requiring the wholesale energy market dispute resolution adviser to review the composition at least once every two years, it will ensure there is sufficient relevant expertise in the pool and provide the opportunity for new independent engineers to join.

Selecting the independent engineer and scope of advice

COAG Energy Council's view

In the rule change request, the COAG Energy Council proposed that either party to a connection would have the option of calling for an independent engineer. In the instance where the two parties were unable to agree, the AER would be responsible for nominating an independent engineer.[269]

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266 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 17.

267 Clean Energy Council, submission on consultation paper, p. 16.

268 ENA, submission on consultation paper, p. 17.

269 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 17.

Stakeholder views

In its submission to the discussion paper, the Clean Energy Council suggested that if the two negotiating parties were not able to agree on an appropriate independent engineer, each party should present their reasons to the AER to assist them in selecting an appropriate choice.[270]

In the ENA's submission to the consultation paper, it considered the following guidance for the scope of the independent engineer's advice would be appropriate:

- the TNSP's proposed technical specifications should be reasonable;
- there should be regard to the need to reasonably facilitate future connection; and
- the TNSP's proposed technical specifications should be consistent with good industry practice.[271]

In submissions to the discussion paper, Infigen considered that the independent engineer should be able to provide advice on scope, terms, standards and quality of connections and that it should also be able to review scope and costs for upgrades required to the shared network in order to connect.[272] Origin Energy suggested that guidelines could be developed to help the independent engineer in its deliberations and manage the expectations of both parties. Origin Energy also considered guidelines around expected timeframes, indicative costs, information requirements and access to key staff would be helpful in weighing up the commercial drivers apparent in any connection process.[273] The Clean Energy Council agreed, arguing that there may be benefit in providing structure to the independent engineer process.[274]

Commission's analysis and conclusions

In the draft Rule, upon either party in the connection process deciding that they wish to engage an independent engineer, the connection applicant or TNSP may serve a notice on the other party that it requires the appointment of an independent engineer and specifies the technical issue on which advice is required. After serving the notice on the other party, the two parties would attempt to both decide on the independent engineer that they would like to engage, and the scope of the advice sought.

If the technical issue as raised by the connecting party or the TNSP relates to an AEMO advisory function, AEMO must also be served with the above notice.

270 Clean Energy Council, submission on discussion paper, p. 6.

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

272 Infigen, submission on discussion paper, p. 2.

273 Origin Energy, submission on discussion paper, p. 3.

274 Clean Energy Council, submission on discussion paper, p. 6.

If the parties are unable to agree on the independent engineer and the scope of the advice sought, either party would be able to issue a notice to the wholesale energy market dispute resolution adviser.[275] This notice would contain:

- the names of the parties involved;
- a statement setting out the technical issue;
- the name of the independent engineer if both parties have agreed, or in absence of this agreement, a request for the wholesale energy market dispute resolution adviser to select an independent engineer;
- the scope of advice required in respect of the technical issue as agreed between both parties or in the absence of such agreement, a request for the wholesale energy market dispute resolution adviser to assist in determining the scope; and
- a time frame for the advice to be provided.

If the wholesale energy market dispute resolution adviser is required to select the independent engineer, the wholesale energy market dispute resolution adviser must:

- use reasonable endeavours to ensure the cost, availability, independence, expertise and expertise and experience of the selected independent engineer is appropriate to the technical matter;
- consult with parties prior to appointment; and
- make the appointment within 15 business days of the matter being referred to it.

If the wholesale energy market dispute resolution adviser is requested to determine the scope of the advice to be provided by the independent engineer, this would be decided through consultation with both parties and the independent engineer once appointed. The Commission considers that it is necessary to afford the wholesale energy market dispute resolution adviser and the parties the flexibility in determining the scope of the technical advice required.

Independent engineer process

COAG Energy Council's view

In the rule change request, the COAG Energy Council proposed that the parties to the connection should be obliged to provide the independent engineer with sensitive

275 If the parties agreed on the scope, and the choice of independent engineer, then they would not need to issue a notice to the wholesale energy market dispute resolution adviser.

commercial information, as such information is necessary to perform the assessment.[276]

Stakeholder views

The ENA, in its submission to the consultation paper, considered that the independent engineer should be able to access information that they consider to be reasonably required.[277]

In submissions to the discussion paper, Infigen, ENA, Clean Energy Council and Origin Energy all suggested that the engineer needs to have access to relevant information to provide informed independent engineering advice.[278] The Clean Energy Council argued that both parties need to be open and transparent with the engineer and the Rules should make clear that the confidentiality of the party's information is retained.[279]

Commission's analysis and conclusions

Under the draft Rule the independent engineer may request documents and information from the parties that it reasonably considers to be required to provide its advice, subject to any confidentiality requirements of the parties. The parties involved will need to comply with the request. The Commission considers that allowing the independent engineer to access this information would increase the timeliness of resolving technical issues. It is likely to increase the confidence of the parties to the process that the advice provided took all relevant matters into account, including information which may not have been made available to either party by the other during negotiations up until this stage.

In providing its advice, it is important that the independent engineer has regard to the broader transmission system implications of the connection. The technical requirements of a connection should be set so that the most efficient decisions are made for the transmission system as a whole, as this is what the TNSP would take into account when assessing connections. It is important that a TNSP should be able to consider broader system impacts when setting technical requirements of a connection as the TNSP is responsible for outcomes on the shared network. Factoring in system-wide implications into the technical requirements of a connection would result in more efficient transmission system investment and planning.

276 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 17.

277 ENA, submission on consultation paper, p. 17.

278 Submissions on discussion paper: Infigen, p. 2; ENA, p. 1; Clean Energy Council, p. 6; Origin Energy, p. 3.

279 Clean Energy Council, submission on discussion paper, p. 6.

For these reasons, the draft rule requires the independent engineer to have regard to the following when providing their advice:[280]

- the technical requirements of the connection as proposed by either of the parties;
- the technical requirements of the connection should not preclude the possibility of future connections;
- the technical requirements of the connection being consistent with good electricity industry practice and contributing to a safe, reliable and secure transmission system;
- any relevant requirements and obligations under the applicable jurisdictional electricity legislation; and
- where relevant, any submission made by AEMO on AEMO's advisory matters.

The TNSP involved in the engagement of the independent engineer may amend the time period referred to in any stage of the connection process under the preliminary program to allow for any additional time reasonably required to accommodate the engagement of an independent engineer.

Non-binding nature of independent engineer advice

Stakeholder views

In its submission to the consultation paper, the ENA acknowledged that the current commercial arbitration arrangements provide for disputes on technical standards in which the arbitrator's decision is binding. The ENA believed the independent engineer's role should not be to duplicate this.[281] In Origin Energy's submission to the discussion paper, it considered the independent engineer's advice should be legislated to be considered in commercial arbitration.

Commission's analysis and conclusions

Under the draft Rule the advice provided by the independent engineer is not binding on either party.[282] The Commission considers that it is important that the independent engineer process be accessible and timely. If the independent engineer's decision were to be binding, given the final nature of such a decision, the parties may treat the process as a more legal, dispute oriented one rather than a facilitative, technical one designed to aid any negotiation impasse. This could have the effect of substantially prolonging the process and, by extension, increasing the cost. Stakeholders would be

280 Clause 5.4.5(e) of the draft Rule.

281 ENA, submission on consultation paper, p. 17.

282 Clause 5.4.5(h) of the draft Rule.

unlikely to utilise the independent engineer if the process was prohibitively expensive or lengthy.

If the issue that the independent engineer is advising on is not considered resolved by either party, the dispute resolution process under Part K of Chapter 6A would accessible for resolution.

Costs of independent engineer

COAG Energy Council's view

In the rule change request, the COAG Energy Council proposed that once the independent engineer had been selected, the costs should be shared equally between both parties unless the independent engineer considers some other allocation of costs appropriate.[283]

Commission's analysis and conclusions

The costs of the independent engineer, as well as any costs of the wholesale energy market dispute resolution adviser if applicable, would be borne equally by both parties. The Commission considers this would incentivise the parties to assist the independent engineer in a timely manner to minimise costs. It would also incentivise both parties to provide the independent engineer with any requested information promptly. By having the costs borne equally by the parties, the independence of the engineer is clarified as they are not employed by a single party to the connection.

It would be left up to the TNSP as to how to recover the costs associated with the engagement of an independent engineer. However, the draft Rule does not allow a TNSP to include the costs of an independent expert in the connecting party's application fee. In addition, as the costs of the independent engineer will be associated with the provision of negotiated transmission services, the TNSP will not be allowed to seek allowance for the costs of these services in its revenue determination.

Other functions of the independent engineer

Commission's analysis and conclusions

In addition to providing advice on technical aspects of a connection, the independent engineer could also be called upon to provide advice on:

- whether a particular component forms part of an identified user shared asset or a dedicated connection asset;[284] and

283 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 17.

284 Clause 5.4.1(b)(2) of the draft Rule.

- whether a particular component of an identified user shared asset is:[285]
  - new and does not involve reconfiguration of existing assets; and
  - distinct and definable from the existing transmission network.

C.1.3 Conclusions

The Commission considers introducing the ability to engage an independent engineer to provide technical advice would improve the timeliness and progress of the connection process and address an imbalance of negotiating power in the provision of negotiated transmission services. Currently, TNSPs hold significant power in negotiations in the current connection process due to having more information that the connecting party and connecting parties have limited opportunities to address any perceived over-specification of the technical requirements of a connection by the TNSP. The independent engineer proposals provide a mechanism that incentivises the connecting party and the TNSP to resolve technical disagreements in a timely and cost-effective manner.

C.2 Negotiating framework

C.2.1 Background

Currently, a TNSP must comply with its negotiating framework and negotiated transmission service criteria when negotiating the terms and conditions on which it will provide negotiated transmission services to a person.

Clause 6A.9.5 of the Rules currently provides that TNSPs must prepare a document (a "negotiating framework") setting out the procedure to be followed during negotiations between that provider and any person who wishes to receive a negotiated transmission service as to the terms and conditions of access for the provision of the service. The TNSP must submit its proposed negotiating framework to the AER at the same time as its revenue proposal in relation to prescribed transmission services. As part of its final decision for a TNSP the AER must make a decision on whether or not to accept a TNSP's negotiating framework and specify the negotiated transmission service criteria that apply to the TNSP.

The negotiated transmission service criteria must give effect to and be consistent with negotiating principles set out in clause 6A.9.1 of the Rules.

285 Clause 5.4.1(b)(3) and clause 5.2A.4(c) of the draft Rule. This is discussed further in section B.2.4.

C.2.2 Updated negotiation frameworks

COAG Energy Council's view

The COAG Energy Council considered that the current negotiating principles and negotiating frameworks do not sufficiently address the asymmetry in negotiating power between TNSPs and connecting parties. The COAG Energy Council also considered that the current negotiating principles "are focussed on cost and prices issues and do not adequately cover a number of the issues which are the sources of disagreement in connections negotiations in practice, for example perceived over-specification, timeliness and risk allocation."[286]

To address these issues, the COAG Energy Council proposed to update and extend the current negotiating principles and enshrine them within the Rules. The updated principles would cover all aspects of the connection services provided by a transmission business. The COAG Energy Council also proposed to remove the requirement for TNSPs to produce individual negotiating frameworks.[287]

Stakeholder views

Submissions on consultation paper

In submissions to the consultation paper, the majority of stakeholders supported the proposal to remove the requirement for individual TNSP negotiating frameworks and introduce a single set of updated negotiating principles enshrined within the Rules.[288] The Clean Energy Council suggested that the current arrangements act as a barrier to a flexible electricity market and suggested that a Rules-based negotiating framework would allow the market to adapt more readily to changing market conditions.[289] GDF Suez did not consider that the current negotiating principles adequately cover issues such as perceived over-specification, timeliness and risk allocation. Both GDF Suez and Origin Energy indicated that single set of negotiating principles would result in greater clarity and minimise inconsistency between jurisdictions.[290]

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

286 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 15.

287 Ibid.

288 Submissions on consultation paper: GDF Suez, p. 3; Origin Energy, p. 2; Clean Energy Council, p. 12.

289 Clean Energy Council, submission on consultation paper, p. 12.

290 Ibid., p. 5.

should remain to allow TNSPs to apply approaches that best suit their individual circumstances.[291]

The Clean Energy Council argued that the proposed updated principles should make sure that the connection process is efficient for the connecting party and that the connecting party should not be burdened by the costs of future sizing.[292] That is, the connecting party should not be required, in paying for their connection, to fund the development of assets intended for the future connection or for providing future transmission services to other parties.

Submissions on discussion paper

In the discussion paper, the Commission proposed to establish an amalgamated set of negotiating principles in the Rules that apply directly to all TNSPs. The Commission also set out a revised set of negotiating principles for comment.

Stakeholders supported the proposed changes to the negotiating principles in submissions to the discussion paper.[293] AEMO recommended that the AER develop and maintain a negotiating framework based on high level principles set out in the Rules to mitigate the risk of a detailed set of negotiating principles within the Rules becoming out-dated.[294] The Clean Energy Council argued that the negotiating principles should include a provision to minimise reasonable costs to the connecting party. The Clean Energy Council also considered that the termination clauses should be clarified and suggested that termination of negotiations could require AER approval.[295]

Commission's analysis and conclusions

Elevation to the Rules

The Commission has undertaken a review of the current negotiating frameworks and negotiated transmission service criteria developed by TNSPs and approved by the AER. The Commission has found that the content of TNSP's existing negotiating frameworks do not appear to vary significantly between businesses or regulatory periods. The negotiating frameworks also do not provide much additional information or guidance to the negotiation principles as set out in the Rules.[296]

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291 ENA, submission on consultation paper, p. 14.

292 Clean Energy Council, submission on consultation paper, p. 5.

293 Submissions on discussion paper: PIAC, p. 9; Australian Energy Council, p. 1; Infigen, p. 1; ENA, p. 2; AEMO, p. 6; Clean Energy Council, pp. 4-5; EnergyAustralia, pp. 1-2; Origin Energy, p. 2

294 AEMO, submission on discussion paper, p. 6.

295 Clean Energy Council, submission on discussion paper, pp. 4-5.

296 Clause 6A.9.1.

Further, the Commission is of the view that, in practice, the current negotiating frameworks appear inadequate for facilitating balanced negotiation between connecting parties and TNSPs.

The draft Rule therefore removes the requirement for TNSPs to produce negotiating frameworks for approval of the AER and for the AER to specify negotiated transmission service criteria that apply to TNSPs. It obliges TNSPs to comply with the updated negotiating principles when negotiating with a connection applicant. The implications of this for transitional arrangements are discussed in chapter 5.

The requirements for negotiating frameworks and negotiated transmission service criteria are currently contained in Chapter 6A. The draft Rule removes these provisions from Chapter 6A to, and includes improved negotiating principles in Chapter 5 of the Rules. This is the more appropriate location for the negotiating principles since Chapter 5 will cover the provision of negotiated transmission services, and so the link between the connection process and the negotiating process is clearer.

Updated negotiating principles

The draft Rule updates and expands the current negotiating principles. The negotiating principles have the following general aims: to require the TNSP and the connecting party to negotiate in good faith to agree the price, standard, conditions and timing of services to be provided; and to improve the transparency of the negotiation process to enable both parties to understand each other's decisions and requirements. The negotiating principles in the draft Rule that relate to the provision of negotiated transmission services (such as non-contestable components of identified user shared asset services) are set out in Schedule 5.11 of the draft Rule, with these principles applying to any negotiations between a connecting party and a TNSP for negotiated transmission services.[297]

Clauses 1 to 11 of Schedule 5.11 in the draft Rule replicate the existing negotiated transmission service principles currently set out in clause 6A.9.1(1) to (7) and (9) to (11) of the current Rules. The principle contained in clause 6A.9.1(8) has been removed from the updated principles since it relates to Rule 5.4A,[298] which has been deleted under this draft Rule and so is no longer relevant.

In addition to the above, four other principles have been added in to clarify the arrangements relating to cost sharing provision and asset sizing for identified user shared assets, as discussed in section B.4.4.[299]

The draft Rule removes paragraphs 6A.9.5(a), (b)(1), (b)(2), (d) and (e) have been removed as they pertain to the preparation, content and application of negotiating frameworks which will no longer be required.

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297 The draft Rule also introduces Schedule 5.12, which set out principles that apply to parties negotiating access to a 'large DCA service'. These are discussed further in appendix D.

298 See chapter 4 where this is discussed.

299 See Schedule 5.11 of the draft Rule.

The draft Rule also adds the following obligations to Chapter 5 of the Rules:[300]

- requiring the parties to provide information in a timely manner enabling both parties to understand each other's decisions and requirements;[301] and
- arrangements to make it clear that the connecting party has a right to terminate the negotiations at any point, as does the TNSP - but the TNSP can only terminate the negotiations if certain criteria are met.[302]

These obligations are not housed alongside the negotiating principles in Schedule 5.11 because the Commission considers these are better framed as obligations rather than principles.

Application to non-regulated transmission services

The updated negotiating principles will not apply to the provision of non-regulated transmission services. This is the same as under current arrangements. By definition non-regulated transmission services are not subject to any form of regulation regarding terms and condition of access.

C.2.3 Conclusion

The draft Rule enshrines an improved set of negotiating principles into the Rules and remove the requirements for TNSPs to have approved negotiating frameworks and the AER to specify a TNSP's negotiated transmission service criteria. By updating and expanding the principles and extending them to cover issues such as over-specification on technical issues, it will improve the balance of power for connecting parties in the provision of negotiated transmission services. This will improve outcomes for connecting parties and increase the efficiency of the connection process, particularly in conjunction with the introduction of the independent engineer process discussed in section C.1.

C.3 Transparency provisions

C.3.1 Background

Under the current arrangements, both the connecting party and the TNSP have obligations to provide information at various stages during the connection process. However, the information requirements that are currently in the Rules for TNSPs typically only involve providing information in response to connection enquiries and connection applications. Further, the information requirements that fall on the

300 The other process elements previously contained in clause 6A.9.5 are either redundant or are now covered in the connections process set out in Chapter 5.

301 See clause 5.2A.5(c) of the draft Rule.

302 See clause 5.2A.3(f) and (g) of the draft Rule.

connecting party are largely focussed on technical information about the plant that is connecting, e.g. the type of plant, maximum power generation or demand of plant, technology of plant. This information is shown in Table C.1.

Table C.1 Participant obligations in the current connection process

Participant	Connection enquiry	Connection application
TNSP	In responding to the connection enquiry, the TNSP is required to provide: • information to the connecting party if other parties are to be involved; • requirements for a connection application; • applicable access standards; • a preliminary program; and • the contestability of assets.	In responding to a connection application, and when making an offer to connect, the TNSP is required to provide: • a connection agreement; • a construction agreement; • land and easement requirements; • project specific design standards; • network plant and apparatus setting data; • estimated costs, charges and program schedule; and • an offer to connect.
Connecting party	In submitting the connection enquiry, the connecting party is required to provide: • the type, magnitude and timing of the proposed connection; • a site location map; • maximum power generation or load demand; • estimated energy production or consumption; • a single line diagram; • nature of any disturbing load or plant; • a commissioning date; and • their details.	In submitting the connection application, the connecting party is required to provide: • updated information from the connection enquiry stage; • preliminary system planning data; • access standards; • system design data sheets; • network and plant technical data sheets; and • load characteristics at the connection point

As part of the connection process, the connecting party and the TNSP have opportunities to exchange information;[303] however, the connecting party currently has limited access to information before it begins the 'connection application' stage.

The Commission has undertaken a review of what information is currently published on TNSPs' websites to inform connecting parties. This has shown that there is substantial variation between TNSPs in the information published, and so readily available to parties considering establishing a connection to the transmission network.[304]

In the Transmission Frameworks Review, the Commission noted that connection applicants do not generally receive the clarity from preliminary programs (i.e. the program to be prepared by a TNSP under clause 5.3.3(b)(6) of the Rules showing proposed milestones for connection and access activities) that they should, because, in practice, TNSPs often include little meaningful detail about milestones, or their associated timeframes, in the program.[305]

In submissions to this review, stakeholders indicated that:[306]

- connecting parties receive limited indicative information early in the process regarding design standards and other aspects of the negotiation the connecting party will have to resolve with the TNSP; and
- when actually negotiating a connection, limited information from TNSPs is received about connection costs and the process by which these costs have been determined.

In 2011 the AER commenced its 'electricity transmission connections strategic compliance project'.[307] The project included a survey of parties who have sought connection to the transmission network. In the report summarising the outcome of the project, the AER commented that there were instances where respondents indicated that the TNSP may not have complied with the requirements of the Rules, primarily

303 After the connection enquiry, the TNSP may request additional information within five business days (clause 5.3.2(b) of the Rules). The connection applicant is also required to provide the TNSP with the information that the TNSP would reasonably require to enable the TNSP to prepare the offer to connect (clause 5.3.5(c) of the Rules). There are also provisions later in the connection process for facilitating information exchange.

304 For example, see: https://www.transgrid.com.au/what-we-do/our-network/connections-and-modifications/connection-process/Pages/default.aspx and see Powerlink's website, https://www.powerlink.com.au/Network/Connection_and_pricing/Connecting_to_Powerlink_s_network.aspx.

305 AEMC, Transmission Frameworks Review, Final Report, 11 April 2013, p. 166.

306 Submissions to Transmission Frameworks Review First Interim Report: Major Energy Users, p. 39; TRUenergy, p. 7; and submissions to Transmission Frameworks Review Second Interim Report: AGL, p. 4; Major Energy Users, p. 18.

307 Australian Energy Regulator, Quarterly Compliance Report: National Electricity and Gas Laws January - March 2014, May 2014, pp. 12-13.

those relating to the provision of information within the timeframes specified in the Rules. Some respondents noted that these delays led to delays for the project, while others considered the delay had no material effect.[308]

C.3.2 Improving transparency requirements

COAG Energy Council's view

In the rule change request, the COAG Energy Council set out that the intention of the connections process is to deliver efficient connection services to parties seeking connection to the transmission network. In order to achieve this outcome, the COAG Energy Council proposed that the framework should, amongst other things, promote transparency in the connection process including providing information on standard designs and costs associated with the provision of connection assets and services. The COAG Energy Council proposed that the Rules be amended to require TNSPs:

- to publish:
  - design standards and philosophies;
  - standard form connection contracts; and
  - pro-forma preliminary programs, including relevant milestones and indicative timeframes.
- to provide the connection applicant with a range of options with a reasonable cost breakdown when providing a quote for connection services. These cost breakdowns would provide the connection applicant with sufficient information to enable the applicant to seek a second opinion on costs from a third party; and
- to include in the preliminary program for each connection application more specific detail about each aspect of the negotiation and construction processes.[309]

Stakeholder views

Submissions on consultation paper

In submissions to the consultation paper, generators were generally supportive of increased transparency in the connections process, indicating that the lack of information around costs of a connection is a key area of contention.[310] Origin Energy suggested that TNSPs should be required to indicate as early as possible any potential

308 The survey was sent out to approximately 150 stakeholders and only received 15 responses. As a result, the AER was cautious about drawing any definitive conclusions from the results.

309 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 16.

310 Submissions on consultation paper: GDF Suez, p. 4; Origin Energy, p. 2; Clean Energy Council, p. 2.

future costs associated with the connection, and where any costs arise they must be justified.[311]

By contrast, TransGrid and the ENA did not support the proposed transparency requirements. TransGrid believed that the proposed requirement for TNSPs to publish standard form contracts and indicative cost breakdowns would likely inhibit the TNSPs' ability to compete on a level playing field for contestable works.[312] The ENA considered that the proposed prescriptive transparency requirements are not needed if a fully contestable approach is implemented as in contestable markets there are incentives to provide desired information in order to win work. The ENA was also concerned that the information provided by TNSPs could be abused by a connecting party and used as a negotiating tool with third parties. The ENA argued that introducing the proposed transparency requirements was likely to be detrimental to connecting parties in that:

- the requirements would impose a cost on TNSPs that would ultimately be passed onto connecting parties; and
- TNSPs would be unlikely to make connection offers that include innovations or liabilities that are difficult to objectively quantify.[313]

The ENA suggested that before the proposed transparency requirements were implemented, consideration should be given as to whether the benefits would outweigh the costs. They also pointed out that each connection is bespoke, indicating a one-size-fits-all approach is unlikely to improve outcomes for any party.[314]

Submissions on discussion paper

In submissions to the discussion paper, generators, the SA Department of State Development and PIAC generally indicated support for the proposed transparency requirements.[315] PIAC suggested that providing greater access to information would enable connecting parties to better negotiate access arrangements. Infigen also considered increased levels of published information would allow proponents to make more informed decisions regarding connections at a lower cost resulting in more efficient connections.[316] AGL indicated that TNSPs should be required to publish non-locality specific technical details and Origin Energy considered that TNSPs should

311 Origin Energy, submission on consultation paper, p. 2.

312 TransGrid, submission on consultation paper, p. 3.

313 ENA, submission on consultation paper, p. 15.

314 Ibid.

315 Submissions on discussion paper: PIAC, p. 7; Infigen, p. 1; Clean Energy Council, p. 4; EnergyAustralia, p. 1; AGL, p. 4; South Australian Department of State Development, p. 1; Origin Energy, p. 1.

316 Infigen, submission on discussion paper, p. 1.

not have the right to refuse a further breakdown of costs if the request is fair and reasonable.[317]

AEMO supported the obligations to publish minimum standards and cost-breakdowns for non-contestable services but consider that a flexible approach is needed as each generator connection is unique and will require a unique solution.[318]

TNSPs generally disagreed with the proposed transparency requirements.[319] The ENA expressed concern that the proposed requirements are inconsistent with a contestable framework. The ENA also considered that there is a need for flexibility in relation to a connection.[320] Transmission General Holdings Australia argued that location specific requirements would need to be determined for most connections and, in most cases, generic information would provide little value.[321]

Commission's analysis and conclusions

The Commission considers that amending the Rules to introduce additional transparency requirements will improve the connections framework. The information provided by TNSPs to parties intending to connect to the transmission network will be increased both prior to the connection enquiry being submitted and during negotiations. The Commission also considers that increasing information available to all market participants will improve an understanding of the connections framework and so promote more efficient decisions being made by both established and new market participants.

Feedback from connecting parties, as set out above, indicates that the current Rules arrangements do not require or incentivise the TNSP to provide all necessary information, in a sufficient amount of detail, for the connecting party to make a properly informed decision about making their connection application. The draft Rule enhances the transparency of the transmission connection process by introducing the transparency requirements outlined in Table C.2.

Importantly, these transparency requirements are only related to those aspects of the identified user shared assets that are to be provided as a negotiated transmission service (i.e. not non-regulated services such as the construction of identified user shared assets where these components meet the criteria set out in the draft Rule for contestability).[322] This therefore preserves the 'level-playing field' in the provision of non-regulated services.

317 Submissions on discussion paper: AGL, p. 4; Origin Energy, p. 1.

318 AEMO, submission to discussion paper, p. 6.

319 Submissions on discussion paper: ENA, pp. 4-5; Transmission General Holdings Australia, p. 3.

320 ENA, submission on discussion paper, pp. 4-5.

321 Transmission General Holdings Australia, submission on discussion paper, p. 3.

322 For further information see appendix B.

In the provision of non-regulated transmission services, the competitive provider would face competitive pressures to provide the connecting party with the necessary information required in order to win the work, and so no regulation to reveal information is required.

Under the draft Rule, TNSPs are required to provide information in relation to the following areas:

1. **Functional specification** - The TNSP is accountable for the safe, reliable and secure operation of the transmission network. Therefore, it needs to be able to specify some basic parameters to which the identified user shared assets that it has control over are subject to e.g. typical overhead line structures. Further, the connecting party needs to have sufficient information in order to be able to procure non-regulated services from a competitive provider. Information relating to the functional specification is therefore necessary in order to successfully set out a scope of these works.

2. **Operation and maintenance** - As the operation and maintenance of identified user shared assets will be provided by a TNSP on a non-contestable basis, regardless of which party constructs, designs and owns the assets, information should be provided to the connecting party so that it can make related decisions when designing and constructing the identified user shared assets. By providing typical operation and maintenance schedules for specific items of plant, connecting parties will be provided with greater insight into the operation and maintenance arrangements that will need to be agreed with a TNSP following the construction of identified user shared assets.

3. **Timescales** - The TNSP is responsible for commissioning the identified user shared assets once constructed. As such, the draft Rule requires generic information relating to these timescales to be provided to connecting parties, which would assist in planning a connection. If the TNSP is responsible for providing easements as part of a negotiated transmission service (i.e. for the non-contestable IUSA components) it is required to provide site-specific easement acquisition timescales to connecting parties on request. Due to the highly bespoke nature of easements, the Commission does not consider a generic timescale for easement acquisition would assist connecting parties.

4. **Legal** - Under the draft Rule the TNSP and the connecting party will need to enter into a connection agreement and a network operating agreement which will cover the ongoing operation and maintenance of the identified user shared assets. Publishing standard form versions of these agreements on the TNSP's website will assist a connecting party's understanding of the obligations relating to connecting to the shared network, as well as likely operation and maintenance arrangements for identified user shared assets. In addition, the TNSP will be responsible for constructing the cut-in works to connect the identified user shared assets to the shared network. The TNSP may need to involve the connecting party in the related construction agreement and for this reason, the TNSP should make generic construction agreements for the interface works

available. Providing generic versions of this information should assist connecting parties in planning a connection.

5. **Financial** - TNSPs will continue to be responsible for processing connection applications. To reduce ambiguity relating to the charge for processing a connection application, the TNSP should make the structure of the charge publically available. This will assist prospective connecting parties in understanding the connection process. In addition, connecting parties will be able to enquire about site specific issues relating to relocation of assets and ongoing operation and maintenance costs as these are roles undertaken by the TNSP.

Table C.2 Transparency requirements under the draft Rule to apply to TNSPs[323]

Information	Via website or direct enquiry	Additional fee[324]	Comments
Functional specification			
Generic interface works	Website	No	Typical standards and layouts must be published. This information: • may be generic but should provide a high level overview of the components of a connection; and • must provide Connection Applicants with a high level understanding of what a connection consists of. Transmission Network Service Providers must provide the design standards which are specific to their network.
Generic substation layouts	Website	No	
Typical overhead line structures	Website	No	
Typical underground cable arrangements	Website	No	
Typical primary plant	Website	No	
Design standards	Website	No	
Typical secondary systems	Website	No	
Detailed technical requirements for a particular connection	Direct enquiry	No	Functional specification to describe the requirements that must be met by the detailed design. The functional specifications must include: • description of any proposed augmentation; and • references to typical plant including primary and secondary equipment so that the detailed design will interface to the existing network and be able to be adopted by the Primary TNSP.

323 This table replicates Schedule 5.10 of the draft Rule.

324 This refers to the right for the Primary TNSP to charge an additional fee for the provision of this information to the application fee under clause 5.3.4 of the draft Rule.

Information	Via website or direct enquiry	Additional fee[324]	Comments
Operation and maintenance			
Typical operation and maintenance scheduling	Website	No	Operation and maintenance intervals for specific items of plant must be published. These are routine activities irrespective of whether assets are unregulated or regulated and should be in line with good electricity industry practice.
Timescales			
Easement acquisition (site specific)	Direct enquiry	Yes	Site specific timescales may be discussed and negotiated on a project by project basis as part of the connection enquiry / connection application process if the Connection Applicant requests it at their election.
Commissioning (generic)	Website	No	Generic timescales must be published.
Commissioning (site specific)	Direct enquiry	Yes	Site specific timescales may be provided as part of the connection enquiry / connection application process if the Connection Applicant requests it at their election.
Legal			
Standard connection agreements	Website	No	Standard forms of these agreements and deeds to be published. The standard form construction agreement must cover the construction of any interface works. The standard form connection agreement must cover the connection of the asset to the shared network. The standard form network operating agreement must cover those
Standard network operating agreement	Website	No	
Standard interface works construction agreements	Website	No	
Standard operation and maintenance agreements	Website	No	

Information	Via website or direct enquiry	Additional fee[324]	Comments
Standard relocation deeds	Website	No	aspects referred to in clause 5.2.7(b) of the draft Rule.
Easement deeds	Website	No	
Environmental approvals (generic)	Website	No	Standard forms or lists of required approvals must be published. Site specific information may be provided as part of the connection enquiry / connection application process if Connection Applicant requests it at their election.
Environmental approvals (site specific)	Direct enquiry	Yes	
Development approvals (generic)	Website	No	
Development approvals (site specific)	Direct enquiry	Yes	
Financial			
Amount and terms and conditions of the connection application charge[325]	Website	No	A guide to the structure of the application fee under clause 5.3.4 of the draft Rule, and the terms and conditions under which the charge is paid, must be published.
Relocation of existing assets	Direct enquiry	Yes	Specific information about relocation of existing assets may be provided by the Primary TNSP, if the Connection Applicant requests it at their election. The Connection Applicant would be required to pay for any costs associated with the relocation of assets.
Detailed operation and maintenance costs	Direct enquiry	Yes	Site specific costs operation and maintenance could be provided as part of the connection enquiry / connection application process if the Connection Applicant requests it at their election.

325 For clarification, information about the structure, terms and conditions of the charge should be made available free of charge on the Primary TNSP's website, but the Connection Applicant would still be required to pay the connection application fee under clause 5.3.4 of the draft Rule itself.

C.3.3 Conclusion

The Commission considers that in order for the connection process to achieve efficient outcomes, connecting parties need sufficient information as part of the process to make properly informed decisions about contracting for negotiated transmission services. The introduction of increased transparency requirements under the draft Rule will provide connecting parties with increased access to information to assist them in connecting to the transmission network, as well as to procure providers of non-regulated services.

C.4 Clarifying the dispute resolution process

C.4.1 Background

The Rules currently provide two different processes for dispute resolution regarding connections to the transmission network:

- Chapter 6A, Part K provides for commercial arbitration for disputes relating to "terms and conditions of access", for the provision of prescribed transmission services or for the provision of negotiated transmission services (a transmission services access dispute); and

- Chapter 8, Part B provides for a comparatively lengthy and prescriptive dispute resolution procedure relating to, amongst other things, "the proposed access arrangements or connection agreements of an Intending Participant or a Connection Applicant". However, it is specifically stated that this process does not apply to a transmission services access dispute to which Part K of Chapter 6A applies.

During the Transmission Framework Review, the Commission considered these two processes and determined that it is unclear which process should be followed regarding a dispute arising in the connection process in relation to negotiated transmission services. It appeared to be at the discretion of the relevant parties i.e. it is likely to depend on whether both parties agree that the dispute would fall under the Chapter 8 arrangements. The Chapter 8 dispute resolution provisions do not apply to 'transmission service access disputes' under Part K of Chapter 6A.

C.4.2 Clarification of dispute resolution process

COAG Energy Council's view

In the rule change request, the COAG Energy Council proposed to clarify the approach to dispute resolution in relation to connections to the transmission network. It is proposed that the commercial arbitration process (i.e. Chapter 6A, Part K) should apply to all disputes arising during the negotiation of a connection service.

The COAG Energy Council proposed that the Rules be amended to clarify that the price, terms and conditions of all negotiated services are subject to commercial arbitration processes. It also proposed that the Rules should clarify that any decision reached through commercial arbitration would be binding on the parties, including for example, any instruction to amend the terms of the connection agreement to make them fair and reasonable.[326]

Stakeholder views

In its submission to the consultation paper, the ENA suggested that the existing dispute resolution arrangements are robust and any changes to the dispute resolution process should bring about a material promotion of the NEO. The ENA also noted that the fact that the current dispute resolution framework has never been used in regards to a dispute in relation to a negotiated connection indicates that the framework is successful.[327]

Conversely, the Clean Energy Council argued that the lack of use of the current dispute resolution framework indicates that the framework is not fit to manage risks associated with the connection process. The Clean Energy Council submitted that any greater contestability increases the need for binding decisions over disputes and argues that the framework should not create opportunity for TNSPs to use a challenging dispute resolution process to their advantage.[328]

In submissions to the discussion paper, stakeholders were generally supportive of clarifying which dispute resolution process would be used in relation to disagreements over negotiated services relating to connecting to the transmission connection.[329]

Commission's analysis and conclusions

The Commission has made a draft Rule under which the commercial arbitration process currently set out in Part K of Chapter 6A applies to all disputes relating to the terms and conditions of access for the provision of negotiated transmission services and prescribed transmission services as well as disputes relating to the terms and conditions of access for the provision of services via a large dedicated connection asset.[330] The draft Rule does this by including provisions in the negotiating principles for TNSPs, the negotiating principles for dedicated connection assets, and elsewhere where relevant,[331] to clarify that disputes relating to these services will be progressed through the commercial arbitration process set out in the Rules.

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326 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 18.

327 ENA, submission on consultation paper, p. 18.

328 Clean Energy Council, submission on consultation paper, p. 16.

329 Submissions on discussion paper: PIAC, p. 10; Clean Energy Council, p. 5; Origin Energy, p. 3.

330 More detail on 'large DCA services' is set out in appendix D.

331 The draft Rule also amends clauses 8.2.1(a)(4) and 8.2.1(h)(3) of the Rules to make this clear.

The draft Rule has also relocated the commercial arbitration process from Chapter 6A to Chapter 5 of the Rules. This is the more appropriate location for the commercial arbitration process as Chapter 5 deals with terms and conditions of access to the transmission network.

The commercial arbitration process would not apply to non-regulated services. This is because these services would be provided on a contestable basis and so the Commission considers the pressures faced by participants competing in a competitive market should avoid the need for the Rules to provide for a commercial arbitration processes. Further, commercial arbitration does not make sense in the provision of non-regulated services, since there are no regulatory requirements on how parties are required to negotiate with each other. Any disagreements could also be resolved under commercial contracts between the parties.

The Commission considers that this commercial arbitration process is appropriate for disputes relating to terms and conditions of access for the provision of negotiated transmission services and prescribed transmission services. The Chapter 8 dispute resolution process provides stages for mediation and scoping of the dispute and is comparatively lengthy, and more prescriptive, than the commercial arbitration process. The Commission considers that parties involved in disputes arising from the provision of negotiated transmission services, prescribed transmission services and 'large DCA services' are likely to be larger and well-resourced and therefore do not require access to the prescriptive process set out in Chapter 8.

In addition, to avoid entering dispute the use of an independent engineer is available to provide advice on technical matters. The independent engineer process is more fit-for-purpose compared to the mediation and scoping stages provided for in the Chapter 8 process, since any disagreements are likely to be technical in nature.[332]

Therefore, the Commission does not consider stakeholders to be disadvantaged by being precluded from being able to use the dispute resolution process in Chapter 8 in relation to disputes arising from negotiated transmission services, prescribed transmission services and large dedicated connection asset services. Parties involved in a dispute, particularly the connecting party, would likely benefit from a more timely resolution of the issue as result of more immediate access to a commercial arbitrator for disputes relating to terms and conditions of access for the provision of negotiated transmission, prescribed transmission and large dedicated connection asset services.

The commercial arbitrator appointed under this process would make a binding determination on whether the price or other terms of any element of a negotiated transmission, prescribed transmission or large dedicated connection asset services are appropriate as required by the Rules.

By clarifying which process would apply to disputes arising from these services, the efficiency of the connections framework will be improved by facilitating a more

332 Alternatively, these could also be resolved by the commercial arbitrator through the scoping stage of this process.

transparent path to dispute resolution. This clarification will make it transparent to parties as to how to access dispute resolution, and the timeliness of accessing the resolution process.

Finally, the Commission considers the fact that the dispute process has not been used, despite the number of issues that have been raised by connecting parties through both the Transmission Frameworks Review 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 TNSP, the only party that can facilitate their connection. The Commission considers that by making it clear which dispute resolution process is to be used, as well as introducing a package of measures to increase the ability of the connecting party to effectively negotiate with the TNSP without entering into a dispute (i.e. the introduction of the independent engineer, strengthening of the negotiating rules and increased transparency requirements on TNSPs), these concerns should go some way to being addressed.

The Commission welcomes views from stakeholders on whether there are any other barriers to the use of the commercial arbitration process, beyond the clarification that Chapter 8 does not apply, that could be made.

C.4.3 Conclusions

The Commission considers the clarification that the Rules commercial arbitration process would apply to any disputes relating to the terms and conditions of access for the provision of negotiated transmission, prescribed transmission and large dedicated connection asset services will improve the connections framework. The current arrangements for dispute resolution have been seldom used, and it is unclear as to which process (commercial arbitration or Chapter 8 dispute resolution process) parties should use. Removing ambiguity regarding the applicability of the commercial arbitration process will remove a barrier to its use. Removing this barrier should facilitate more efficient decisions on behalf of parties involved in these services. This in turn, will result in a more efficient overall connections framework.

D Dedicated connection assets

This appendix outlines the Commission's draft Rule in relation to the arrangements for dedicated connection assets, a new term that is introduced under the draft Rule. Specifically, it sets out the:

- current arrangements under the Rules for these types of assets;
- approach put forward by the COAG Energy Council for these assets;
- views of stakeholders in submissions to the consultation paper and the discussion paper, as well as those expressed at the public forum and in one-on-one meetings;
- Commission's analysis of the rule change request and stakeholder views; and
- Commission's conclusions and a description of the draft Rule.

D.1 Definition of dedicated connection asset

D.1.1 Background

The term 'dedicated connection asset' is not currently defined in the Rules. However, under current arrangements the AEMC considers it would broadly comprise those assets that are used to connect a generator or load to the transmission network, but which are able to be isolated from electricity flows on the transmission network, i.e. flows across these assets only affect those parties connected to them. For example, it could comprise the line and other equipment between a generator's facility and a substation on the transmission network. Currently, stakeholders have different interpretations of how these assets are covered by the Rules, if at all:

- some consider them to be covered by the Rules term, *extension*;[333]
- some consider them to be covered by the Rules term, *connection assets*;[334]
- some consider them to form part of the connecting party's *facilities*,[335] i.e. not a separate asset; and

333 Defined in Chapter 10 of the Rules as "an augmentation that requires the connection of a power line or facility outside the present boundaries of the transmission or distribution network owned, controlled or operated by a Network Service Provider."

334 Defined in Chapter 10 of the Rules as "those components of a transmission or distribution system which are used to provide connection services."

335 Defined in Chapter 10 of the Rules as "a generic term associated with the apparatus, equipment, buildings and necessary associated supporting resources provided at, typically: (a) a power station or generating unit; (b) a substation or power station switchyard; (c) a control centre (being a AEMO control centre, or a distribution or transmission network control centre); (d) facilities providing an exit service

- others do not consider that these assets are defined or covered by the Rules at all.

D.1.2 COAG Energy Council's view

In the rule change request, the COAG Energy Council presented the view that making a clear distinction between services provided by those assets that form part of the shared transmission network and those provided by assets used exclusively by the connecting party or parties would help to:

- better link the Rules service classifications with the assets that underpin their provision;
- clearly define the services to be provided by TNSPs;
- clearly identify the connection point in each case; and
- clearly identify the different treatment of these assets.[336]

The rule change request therefore proposed to introduce the following definitions into the Rules:

dedicated transmission connection assets

These are transmission connection assets built and dedicated for the exclusive use of an identified user group, not including any assets for which the costs of design, construction, operation and maintenance are recoverable from customers as charges for prescribed transmission services.

identified user group

One or more persons who generate or consume large quantities of electricity, and who are connected to the shared network at the same point.

The rule change request also proposed to define the term 'identified user shared asset', which would broadly comprise those assets that are built for the purpose of connecting a particular party but which form part of the transmission network, e.g. parts of a substation.[337] These assets are discussed in appendix B.

The rule change request also proposed to define the boundary between dedicated connection assets and identified user shared assets, specifically as the "first point at which power flow from the generator or to a major load customer can be isolated from the shared network".

These proposals are consistent with the approach recommended by the AEMC in the Transmission Frameworks Review.

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336 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, pp. 4-5.

337 The current arrangements for these types of assets are described in more detail in section 1.2.

D.1.3 Stakeholder views

Submissions to the consultation paper

Definition of dedicated connection asset

In submissions to the consultation paper, a number of stakeholders supported the proposal to separately define dedicated connection assets and identified user shared assets.[338] AEMO expressed support for a simple definition based on whether an asset is used to support power flows solely to the connection applicant. It considered that it may also be necessary to clarify that land, as well as equipment, may form part of the assets, otherwise there may be cases where efficient access to the network is prevented because the connecting party has insufficient rights over the land.[339]

By contrast, AusNet Services did not consider that there was any need to distinguish between dedicated connection assets and identified user shared assets. It suggested that a single definition covering both would simplify the rule change.[340] This position aligns with AusNet Service's view that all assets associated with a party's connection to the shared transmission network (that is, both identified user shared assets and dedicated connection assets) should be provided on a contestable basis.

Boundary between dedicated connection assets and identified user shared assets

GDF Suez (now Engie) considered that the proposed boundary between dedicated connection assets and identified user shared assets would provide a clear line of demarcation between the two asset types.[341] AGL was of the view that, conceptually, the proposed boundary was appropriate, but noted that sometimes this point of coupling may be best located at a circuit breaker or transformer that is part of an identified user shared asset. It therefore asked that the rule change provide flexibility for parties to negotiate the connection point and its location.[342]

The ENA contended that the boundary between different asset types does not necessarily define the connection point. It stressed the importance of defining the connection point, given certain obligations are dependent on its location, e.g. metering and performance standards.[343]

The Clean Energy Council submitted that it is practical to locate the physical connection point as close as possible to the intersection between dedicated connection assets and identified user shared assets. It explained that access standards and power transfer capability are negotiated at the connection point, and that marginal loss factors

338 Submissions on consultation paper: AGL, p. 5; GDF Suez, p. 2; Origin Energy, p. 1.

339 AEMO, submission on consultation paper, p. 3.

340 AusNet Services, submission on consultation paper, p. 4.

341 GDF Suez, submission on consultation paper, p. 2.

342 AGL, submission on consultation paper, p. 4.

343 ENA, submission on consultation paper, pp. 2,9.

are calculated there. The Clean Energy Council noted that the relationship between the connection point and the metering point is another complication, and asked that the rules not inadvertently reduce freedoms available to connecting parties to put in place arrangements that accommodate their specific connection.[344]

Submissions to the discussion paper

Definition of dedicated connection asset

In the discussion paper, the Commission set out its view that all equipment in participating jurisdictions that operates at transmission voltages and are connected to the shared transmission network should be subject to the provisions of the NEL and the Rules. Introducing dedicated connection assets as a defined term in the Rules would remove any ambiguity about whether or not this is the case.

The Commission therefore proposed to define the terms 'dedicated connection assets' and 'identified user group' as below, subject to legal drafting.

dedicated connection assets

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 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 group

A group of one or more specifically identified generators or large loads that are connected to transmission assets that are, in turn, connected to the shared transmission network at the same connection point.

Submissions to the discussion paper indicated that most stakeholders supported the proposal to separately define dedicated connection assets and identified user shared assets,[345] and supported the proposed definition of dedicated connection asset.

Some stakeholders questioned the need to define the term 'identified user group'. The Clean Energy Council submitted that the term seemed to be a new definition for a generator or load that would be seeking connection, and may therefore be unnecessary.[346] AGL noted that, while it is possible that other users may want to

344 Clean Energy Council, submission on consultation paper, p. 7.

345 Submissions on discussion paper: AGL, p. 3; AEMO, p. 5; Clean Energy Council, p. 4; ENA, p. 1; EnergyAustralia, p. 1; PIAC, p. 3; Transmission General Holdings Australia, p. 3.

346 Clean Energy Council, submission on discussion paper, p. 4.

access the same connection assets (as is implied in the definition of identified user group) this rarely, if ever, happens.[347]

Boundary between dedicated connection assets and identified user shared assets

In line with the proposal put forward in the rule change request, in the discussion paper the Commission proposed to define the boundary between identified user shared assets and dedicated connection assets as the first point at which power flows to or from the connecting party could be isolated from the shared transmission network. The Commission suggested that, in practice, this boundary would most often be at an identifiable isolator or disconnector.

In its submission to the discussion paper, Infigen stated that linking the definition of connection point to the boundary between the two assets could create confusion.[348] No other stakeholder commented on this aspect of the discussion paper in their submission.

D.1.4 Analysis and conclusions

The Commission considers that it is important to clearly define what each of the assets and services associated with a connection to the transmission network are, and how they are regulated, if at all. Precisely defining what identified user shared assets and dedicated connection assets are establishes a clear distinction between the way in which the two types of assets are regulated and the obligations of the parties who own, operate and control them. This is particularly important under the draft Rule, where some of the services provided in relation to identified user shared assets are contestable and others are to be provided exclusively by the Primary TNSP.[349]

Different interpretations of the Rules by TNSPs in different jurisdictions can create inefficiencies in the market generally, as well as for individual proponents. The lack of a consistent approach to transmission connections across the NEM can create confusion for connecting parties, particularly those operating in more than one jurisdiction. A successful connection may rely on connecting parties learning and accommodating the specific interpretations of a particular TNSP, which can add time and cost to a connection process. Further, connecting parties consider a range of factors when deciding where to locate a project, for example fuel costs and proximity to existing transmission infrastructure. If the interpretation of the connections framework is very different between TNSPs, connection costs may be significantly higher in one jurisdiction over another. If this is the case, connection costs may start to comprise a far higher proportion of total project costs in that jurisdiction, causing connecting parties

347 AGL, submission on discussion paper, p. 3.

348 Infigen, submission on discussion paper, p. 2.

349 Primary TNSP is a new term defined in the draft Rule as "The Transmission Network Service Provider who operates the largest transmission network in each participating jurisdiction (other than an adoptive jurisdiction)." The draft determination uses the term incumbent TNSP to refer to this party under current arrangements, and the term Primary TNSP when referring to the arrangements for this party under the draft Rule.

to make sub-optimal decisions about where to locate their project. Investment in generation should occur where it is most efficient and should not be determined by differences in connection costs across jurisdictions.

Clearly defining what identified user shared assets and dedicated connection assets are establishes a clear distinction between the way in which the two types of assets are economically regulated and the obligations of the parties who own, operate and control them.[350] This is particularly important under the draft Rule, where there is increased contestability for the services provided in relation to identified user shared assets. The draft Rule contains amendments to the definitions of a number of existing terms in the Rules, such as transmission system and connection assets, and makes consequential changes, to provide increased clarity on the assets and services required to facilitate a connection to the transmission network.[351]

A common issue that has emerged in discussions with stakeholders on this rule change request is a lack of clarity about the term connection point in the context of connections to the shared transmission network. This lack of clarity stems from the current ambiguity about how assets and services that are required to facilitate a connection to the shared transmission network are treated in the Rules.[352]

This appendix focuses on the arrangements for dedicated connection assets - identified user shared assets are discussed in more detail in appendix B.

The draft Rule defines the term dedicated connection asset as below.

dedicated connection asset

The apparatus, equipment, plant and buildings that:

(a) are used for the purpose of *connecting* an *identified user group* to an existing *transmission network*;

(b) are used exclusively by the *identified user group*;

(c) can be electrically isolated from the *transmission network* without affecting the provision of *shared transmission services* to persons who are not members of the *identified user group*;

(d) are not *network connection assets* or part of a *generating system*, a *distribution or transmission system* for which a *Market Network Service Provider* is registered under Chapter 2 or a *Transmission Customer's facility* that utilises electrical *energy*; and

(e) are not part of a *declared transmission system* of an *adoptive jurisdiction*.

350 Note that the arrangements for the connection of a DNSP to the transmission network are different to the arrangements for the connection of load, generation and MNSPs under the draft Rule. Arrangements for connection of DNSPs are set out in appendix B.

351 Specifically, rule 5.2A.4 of the draft Rule sets out how the various services required to connect to the transmission network are classified under the draft Rule.

352 This ambiguity is discussed in further detail in section 1.3.1.

The intention is that this definition captures all components that are necessary to connect a generator, load or MNSP to the transmission network. That is, a dedicated connection asset may be comprised of a number of components, provided that the collection of all the components meets the definition set out above.

This definition of a dedicated connection asset is different to that which was proposed in the discussion paper and the rule change request. The 'payment limb' that was proposed in the discussion paper has been removed under the draft Rule because the Commission considers that this principle is sufficiently covered off by the 'purpose limb' - that is, "used exclusively by the identified user group". The intention of this limb is now also addressed in rule 5.2A of the draft Rule, which sets out that all aspects of services for new dedicated connection assets are not regulated and are paid for by the connecting party who requires them to connect.[353] Limb (c) of the definition has been introduced to further clarify that these assets can be electrically isolated from flows on the transmission network.

The definition does not include land, as was proposed by AEMO in its submission to the consultation paper. The Commission understands that, in most cases, a connecting party will lease or obtain an easement over the land on which its assets are built, as opposed to buying the land. Including land in the definition of a dedicated connection asset would imply that the connecting party must own the land on which its asset is sited, and then include that land in any sale or subsequent use of the dedicated connection asset. While the draft Rule does not prevent a connecting party from owning the land on which the asset is sited, requiring that this be the case through the definition of dedicated connection asset would remove flexibility for the connecting party to determine the arrangements by which it obtains access to the land on which its asset is sited.

The Commission considers that this definition in the draft Rule, combined with Rule 5.2A, provides clarity around what dedicated connection assets are, what purpose they serve and how the costs of these assets are recovered, than the definition proposed in the rule change request.

The draft Rule defines the term identified user group as below.

identified user group

One or more persons (other than a *Distribution Network Service Provider*) who are *connected* to a *transmission network* at the same single connection point.

As noted in section D.1.3, a number of stakeholders queried the need to define this term, which was proposed in the rule change request.

353 This aspect of the draft Rule is discussed further in section D.2. Note that the services provided by means of a large dedicated connection asset are subject to a form of access regulation and are therefore regulated in that respect. This aspect of the draft rule is discussed in section D.4.

The draft Rule defines this term to reflect that more than one party (i.e. a generator, load or MNSP) could share a connection point.[354] The draft Rule does not include the proposed wording in the rule change request that the identified user group would be comprised of "specifically identified parties". The Commission considers that there is no need for these parties to be "specifically identified" by anyone, as it should be clear whether parties are using a common dedicated connection asset to connect to the transmission network.

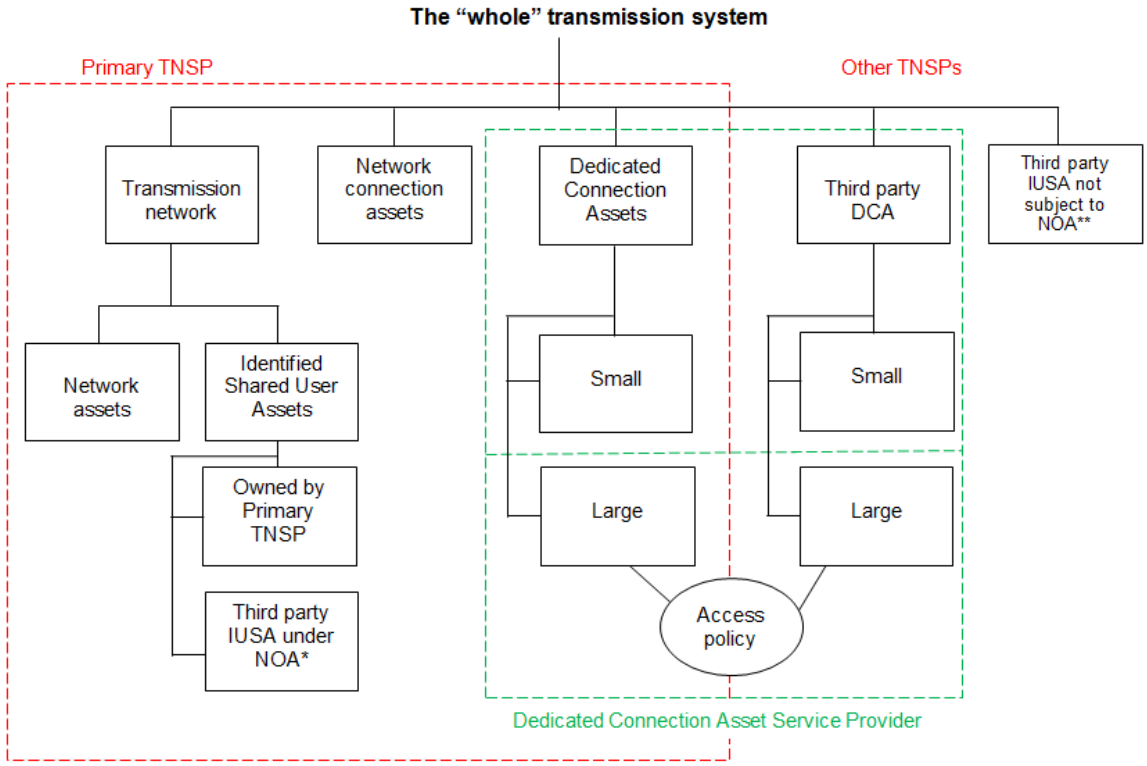
As set out at the beginning of this appendix, stakeholders have differing views about whether existing assets that meet the definition of 'dedicated connection asset' under the draft Rule are subject to the NEL and the Rules or not. The Commission considers that it should be put beyond doubt that parties who own, operate or control dedicated connection assets are subject to the NEL and the Rules in respect of those assets. Generators, loads, DNSPs and MNSPs that connect directly to the transmission network are 'systems' and so are explicitly covered by the NEL and the Rules. It therefore follows that the assets by which these parties connect (i.e. dedicated connection assets) are also covered by the NEL and the Rules.

The draft Rule therefore makes it clear that, while they do not form part of the transmission network because they are electrically separable from it, dedicated connection assets form part of the 'whole' transmission system. The 'whole' transmission system comprises all assets that either form part of the shared transmission network or are connected to it. Figure A.1 below conceptualises these different terms.[355]

354 This party could not be a DNSP, since TNSP-DNSP connections have different arrangements. DNSP connections to the transmission network are discussed in appendix E.

355 The distinction between large and small dedicated connection assets is set out in D.3.

Figure D.1 Conceptual diagram of the 'whole' transmission system, and the assets that comprise it



* Network operating agreement between Primary TNSP and third party owner of IUSA.

** Third party is registered as a TNSP and is bound by all obligations on TNSPs under the Rules.

The draft Rule removes any ambiguity about whether parties who own, operate or control a dedicated connection asset are covered by the NEL and the Rules in respect of those assets by amending the definition of transmission system.[356] (as below) to clarify that a dedicated connection asset is, or forms part of, a transmission system. As a result, this triggers the NEL requirement for parties who own, operate or control a dedicated connection asset to register with AEMO unless they are exempted by the AER from the requirement to register.[357]

transmission system

A *transmission network*, together with the *connection assets* associated with the *transmission network*, which is connected to another *transmission* or *distribution system*.

For a *participating jurisdiction* that is not an *adoptive jurisdiction*, a *transmission system* includes:

(a) a *third party IUSA* that is not the subject of a *network operating agreement*, together with the *connection assets* associated with that *third party IUSA*; and

356 Transmission system is currently defined in the Rules as "a transmission network, together with the connection assets associated with the transmission network, which is connected to another transmission or distribution system."

357 Registration is discussed further in section D.3.

(b) for the purposes of Chapter 2, a *third party DCA*.

Note

An *identified shared user asset* or a *dedicated connection asset* owned, controlled or operated by the *Primary Transmission Network Service Provider* will form part of that provider's broader *transmission system* rather than constituting a separate *transmission system* requiring separate registration under Chapter 2. A person owning, controlling or operating an asset described in paragraph (a) or (b) is required to be registered under Chapter 2 as a *Transmission Network Service Provider*.

The term third party DCA, defined below, has been introduced in the draft Rule to describe those dedicated connection assets that are owned, operated or controlled by a party other than the Primary TNSP.

Third party DCA

A *dedicated connection asset* for which a person other than the *Primary Transmission Network Service Provider* is registered under Chapter 2.

The draft Rule introduces the term Primary Transmission Network Service Provider, defined as follows:

Primary Transmission Network Service Provider

The *Transmission Network Service Provider* who operates the largest *transmission network* in each *participating jurisdiction* (other than an *adoptive jurisdiction*).

Clarity on what dedicated connection assets are, how they are regulated and how they are distinguished from other transmission assets will help support transparency and predictability in the Rules connections framework. Making the Rules clearer in this regard should make it easier for connecting parties to:

- know what assets and services they are negotiating for when seeking a connection to the shared transmission network;
- enhance their ability to negotiate on more equal terms with TNSPs; and
- result in a more predictable connection experience across transmission network boundaries.

Transitional arrangements for existing assets that would fall under the definition of dedicated connection asset when the final Rule commences are addressed in chapter 5.

Boundary between dedicated connection assets and identified user shared assets

The draft Rule does not explicitly define the boundary between dedicated connection assets and identified user shared assets. This is because not all assets that would fall under the definition of a dedicated connection asset or identified user shared asset would necessarily have a physical boundary with the other. Defining this boundary may therefore have practical limitations. Instead, the draft Rule relies on the definitions

of these terms being sufficiently detailed so that it is clear what assets fall into which category, and therefore how they are treated under the Rules. A party should be able to take an asset, assess it against the various limbs as set out in the definitions, and determine what type of asset it is. Another party should be able to assess it against those same definitions and get the same result.

The draft Rule provides parties with the ability to call for the engagement of an independent engineer to provide advice on whether a particular component forms part of an identified user shared asset or a dedicated connection asset.[358]

However, the Commission considers that the existing definition of connection point should be amended to put beyond doubt that it is the point at which a connecting party connects to the shared transmission network - that is, the interface between shared transmission assets and assets that are only used by the connecting party. As several stakeholders have noted, the connection point represents a physical boundary for where responsibilities between the TNSP and the connecting party start and finish. The connection point is where performance standards are set, metering occurs, TUOS charges are determined and frequency control ancillary service needs are calculated.[359] The draft Rule modifies the existing definition of connection point as below to make this clear.

connection point

In relation to a *declared shared network* and a *distribution network* (other than an *embedded network*), the agreed point of supply established between *Network Service Provider(s)* and another *Registered Participant*, *Non-Registered Customer* or *franchise customer* and includes a *parent connection point*.

In relation to other *transmission networks*, the point at which power flows to or from the person *connected* to the *transmission network* can be isolated from the *transmission network*. If there is more than one such point, the *Network Service Provider* and that person will agree which point is the *connection point* in their *connection agreement*.

In relation to an *embedded network*, the *child connection point*, unless otherwise specified.

Note:

This definition reflects the changes made to the definition of connection point under the National Electricity Amendment (Embedded Networks) Rule 2015 No.15.

This definition, alongside the definitions of identified user shared asset and dedicated connection asset, still affords connecting parties and TNSPs some flexibility in how identified user shared assets and dedicated connection assets are designed, and therefore where the connection point is located and relevant obligations are determined. Clarifying these terms establishes a clear distinction between the way in which the two types of assets are regulated and the obligations of the parties who own, control and operate them.

358 Clause 5.4.1(b)(2) of the draft Rule. Arrangements for the engagement of an independent engineer are described in section C.1.

359 The Commission recognises that there are current examples in the NEM where this may not be the case.

Boundary between dedicated connection assets and the generator, load or MNSP facility

Given the differing interpretations of how existing 'dedicated connection assets' are defined and regulated, it is important that there is a clear distinction between dedicated connection assets and those assets that comprise a generating system or customer's facility that uses electrical energy. The Commission understands that the demarcation between what would currently fall under the draft definition of dedicated connection asset and the proponent's facility will usually be at the facility's incoming substation. However, the Commission also notes that the exact location of this 'boundary' - for example, at the incoming switchgear, transformer or outgoing circuit breakers - depends on how ownership and responsibility for the different asset types is allocated.

Therefore, as with the Commission's approach to the boundary between dedicated connection assets and identified user shared assets, the draft Rule relies on the definitions of dedicated connection asset, facility and generating plant being sufficiently descriptive to distinguish between these asset types, and clarify that they can only be one of these things. As such, it is clear that a dedicated connection asset is distinct from a generating system or a customer's facility that uses electrical energy. This then negates the need to separately define the boundary between them.

D.2 Contestability of services for dedicated connection assets

D.2.1 Background

The Commission understands that some stakeholders consider that all services provided in relation to existing assets that would fall under the definition of dedicated connection asset can be provided to the connecting party on an economically unregulated basis. That is, a connecting party can engage any party of their choosing to design, build, own, operate and maintain the assets that connect their facility to the shared transmission network. However, the Rules do not make this explicitly clear, nor is this understanding consistently applied across the NEM. Through consultation on the Transmission Frameworks Review and this rule change request, it has become evident that there is no consistent understanding of who could, or is required to (if anyone), provide services for these types of assets, and whether the provision of these services is economically regulated or not.

D.2.2 COAG Energy Council's view

The rule change request proposed that the Rules be amended to clarify that all services provided in relation to a dedicated connection asset are not price or revenue regulated under the Rules.[360] The COAG Energy Council proposed that the Rules make it clear that design, construction, ownership, operation and maintenance services for these

360 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 8.

assets can be provided by any party, and there is no obligation on the incumbent TNSP to provide these services. It proposed amendments to the Rules to clarify that the costs of providing these services would be agreed between the connecting party and its chosen service provider (which could be the incumbent TNSP providing these as non-regulated transmission services) on a commercial basis. This proposal is consistent with the approach recommended by the AEMC in the Transmission Frameworks Review.

D.2.3 Stakeholder views

Submissions to the consultation paper

Submissions to the consultation paper indicated that stakeholders generally support the fully contestable provision of all services for dedicated connection assets.[361] The ENA submitted that, as long as a dedicated connection asset's connection to the shared transmission network meets appropriate standards, there should be no concern with them being provided contestably.[362] It also sought clarification that there would be no obligation for the incumbent TNSP to provide dedicated connection assets, indicating that requiring them to do so would expose them to an unlimited investment requirement.[363]

AEMO submitted that the perceived lack of clarity regarding the definitions of services and assets in the rules is symptomatic of problems associated with monopoly power, not a problem with the drafting of the Rules. That is, while services for dedicated connection assets could be provided on a contestable basis, some connection applicants may feel pressure to procure all services from the TNSP to promote a timely, smooth connection process.[364]

Submissions to the discussion paper

In the discussion paper the Commission expressed support for the approach put forward in the rule change request, and proposed to amend the Rules to clarify that all services for dedicated connection assets can be provided on a contestable basis. Most stakeholders who commented on this aspect of the discussion paper supported these proposed clarifications.[365]

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361 Submissions on consultation paper: AGL, p. 4; AusNet Services, p. 2; Clean Energy Council, p. 6; Energy Australia, p. 1; ENA, p. 10; Major Energy Users, p. 5.

362 ENA, submission on consultation paper, p. 10.

363 ENA, submission on consultation paper, pp. 4,10.

364 AEMO, submission on consultation paper, p. 3.

365 Submissions on discussion paper: Australian Energy Council, p. 1; AGL, p. 1; Clean Energy Council, p. 7; ENA, p. 1; EnergyAustralia, p. 2; Origin Energy, p. 2.

D.2.4 Analysis and conclusion

Input from stakeholders indicates that there are a sufficient number of alternative providers, and the barriers to entry are sufficiently low, for a connecting party to find an alternative provider to the incumbent TNSP for the provision of services for dedicated connection assets, for example design, construction, ownership, operation and maintenance. Since these assets do not form part of the shared transmission network, there are no material benefits to consumers in requiring the incumbent TNSP to provide services for these assets. Any risks of inadequate design, construction, ownership, maintenance or operation of a dedicated connection asset fall on the connecting party or parties (i.e. identified user group) alone, and do not affect flows to end-use consumers via the shared transmission network. Further, the benefits of a dedicated connection asset accrue only to the connecting party. It is therefore appropriate that this party bears the cost of designing, building, owning, operating and maintaining the asset.

The Commission agrees with the COAG Energy Council and the views of stakeholders that the connecting party should be able to make its own choices about such assets with minimal involvement from the TNSP, subject to meeting minimum technical standards at the connection point.

As such, the draft Rule clarifies that all services provided for new dedicated connection assets are non-regulated transmission services and can be provided by any party on commercial terms.[366] That is:

- there is no obligation on any party, including the Primary TNSP, to offer these services; and
- there is no regulated framework for the setting of price and non-price terms and conditions for the provision of those services.

The draft Rule removes clause 5.1.2(c) of the existing Rules because the Commission considers that it is clear under clause 5.2A.4(a) of the draft Rule that the construction of a dedicated connection asset is a non-regulated and so contestable service.[367]

Connecting parties will be able to choose any party to provide services for dedicated connection assets. The connecting party could choose to:

- provide the services itself;
- have the Primary TNSP provide the services as non-regulated transmission services; or

366 Clause 5.2A.4(a) of the draft Rule. Note that access to the services provided by means of large dedicated connection assets is regulated under the draft Rule. Third party access to large dedicated connection assets is discussed in section D.4.

367 Clause 5.1.2(c) of the existing Rules states that "nothing in the Rules is to be read or construed as preventing any person from constructing any network or connection assets."

- engage a third party to provide the services.

The arrangements by which that party is engaged will be agreed commercially between the connecting party and its chosen service provider. The draft Rule does not specify these arrangements or the arrangements that may need to be put in place to facilitate the connecting party's connection to the transmission network via a dedicated connection asset that is owned, operated and controlled by a third party.[368] The party that owns, operates or controls the dedicated connection asset will need to be registered as a Dedicated Connection Asset Service Provider.[369]

Under the draft Rule, TNSPs would be able to compete to provide services for dedicated connection assets in all parts of the NEM as non-regulated transmission services, provided that they comply with their approved cost allocation methodology and the transmission ring-fencing guidelines. For the avoidance of doubt, the draft Rule does not require the Primary TNSP to offer to provide the service as a negotiated or a prescribed transmission service. In other words, there is no 'backstop' provider of these services.

Clarifying that all services for new dedicated connection assets can be provided by any party will reduce ambiguity and facilitate competition in the provision of these services. Competition for the provision of these services gives connecting parties a greater ability to manage the costs and timing of their connection to the shared transmission network, and is likely to result in more efficient investment in, and operation of, these services.

D.3 Registration of parties who provide services by means of a dedicated connection asset

D.3.1 Background

Although there is no current equivalent definition or common interpretation of a dedicated connection asset, the Commission understands that existing assets that would fall under the definition of dedicated connection asset in the draft rule are owned and operated by either:

- the connecting party itself, or through a contract with another party; or
- the incumbent TNSP.

In both cases, the Commission understands that AEMO assumes that these assets are 'registered' by means of the connecting party's registration (as either a Generator or Customer) or the TNSP's registration.[370] Under this interpretation, such assets are

368 A connection agreement will be required; however, the draft Rule does not set out who the connection applicant will need to be.

369 This is discussed in section D.3 below.

370 The Commission does not consider this interpretation to be correct. That is, transmission lines do not form part of a generator or load's facility.

considered to be subject to some Rules requirements, for example the provisions under Chapter 4 of the Rules that require Registered Participants to follow AEMO's instructions for power system security purposes.

Some stakeholders have noted to the Commission that AEMO places certain obligations on generators with regard to power system security in their connection agreements with the incumbent TNSP, which generally also account for the 'dedicated connection asset'. However, as there is no consistent understanding of how these assets are defined and who can provide them, there is a degree of ambiguity about whether these assets are covered by a participant's registration and therefore subject to some Rules requirements. A range of jurisdictional obligations also apply to owners or operators of such assets under current arrangements, including licensing.

D.3.2 COAG Energy Council's view

The rule change request noted that the NEL prohibits a person from owning, operating or controlling a transmission or distribution system unless it is a registered network service provider or exempted from registration by the AER. The COAG Energy Council concluded that it would be inappropriate for a party owning dedicated connection assets to be required to register as a TNSP and so be subject to all of the obligations under the Rules. It therefore proposed that owners of dedicated connection assets be automatically exempt from the requirement to register as a TNSP. However, it proposed that a condition of this exemption would be a requirement to negotiate access to the asset by other parties on reasonable terms (discussed in section D.4).[371]

D.3.3 Stakeholder views

Submissions to the consultation paper

In submissions to the consultation paper, several generators supported the proposal that owners of dedicated connection assets would be automatically exempt from the requirement to register as a TNSP.[372] The Clean Energy Council considered that these assets would be owned, operated and controlled by the generator, and therefore argued that anything other than an automatic exemption would result in unnecessary duplication of registration for a Generator. It therefore suggested that the proposed conditions of registration be incorporated into the registration requirements for a Generator or Market Customer.[373]

AEMO considered that any new registration category that would apply to owners of dedicated connection assets should require that the owners of these assets be subject to Rules provisions in Chapter 4 that require Registered Participants to follow AEMO instructions for power system security purposes, and Chapter 5 in relation to

371 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, pp. 9-10.

372 Submissions on consultation paper: AGL, p. 5; GDF Suez, p. 3; Clean Energy Council, p. 8.

373 Clean Energy Council, submission on consultation paper, p. 8.

performance standards. It also considered that the incumbent TNSP and AEMO should be informed about changes to dedicated connection assets that could affect power flows. It therefore proposed that owners of dedicated connection assets be required to register, but be exempted from certain chapters of the Rules, namely Chapter 6A and parts of Chapter 5, subject to appropriate conditions to address future access requirements.[374]

The ENA was of the view that there was no justification for these parties to be exempt from registration. It considered that these parties would be large companies, so the burden of registration would be low. It also submitted that owners of dedicated connection assets should be subject to the standards set out in Chapter 5 in order to maintain the integrity of the transmission system.[375]

AusNet Services expressed a similar view, submitting that it would not be appropriate to exempt parties that operate, control and maintain transmission assets from registration, as this requires specific expertise. It suggested that it may be appropriate for the original connecting party to be subject to economic regulation under the Rules if another connecting party wants to use that dedicated connection asset.[376]

Submissions to the discussion paper

In the discussion paper, the Commission presented the view that all assets in participating jurisdictions that are operating at transmission voltages and are interconnected with the rest of the transmission system should be subject to the provisions of the NEL and the Rules.[377] The Commission therefore considered it appropriate for parties that own such assets to be registered so that they are subject to provisions that enable the safety, reliability and security of the power system to be maintained. These provisions, among others, exist within the Rules and currently apply to all Registered Participants, including TNSPs. However, the Commission acknowledged that not all of the requirements placed upon TNSPs under the Rules would be applicable to owners of dedicated connection assets.

The NEL allows the AER to exempt a person from the requirement to register as a TNSP.[378] The automatic exemption for owners of dedicated connection assets, as was proposed in the rule change request, would have the effect of constraining or regulating the AER's discretion in its granting of exemptions. That is, it would not allow the AER to exercise its discretion under the NEL on whether to grant an exemption or not, because such a Rule would have had the effect of *requiring* AER to grant an exemption. In the discussion paper the Commission therefore proposed to establish a sub-category of TNSP registration for owners of dedicated connection assets

374 AEMO, submission on consultation paper, p. 3.

375 ENA, submission on consultation paper, p. 11.

376 AusNet Services, submission on consultation paper, p. 4.

377 This is explained further in section D.1.4.

378 See sections 11(2) and 13 of Part 2 of the NEL.

– the Dedicated Transmission Connection Asset Owner – to which a limited set of obligations would apply.

Stakeholders did not comment extensively on this aspect of the rule change request. However, those that did were largely supportive of the approach proposed by the AEMC. Specifically, EnergyAustralia and Origin Energy submitted that the case had been made for a new sub-category of registration to apply to owners of dedicated connection assets.[379] The Clean Energy Council noted that the obligations AEMO puts on generators to manage power system security are already captured in connection agreements, which generally also account for the dedicated connection asset. However, it acknowledged that this may become less certain if the dedicated connection asset is owned by someone other than the connecting party, so agreed that a light-handed approach to registration that can be executed alongside registration as a Generator is appropriate.[380]

D.3.4 Analysis and conclusion

The Commission's understanding of the COAG Energy Council's proposal that owners of dedicated connection assets be registered as a TNSP is that doing so would:

- make clear that dedicated connection assets are transmission systems and so are covered by the NEL and the Rules;
- provide greater transparency about where and what these assets are, and who owns, operates and controls them; and
- mean that the clauses that currently apply to TNSPs regarding access could apply to these parties.

While the majority of existing power lines that form part of assets that would fall within the definition of 'dedicated connection asset' under the draft Rule are relatively short, others can be, and already are, quite long. The development of new sources of generation in remote locations, or new loads such as gas compressors near coal seam gas fields, may require the construction and operation of lengthy dedicated connection assets. Dedicated connection assets of significant length highlight the importance of greater visibility of all transmission assets that make up the whole transmission system to enable efficient investment decisions. It also raises questions about rights of users to access these assets if that is a more efficient option than constructing a duplicate connection to the shared transmission network.[381] Efficient investment in, and operation of, the assets and services needed to connect to the shared transmission network is in the long-term interests of consumers.

As a result, it is the Commission's view that certain information about such assets should be recorded for transmission network planning and operation purposes, and

379 Submissions on discussion paper: EnergyAustralia, p. 2; Origin Energy, p. 2.

380 Clean Energy Council, submission on discussion paper, p. 7.

381 Access to dedicated connection assets is discussed further in section D.4.

that parties who own, operate and control them should be subject to certain obligations under the Rules.

Requirement to register

The language used to describe this aspect of the rule change request to date has implied that only the owner of a dedicated connection asset would be required to register. This was reflected in the name of the Registered Participant category proposed by the Commission in its discussion paper – the Dedicated Transmission Connection Asset Owner. However, consistent with the conclusions drawn in section D.1.4, it is the Commission's intention that any party who owns, operates or controls a part of the 'whole' transmission system should be required to register. This aligns with current wording in the NEL and the Rules that requires a person who owns, operates or controls a transmission system that forms part of the interconnected national electricity system to register or be exempt from registration.[382] It is also consistent with the current use of the Rules term Network Service Provider.[383] The draft Rule therefore introduces the term, Dedicated Connection Asset Service Provider.

The draft Rule puts this beyond doubt by amending the definition of the term transmission system and clarifying that a dedicated connection asset is a transmission system.[384] As a result, any person who owns, operates or controls a dedicated connection asset will be required to register with AEMO as a TNSP, be exempted by the AER from that requirement, or appoint an intermediary.[385] The draft Rule does not affect the AER's ability to grant an exemption to any party from the requirement to register as a TNSP. So, parties could apply to the AER to be exempted from this requirement with respect to dedicated connection assets, as they can with any other asset that is captured by the definition of transmission system.

Under the draft Rule, a party that is registered as a TNSP is a Dedicated Connection Asset Service Provider in so far as its activities relate to any of its dedicated connection assets.[386] That is, a person that is already registered as a TNSP is not required to separately register as a Dedicated Connection Asset Service Provider in respect of a dedicated connection asset. However, they are required to classify their dedicated connection assets (see section on classification below).

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382 Section 11(2) of Part 2 of the NEL, and clause 2.5.1(a) of the existing Rules.

383 See Network Service Provider in Chapter 10 of the existing Rules.

384 This definition is also set out in section D.1.4 above.

385 Clause 2.9.3 of the Rules requires the AER to allow an exemption from the requirement to register if the applicant notifies the AER of the identity of a person (an "intermediary") to be registered instead of the applicant; the applicant provides the AER with the written consent of the intermediary to act as intermediary in a form reasonably acceptable to the AER; and the AER notifies the applicant that it approves of the intermediary. The AER must approve the intermediary if the applicant establishes that, from a technical perspective, the intermediary can be treated for the purpose of the Rules as the applicant with respect to the relevant transmission system, with which the applicant is associated.

386 Clause 2.5.1A(h) of the draft Rule.

Under the draft Rule, a party that is already registered as a Generator, Customer or MNSP will be required to also register (or be exempted from the requirement to register) as a TNSP if it intends to own, operate or control a dedicated connection asset. There is no restriction under the NEL or existing Rules on a registered Generator or Customer carrying out other activities, i.e. activities other than buying or selling electricity. The existing Rules state that a Registered Participant may act in more than one category of Registered Participant provided that it is registered by AEMO in relation to each of the relevant Registered Participant categories.[387]

Under these arrangements, a party will hold one registration with AEMO that covers each dedicated connection asset it owns, operates or controls. This is similar to the existing arrangements for other Registered Participants, for example Generators who own, operate or control more than one generating system.

Classification

The power lines that form part of assets that would fall under the definition of dedicated connection asset carry electricity from a generator or load to the transmission network. They can vary greatly in length - some may be only 20m long while others can be 200km long. Under the draft Rule, the requirement to register as a TNSP in respect of dedicated connection assets is triggered regardless of the size of the asset. However, the draft Rule requires a TNSP to classify those parts of its transmission system that are dedicated connection assets as large dedicated connection assets or small dedicated connection assets.[388] It requires a TNSP to classify a dedicated connection asset as a large dedicated connection asset if the total route length for any power lines forming part of it is 30km or longer.[389] A TNSP will be required to classify its dedicated connection assets in its application for registration as a TNSP, or through a separate notice to AEMO.[390] AEMO must approve the classification if it is satisfied that the part of the transmission system is a large or small dedicated connection asset (as applicable).[391]

Parties would be required to reclassify their dedicated connection asset if it is modified and falls within a different classification. However, the Commission imagines that it is unlikely that the length of a dedicated connection asset would increase or decrease after it has been built and commissioned.

The Commission expects that, in most cases, parties who own, operate or control a small dedicated connection asset would be automatically exempt by the AER from the requirement to register as a TNSP. The AER's Electricity Network Service Provider Registration Exemption Guideline sets out the AER's approach to network

387 Existing clause 2.8.1(d) of the Rules.

388 Clause 2.5.1A(b) of the draft Rule.

389 Clause 2.5.1A(c) of the draft Rule.

390 Clause 2.5.1A(d) of the draft Rule.

391 Clause 2.5.1A(e) of the draft Rule.

exemptions.[392] The guideline includes a list of the types of activities that are exempt from the requirement to register as a network service provider, and the conditions imposed on parties under each exemption category. Parties who own, operate or control a small dedicated connection asset may fall under one of these categories. However, the ultimate discretion to exempt parties from the requirement to register as a TNSP lies with the AER.

The objective of requiring parties to classify dedicated connection assets as small or large is to make sure that the obligations with respect to third party access under the draft Rule are proportionate to the nature of the asset - that is, its significance and the potential for inefficiency if that asset is duplicated to facilitate the connection of a new party. The arrangements for third party access are discussed in further detail in section D.4.

Under these arrangements, AEMO will maintain and publish a list of all parties registered as a TNSP with respect to a dedicated connection asset, and whether that asset is classified as large or small. The AER will maintain and publish a list of those parties that it has exempted from the requirement to register as a TNSP in respect of these assets. These lists will provide greater transparency for Registered Participants, market bodies and other interested parties as to what these assets are, where they are located, how long they are and who owns, operates and controls them.

There are a number of existing assets that would be captured by the definition of dedicated connection asset when the rules commence. Transitional arrangements for these assets are discussed in chapter 5.

Obligations of Dedicated Connection Asset Service Providers

As set out in section D.3.3, AEMO considers that parties who own, operate or control dedicated connection assets should be subject to the Rules provisions in Chapter 4 that require Registered Participants to follow AEMO instructions for power system security purposes, and Chapter 5 in relation to performance standards. It also considered that the incumbent TNSP and AEMO should be informed about changes to dedicated connection assets that could affect power flows.

As Registered Participants, Dedicated Connection Asset Service Providers will be subject to a range of existing obligations under the Rules. For example:

- AEMO may require a Registered Participant to do any act or thing if AEMO is satisfied that it is necessary to do so to maintain or re-establish the power system to a secure operating state, a satisfactory operating state, or a reliable operating state.[393]

- Registered Participants must maintain and operate (or ensure their authorised representatives maintain and operate) all equipment that is part of their facilities

392 See https://www.aer.gov.au/networks-pipelines/network-exemptions

393 See clause 4.8.9(a)(1) of the existing Rules.

in accordance with the relevant laws, the requirements of the Rules and good electricity industry practice and relevant Australian Standards.[394]

- Registered Participants are subject to the confidentiality obligations in Part C of Chapter 8 of the Rules.

The Commission agrees with the COAG Energy Council that it is not appropriate to subject Dedicated Connection Asset Service Providers to all of the obligations of a TNSP under the Rules. The draft Rule therefore only requires these parties to comply with a rule applicable to a Network Service Provider where the rule specifies that it applies to a Dedicated Connection Asset Service Provider.[395]

Chapter 5 of the draft Rule also sets out the obligations of Dedicated Connection Asset Service Providers,[396] including requirements to:

- plan and design their dedicated connection assets to ensure compliance with relevant performance standards, connection agreements and system standards;
- permit and participate in inspection, testing and commissioning of facilities and equipment; and
- ensure there is a connection agreement between itself and the TNSP to which it is connected.[397]

The Commission does not consider it necessary to require the party who owns, operates or controls dedicated connection assets to inform the Primary TNSP and AEMO about changes to the assets that could affect power flows, as was proposed by AEMO. The requirement to provide such information should already be captured in connection agreements that relate to those assets and the parties connected to them, and so the TNSP should have obligations to pass this information on to AEMO. The draft Rule therefore does not introduce such a requirement.

Dedicated Connection Asset Service Providers will also have obligations regarding third party access to their large dedicated connection assets. These arrangements are set out in section D.4 below.

394 Clause 5.2.1 of the existing Rules.

395 Clause 2.5.1A(g)(1) of the draft Rule.

396 See rule 5.2.7 of the draft Rule.

397 The draft Rule requires a Dedicated Connection Asset Service Provider to have a connection agreement with the TNSP to which it is connected because the asset they own, control and operate will be physically connected to that TNSP's network. This agreement may take the form of a tripartite agreement with the connecting party if the connecting party is not the Dedicated Connection Asset Service Provider.

D.4 Third party access to dedicated connection assets

D.4.1 Background

As noted at the beginning of this appendix, there is currently no consistent interpretation of whether assets that would fall within the definition of dedicated connection asset under the draft Rule comprise or form part of a transmission system, and therefore what access provisions might apply to such assets.

D.4.2 COAG Energy Council's view

The COAG Energy Council proposed that, as a condition of automatic exemption from the requirement to register as a TNSP, an owner of a dedicated connection asset would be required to negotiate access to the asset by other parties on reasonable terms. It also proposed that a robust negotiation framework be established in the Rules to apply to all parties negotiating access to a dedicated connection asset.[398]

D.4.3 Stakeholder views

Submissions to the consultation paper

Access as a condition of registration

The Clean Energy Council disagreed with the proposal that a condition of being exempt from the requirement to register as a TNSP would be a requirement to negotiate access to other parties on reasonable terms. It suggested that third party access to dedicated connection assets should be negotiated on a purely commercial basis between the asset owner and the access seeker.[399] The Clean Energy Council submitted that there is nothing in the current framework that prevents parties negotiating access on a commercial basis where parties see a benefit, and a lack of demonstration of this occurring is not evidence of a need for intervening rules.[400]

AEMO expressed support for a simplified access regime applying to dedicated connection assets and noted that, if there is robust competition for connection services, it may be unnecessary to develop a separate regime that applies only to dedicated connection assets.[401]

398 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, p. 10.

399 Submissions on consultation paper: AGL, p. 2; Clean Energy Council, pp. 8-9.

400 Clean Energy Council, submission on consultation paper, p. 8.

401 AEMO, submission on consultation paper, p. 4.

Principles of access

A number of generators considered that third party access should only be offered if there is spare capacity on the line - not including any reserve capacity envisaged by original proponent - and that the existing connecting party should not be compelled to accept terms that disadvantage it.[402]

AGL submitted that any Rule on access should not automatically take precedence over terms and conditions of access negotiated in the connection agreement, subject to a normal dispute process if reasonable agreement cannot be reached. It argued that third party access to dedicated connection assets should be negotiated privately as long as the proponent complies with the connection agreement and performance standards required under the Rules.[403]

The ENA submitted that the conditions and principles for third party access should be the same regardless of who owns the line or facility. Specifically, that:

- the existing user should have its legitimate contractual and legal rights preserved so it is not disadvantaged by third party access (the ENA notes that this is normally in a connection agreement);
- access should be provided on a non-discriminatory basis; and
- additional users should be required to pay the incremental costs of their connection and contribute to existing sunk costs.[404]

The Clean Energy Council made the following points in relation to the proposed conditions of access to dedicated connection assets:[405]

- Any framework for access must recognise that a dedicated connection asset is not monopoly-controlled open access network.
- Any conditions allowing third party access should make sure that the incumbent owner is not negatively affected.
- The Rules should state the conditions of access are to be incorporated in AER guidelines.
- The impacts of third party access on existing standards and metering arrangements need to be considered further.
- The Rules must not provide an assumed right to a Dedicated Connection Asset Owner's 'reserved capacity' by a third party before the incumbent project's second stage progresses.

402 Submissions on consultation paper: Origin Energy, p. 2; GDF Suez, p. 3; AGL, p. 5.

403 AGL, submission on consultation paper, p. 5.

404 ENA, submission on consultation paper, p. 12.

405 Clean Energy Council, submission on consultation paper, pp. 8-10, 13.

- Financing models for investment in new generation require certainty, currently achieved by providing the incumbent asset owner with control over the terms of access. The proposed arrangements leave the terms of an exemption up to the AER's determination of what is reasonable for the exemption guidelines, which would increase risk and financing costs.

- Jurisdictional arrangements for third party access as provided in generation and transmission licenses need to be investigated to avoid duplication of regimes.

- There is no indication in the rule change request that a request for third party access should be processed under Chapter 5 of the Rules. While the interface with the TNSP would be treated as such, it is unclear whether the interface between the incumbent asset owner and the third party would be, or why.

The Clean Energy Council proposed that the Rules incorporate provisions to:[406]

- enable the incumbent generator to establish a firm level of power transfer capability that the dedicated connection asset would be required to provide to its current and any future facilities;

- enable the incumbent generator to place reasonable charges on the use of the shared dedicated connection asset once built;

- require that the party seeking access:

  - takes full accountability for renegotiating the incumbent generator's access standards, or pay the generator to do so;

  - makes best endeavours not to harm the incumbent generator's access standards, including performance standards and power transfer capability;

  - compensates the owner for any material changes that result from this renegotiation, including impact to future revenue from changes to a connection point location or metering arrangement; and

  - compensates the incumbent generator for any lost revenue incurred during and after construction as a result of the connection and operation of the third party's facilities.

Submissions to the discussion paper

In the discussion paper, the Commission proposed that the conditions of registration as a Dedicated Transmission Connection Asset Owner would be that:

- third party access to these assets would be explicitly contemplated, with this occurring through a negotiate/arbitrate framework; and

406 Clean Energy Council, submission on consultation paper, pp. 8-10, 13.

- the assets must enable the generator to meet any performance standard that must be met.

This proposal builds on the approach put forward by the Commission in the Transmission Frameworks Review. In the discussion paper, the Commission stated that setting out that third party access as a condition of 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. The Commission proposed 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[407] would not be materially disadvantaged.

Submissions to the discussion paper indicated that many stakeholders, particularly generators, have concerns with this proposed approach, as explained below.

Access as a condition of registration

The Clean Energy Council submitted that there is no evidence that third party access to assets that would fall under the proposed definition of a dedicated connection asset is not possible or not occurring under current arrangements. It also noted that these assets are constructed to suit the connecting party's needs, so any new connection to these assets would almost certainly require significant augmentation.[408]

Consistent with the views presented at the stakeholder forum and in submissions to the discussion paper, most generators were of the view that access should be provided on a commercial basis only.[409] EnergyAustralia argued that over-regulation of access may introduce unnecessary uncertainty to the business case of a new connection.[410] AGL submitted that it may not be worthwhile setting out a framework in anticipation of future access seekers given that this rarely, if ever, happens.[411]

Principles of access

Despite the above views, several generators commented on the proposed principles of access. Origin Energy welcomed the proposal to preserve capacity that has been reserved by the original connecting party, e.g. to facilitate the connection of a second stage of a project.[412] The Australian Energy Council stated that it was unclear how

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407 'Business interests' excludes limiting or minimising competition from new entrants.

408 Clean Energy Council, submission on discussion paper, p. 7.

409 Submissions on discussion paper: AGL, p. 3; EnergyAustralia, p. 2; Infigen, p. 2; Origin Energy, p. 2.

410 EnergyAustralia, submission on discussion paper, p. 2.

411 AGL, submission on discussion paper, p. 3.

412 Origin Energy, submission on discussion paper, p. 2.

third party access would be offered and how 'spare capacity' on the dedicated connection asset would be defined.[413] The Clean Energy Council was of the view that the proposed principles provide sufficient prescription to avoid ambiguity while ensuring that the incumbent owner is not disadvantaged. It proposed that these principles be embedded into the terms of registration as a Dedicated Transmission Connection Asset Owner.[414]

AGL acknowledged that it may make sense to ensure access is equitable and low cost, provided through light handed regulation that ensures an access seeker has recourse to seek regulatory intervention if it thinks the incumbent is being anti-competitive.[415]

EnergyAustralia was concerned that the principle of 'no degradation of service' may be a low standard that still advantages second movers, for example through deteriorated loss factors or less firm access under conditions that were not envisaged. It considered that this could indirectly inhibit timely and efficient investment in generation.[416]

The Clean Energy Council asked that further consideration be given to the location of the connection point and metering point, and the possible economic impact that may occur if these points are changed when third party access is granted. It also noted that outages during the connection of a new party would lead to loss of revenue for the incumbent. It therefore suggested that the following access principle be added to address these concerns - "Access should only be offered if the connecting party compensates the initial party for the impact their connection has on revenues during construction and operation of the generator".[417]

The ENA reiterated the view it expressed in its submission to the consultation paper that third party access should be provided on a consistent basis.[418]

PIAC supported the proposal that owners of dedicated connection assets should be required to provide access to third parties where there is spare capacity and where it would not negatively affect the owner.[419]

D.4.4 Analysis and conclusion

As is explained in section D.2.4, the draft Rule sets out that the design, construction, ownership, operation and maintenance of dedicated connection assets are non-regulated transmission services and can be provided by any party on commercial terms.[420] That is, there is no obligation on any party, including the Primary TNSP, to

413 Australian Energy Council, submission on discussion paper, p. 1.

414 Clean Energy Council, submission on discussion paper, pp. 7-8.

415 AGL, submission on discussion paper, p. 3.

416 EnergyAustralia, submission on discussion paper, p. 2.

417 Clean Energy Council, submission on discussion paper, p. 8.

418 ENA, submission on discussion paper, p. 2.

419 PIAC, submission on discussion paper, p. 4.

420 Clause 5.2A.4(a) of the draft Rule.

offer these services and there is no regulated framework for the setting of price and non-price terms and conditions for the provision of those services.

This is because the Commission has concluded that:

- there are a sufficient number of alternative providers, and the barriers to entry are sufficiently low, for a connecting party to find an alternative provider to the Primary TNSP for the provision of these services;
- these assets are electrically separable from the shared transmission network, so any risk of inadequate design, construction, ownership, maintenance or operation of these assets fall on the connecting party, and do not affect flows to end-use consumers; and
- the benefits of having dedicated connection assets in place accrue to the connecting party, so it is appropriate that this party bears the cost of designing, building, owning, operating and maintaining them.

However, as explained in section D.1.4, the Commission considers that there is benefit in having greater visibility of what and where these assets are than is available under the current arrangements.

Dedicated connection assets are relevant to the efficient development of the 'whole' transmission system, a concept that was introduced in section D.1. That is, it would be inefficient for a new connecting party to build a duplicate dedicated connection asset to facilitate its connection to the shared transmission network where one already exists and that party is able to access the existing asset in such a way that the incumbent connecting party's legitimate business interests are not disadvantaged. Dedicated connection assets could be, and in some cases already are, quite lengthy (e.g. several hundred kilometres) and therefore start to exhibit many of the characteristics of monopoly infrastructure.

However, the party that owns, operates or controls a lengthy dedicated connection asset may have little incentive to negotiate to grant access to it by another party, particularly if that party is a competing generator. Providing access to the service provided by means of the dedicated connection asset would enable the competing generator's participation in the wholesale market and so potentially affect the original generator's revenue stream. Even if the asset owner is not a generator, it may still have an incentive to only grant access at an inflated price if the asset exhibits monopoly characteristics. Preventing or frustrating access to one of these assets may therefore result in an inefficient duplication of transmission infrastructure, and may increase the costs to the party trying to connect and, ultimately, to consumers.

Efficient development of the 'whole' transmission system (which includes dedicated connection assets) is in the long-term interests of consumers. It is therefore in line with this premise to provide a framework by which parties could negotiate access to the services provided by other transmission infrastructure, i.e. dedicated connection assets. A number of stakeholders have indicated that dedicated connection assets are only built to accommodate the needs of the original connecting party. While the

Commission accepts that this can be the case, there may still be circumstances where it is more efficient for the new connecting party to pay the costs of augmenting an existing dedicated connection asset or share easements to facilitate its connection to the transmission network, rather than building a duplicate dedicated connection asset.

Box D.1 sets out the Commission's conclusion that it is unlikely that access to dedicated connection assets would be granted under the *Competition and Consumer Act 2010*.

Box D.1 Dedicated connection assets and the *Competition and Consumer Act 2010*

Part IIIA of the Competition and Consumer Act 2010 (CCA) contains a statutory regime for third party access to infrastructure. Under this regime, a third party can obtain access to services provided by infrastructure on a negotiate/arbitrate basis if the services are "declared" by the Minister on the recommendation of the National Competition Council based on a set of declaration criteria. While an access seeker could seek declaration of services provided by dedicated connection assets under Part IIIA of the CCA, it is unlikely that transmission services provided by dedicated connection assets would be declared under Part IIIA because it would be difficult for an access seeker to demonstrate that the services provided by the dedicated connection assets meet the declaration criteria, in particular:

- the criterion that the facility (the dedicated connection asset) is of national significance having regard to its size, importance to trade and commerce and its importance to the national economy; and
- the criterion that it would be uneconomical for anyone to develop another facility to provide the service.

In light of the Commission's view that a framework to provide access to large dedicated connection asset services will promote the efficient development of the transmission system and the conclusion in Box D.1, the Commission considers it appropriate to set out a clear framework in the Rules by which access to the transmission service provided by these assets could be contemplated. While these assets may not be "nationally significant" as defined under Part IIIA (especially when considered as part of the 'whole' transmission system), the Commission considers that certain lengthy assets will be "significant" enough to warrant the introduction of a framework for third party access.

So, while the draft Rule clarifies that the services of design, construction, ownership, operation and maintenance of dedicated connection assets are non-regulated transmission services, it specifies that the transmission service provided by means of a large dedicated connection asset once commissioned is a large DCA service that is subject to a regime for third party access.[421]

421 Clause 5.2A.8 of the draft Rule.

Threshold above which third party access framework applies

As explained in section D.3.4, the draft rule requires a TNSP to classify those parts of its transmission system that are dedicated connection assets into large dedicated connection assets and small dedicated connection assets.[422] It requires a TNSP to classify a dedicated connection asset as a large dedicated connection asset if the total route length for any power lines forming part of it is 30km or longer.[423] A TNSP will be required to classify its dedicated connection assets in its application for registration as a TNSP, or through a separate notice to AEMO.[424] AEMO must approve the classification if it is satisfied that the part of the transmission system is a large or small dedicated connection asset.[425]

The objective of introducing the terms large dedicated connection asset and small dedicated connection asset, and requiring parties to classify their dedicated connection assets as one or the other, is to give effect to an access framework that only applies to dedicated connection assets if the total route length for any power lines forming part of it is 30km or longer.

In the Transmission Frameworks Review, the Commission proposed a 2km route length threshold above which third party access obligations should apply. Consultation with stakeholders throughout this rule change request process, and the Commission's own analysis, has shown that the regulatory burden of complying with the requirements of the access framework for dedicated connection assets of less than 30km route length would likely have outweighed the benefits that the obligation is seeking to provide - efficient access to the shared transmission network. It is also unlikely that relatively 'short' dedicated connection assets would be subject to a request for access because the costs of duplicating the assets are likely to outweigh the costs of negotiating access directly with the Primary TNSP.

The definition of large dedicated connection asset in the draft Rule therefore reflects a revised threshold of 30km route length. This length is based on our review of the current 'dedicated connection assets' in the NEM and indicative analysis on when it might be more cost effective to connect to the shared transmission network via existing assets that would fall under the definition of a dedicated connection asset, as in the draft Rule, as opposed to constructing a new dedicated connection asset. An objective threshold set out in the Rules above which the third party access obligations apply provides clarity to relevant parties and removes the need for another party (e.g. an arbitrator) to determine whether these obligations should apply.[426]

422 Clause 2.5.1A(b) of the draft Rule.

423 Clause 2.5.1A(c) of the draft Rule.

424 Clause 2.5.1A(d) of the draft Rule.

425 Clause 2.5.1A(e) of the draft Rule.

426 The Commission notes that AEMO will assess the Dedicated Connection Asset Service Provider's classification of its dedicated connection assets as either large or small when it registers as a TNSP.

The access framework

The draft Rule requires the Dedicated Connection Asset Service Provider for a large dedicated connection asset, including Primary TNSPs who own, operate or control a large dedicated connection asset, to prepare, maintain and publish an access policy on its website. This policy must include, as a minimum, the following information:[427]

- a description of the routes, tenure arrangements and main components of the large dedicated connection asset and the facilities connected to it;
- any material regulatory limitations relating to the development and operation of the large dedicated connection asset;[428]
- the pricing principles and the key terms which are proposed to apply to the provision of 'large DCA services'[429] by means of the large dedicated connection asset where such principles and terms must be consistent with Schedule 5.12 of the draft Rule;
- the process by which an applicant may seek access to large DCA services, which must include a right for an applicant to obtain sufficient information to enable it to prepare a request for the large DCA services it requires and contact details for access enquiries; and
- advice on the availability of commercial arbitration under rule 5.5 of the draft Rule in the case of a dispute.

The Dedicated Connection Asset Service Provider must submit its access policy for approval by the AER within 30 days of an asset being classified as a large dedicated connection asset under Chapter 2 of the Rules.[430] The draft rule requires the AER to approve the access policy if it is reasonably satisfied that it complies with the requirements set out above.[431]

In the event that the AER does not approve an access policy, it must notify the Dedicated Connection Asset Service Provider of the changes required for it to be approved. If an access policy is not approved within six months of the AER's notification of required changes, the AER may itself propose an access policy,[432] which it may, but is not obliged to, consult on.[433] The AER's proposal for an access policy in these circumstances must be formulated with regard to a range of factors, including the minimum requirements set out above, the Dedicated Connection Asset

427 Clause 5.2A.8(b) of the draft Rule.

428 For example, the conditions of environmental or planning approvals in place.

429 Defined in the draft Rule as a service provided by means of a large dedicated connection asset.

430 Clause 5.2A.8(d) of the draft Rule.

431 Clause 5.2A.8(f) of the draft Rule. The draft Rule also makes it clear that the approval of access policies is an AER function - see clause 5.2A.8(c) of the draft Rule.

432 Clause 5.2A.8(f) of the draft Rule.

433 Clause 5.2A.8(h) of the draft Rule.

Service Provider's proposed access policy and the AER's reasons for refusing to approve the proposed access policy.[434] The AER's approved access policy must be provided to the relevant Dedicated Connection Asset Service Provider and published on the AER website.[435]

A Dedicated Connection Asset Service Provider must comply with its access policy once it is approved,[436] and must report to the AER on requests for connection and access to a large dedicated connection asset when such requests are made and when an agreement for access is entered into.[437]

The draft Rule sets out the principles that Dedicated Connection Asset Service Providers for large dedicated connection assets will be subject to when negotiating access to the services provided by means of that asset to another party.[438] These principles have been developed to address a range of matters, including:

- the contractual obligations of the party, or parties, that are already connected to the asset with the Dedicated Connection Asset Service Provider;
- who pays the costs of any upgrades or alterations to the asset that are necessary to facilitate access; and
- compensation to the Dedicated Connection Asset Service Provider for any revenue lost during the required upgrades or alterations.

Dedicated Connection Asset Service Providers will also be subject to a number of the general principles for the provision of negotiated transmission services described in appendix C and set out in Schedule 5.11 of the draft Rule.[439]

All other arrangements regarding that party's connection to the dedicated connection asset will need to be negotiated and addressed between the relevant parties on a commercial basis. The draft Rule does not address these issues. For example, the access seeker may need to:

- enter into some form of agreement with the TNSP;
- establish where its connection point and metering point will be; and
- address what happens in the event that the Dedicated Connection Asset Service Provider or original connecting party becomes insolvent or leaves the NEM.

The original connecting party may also need to re-open its connection agreement with the TNSP, for example to renegotiate its performance standards.

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434 Clause 5.2A.8(g) of the draft Rule.

435 Clause 5.2A.8(i) of the draft Rule.

436 Clause 5.2A.6(c) of the draft Rule.

437 Clause 5.2A.8(k) of the draft Rule.

438 Schedule 5.12 of the draft Rule.

439 See clause 1, Schedule 5.12 of the draft Rule.

Once connected, that part of the dedicated connection asset that now is now shared with the original connecting party to facilitate the flow of energy to/from the new connecting party does not become an identified user shared asset. However, the new connecting party will form part of the identified user group.

This access framework does not necessarily mean that parties who own, operate or control large dedicated connection assets will be required to allow other parties access to their assets. Instead, it is intended to establish a means by which other parties, including new load, generators, MNSPs or DNSPs, can consider and negotiate access to these assets.

The Commission acknowledges that this new framework has the effect of creating an additional access regime in the Rules. However, the Commission has determined that a regime specific to the nature of large dedicated connection assets is more appropriate than applying the access regime that currently exists under Chapters 5 and 6A of the Rules to parties who own, operate and control dedicated connection assets.

The Commission expects that the burden of complying with this specific regime for large dedicated connection assets will not be significant for TNSPs owning, operating and controlling a dedicated connection asset where those TNSPs are already providing prescribed transmission services for the shared transmission network in their licenced area. The Commission also expects that this compliance burden will not be significant for the kinds of parties who are expected to be owning, operating and controlling a large dedicated connection asset.

It is possible that a bespoke access regime that applies only to the transmission service provided by way of large dedicated connection assets will not be used often. However, introducing such a regime will support transparency and predictability, and the establishment of a robust and complete framework for access to services provided by all large transmission assets. The draft Rule does not prevent parties from negotiating access to dedicated connection assets on commercial terms, i.e. outside of this access regime. However, the access regime provides a means by which generators, loads, MNSPs and DNSPs will be able to explicitly consider large dedicated connection assets as a means to connect to the shared transmission network, and there will be a clear framework by which access to that asset's transmission service can be considered.

D.5 Transition of dedicated connection assets to the shared transmission network

D.5.1 Background

There are two recent examples of where existing assets that would fall under the draft Rule definition of dedicated connection asset were 'transitioned' to form part of the shared transmission network. Both of these occurred in Queensland, where Powerlink identified through either a Regulatory Test[440] or RIT-T process that the inclusion of

440 The Regulatory Test was used by the ACCC prior to the establishment of the RIT-T process.

particular connection assets into its transmission network would enable it to meet a network need. However, in the first example, there was no change to the cost treatment of the assets. That is, the assets remained non-regulated and the power station that owned the assets entered into an unregulated transmission agreement with Powerlink, under which Powerlink paid for the use of the asset. In the second example, the assets became part of Powerlink's transmission network and were included in its regulatory asset base. These examples are described in more detail in Box 4.1 of the discussion paper.[441]

So, while it is possible under current Rules for such assets to transition to the shared transmission network, in practice the process for how these assets would transition, and the regulatory treatment of the assets after transition, is not clear.

D.5.2 COAG Energy Council's view

The COAG Energy Council proposed that an application could be made by any party (including potentially the incumbent TNSP) to have a dedicated connection asset transition to the shared transmission network. It proposed that the AER would assess such applications and make determinations about whether the asset should transition.[442]

D.5.3 Stakeholder views

Submissions to consultation paper

No stakeholder expressed full support for this aspect of the rule change request in their submission to the consultation paper.

The proposal itself

AGL expressed concern about the notion of transferring a dedicated connection asset to the shared transmission network, noting that these assets are privately funded, owned and operated by the proponent to participate in the NEM. It submitted that any decision on a potential lease or transfer of a dedicated connection asset should be made by the owner on a commercial basis.[443] The Clean Energy Council shared this view, noting that each asset will hold unique application-specific attributes, so the transition of a dedicated connection asset to serve a new purpose is not trivial.[444]

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

442 COAG Energy Council, Transmission Connection and Planning Arrangements, rule change request, July 2015, pp. 13-14.

443 AGL, submission on consultation paper, p. 5.

444 Clean Energy Council, submission on consultation paper, p. 11.

The proposed transition process

While not supporting a regulated approach to the transition of dedicated connection assets, AGL considered that, if such an approach is taken, the process should be light handed, require the parties to negotiate in good faith and be assessed on a case-by-case basis. It proposed that the rule account for the circumstances that led to the investment in the original asset and accommodate any reasonable conditions of transition sought by the original proponent. It also proposed that there be an ability to appeal the determination.[445] Origin Energy also supported a case by case approach.[446]

The Clean Energy Council submitted that the AER is not the appropriate body to determine whether a transition should occur. It also did not consider that the local TNSP should have powers to declare an assumed right over an asset it does not own or have oversight of. The Clean Energy Council posited that requests for transition would more likely be received from a TNSP or DNSP, but could come from new loads as well. Either way, it considered that the owner of the asset should receive the request so they can manage the associated risks.[447]

The ENA also agreed that the AER is not the appropriate body to determine whether a transition should occur. It submitted that having the AER do so would shift planning and investment responsibility to the AER, while the TNSP retains responsibility and liability for the performance of the network. It considered this to be inappropriate and inconsistent with the economic regulation framework by which the AER approves total revenue, rather than direct which investments should or should not proceed. It also suggested having the AER involved would be procedurally inefficient because it would be required to consult publically on the assessment. If the option was found to not be suitable the TNSP would need to commence a new process to identify alternatives, which would delay the process further.[448]

The ENA submitted that it is unclear why ownership has any role in determining whether a particular option best meets a network need. It noted that consideration of ownership is inconsistent with the proposal to promote cross regional investment and could compromise promotion of the NEO. It presented the view that the existing RIT-T process is the best means of deciding whether assets should transition to the shared transmission network. It noted that this process is robust and well accepted, and has already been successfully used to transition the Kogan Creek substation to the shared transmission network. It also notes that RIT-T outcomes can be disputed, which would provide assurance that the test has been appropriately applied before any transition occurs.[449]

Origin Energy suggested that the Rules contain a minimum set of requirements or criteria that the regulatory body should have to take into account when making its

445 AGL, submission on consultation paper, pp. 2, 6.

446 Origin Energy, submission on consultation paper, p. 2.

447 Clean Energy Council, submission on consultation paper, p. 11.

448 ENA, submission on consultation paper, p. 13.

449 ENA, submission on consultation paper, pp. 12-13.

decision.[450] The Clean Energy Council was of the view that the framework should set out a minimum set of protections for the incumbent asset owner, and that they be allowed access to the negotiation and dispute resolution procedures in the Rules. It also suggested that the Rules require the NSP to notify the owner of a dedicated connection asset in its planning process if it identifies the transition as a credible investment option.[451]

Cost and other implications

Several stakeholders agreed that the incumbent owner should not be disadvantaged by the transition.[452] The Clean Energy Council proposed that the incumbent must reserve the right to earn a reasonable return from the transition, and to retain ownership and control over the asset.[453] GDF Suez was of the view that the incumbent TNSP should not be able to seek further funding through TUOS for assets that have already been paid for by the connecting party.[454]

The MEU questioned whether the original owner gets reimbursed for its capital investment if its asset is transitioned. It also concluded that, if the owner does not gift the assets to the TNSP, then it would be required to be subject to regulation, the costs of which would be large relative to the value of the asset. So, it considered that there would be financial pressure to gift the asset to the TNSP or sell it at a low cost, which would be inequitable. The MEU also raised tax implications of gifting the assets to the TNSP.[455]

The ENA considered that, irrespective of ownership, the economic regulation framework ensures that the price paid by customers, and the revenue earned by owners, reflects the efficient costs of supply. It questioned what contribution should be made to the recovery of sunk costs when assets transition to the shared transmission network, and what the opening value of the asset would be.[456]

Submissions to the discussion paper

In the discussion paper the Commission proposed to introduce two triggers in the Rules where a dedicated connection asset could be transitioned to the shared transmission network:

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

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450 Origin Energy, submission on consultation paper, p. 2.

451 Clean Energy Council, submission on consultation paper, p. 12.

452 Submissions on consultation paper: AGL, p6; Origin Energy, p2; Clean Energy Council, p11; GDF Suez, p. 3.

453 Clean Energy Council, submission on consultation paper, p. 11.

454 GDF Suez, submission on consultation paper, p. 3.

455 Major Energy Users, submission on consultation paper, p. 3.

456 ENA, submission on consultation paper, pp. 13-14.

2. where a TNSP is augmenting its transmission 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).

This approach reflects what the AEMC recommended in the Transmission Frameworks Review. The Commission also proposed to include provisions in the Rules to make sure that the original owner of the dedicated connection asset could negotiate a fair price and has access to dispute resolution. The Commission proposed this approach because the arrangements should be clear, transparent and predictable, with decisions about when assets should be transitioned made on a consistent basis, i.e. not case-by-case, as was proposed in the rule change request.

The proposal itself

No stakeholder expressed full support for this proposal in their submission to the discussion paper.

Transmission General Holdings Australia was of the view that dedicated connection assets should not be transitioned into the shared transmission network at all, arguing that the risk that this could occur would reduce certainty for financiers and therefore increase costs or limit financing options available to those providing services for the assets. It suggested that dedicated connection assets could be treated as a non-network option in any augmentation or connection assessment by TNSPs or DNSPs. That is, if the option that maximises the net economic benefit to address an identified need is to utilise the dedicated connection asset, the TNSP or DNSP could enter into commercial negotiations with the asset owner, which may involve a lease for capacity or shared use of a pole.[457]

The SA Department of State Development expressed concern with the proposed 'trigger' approach, arguing that there is a need for flexibility because different issues may be pertinent in each case. It suggested that a more flexible approach would enable owners to have input into any proposed asset transition.[458]

PIAC expressed concern that customers would end up paying for the asset if it ended up in the NSP's regulatory asset base. It proposed that the NSP be required to commercially acquire the services provided by the asset, rather than purchasing the asset itself. However, it submitted that, if the NSP is to acquire the asset, the AER should oversee the transfer and the asset should be valued correctly, through an appropriate depreciation method, to reduce the potential for the collection of inefficient revenue.[459]

The proposed transition process

The Clean Energy Council was of the view that any transition of a dedicated connection asset to the shared transmission network should be done on an entirely

457 Transmission General Holdings Australia, submission on discussion paper, p. 2.

458 SA Department of State Development, submission on discussion paper, p. 4.

459 PIAC, submission on discussion paper, p. 4.

commercial basis, arguing that the assets were financed on commercial terms, so re-purchases should also be made on commercial terms. It proposed that commercial negotiations should prevail on a case by case basis where it is identified as the lowest cost option for consumers, but suggested that limited provisions could be put in place to guide a fair-priced transition, supported by dispute resolution. It also suggested that these matters be embedded into the terms of registration as a Dedication Transmission Connection Asset Owner.[460]

EnergyAustralia also considered that transition could be negotiated on a strictly commercial basis but, if not, then provisions should be made for connecting parties to be adequately compensated. It proposed that the original owner be compensated for any degradation of service, including during construction, and any additional expenses such as metering reconfiguration. It argued that not doing so might introduce unnecessary uncertainty to the business case of a new connection.[461]

Origin Energy was comfortable with the proposed process for the transition of dedicated connection assets, but reiterated that the existing asset owner's rights should not be impeded if transition occurs. It also submitted that dedicated connection assets might not meet the required performance standards of the shared transmission network, and therefore proposed that the TNSP be required to meet the costs of updating these standards.[462]

Infigen asked for further clarity on how the transition of a dedicated connection asset is to take place as part of a RIT-D or RIT-T process, including the involvement of the asset owner.[463] The Clean Energy Council raised a similar point, arguing that the asset owner needs to be notified as soon as possible if its asset is identified as a potential alternative.[464]

D.5.4 Analysis and conclusion

The Commission's understanding of the intention of this aspect of the rule change request is that the Rules provide mechanisms to enable a dedicated connection asset to be transitioned to the shared transmission network where that transition is the most efficient option to address an identified need. It then follows that any services provided by means of that asset should be prescribed transmission services and so funded by transmission users through TUOS charges.

The Commission considers that there are three scenarios where a dedicated connection asset could transition to the shared transmission network. Each of these scenarios is described below.

460 Clean Energy Council, submission on discussion paper, p. 8.

461 EnergyAustralia, submission on discussion paper, p. 2.

462 Origin Energy, submission on discussion paper, p. 2.

463 Infigen Energy, submission on discussion paper, p. 2.

464 Clean Energy Council, submission on discussion paper, p. 8.

Scenario 1

Under this scenario, the incumbent TNSP would be seeking to purchase the dedicated connection asset from the party who owns, operates and controls it for the purposes of using the asset to provide shared transmission services. If purchased, the asset would be rolled into the incumbent TNSP's regulatory asset base because the asset would be providing prescribed transmission services.

A transfer of this type would likely require the TNSP to undertake a RIT-T[465] and through this determine that such a transfer would be the most efficient means to resolve an identified network need. This is a similar process to TNSPs' current consideration of non-network options, or options to augment the existing network. The TNSP and the party who owns, operates and controls the dedicated connection asset would negotiate the terms, conditions and price of the asset transfer on a commercial basis, and the TNSP would pay the costs of this purchase out of its capital expenditure.

Scenario 2

Several stakeholders have suggested that the incumbent TNSP could enter into a long-term contract with a Dedicated Connection Asset Service Provider to obtain the use of that asset, and pay for this out of operating expenditure. We do not consider this approach to be a workable option for two reasons, outlined below.

- The asset owner has little incentive to enter into such an arrangement. This is because the asset would now be providing prescribed transmission services and so the asset owner may be subject to the range of obligations that are imposed on TNSPs providing prescribed transmission services.

- If the party who owns, operates and controls the dedicated connection asset was also the generator that is connected to that asset, it would not be appropriate for it to own assets that provide prescribed transmission services due to competition concerns.

The draft Rule allows parties to determine which of scenarios 1 and 2 is chosen - that is, whether the TNSP purchases the asset with capital expenditure, or enters into an agreement with the asset owner so that it can provide prescribed transmission services by means of that asset. However, the Commission expects that most parties would take the former approach, given that any party who retains ownership of an asset that is providing prescribed transmission services would be regulated accordingly.[466]

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465 If the threshold for consideration under a RIT-T process is met.

466 It is possible that the connecting party (or other party) could retain ownership of the dedicated connection asset, but enter into an arrangement for the incumbent TNSP to operate and maintain it as an 'intermediary'. Such an approach may be workable if the AER is satisfied that operation and control of the dedicated connection asset lies with the incumbent TNSP, and consequently exempts the party who owns the dedicated connection asset from the requirement to register as a TNSP with respect to that asset. See clause 2.9.3 of the Rules.

Scenario 3

Under this scenario, the incumbent TNSP would be seeking to move the asset from its non-regulated transmission services asset base into its regulatory asset base for the purposes of now providing prescribed transmission services by means of that asset. Here, the TNSP would need to demonstrate, through a RIT-T process, that such a transfer would be the most efficient means to resolve an identified network need.

There is an existing framework in the Rules that addresses how an NSP's regulatory asset base value is to be recalculated to include capital expenditure that was not included in the regulatory asset base value for the previous regulatory control period, to the extent that the asset now provides prescribed transmission services. This existing framework is sufficient to allow such dedicated connection assets to be transitioned into the TNSP's regulatory asset base.

Conclusion

The Commission sees no need to define a separate framework by which assets should or could transition to the shared transmission network under any of these scenarios because there are existing arrangements that enable this to occur. That is, there are no fundamental limitations in the Rules that prevent a TNSP transitioning a dedicated connection asset to form part of its transmission network if it demonstrates, through a RIT-T or other process, that transition of the asset is the most efficient option to address the identified network need. As such, there will be no triggers to force transition of the ownership of the dedicated connection asset to the incumbent TNSP. Instead, transitions will be assessed on a case by case basis through the existing processes.

A possible driver for the transition of a dedicated connection asset to the shared transmission network is where a DNSP seeks connection to the shared transmission network. In this case, the TNSP and DNSP would likely identify the most efficient means for the DNSP to connect, which could include connection via an existing large dedicated connection asset. To facilitate the connection, the TNSP may choose to purchase the dedicated connection asset outright from the party who owns, operates and controls it (scenario 1), enter into an arrangement with the asset owner/operator/controller to obtain the use of that asset (scenario 2) or, if it is already the owner/operator/controller of that asset, move the asset into its regulatory asset base (scenario 3). In all scenarios, if a DNSP connects to a large dedicated connection asset, that asset will now be used to provide shared transmission services under the draft Rule.

It is important that the Rules provide clarity about the point at which a large dedicated connection asset is considered to be providing shared transmission services rather than connection services. Clarity on how these assets are treated after transition will support the transparency and predictability of the Rules connections framework. A clear, predictable and transparent connections framework is in the long-term interests of

consumers. The draft Rule makes clear that if a DNSP connects to a large dedicated connection asset:[467]

- The part of the asset used to convey electricity to the DNSP (i.e. provide a shared transmission service) ceases to be a dedicated connection asset and instead forms part of the transmission network of either:
  - the Primary TNSP (if the asset is owned by them); or
  - if prior to the DNSP connecting the asset was owned, controlled and operated by a Dedicated Connection Asset Service Provider other than the Primary TNSP, that person.
- Because the part of the asset that is used to provide shared transmission services ceases to be a dedicated connection asset, the person that owns, operates or controls the asset will no longer be a Dedicated Connection Asset Service Provider and will need to seek registration as a TNSP in respect of the relevant asset and comply with all the obligations of the TNSP in respect of that asset.[468]
- To the extent the shared transmission services provided by the asset are prescribed transmission services, the TNSP for that asset will be subject to regulation under Chapter 6A unless exempted by the AER from that requirement.

As set out in section D.4.4, the draft Rule requires Dedicated Connection Asset Service Providers to report to the AER on requests for connection and access to a large dedicated connection asset when such requests are made and when an agreement for access is entered into, in a manner and form notified by the AER.[469] This provision allows the AER to determine whether it will need to make a transmission determination in respect of the prescribed transmission services being provided by means of that asset, and to monitor compliance with the obligations on TNSPs under the Rules.

If a DNSP connects to a dedicated connection asset, the Commission considers that there would be a number of practical ramifications that would need to be worked through. The Commission welcomes stakeholder feedback on the materiality of these ramifications.

The draft Rule does not include any provisions to protect the incumbent connecting party or the party who owns, operates or controls the dedicated connection asset with respect to the price to be paid for the asset or the ongoing quality of service to connecting parties once the asset is transitioned, as was proposed by some stakeholders. Nor does the draft Rule require the AER to oversee the transfer or make an assessment of the correct value of the asset. The Commission considers that such

467 Clause 5.2A.8(m) of the draft Rule.

468 If the Primary TNSP owns, operates and controls the asset, that part of the asset that provides shared transmission services will be taken to be part of its transmission network.

469 Clause 5.2A.8(k) of the draft Rule.

provisions were more appropriate under the 'trigger' approach to force transfer of ownership proposed in the discussion paper, and are not necessary where parties are negotiating arrangements commercially under the RIT-T process. Under the draft Rule the Dedicated Connection Asset Service Provider will negotiate connection with the DNSP.

Similarly, the draft Rule does not require a Network Service Provider to notify the party who owns, operate or controls the dedicated connection asset, or the parties that are connected to it, that the asset has been identified as a possible solution to address a network need. The Commission considers that the Network Service Provider would reasonably already be in contact with those parties if it is proposing the transition of that asset as an option in a RIT-T process.

Arrangements regarding the original connecting party's (or parties') connection to the transmission network via that asset once it has transitioned to the shared transmission network - for example the location of the connection and metering points - will need to be addressed between that party and the relevant Network Service Provider on a commercial basis. The draft Rule does not address these issues.

E Arrangements for DNSPs connecting to the transmission network

This appendix outlines the Commission's draft Rule in relation to the arrangements for distribution networks connecting to the transmission network.[470] Specifically, it sets out the:

- current arrangements under the Rules;
- approach put forward by the COAG Energy Council;
- views of stakeholders in submissions to the consultation paper and the discussion paper, as well as those expressed at the public forum and in one-on-one meetings;
- Commission's analysis of the rule change request and stakeholder views; and
- Commission's conclusions and a description of the draft Rule.

E.1 Background

Chapter 1 sets out the Commission's understanding of the services required for a distribution network to connect to the transmission network, and how the costs of providing those services are recovered.

Under the Rules, DNSPs and TNSPs must undertake a joint planning process that includes assessing the adequacy of existing transmission and distribution networks and the assets associated with transmission-distribution connection points over the next five years.[471] Further, DNSPs and TNSPs must work together to ensure efficient planning outcomes, and to identify the most efficient options to address any identified needs.[472] This process allows parties to jointly identify, and address, potential issues affecting both transmission and distribution networks in a timely manner, including connections between the two networks.

In terms of how the costs associated with a new TNSP-DNSP connection are recovered, if new assets (e.g. a substation) are required to be built on the TNSP's network in order to connect a DNSP to a transmission network, the TNSP will build, own and operate that substation as prescribed transmission services.[473] The costs of providing these prescribed transmission services are recovered by the TNSP from transmission

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470 This is relevant to all TNSP-NSP connections provided that the NSP connecting is not a MNSP.

471 Clause 5.14.1(1) of the existing Rules.

472 Clause 5.1.4(2) of the existing Rules.

473 Paragraph (c) of the definition of prescribed transmission service in Chapter 10 of the existing Rules states - that is, "connection services that are provided by a Transmission Network Service Provider to another Network Service Provider to connect their networks where neither of the Network Service Providers is a Market Network Service Provider".

customers, which include the DNSPs who then recover these amounts from their customers, through Transmission Use of System (TUOS) charges.

In addition to the new assets on the TNSP's network to facilitate the connection, there will also need to be a 'physical link' that connects the distribution network to the transmission network. This cost is charged to DNSPs as a 'prescribed exit service',[474] with the exact amount of the charge calculated by the relevant TNSP in accordance with its transmission pricing methodology. Customers connected to that DNSP's network will pay these costs through Distribution Use of System (DUOS) charges.

No other assets are required to connect the distribution network to the transmission network - the physical link connects the transmission network directly to the distribution network. Nevertheless the TNSP or the DNSP may need to augment their network in order to enable the connection. Such augmentations would be provided as prescribed or control services by the relevant TNSP or DNSP (respectively), and so are subject to economic regulatory oversight by the AER.

Given these existing arrangements, the concepts of 'identified user shared assets' and 'dedicated connection assets' are not relevant to the connection of a DNSP to the transmission network.

The Rules do not set out a specific process to be followed to enable the connection of a distribution network to a transmission network. The process and requirements set out in Chapter 5 of the existing Rules apply to all parties seeking connection to a transmission network, including DNSPs. However, the Commission understands that DNSPs and TNSPs currently adapt this process in light of their obligations under Part B (planning and network expansion) of Chapter 5.

E.2 COAG Energy Council's view

The COAG Energy Council did not propose any specific arrangements for the connection of a distribution network to a transmission network. However, the rule change request seeks to clarify the arrangements for all parties that could connect to the transmission network i.e. generators, load, MNSPs or DNSPs. The arrangements proposed in the rule change request would therefore apply equally to all of those parties that could connect to the transmission network.

The COAG Energy Council also proposed a means by which a dedicated connection asset could be transitioned to form part of the 'shared' transmission network, for example to facilitate the connection of a DNSP. This aspect of the rule change request is discussed in section D.5, and so is not considered further in this appendix.

474 Defined in Chapter 10 of the existing Rules as "A service provided to serve a Transmission Customer or Distribution Customer or a group of Transmission Customers or Distribution Customers, or a Network Service Provider or a group of Network Service Providers, at a single connection point)".

E.3 Stakeholder views

E.3.1 Submissions to the consultation paper

In the consultation paper published on this rule change request, the Commission noted the differences in the arrangements to connect a DNSP to the transmission network, and welcomed any initial thoughts from stakeholders on what arrangements should apply under the rule change. In its submission to the consultation paper, the ENA noted that the current rules do not distinguish between load, generation, MNSPs and DNSPs, and that there was no reason to change. Specifically, it argued that the current approach to connecting DNSPs should not change because it facilitates effective joint planning and, given the costs of any assets will be recovered from end-use consumers, it is important that they remain subject to the RIT-T and economic regulation.[475] EnergyAustralia also considered that similar arrangements should apply across generation, load and DNSP connections.[476]

The MEU argued that applying the same approach to DNSPs as proposed for load and generation would need to recognise that DNSPs will pass through any costs to consumers. It submitted that DNSPs tend to socialise the costs of their connection to a transmission network, rather than passing them on to specific end users, and suggested that the benefit of DNSPs getting competitive pricing for a new connection could be significant.[477]

AusNet Services also considered that new assets required to connect a DNSP to the transmission network, for example a substation, could be contestable. It submitted that it could be appropriate to run a contestable process for the construction and ownership of these assets because of the likely high cost of the substation. It suggested that AEMO could administer the tender process if the local DNSP or TNSP was interested in supplying the service.[478] AEMO shared a similar view, indicating that there is potential for contestability to drive cost reductions at distribution-transmission connection points. But, given both parties are regulated, AEMO suggested that consideration be given to the TNSP and DNSP's incentives to make the project contestable.[479]

E.3.2 Submissions to the discussion paper

In the discussion paper published on the connections aspects of this rule change request the Commission expressed the view that the existing arrangements for the connection of a DNSP to a transmission network do not need to change. These

475 ENA, submission on consultation paper, p. 11.

476 EnergyAustralia, submission on consultation paper, p. 2.

477 MEU, submission on consultation paper, p. 4.

478 AusNet Services, submission on consultation paper, p. 4.

479 AEMO, submission on consultation paper, p. 3.

arrangements were therefore not explicitly discussed in the paper. As such, there were no specific comments on this issue in submissions to the discussion paper.

E.4 Analysis and conclusions

The draft Rule does not change the process of connecting a DNSP to a transmission network under Chapter 5 of the Rules. This is because the Commission considers that the current arrangements are appropriate and fit-for-purpose.

However, as discussed in appendices B through D, the draft Rule contains numerous other changes relating to how load, generation and MNSPs connect to the transmission network, including:

- introducing the new terms 'identified user shared assets' and 'dedicated connection assets', defining which aspects of these services are negotiated transmission services or non-regulated transmission services and associated changes; as well as
- making a number of changes to the provision of negotiated transmission services, for example the revised negotiating principles and the ability to request the engagement of an independent engineer.

Since a DNSP connecting to a transmission network will only be provided with prescribed transmission services, not negotiated transmission services, none of the aspects of the draft Rule referred to above will apply to the services provided by a TNSP to connect a DNSP.

The draft Rules do envisage that a DNSP may connect to the transmission network via a dedicated connection asset. This is discussed further in section D.5.

E.4.1 Definitions relating to distribution connections

In order to preserve the existing process for connection of a DNSP to the transmission network, so that the process operates unchanged, distribution connection assets need to be separately defined. In this way, the arrangements for the connection of a DNSP to the transmission network will be slightly different to the arrangements by which load and generation connection under the draft Rule.

connection assets

For the *declared transmission system* of an *adoptive jurisdiction*, and a *distribution system*, those components of a *transmission* or *distribution system* which are used to provide *connection services.*

For other *transmission systems*, *dedicated connection assets* and *network connection assets.*

Note:

A *third party DCA* is a *connection asset* but for the purpose of registration under Chapter 2 also constitutes a *transmission system.*

distribution connection assets

Those components of the *distribution system* which are used to provide *connection services* to a *Distribution Network User* or a group of *Distribution Network Users* or a *Network Service Provider* or group of *Network Service Providers*.

E.4.2 Economic regulation of distribution connections

The draft Rule also maintains the current arrangements by which the services provided by the TNSP to connect a DNSP are economically regulated i.e. as prescribed transmission services. For example, if through planning and application of the RIT-T the TNSP determines that a new substation is needed to connect a DNSP to the transmission network, the TNSP will design, build, own, operate and control that substation for the purposes of providing prescribed transmission services and will recover the costs of doing so from transmission customers, which include DNSPs. The draft Rule does not provide for contestability in the provision of these services, as is the case under the draft Rule for generator, load and MNSP connections,[480] for the reasons outlined below:

- Stakeholders have not raised, nor is the Commission aware of, any particular issues with the current arrangements by which DNSP-TNSP connections are made that may benefit from the introduction of contestability.[481] One objective of introducing contestability in the provision of certain services to connect load and generation to the transmission network is to help address the information asymmetry typically experienced by loads and generation seeking a connection to the transmission network and to balance out the degree of control incumbent TNSPs have over the costs, timing and technical requirements of those parties' connections. DNSPs are unlikely to experience this same level of information asymmetry or monopoly power because their core business is very similar to that of a TNSP's. Further, the current arrangements include a number of provisions setting out how DNSPs and TNSPs joint plan, which includes the scoping of potential DNSP-TNSP connections as part of that planning.

- The Commission considers that there are already appropriate arrangements in place under the framework for economic regulation in the Rules that govern how DNSPs and TNSPs make investments and provide services to other parties, including to facilitate a connection to another network. The efficiency of these investments is tested like any other investment in assets that provide prescribed transmission services. As such, there are no clear benefits in putting in place

480 Appendix B sets out the boundaries of contestability for services to connect load, generation and MNSPs under the draft Rule.

481 The Commission is aware of the Deer Park terminal station, which is a connection asset between the distribution and transmission network in Victoria. The services to own, operate and maintain this terminal station were procured through a competitive tender process, managed by AEMO, consistent with the arrangements for competitive procurement in Victoria. The tender was won by TransGrid. This is consistent with the different regulatory arrangements that apply in that jurisdiction. See chapter 6 for further details.

additional arrangements to facilitate competition for the provision of these services.

The TNSP will continue, under existing arrangements, to provide the physical link that connects a distribution network to its network as a prescribed transmission service that is paid for by the DNSP.[482] Customers connected to that DNSP's network will pay those costs through DUOS charges. This will also be the case in the event that the DNSP connects to an existing substation that is already providing services to other connecting parties.

482 These are prescribed exit services that the DNSP pays for and receives as part of DUOS.

F Other identified user shared asset models considered

Throughout this rule change request process, the Commission has considered a number of other possible models for the provision of services provided by identified user shared assets. The Commission does not consider that any of these other models better promote the NEO than the model set out in the draft Rule.

The models set out and discussed in this appendix are:

1. a model for connection services where there is increased contestability with full TNSP accountability (i.e. Model B in the discussion paper);

2. introduction of a 'connection processing service';

3. provision of connection services at the regulated weighted average cost of capital (WACC); and

4. a continuum of options for the provision of connection services.

For each of these alternative models, this appendix sets out:

- an overview of the model;
- a detailed description of the model;
- a discussion of how the characteristics of the model being considered compares to the characteristics of the draft Rule, having regard to the assessment criteria set out in chapter 3; and
- a conclusion.

The models set out and discussed in this appendix incorporate the views of stakeholders in submissions to the consultation paper and the discussion paper, as well as those expressed at the public forum and in one-on-one meetings, and the Commission's analysis of the models and stakeholder views.

F.1 Increased contestability with full TNSP accountability

This model is where 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.[483]

As set out in chapter 3, the regulatory framework established by the NEL, Rules and jurisdictional licensing regimes does not contemplate an approach where responsibility for the shared network is split between multiple owners or operators. The Commission therefore considers that given the criticality of system safety, security and reliability,

483 This model was presented in the discussion paper as 'Model B'.

accountability for outcomes on the shared transmission network should be clearly defined, and that this is best achieved when one party is singularly accountable for shared network outcomes. Therefore, the Commission has not considered a model where accountability is split between multiple parties.

F.1.1 Overview of the model

Table A.1 sets out what services for identified user shared assets would be provided on a contestable (i.e. non-regulated) basis under this model. See appendix B of this paper for a description of what each service in the table below entails. The only difference between this model, and the model set out in the draft Rule is the contestability of operation and maintenance services.

Table F.1 Boundaries of contestability for identified user shared assets

Service	Contestability
Setting the functional specification (including performance standards)	Not contestable. Incumbent TNSP provides as a negotiated service.
Detailed 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.
Ownership	
Operation	
Maintenance	

F.1.2 Description of the model

Provision of services

Under this model, all service aspects relating to identified user shared assets, with the exception of setting the functional specification and providing cut-in works, would be provided on a contestable basis i.e. these services could be provided on an unregulated basis by any party, including the incumbent TNSP.[484]

However, connections to the transmission network necessarily still require the involvement of the incumbent TNSP for the:

484 Provided that the TNSP complies with the requirements of its cost allocation methodology and transmission ring-fencing guidelines.

- functional specification - to determine the minimum technical parameters for a connection to its network to enable the TNSP to manage the safety, reliability and security of its transmission network;

- cut-in works - since the incumbent TNSP will need to be able to manage the provision of these works in such a way that will not affect the service end-user customers receive.

As with the model set out in the draft Rule, there would be no requirement for the incumbent TNSP to be a service provider of 'last resort' for any of the contestable services e.g. in the event that the connecting party could not find an appropriate provider for contestable services. Therefore, this model relies on there being a threat of competition to elicit more efficient outcomes than those provided by the incumbent TNSP. A number of stakeholders have indicated that a market would exist for the provision of these services.[485]

Also similar to the model set out in the draft Rule, the Rules would need to be amended in order to provide appropriate specification around the provision of these services so that there are appropriate mechanisms to allow the TNSP to meet its obligations. Since this model would have more components of the connection service contestable than the draft Rule model, there would need to be more specification in the Rules to define roles and responsibilities.[486] This guidance would need to include:

- 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, even if they are not operating or maintaining them. Without such an obligation, the incumbent TNSP would be unlikely to accept responsibility for such assets, or, if it did so, it could veto the connecting party's decision to have the services provided contestably. This obligation would likely be difficult to implement given that TNSP responsibilities are contained in the regulatory framework as set out in the NEL, Rules, jurisdictional and licenses, and so the Rules can only go so far in giving effect to this requirement.

- An allocation of the roles and responsibilities between the various parties i.e. the incumbent TNSP, connection applicant and the provider of contestable services. The purpose of this would be to minimise how many of these should be resolved

485 If no competitive market exists, there would be no threat of competition and the incumbent TNSP would be able to provide all contestable services on an unregulated basis and without constraints on its ability to exert market power. This may result in inefficient outcomes for the connecting party, and ultimately, consumers.

486 This point was raised by a number of parties in submissions to the discussion paper: AusNet Services, AEMO, Australian Energy Council, the ENA. For example, AEMO noted that the Rules should set out the terms on which contestable and incumbent TNSPs coordinate and cooperate with each other such that the overall system performance is not comprised. AEMO also noted that there would need to be a set of principles in the Rules allocating accountability between the incumbent TNSP and any other TNSP that designs, builds and operates connection assets.

via the commercial negotiation process, which could add time, and so cost, to the connection process.

Since the majority of services in this model would be contestable, none of the transparency obligations placed on TNSPs, discussed in appendix C would apply, aside from those relating to the functional specification and cut-in works. So, connecting parties would be reliant on competition to reveal the information they need to negotiate effectively for a connection to the transmission network.

Therefore, in essence, this is similar to the current Victorian arrangements but without AEMO involved and without accountabilities split between multiple parties.

Registration

Consistent with section 11(2) of the NEL, any party owning, operating or controlling identified user shared assets should be registered as a TNSP and be subject to the relevant obligations under the Rules.[487]

However, consistent with the position set out under the draft Rule, the Commission considers allowing a generator connected via a identified user shared asset, or a related entity of a generator connected via a identified user shared asset, to own that asset could raise competition concerns. These concerns would be even greater than those under the draft Rule, since under this model, the operation and control of the shared transmission network (including the provision of access via the identified user shared asset) may also be with another party e.g. generator. If access to an identified user shared asset is frustrated, this may result in an inefficient duplication of assets to enable a new party to connect, which is, ultimately, likely to increase the costs of connection for consumers. It may also mean that a new generator is forced to connect at a location that is sub-optimal.

To address this, this model would also need to be a restriction imposed on a generator owning an identified user shared asset which connects it to the shared network, as under the draft Rule.[488] Therefore, a generator would have to appoint a third party to register as a TNSP to operate identified user shared assets which it is connected to on its behalf.

Third party access

In submissions to the discussion paper on this model, stakeholders 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

487 This view was shared by a number of stakeholders, including TNSPs (e.g. AusNet Services), 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. See: Submissions to the discussion paper: AusNet Services, p. 4.

488 See clause 2.5.(d3) of the draft Rule.

costs and benefits of access being granted. However, as noted above, the Commission is concerned that allowing the person who gains from the use of those assets to make decisions about third party access in accordance with its own interests raises competition concerns. That is, these parties may have an incentive to prevent or frustrate another party's access to the transmission network by way of that asset. The potential for such behaviour may deter entry to, or limit competition in, electricity generation.

As noted above, all owners, operators and controllers of identified user shared assets under this model would be registered as a TNSP subject to any exemption obtained. Therefore, the current third party access provisions under the Rules should apply. Further, an additional principle would need to be inserted into the Rules to guide how third party access to services provided by means of identified user shared assets should be granted: 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. If this was allowed this could be used to frustrate access e.g. an existing generator could prohibit a new generator from connecting in order to preserve competitive advantage in the wholesale market.

However, third party access may be confusing. For example, what would happen if a new party wished to connect to the identified user shared asset provided by a third party in a particular jurisdiction. There are two options:

- The incumbent TNSP would have an obligation to facilitate connections to the network, even if the connecting party wishes to connect to an identified user shared asset that is owned, built, operated and maintained by a party other than the incumbent TNSP. In this scenario, there would be questions about how the incumbent TNSP would have access to the information in order to facilitate the connection. Further, it would not be clear how the incumbent TNSP could give effect to access through a identified user shared asset controlled by another party, and so any negotiation to connect would need to involve the connecting party, the incumbent TNSP, the existing third party provider, and the connecting party's chosen provider of any new identified user shared assets. The contracts, and the associated negotiations, that sit behind this would be very complex and so lengthy and costly.

- The alternative would be to have the connecting party approach all of the 'TNSPs' in a particular jurisdiction. This does not seem efficient since it would require a significant amount of time and resources from the connecting party in order to manage this process - again making the connection more lengthy and costly for the connecting party. The identified user shared asset operator would also presumably need to liaise with the incumbent TNSP on performance standards and so on, which have whole of network impacts.

Either of these options would also likely create issues involving a conflict of interest faced by an incumbent TNSP, who is also owner of the shared transmission network: it would create incentives on the incumbent TNSP to either attempt to influence the connecting party to connect to its network; or it may try and stall or frustrate the

process of the connecting party connecting to a different TNSP's identified user shared asset.

Further, since the provision of many services for identified user shared assets would be non-regulated transmission services under this model, some existing TNSP obligations under the Rules would not apply to the parties who are registered as a TNSP in respect of these assets, for example:

- TNSPs are required under the Rules to submit a regulatory determination in respect of prescribed transmission services and negotiated transmission services. Because the services being provided are non-regulated transmission services, the requirement to submit a regulatory determination with respect to those services would not apply.
- The Rules have provisions for commercial arbitration in relation to disputes about the terms and conditions of access to prescribed and negotiated transmission services only. Again, because the services being provided are non-regulated transmission services, these aspects of the Rules would not apply.

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

Contractual arrangements

There would likely need to be a number of contractual arrangements to support this model. As noted above, the Rules would likely need to define the allocation of responsibility, risk and liability for the identified shared assets.

It would then be up to the incumbent TNSP as to whether it would also want contracts put in place with the connecting party and/or its chosen service provider, to manage the risks associated with accountability for the impact of contestably-provided services on the transmission network. Any such 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 e.g. what would happen in the event that the owner or operator of the asset becomes insolvent or is otherwise unable to perform its obligations.

Contestability threshold

Similar to the model set out in the draft Rule, there will be times when it is neither feasible nor practicable for a service associated with connection to be provided on a contestable basis. Therefore, there would need to be clear criteria in the Rules setting out when certain services should be provided on a contestable basis. It is likely that these criteria would be similar to those set out in the draft Rule, i.e. where the identified user shared asset is above a certain monetary threshold, and is:

- a new set or a complete replacement i.e. does not involve a reconfiguration of an existing asset; and

- distinct and definable from other transmission assets.

Under this model, the decision of whether an asset meets these criteria will be the responsibility of the incumbent TNSP. There may also be a role for an independent engineer, as under the draft Rule, who could provide advice on the technical matters of this if required.

Asset sizing

Consistent with the draft Rule, this model could set out principles to provide guidance on how parties should approach and negotiate asset sizing.

Cost sharing

Consistent with the draft Rule, this model could contain a number of principles and obligations as to how the costs of new identified user shared assets, and subsequent connections to those assets, should be recovered.

F.1.3 Comparison of model to draft Rule

The draft Rule model requires that the Primary TNSP[489] has responsibility for control and operation of the identified user shared asset, and so it is clear that they will be required to be registered as a TNSP in respect of that identified user shared asset (since the registration requirement arises from ownership, control and operation), and have all the responsibilities of a TNSP for the identified user shared asset in the same way as the rest of the shared network. In other words, the draft Rule model allows contestability for as many services as possible without reducing clarity on this issue.

In contrast, under this model, there is a lack of clarity as to who has "end to end" accountability for outcomes on the shared network. The incumbent TNSP should not be required to be registered in respect of the identified user shared asset (as they will not own, control or operate it) yet they may not be able to meet their responsibilities for their parts of the shared network because of how the identified user shared asset is operated and controlled. The lack of clarity in the regulatory framework regarding this risk allocation between the TNSP and the identified user shared asset controller and operator will either need to be managed by the incumbent TNSP through interface and connection agreements, or through regulation that makes clear how those responsibilities are allocated. A lack of on-going control over the assets may lead the incumbent TNSP to very conservative positions on asset specifications and interface and connection arrangements. This has implications when we compare this model to the draft Rule, as set out further below.

489 Primary TNSP is a new term defined in the draft Rule as "The Transmission Network Service Provider who operates the largest transmission network in each participating jurisdiction (other than an adoptive jurisdiction)." The draft determination uses the term incumbent TNSP to refer to this party under current arrangements, and the term Primary TNSP when referring to the arrangements for this party under the draft Rule.

Transparency

In workably competitive markets, information required for parties to make efficient decisions is readily available. However, if there is a lack of competition, additional regulation may be required so that parties who hold certain information reveal it.

This model, similar to the draft Rule, relies on some information being revealed through competition, and other information being revealed by requirements on the TNSP. Specifically:

- allowing connecting parties to have a service provider of their choice providing the connection service will reveal cost and timing information related to the provision of these assets i.e. this information will be revealed through the competitive market; while

- a connecting party (and its chosen service provider for services that are open to competition) will still need certain information from the incumbent TNSP to enable its connection to the transmission network. No party knows the incumbent TNSP's transmission network as well as the incumbent TNSP. This information is unlikely to be revealed in the absence of regulation.

The combination of these two paths for information being revealed will result in the most efficient information being obtained by connecting parties, and so, efficient connection and investment decisions being made. Since most services associated with connection would be provided on a contestable basis under this model, it relies on there being workable competition in this market in order for this information to be revealed.

Therefore, the combination of competition and regulatory obligations to reveal information is likely to provide similar transparency as to the model set out in the draft Rule.

Timeliness

Having the majority of services associated with connection being provided on a contestable basis would provide the connecting party with more control over the timing of its connection to the transmission network. That is, provided the identified user shared asset meets any contestability threshold, the connecting party will be able to select the contractor of its choice to design, build and operate the asset at a commercially agreed timing and cost.

As with the model under the draft Rule, there is a risk that the incumbent TNSP will delay or otherwise inhibit a party's connection if its bid to provide non-regulated transmission services to that party is unsuccessful.[490] As such, connecting parties may

490 This was raised as a concern by the Clean Energy Council with this model i.e. the risk that, where a TNSP loses a commercial bid and the associated subsequent revenue, it may not act cooperatively to secure a connection agreement with the relevant party, increases with this model. See: Clean Energy Council, submission to the discussion paper, p. 9.

be pressured into awarding the contract to the incumbent TNSP, which would undermine the benefits of competition. Under the draft Rule, the Commission considers that this is unlikely to eventuate due to the introduction of a revised set of negotiating principles to bolster a connecting party's bargaining power in negotiating the timeliness, cost and technical requirements of a connection. However, under this model, the countervailing power of the connecting party may be diluted due to the fact that nearly all services associated with connection would be provided as non-regulated transmission services, and so not subject to the negotiating provisions in the Rules.

Further, since more of the services associated with connection are contestable, it is likely that the contractual negotiations associated with this model would take longer than the model set out in the draft Rule. The need for a commercial contract that allocates the performance risk for the shared network is an intrinsic part of any model that involves contestability of transmission services that form part of the shared network, and so impact end-use consumers.

Indeed, this was recognised by AEMO who noted that there may be complex contractual negotiations given parties need to navigate the learning curve that has already been faced in Victoria where the contestable arrangements have been in place since the mid-1990s. Further, there may also be conflicts of interests faced by an incumbent TNSP who is also the owner of the shared transmission network, since the incumbent TNSP would have an incentive to bias the connection process in order to make it wins the work since it has the accountability.[491]

While the Rules can set out some guidance on these matters, in reality, each connection is bespoke, and so the actual equipment and configuration changes the risk allocation, leading to specific negotiations in each case.

Therefore, on balance, the Commission does not consider that this model would provide connecting parties with more certainty and control over the timeliness of their connection to the transmission network compared to the model set out in the draft Rule.

Cost

In theory, if there is competition in the various markets for these services, allowing as many services as possible to be provided on a contestable basis should reduce costs. This model allows for competition in the provision of nearly all services associated with connection. However, based on responses from stakeholders, there may be limited competition for the provision of operation and maintenance services for identified user shared assets. In the absence of competition, the few parties that are willing to provide these services (i.e. incumbent TNSPs) would essentially have 'monopoly market power' and so may be able to charge inflated prices for these services.

491 See: AEMO, submission to the discussion paper, p. 2.

Under this model there may be greater ongoing asset management risks, as well as inefficient network planning, compared to the model set out in the draft Rule:

- Incumbent TNSPs would generally have an advantage in providing operation and maintenance services associated with connection since they benefit from economies of scale and scope. The incumbent TNSP is likely to hold spares or have the capacity to arrange contingency resources at short notice, because it is required to operate and maintain the remainder of its transmission network. Therefore, the costs and time taken to carry out urgent repairs and maintenance are likely to be greater if a third party is responsible for providing these services.

- Transmission networks are natural monopolies, and so a single party that considers the planning of the whole network it controls supports efficient decision-making, which is in the long-term interests of consumers. It is not clear under this model what role other TNSPs in a jurisdiction (i.e. those that would own, operate, maintain and control identified user shared assets in this model) have in planning. It would be inefficient for each of these parties to produce Annual Planning Reports. However, if that function is left with the incumbent TNSP, the Rules and any agreements would need to obligate the new provider to carry out further augmentation if deemed necessary by the incumbent TNSP as part of its planning obligations. These obligations would also need to cover a future need to facilitate access to these assets for further development. The absence of a single party considering the efficient planning of the network could result in inefficient planning and investment decisions being made, and so costs for consumers increasing. Further, there may be additional costs associated with mitigating risks associated with providing future investment with minimal certainty. All of these aspects would increase costs for consumers, and so would not be consistent with the NEO.

The lengthy contractual negotiations that were discussed above, may also increase costs. These negotiations are likely to be resource-intensive and may be particularly costly for new participants as they would likely not have the same capacity to pay substantial legal costs.

Therefore, we do not consider that this model would lower costs in relation to the model set out in the draft Rule.

Unnecessary complexity

The Commission considers that the contractual arrangements associated with this model, likely involving multiple parties and back-to-back arrangements, would create a degree of unnecessary complexity that does not exist in the model set out in the draft Rule.[492]

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492 This item was flagged by the members of the Clean Energy Council as a potential concern with this option i.e. the contracts needed to support the 'constrained' full contestability for this option would be complex to the extent that it may create more time and cost to the process for incremental gains.

There would also likely need to be extensive, prescriptive Rules to set out who is responsible for various functions. For example, as discussed above, what would happen in relation to third party access. Other examples include how power system security would be preserved e.g. specification as to how protection and control equipment would communicate with each other, and how relays would need to be able to work with each other.[493]

Therefore, the Commission considers that this model would add unnecessary complexity compared to the model set out in the draft Rule.

Accountability

This model differs from the draft Rule where full operational control clearly sits with the Primary TNSP. Instead, under this model there is a lack of clarity as to who has "end to end" accountability for outcomes on the shared network, as discussed above. While the accountabilities and risk attributable to each party could be set out in the regulatory framework, the exact operation of these would still be subject to a commercial negotiation and private contracts between the various parties.

It is also worth noting that jurisdictional obligations have an important role in the regulation of transmission assets and services e.g. licensing conditions relating to safety. The trigger for imposition of jurisdictional obligations will vary by jurisdiction i.e. the obligations will not automatically follow the registered status (or otherwise) of the relevant person for those assets under the Rules. Therefore, even if the Rules set out that accountabilities were clearly with a particular party, it cannot be assumed that the relevant obligations will automatically apply to the owner, operator or controller of the identified user shared asset (particularly if it is not the incumbent TNSP). Indeed, it could even be the case that both the TNSP and the owner would be subject to duplicating obligations - this would not be consistent with the Commission's principle of having clear accountability.

Therefore, in order to introduce this model, each jurisdiction would need to be reviewed on a case by case basis to determine whether the responsibilities for reliability and safety are appropriately imposed on the relevant person consistent with the intention of this model. If this is not the case, then it may not be within the control of the AEMC to make these changes, and so make this model effective i.e. changes to jurisdictional instruments may be required.

The accountabilities under this model are therefore not as clear as under the model set out in the draft Rule. As noted by the SA Department of State Development,[494] it would be more difficult to identify responsibility and liability for faults that occur under this model. It was noted that it would be undesirable for a situation where a fault on an identified user shared asset occurs resulting in a major disruption on the

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See: Clean Energy Council, submission to the discussion paper, p. 9. Similar sentiments were also expressed by the SA Department of State Development in its submission.

493 AEMO, submission to the discussion paper, p. 2.

494 SA Department of State Development, submission on discussion paper, p. 2.

shared network, and both the TNSP and third party contractor are claiming that the fault is the responsibility of the other party, with liability not clearly identifiable. Or, this could lead to work being undertaken in an uncoordinated manner since responsibilities were not clear.

F.1.4 Conclusion

In summary, the Commission is of the view that this model does not better meet the NEO than the model set out in the draft Rule for the reasons set out above.

Importantly, there are a number of 'gaps' that would need to be filled in this model in order to make it work e.g. if a new generator wanted to connect, who does it approach; how is an efficient network planned. While some of these gaps could be filled by prescriptive regulation, it would likely create confusion and costs that would not be offset by the benefits. This would also require both Rules and jurisdictional legislation changes to make obligations clear.

F.2 Introduction of a 'connection service'

This model was developed by Goldwind as an alternative connection model that would "maximise the level of contestability in a new connection".[495] Goldwind consider that allowing responsible, motivated network service providers to compete for connections should drive innovation and best meet the needs of the NEO.

F.2.1 Overview of the model

This model builds on the model discussed above ("increased contestability with TNSP accountability") and introduces a new service of "connection processing" i.e. the service of accepting a connection application and negotiating with the proponent towards a connection offer and a connection agreement.

Table A.1 sets out the boundaries of contestability for identified user shared assets under this model.

495 See: Goldwind, submission to the discussion paper, p. 2.

Table F.2 Boundaries of contestability for identified user shared assets

Service	Contestability
Connection processing	Contestable
Setting the functional specification (including performance standards)	Not contestable. Incumbent TNSP provides as a negotiated service.
Detailed 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	

F.2.2 Description of the model

Provision of Services

This model builds on the model set out in section A.1, and so the discussion in that section can be taken to be relevant to here as well.

The main addition is the introduction of this new service of "connection processing". Goldwind considers this service is most likely to benefit from contestability, since it is heavily affected by the motivations (e.g. including resourcing, risk appetite and profitability) of the incumbent TNSP. In Goldwind's view, connection processing in the NEM can be opaque, slow, expensive and overly complicated. While it notes that the process is governed by an extensive set of Rules, Goldwind considers it is very easy for the incumbent TNSP to justify opacity, costs, delays and complication.

So, a party who wishes to connect to the transmission network could either engage a party to undertake the connection processing service on its behalf, or it could also choose to undertake the service itself (i.e. own, operate, maintain and control identified user shared assets itself). The Commission considers that this service would be the act of negotiating a new connection agreement with the TNSP, including the negotiation of performance standards, as well as negotiating with any contestable provider of the connection services.

Registration

As discussed above, if a third party wishes to own, operate, and control the identified user shared assets they would have to be registered as a TNSP and so comply with the Rules.

However, the Commission considers that if the party is only undertaking a connection processing service, and so is not "owning, controlling or operating" transmission infrastructure, then, consistent with the Rules, this party should not have to be registered as a TNSP.[496]

Goldwind have suggested a further clarification, that only the "registered TNSPs" should be able to provide this connection service. The Commission assumes that this is referring to incumbent TNSPs in the NEM i.e. those registered today. The Commission is concerned that such an assumption could restrict the market for competition and potentially result in market power being applied by these parties. For example, DNSPs may want to provide similar services. The Commission therefore considers provided that the party who wishes to provide the services registers as a TNSP (and so is subject to the relevant obligations under the Rules and jurisdictional requirements), this should be sufficient protection for connecting parties. Not restricting the parties who can provide this service also promotes competition.

Third party access

As with the above model, since the party providing the identified user shared assets would either be the incumbent TNSP or a third party registered as a TNSP, the Rules third party access provisions would apply, along with the additional principles that were set out above in section A.6.2.

Contractual arrangements

Under this model it was envisaged that there would only need to be two contractual relationships: a contract between the connecting party and the TNSP undertaking the connecting processing services; and a contract between the connection processing services TNSP and the incumbent TNSP. This would be perceived to be a benefit of this model i.e. that the contractual arrangements would be simpler.

However, the Commission is of the view that there would still need to be a connection agreement between the connecting party and the incumbent TNSP. Since the incumbent TNSP is accountable for outcomes on the shared network, the incumbent TNSP would need some form of contractual arrangements to sit behind that, and it makes sense for this to be a connection agreement. In the absence of this, the incumbent TNSP would have no ability to enforce performance and it would have to

496 Goldwind did note it could be beneficial to create a new registration category for TNSPs providing this service, but the Commission does not think that this is necessary.

rely on the connection processing TNSP to do this. This would change the risk profile for the incumbent TNSPs, which the Commission does not think is appropriate.

F.2.3 Comparison of model compared to draft Rule

Transparency

Our conclusions regarding transparency are the same as those discussed above i.e. the transparency would be the same as with the model set out in the draft Rule.

Timeliness

Our conclusions regarding timeliness are largely the same as those discussed above i.e. it is not clear that timeliness would be improved compared to the model set out in the draft Rule. There may be some additional benefits since the new TNSP is incentivised to focus on processing that connection only, and this may help the incumbent TNSP process delay if the new TNSP takes on more of their role. However, as noted above, the incumbent TNSP is likely to still want to undertake its own modelling studies and assurances, which may add time to the connection process if the new TNSP also does the same functions. Therefore, overall, we do not consider that timeliness would be improved compared to the model set out in the draft Rule.

Cost

Our conclusions regarding cost are largely the same as those discussed above i.e. it is not clear that costs would be lower compared to the model set out in the draft Rule. Further, it is likely that if the incumbent TNSP is still responsible for outcomes on the shard network, it would still need to do all of its modelling in order to determine what a particular generator's standards are, as well as the effects of the connection across its network. While it may be argued that this should be the role of the 'connection processing' TNSP, we consider it unlikely that the incumbent TNSP would cede its control over that. Therefore, this would likely result in duplication of some modelling and testing, resulting in inefficiencies and so increased costs compared to the model set out in the draft Rule.

Unnecessary complexity

While the contractual arrangements under this model may look simpler than the above model since they are just two back-to-back arrangements, it is likely that negotiating these contracts would take time. For example, connecting processing TNSPs would first have to talk to the connecting party about a particular performance standard, then pass that feedback onto the incumbent TNSP, who, in turn would respond. The connecting processing TNSP would then have to pass the TNSP's feedback to the connecting party. This process would then occur over and over as the contracts were negotiated, likely adding time and cost to the connection negotiation.

Further, if the incumbent TNSP considered a connection agreement was still required with the connecting party, this would further increase the number of contracts to be negotiated.

Importantly, the incumbent TNSP would not have any visibility of the contracts between the connecting party and the connection processing TNSP. Therefore, the incumbent TNSP would likely feel that it had increased risk, without any ability to manage it. Therefore, this aspect would not be improved compared to the model set out in the draft Rule.

Accountability

As noted above, the incumbent TNSP would not have any visibility of the contracts between the connecting party and the connection processing TNSP, it is likely that the accountability would not be as clear as in the model set out in the draft Rule. The Commission is of the view that clear accountabilities is where one party is singularly accountable for shared network outcomes.

F.2.4 Conclusion

The Commission's view is that this model has similar limitations as the model discussed above in section A.1.

Further, there appears to be no restrictions under the current Rules for much of the "connection processing" service to be provided by a party other than the incumbent TNSP. Connecting parties could engage a third party consultant or adviser to undertake the negotiations with the incumbent TNSP on their behalf. However, in the absence of owning the assets, the Commission is unclear as to why this is a commercial role that a party would want to take on. Therefore, the outcomes, in practice, would be little different to the current outcomes, but would add unnecessary complexity through adding an extra party to this process.

F.3 Regulated WACC

AGL proposed that the incumbent TNSP should be required to build, own and operate identified user shared assets at the regulated weighted average cost of capital (WACC), if requested by the connecting party, as "an extension of their existing shared service". Alternatively, a connecting party could request the service to be provided as a negotiated service.[497]

F.3.1 Overview of the model

AGL's rationale for this model was that as monopoly service providers, TNSPs already own and operate a large asset base under the Rules to provide network services. AGL

497 AGL, submission to the discussion paper, p. 2.

therefore consider that TNSPs should be obliged to provide the option of an identified user shared asset as an extension of their existing shared service.

F.3.2 Description of the model

Under AGL's proposal, connecting parties would be able to choose as to whether the connection service is provided contestably (i.e. as a non-regulated transmission service) or by the TNSP as a negotiated transmission service, subject to the regulated WACC. For example, in some instances (i.e. in far reaches of the network) the contestable price offered by a party to connect a party may be greater than a price that the regulated TNSP could offer. That is, in these situations the market is unlikely to be competitive, and so inflated prices may be charged. Therefore, in these instances the connecting party would require the TNSP to offer the service as a negotiated transmission service at the regulated WACC.

The regulated WACC would be the same as that approved by the AER during the TNSP's transmission revenue determination and would remain unchanged over the regulatory control period. This measure could also include some flexibility in its application to specific transmission services as it may not be appropriate for the regulated WACC to be the same for all transmission services, as the risks in providing some transmission services may differ. For example, it is reasonable to argue that the provision of some transmission services may attract a premium above the regulated WACC where the counter-party cannot secure payment with a bank guarantee or suitable parent company guarantee. However, since each connection is unique, it may be challenging to agree a WACC differential to cover all scenarios.

So that TNSPs are not unduly attaching a premium to some transmission services, the AER would be required to develop supporting guidelines to determine circumstances when the cost of capital for assets providing negotiated transmission services are higher than the regulated WACC. A TNSP would be required to demonstrate to a generator or other transmission user during negotiation that it has considered and met the guidelines for applying a premium to the WACC. Therefore, it would likely be necessary to mandate additional transparency measures so that TNSPs do not attempt to compensate for a potentially 'low' WACC by increasing other charges.

It is important to note that the inclusion of greater specification of the WACC does not mean that assets would eventually form part of the TNSP's Regulated Asset Base. The capital and operating costs for the identified user shared asset would be fully funded by the connecting party under the connection agreement. This would simplify the economic regulatory process when future parties wish to connect to that identified user shared asset since that would then be provided at the same price.

F.3.3 Comparison of the model against the draft Rule

Transparency

Our assessment of transparency is the same as the models presented above i.e the transparency would be the same as the model set out in the draft Rule.

Timeliness

It is not clear that this model would affect the timeliness of a connection i.e. it does not improve timeliness of a connection relative to the model set out in the draft Rule.

Cost

The Commission acknowledges that the specification of a rate of return on the value of assets used to provide transmission services required for connection would support generators and transmission users' countervailing market power by constraining a TNSP's ability to charge for services above an efficient rate of return. However, where competition is effective, it would be better to leave this to the market, where there is workable competition, since competition should drive efficient prices without the need for regulation.

The proposal appears to be a means by which to protect the connecting party in the event that there is no competition for these services, and to utilise the incumbent's scale efficiencies where the connecting party considers this would be the cheaper option. This seems to allow the connecting party to essentially 'pick' what the preferable approach would be. The Commission does not consider this appropriate, since it would be requiring the TNSP to operate as a backstop provider, the connecting party could essentially game the system. Therefore, to be workable, we consider that the connecting party would have to choose at the outset whether or not it wishes to have the connection assets constructed under this arrangement or not.

A further disadvantage of this approach is the regulatory risk associated with a changing WACC over the life of a connection agreement.[498] If the WACC that is determined during transmission determinations was applied to connection and substation assets this would mean that, at each transmission revenue determination, the WACC applied to those assets would change. It is unclear to what extent connecting parties may be able to absorb and pass through any potential changes in transmission charges caused by a different WACC determined through a new revenue determination, but this would likely depend on the connecting party's risk appetite and how significantly they are exposed in the current market.

498 An alternative would be to consider locking in the WACC over the life of the connection agreement, but this would likely create uncertainty for the TNSP instead.

Unnecessary complexity

This model would likely add unnecessary complexity compared to the model set out in the draft Rule - it would not be clear whether a connecting party would choose to have the WACC applied, or whether the service would be contestable, until the connection enquiry was made.

Accountability

Due to the fact that what model the party was connecting under (i.e. negotiated WACC, or contestable) would not apply until the connection enquiry was made, the accountability would be different in each case and reflected in connection agreements. The Commission does not consider that this would result in the same level of accountability as the model set out in the draft Rule.

F.3.4 Conclusion

The Commission does not consider that this approach would promote the NEO more than the model set out in the draft Rule. In order to make this option viable we consider it would mean making all connections to the transmission network regulated i.e. prescribed transmission service. There has been little support for this proposal to date.

F.4 Continuum of options

F.4.1 Overview of the model

This model was proposed by the Clean Energy Council in it submission to the discussion paper, who requested that the Rules not prohibit the connecting party from choosing from a 'continuum' of contestability options for the provision of connection services.

F.4.2 Description of the model

This model is intended to allow the connecting party to access the 'acceptable level of competitive services'.[499] In some scenarios, the limitations from having more services contestable may mean that the incremental benefits of obtaining a competitive high-level design may be diminished. In these scenarios, the connecting party may wish to go to the incumbent TNSP for the service i.e. this may be the most efficient option for a particular scenario. However, this would require the TNSP to offer the service as a negotiated transmission service, but not on an exclusive basis. Essentially, the TNSP would be a 'fall back option', which would not create a level playing field being participants.

499 See: Clean Energy Council, submission to the discussion paper, p. 10.

Having a range of competition options would seek to allow the market to determine the most efficient outcome, noting that this could also evolve with experience.

This model would likely require Rules to be drafted that accommodated all 'options' of contestability.

F.4.3 Comparison of the model against the draft Rule

Transparency

The Commission does not consider that this model would better improve transparency than the model set out in the draft Rule since, essentially, the transparency requirements would be the same as under the draft Rule but potentially expanded to cover all contestable services.

Timeliness

The Commission does not consider that this model would better improve timeliness than the model set out in the draft Rule. Indeed the confusion created by the different options, and so the learning that would be required each time a new option was used, would likely increase the time associated with connection.

Cost

This model would have the effect of compromising the 'level playing field' for contestable services by requiring the TNSP to be a 'fall back' option. The connecting party would not be protected from the incumbent TNSP exercising market power if there is no competition for a particular service. Therefore, the Commission does not consider that this model would result in lower costs than the model set out in the draft Rule.

Unnecessary complexity

As noted above, the Commission is of the view that trying to accommodate all of the different spectrum of options in the Rules, and making it clear what should happen under each scenario, would add unnecessary complexity.

Accountability

Related to the above point, the Commission does not consider this approach to be viable because it would be unclear how accountability for shared network outcomes would be allocated until the incumbent TNSP is chosen and/or contracts are signed. Therefore, accountability is not as clear as under the draft Rule.

F.4.4 Conclusion

The Commission does not consider that this approach would promote the NEO more than the model set out in the draft Rule. It seems to combine all of the limitations of all the options described above, while having a lot more complexity involved.

G Summary of other issues raised in submissions relating to connections

This appendix sets out the issues raised in the first and second rounds of consultation on this rule change request and the AEMC's response to each issue. If an issue raised in a submission has been discussed in the main body of this document, it has not been included in this table.

Issue raised	Stakeholder	AEMC response
General		
The Clean Energy Council noted that IUSAs could facilitate a shared connection between two parties that would look the same under the Rules as a Scale Efficient Network Extension (SENE). As a result, the AEMC should review the SENE rules to make sure they are consistent with the revised rules.	Clean Energy Council, submission on discussion paper, p. 3; Clean Energy Council, submission on consultation paper, p. 4.	The Commission has reviewed the clauses relating to SENEs in Chapter 5 of the Rules and considers that these do not need amendment as a result of the draft Rule. Under the draft Rule, the TNSP still has accountability for the shared network and so will still be responsible for SENE design and costing studies as under current arrangements. In the draft Rule, this would not apply to the party registered for a dedicated connection asset unless that party was registered as a TNSP. At the completion of a SENE design and costing study, any identified user shared asset required will have the contestability arrangements as set out in the draft Rule apply.
The Clean Energy Council suggested all applicable aspects of this rule change should be applied to connections to distribution networks, especially the 'sub-transmission' network.	Clean Energy Council, submission on discussion paper, pp. 3, 15.	Making changes to the framework relating to how parties connect to the distribution network is out of scope of this rule change. As such, the draft rule does not change the arrangements for connections to the distribution network in Chapter 5 or in Chapter 5A. More detail on the scope of the rule change is provided in chapter 1. Chapter 5A applies to embedded generators under 5MW wishing to connect to electricity distribution networks. The Commission considers that while the principles between different connection frameworks should be consistent, there
The Major Energy Users questioned whether the new approach was consistent with Chapter 5A. Chapter 5A recognises that new end users in a distribution network get a reduced cost allocation of the new connection cost due to their contributions to DUOS. Similarly for a direct connection to the transmission network, the new load will contribute to TUOS and TNSP common services. Different rules between transmission and	Major Energy Users, submission on consultation paper, p. 4.	

Issue raised	Stakeholder	AEMC response
distribution connections will bias costs and potentially lead to less efficient outcomes. The approach in Chapter 5A is more appropriate than applying all of the costs of the IUSAs.		are different considerations to take into account for smaller generators e.g. the difference in bargaining power. The draft Rule applies equally to the connection of a generator, MNSP or load to the transmission network. The Commission thinks consistency between these processes is more important since all of these parties should be sufficiently large and well-resourced.
Ausgrid noted the recent changes regarding embedded generation connections, specifically the ability for eligible embedded generator proponents to choose to either negotiate a connection to the distribution network under Chapter 5 or 5A. As the rule change is seeking to make changes to Chapter 5, this may have consequences for other connection customers that interact with Chapter 5.3. The rule change request seeks to deal only with transmission connections, but Chapter 5 applies to registered and intending participants more broadly, including smaller embedded generator proponents. Access, charging and connection arrangements are likely to affect Ausgrid if large embedded generators connect to Ausgrid's dual function assets or distribution assets.	AusGrid, submission on consultation paper, p. 1.	
The Clean Energy Council considered that procedures for getting estimates and awarding a construction contract should not be linked to offer to connect. Current drafting would possibly allow TNSP to use the expiration date for a connection offer to force a decision on awarding the construction contract. And, as detail of connection requirement may not be finalised until the connection agreement is signed, there may be a need to revisit quotes. The connection agreement is a design specification that needs to be used to inform construction quotes. Offer to connect should only rely on whether the connecting party is/is not going to get the TNSP to construct and own the assets. A later date for the decision on awarding the construction contract would be included in the terms of the connection agreement.	Clean Energy Council, submission on consultation paper, p. 6.	In the draft Rule, if an identified user shared asset meets the threshold for contestability, the detailed design, construction and ownership of the identified user shared assets will be procured as a non-regulated transmission service by the connecting party. The Commission considers it important that in the TNSPs response to the connection enquiry, the TNSP is required to provide the connecting party with sufficient detail for the connecting party to obtain indicative costings for detailed design, construction and ownership. The offer to connect from the TNSP is not linked to the connecting party obtaining contracts for the provision of the detailed design, construction and ownership of the identified user shared asset.

Issue raised	Stakeholder	AEMC response
Identified user shared assets		
The Clean Energy Council suggested owners of identified user shared assets should be able to freely transfer ownership to another party irrespective of the incumbent TNSP's operation and maintenance regimes. It therefore considered that contractual arrangements between the asset owner and the incumbent TNSP should not place terms on the ownership structure of these assets.	Clean Energy Council, submission on consultation paper, p. 15.	If the provision of an identified user shared asset meets the threshold for contestability, the ownership of the assets will be provided as a non-regulated transmission service. The connecting party can therefore transfer ownership to whoever it likes. However, if ownership remains with a party other than the Primary TNSP the owner will be required to enter into a network operating agreement with the TNSP. See section B.2.4.
The ENA proposed that the AER should be required to have regard to the impact of third party supply of assets under the Service Target Performance Incentive Scheme (STPIS). AusNet Services asked the AEMC to review whether the STPIS promotes a level playing field in contestability. It noted that the current scheme exposes the incumbent TNSP to penalties where its contestably-won assets lead to reliability incidents on the shared network, while assets won by other parties are exempt. AusNet Services argued that the STPIS should be neutral to asset ownership, either applying in all circumstances or none.	ENA, consultation paper submission, p. 9; AusNet Services, consultation paper submission, p. 5.	Under the draft Rule the TNSP will still be accountable for maintaining the safety, security and reliability of outcomes on the shared network. Therefore, there will be no changes to the arrangements for STPIS.
The Clean Energy Council considered that it is critical that the DCA owner can access the substation or switching yard that forms the IUSA. The owner of the DCA should not be restricted to access property held within this site, or made subject to unreasonable monopoly pricing by the local TNSP to do so.	Clean Energy Council, submission on consultation paper, p. 4.	The Commission considers that such negotiations would occur between the connecting party and the TNSP as part of the negotiation of the connection agreement.

Issue raised	Stakeholder	AEMC response
The Clean Energy Council suggested that it is unclear how owners of IUSAs, or the assets themselves, would be treated under current transmission licensing regimes. AEMC needs to consider this so that potential changes to state legislation or licensing arrangements are understood.	Clean Energy Council, submission on consultation paper, p. 6.	Jurisdictional licensing requirements, by definition, vary between jurisdictions. As is the case currently, the owners and operators of transmission assets will be responsible for meeting the relevant obligations in the jurisdiction.
The connection process		
AEMO noted that in Victoria, the issue of unbalanced negotiating power is mitigated to an extent by arrangements that give greater scope for competition and the presence of an independent planner.	AEMO, consultation paper submission, p. 4.	As set out in chapter 6, the regulatory framework for connections in Victoria are different to the rest of the NEM.
The ENA considered that AEMO was not the appropriate body for establishing a panel of independent engineers.	ENA, consultation paper submission, p. 17.	The draft Rule provides that the wholesale energy market dispute resolution adviser is responsible for establishing an maintaining a pool of independent engineers for the reasons set out in section C.1.
The ENA considered that the independent engineer should be a low cost and timely process. To achieve this, the ENA considered the independent engineer should not duplicate the role of the arbitrator. Conversely, Origin Energy considered future commercial arbitration should be legislated to consider any findings of the independent engineer.	ENA, consultation paper submission, p. 17; Origin, Energy discussion paper submission, p. 3.	Under the draft Rule the advice provided by the independent engineer is not binding on either party. The Commission considers that it is important that the independent engineer process be accessible and timely. If the independent engineer's decision were to be binding, given the final nature of such a decision, the parties may treat the process as a more legal, dispute oriented one rather than a facilitative,

Issue raised	Stakeholder	AEMC response
		technical one designed to aid any negotiation impasse. This could have the effect of substantially prolonging the process and, by extension, increasing the cost. Stakeholders would be unlikely to utilise the independent engineer if the process was prohibitively expensive or lengthy.
AEMO considered increased transparency is unlikely to have much impact if the applicant has no choice but to deal with the TNSP. In addition, the Clean Energy Council considered that the TNSP could delay negotiations due to their monopoly negotiating power. The Clean Energy Council suggested design standards and philosophies and proposed maintenance regimes should be approved by an independent engineer to ensure that the TNSP has created the opportunity for assets to be constructed contestably while balancing its Rules obligations. The Clean Energy Council considered that TNSPs have opportunity to use their competitive advantage. For example, the TNSP may delay the processing of a connection application. Therefore, the negotiating framework will need to address this.	AEMO, consultation paper submission, p. 4; Clean Energy Council, consultation paper submission, pp. 15-16.	The Commission considers that in the provision of negotiated transmission services where the connecting party may only procure these services from the TNSP, negotiations with the TNSP will be improved through the combination of the: • transparency requirements for TNSPs; • addition of updated negotiating principles; • ability to call for an independent engineer to provide advice on technical disagreements; and • increased clarity regarding the definition of services relating to transmission connections. The measures outlined above will address the monopoly negotiating power the TNSP has in the provision of negotiated services. The Commission does not consider the proposed transparency requirements should be approved by an independent engineer as this would introduce unnecessary costs that would be borne by consumers, as well as delaying the connection process.

Issue raised	Stakeholder	AEMC response
The ENA considered that the increased transparency requirements will impose significant costs on the TNSPs. In addition, AEMO considered standard agreements could be unnecessarily restrictive in bespoke projects such as transmission connections. To address this, AEMO suggested the transparency requirements applied to TNSPs explain the methodology as opposed to providing generic examples.	ENA, consultation paper submission, p. 16; AEMO, discussion paper submission, pp. 5-6.	The draft Rule requires to the TNSP to publically provide generic information about the connection process. As this information is high level, the Commission does not consider it will impose significant costs or be restrictive on the actions of TNSPs. The Commission also does not consider that requirement to publish generic agreements will be restrictive in transmission connections. The Commission acknowledges that the provision of standard form contracts to connecting parties as a relatively common occurrence. It would therefore be helpful for these to be published on the TNSP's website upfront. Where specified, the TNSP is allowed to charge an additional fee for the provision of more prescriptive information in order to recover the costs of providing such information.
AGL considered that the negotiation should take into account commercial and operational matters expressed through the legal and technical process at the time of the connection as well as prevalent conditions of the market.	AGL, consultation paper submission, p. 4.	Negotiations between the connecting party and the TNSP are covered by the negotiating principles set out in Schedule 5.11 and Schedule 5.12 of the draft Rule. These are discussed further in section C.2.
The ENA considers that where a connection does not rely on third party access to an existing connection, the need to consider what negotiating framework should apply to the lease or transfer of identified user shared assets is unnecessary if the party that builds the assets is responsible for their operation, control and maintenance. Even though a provider may decide to outsource this, or lease/transfer ownership to the TNSP, this is a commercial decision. It is no longer a rules requirement so any negotiating imbalance is removed.	ENA, consultation paper submission, p. 9.	The lease or transfer of an identified user shared asset, where it occurs, will be a non-regulated transmission service in the draft Rule. The negotiating principles will not apply to non-regulated transmission services. This is discussed further in section C.2.

Issue raised	Stakeholder	AEMC response
The ENA considered that there is no reason for the negotiating principles to be different across load and generation, consistent with current arrangements.	ENA, consultation paper submission, p. 15.	The Commission agrees as set out in section C.2.
The Clean Energy Council considered that the updated negotiating principles should consider the ongoing operation and maintenance.	Clean Energy Council, consultation paper submission, p. 5.	The updated negotiating principles will apply to the provision of operation and maintenance of identified user shared assets as these are provided as negotiated transmission services as discussed in C.2.
PIAC suggested that other services such as demand management and load control through grid level batteries may also be provided to a connection party, particularly large scale renewables that operate intermittently and require different services to ensure that they meet the standards and reliability required by the transmission system. The negotiation principles should be applied to the development of these services where they are required to meet the functional specification set by the TNSP.	PIAC, discussion paper submission, pp. 8-9.	The negotiating principles will cover the provision of negotiated transmission services. This includes the provision of the functional specification by the TNSP. As a result, all aspects of the functional specification provided to the connecting party will be subject to the negotiating principles.
Application to Victoria		
AusNet Services submitted that maintaining clear accountability for outcomes on the shared transmission network does not limit the scope of services that can be deemed contestable. It considered that clear accountability can be assured through contractual arrangements that allocate risks and responsibilities between parties, in the way that AEMO does in Victoria. AEMO shared a similar view, submitting that contracts can solve accountability requirements without compromising system security, reliability or impeding future third party access. It noted that it is already accustomed to working with multiple TNSPs in a region, and the NER already deals with it.	AusNet Services, discussion paper submission, p. 2; AEMO, discussion paper submission, p. 2.	The Commission considers that not all services required for a connection to the transmission network can be provided on a contestable basis while still maintaining clear accountability for outcomes on the shared network. The Commission's rationale for limiting the services that can be provided on a contestable basis is set out in more detail in chapter 3.

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
DUOS	Distribution use of system
LRPP	Last resort planning power
MCE	Ministerial Council on Energy
MNSP	Market network service provider
NEL	National Electricity Law
NEM	National energy market
NEO	National electricity objective
RET	Renewable energy target
RIT-D	Regulatory investment test for distribution
RIT-T	Regulatory investment test for transmission
TNSP	Transmission network service provider
TUOS	Transmission use of system