Australian Energy Market Commission

RULE CHANGE

CONSULTATION PAPER

National Electricity Amendment (Transmission Connection and Planning Arrangements) Rule 2015

Rule Proponent(s)
COAG Energy Council

26 November 2015

Inquiries

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

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

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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.

Contents

1 Introduction

1.1 The rule change request

On 27 July 2015, the COAG Energy Council (Energy Council or proponent) submitted a rule change request to the Australian Energy Market Commission (AEMC or Commission) that seeks to amend those aspects of the National Electricity Rules (NER) that relate to the arrangements for connections to the transmission network and planning of the transmission network (transmission connections and planning).

The rule change request is largely based on the connection and planning recommendations made by the AEMC in its Transmission Frameworks Review (TFR), which was completed in 2013.[1] The objective of the recommendations made by the AEMC was to improve transparency, contestability and clarity in the connections frameworks, as well as to enhance the Transmission Network Service Provider (TNSP) planning and decision making frameworks.

1.2 Purpose of the consultation paper

The purpose of this consultation paper is to facilitate stakeholder consultation on the Energy Council's rule change request. It should be read in conjunction with the Energy Council's rule change request, which is available on the AEMC's website.[2] In particular, the AEMC seeks stakeholder views on the proposed policy, and the proposed solutions to give effect to the proposed policy. Further, the AEMC would also welcome stakeholder views on how the issues with the connection and planning frameworks may have changed since they were last articulated at the time of the Transmission Frameworks Review.

Draft rules were provided with the rule change request. Whilst feedback on the entire rule change request is invited, at this stage of the project stakeholder feedback would be most welcomed on the proposed policy as outlined in the rule change request and discussed in this Consultation Paper. As discussed below, stakeholders will have opportunities to comment on the rules drafting later in this project, once the detailed questions associated with the proposed policy underlying such drafting have been considered.

Submissions to the rule change request and this Consultation Paper are requested no later than **28 January 2016**.

1 AEMC, Transmission Frameworks Review, Final Report, 11 April 2013.

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

1.3 Timing of the rule change request

Given the complexity and broad scope of issues covered by the rule change request, affecting many areas of the National Electricity Rules (NER), the six month standard rule making process may need to be extended. Stakeholder views received in response to this paper will inform the timeline and process for this rule change.

Once submissions are received and considered, the Commission will notify stakeholders of the timeframes and the process that will be adopted for this rule change request.

In terms of the next steps following the Consultation Paper, a series of workshops and roundtables with stakeholders will be held from early to mid-2016. Following this, a Directions Paper is likely to be published, prior to the publication of any draft rule determination.

Table 1.1 Timetable for the Rule Change Request

Milestone	Date
Close of submissions on the consultation paper	28 January 2016
Stakeholder consultation - workshops and roundtables	February - mid 2016
Publication of Directions Paper	TBC, once first round submissions are received and considered
Publication of the draft rule and draft determination	TBC, once first round submissions are received and considered
Publication of the final rule and final determination	TBC, once first round submissions are received and considered

1.4 Interaction with the Technical Standards Review

As some stakeholders will be aware, the AEMC intends to initiate a review of technical standards in the National Electricity Market (NEM). The review was recommended in the AEMC's review of the effectiveness of NEM security and reliability arrangements in light of extreme weather events, and supported by the Energy Council (then the Ministerial Council on Energy).[3] In order to determine if the issues considered in the technical standards review were still relevant, given the significant changes in market and power system conditions since the extreme weather review, the AEMC has recently conducted some informal consultation through a stakeholder reference group.

3 See: http://www.aemc.gov.au/Markets-Reviews-Advice/Review-of-the-Effectiveness-of-NEM-Security-and-Re

As part of this informal consultation, stakeholders raised a number of:

- "process issues", relating to the negotiation, testing and amendment of performance standards; and
- "technical issues", reflecting a range of concerns with the levels and design of particular system and access standards.

The technical issues identified are being referred to other participants (such as the Australian Energy Market Operator (AEMO) or the Reliability Panel) to develop the issues further, before they could be progressed through rule change processes.

In practice, negotiating performance standards for connecting equipment and for negotiating connection services and assets occur concurrently and are inter-dependent. Some of the specific process issues identified by stakeholders can be considered within scope of this rule change request and so are discussed in this consultation paper.

Due to the interactions between these two processes, in early 2016 consideration will be given to whether or not there is a need to commence the technical standards review. For example, questions or problems associated with the technical standards may be identified through the preliminary investigation into issues associated with this rule change request and may be dealt with as part of the rule making process.

For further detail, please see the technical standards review project page on the AEMC website.[4]

1.5 Structure of the Consultation Paper

The remainder of this paper is structured as follows:

- chapter 2 sets out the background to the transmission connection and planning arrangements;
- chapter 3 summarises the rule change request;
- chapter 4 sets out a proposed assessment framework for considering this rule change request;
- chapter 5 sets out the issues for consultation relating to the proposed connection arrangements;
- chapter 6 sets out the issues for consultation relating to the proposed planning arrangements;
- chapter 7 sets out how to respond to this consultation paper; and
- appendix A provides more detail on some of the concerns with the transmission connection arrangements.

4 See: www.aemc.gov.au.

2 Background

This chapter sets out background to the current transmission connection (section 2.1) and planning (section 2.2) arrangements in the NEM.

2.1 Connections

2.1.1 What is a connection?

The shared transmission network[5] facilitates flows of electricity between parties that produce electricity (generators) and those that consume electricity (consumers). This shared transmission network is a meshed network, and so it is virtually impossible in most cases to separate out those assets that provide services to a particular party.

By contrast, generators, large users (referred to in this paper as load) and the distribution network need to be connected to this shared transmission network in order to facilitate the above flows. The assets that are used to facilitate these connections are generally separable, and can be attributed to a particular party. The process by which these parties connect, and the services and assets that are provided to them in order for them connect, can be considered relating to "connecting" to the shared transmission network.

2.1.2 What are the current arrangements under the Rules?

Connection process

There are two main areas of the NER that relate to the process of connecting to the transmission network:[6]

- Chapter 5, Part A - sets out a framework outlining the connection process, which regulates aspects of the technical and contractual arrangements and the obligations that facilitate connection of either load or generation to the transmission network;[7] and

5 The shared transmission network is the main extra high voltage network that provides or potentially provides supply to more than a single point.

6 Chapter 5, Part A effectively deals with three connection processes: connection of embedded generation (to the distribution network only); connection of generation (for both transmission and distribution); and connection of load (for both transmission and distribution). Chapter 5A of the NER covers the connection of retail customers to the distribution network, and only applies in those jurisdictions that have adopted the National Energy Customer Framework (NECF).

7 The Commission has recently made two rules relating to other connection frameworks in the NEM. First, the Connecting Embedded Generators rule change - as part of this rule, a new process was introduced for the connection of embedded generation to distribution networks. Second, the Connecting Embedded Generators under Chapter 5A, which helps embedded generators under 5MW connect to electricity distribution networks.

- Chapter 6A - which covers the economic regulation of the provision of transmission services (ie, whether transmission services are provided as prescribed, negotiated or non-regulated).

Chapter 5 sets out the six main steps in the connection process through which parties negotiate connection to the transmission network. Specifically, by reference to the relevant clauses in the Rules:

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.

The framework follows a process under which there is staged negotiation with defined timeframes in relation to each step. The regime is relatively prescriptive, providing for very clear accountability of the TNSP. However, it is understood that, in practice, the process is more flexible with the negotiations relatively fluid.

This framework applies to new connections, as well as modifications to existing connections. It also covers the negotiating the cost and specification of the connection assets, as well as the technical standards.

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

- Prescribed transmission services, which are recovered from transmission customers directly, with the revenues that a TNSP can recover for these services regulated by the Australian Energy Regulator (AER) pursuant to the TNSP's transmission determination under Chapter 6A.

- Negotiated transmission services, where the connecting party negotiates with the TNSP under a framework set out in Chapters 5 and 6A, including negotiating principles which are developed by each TNSP and approved by the AER, and with certain high-level requirements set out in the rules including dispute

resolution. There is no regulation of the revenues that a TNSP can earn regarding the provision of negotiated services.

- Non-regulated transmission services are services negotiated outside the rules framework.

Application in Victoria

Victoria is the only jurisdiction where AEMO has declared network functions. In Victoria, the functions undertaken by TNSPs elsewhere are split between AEMO and Declared Transmission System Operators (DTSOs). AEMO is accountable for the provision of the shared network, procuring services from DTSOs (such as AusNet Services), who own and operate the shared assets. This impacts on the implementation of the process for connecting to the shared network. While the arrangements in Victoria are different, the process in Chapter 5 still applies in that jurisdiction. So, at a high level, the process is consistent.

Box 2.1 Declared Network Functions

Under the National Electricity Law, jurisdictions can declare AEMO to have declared network functions.[8] AEMO's declared network functions include:

- to plan, authorise, contract for, and direct augmentation of the declared shared network;
- to provide information about the planning process for augmentation of the declared shared network;
- to provide information and other services to facilitate decisions for investment and the use of resources in the adoptive jurisdiction's electricity industry;
- to provide shared transmission services by means of, or in connection with, the declared shared network;
- any other functions, related to the declared transmission system or electricity network services provided by means of or in connection with the declared transmission, conferred on it under the National Electricity Law or the Rules; and
- any other functions, related to the declared transmission system or electricity network services provided by means of or in connection with the declared transmission system, conferred on it under a law of the adoptive jurisdiction.

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

AEMO is responsible for assessing all new generator and load connections against the NER requirements, but is not responsible for providing the assets associated with connection. The assets associated with connection are provided by a supplier of the asset owners' choice.

Technical Standards

Chapter 5 of the NER also contains provisions relating to technical standards, which define the level of performance required of the equipment that makes up, or is connected to, the national electricity system. These include rules defining:

- the standards to which the system as a whole must perform; and
- a range of standards (an automatic access standard and a minimum access standard) for equipment connecting to the national electricity system (known as "access standards") - which become "performance standards" for each connecting party, once they are negotiated and the connection agreement is in place.[9]

Of relevance to this rule change are performance standards, since the process by which these are negotiated for a specific connection occurs via the connection process as set out above. Therefore, in practice, the processes for negotiating performance standards for connecting equipment, and for negotiating connection services and assets occur concurrently and are interdependent.

2.1.3 What services are required to connect to the transmission network?

When seeking to interpret the current NER relating to connections, it is important to understand that in order to connect to the transmission network, a generator or other connecting party usually requires the relevant TNSP to provide several different services.

To connect to the transmission network, a party may require the TNSP to provide some or all of the following services:

- The provision of a physical connection between the party's facilities and the shared transmission network, and the construction, operation and maintenance of any assets that are required to provide that physical connection. In practice, the physical connection is a small set of assets.
- The construction, operation and maintenance of a new substation to form part of the shared transmission network to facilitate the connection or upgrades to an existing substation, 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 NER as a result of that connection.

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 Market Network Service Provider (MNSP) or an end use customer.

- The construction, operation and maintenance of an "extension" from the party's facilities to the TNSP's assets that provide the physical connection referred to above. Typically this is considered to be a line which runs from the generator's transformer to the substation fence.

The services that are provided may vary for each connection. For example, if a generator wishes to connect to the transmission network, and an existing substation with sufficient capacity already forms part of the shared transmission network at the location where the generator wishes to connect, the type of service required for the connection may be limited to a transmission line between the generator and the substation (the "extension" referred to above). However, where a substation does not already exist in a suitable location on the shared transmission network, there may be an additional requirement to construct a substation as an augmentation to the network.

2.1.4 How are these services classified and regulated?

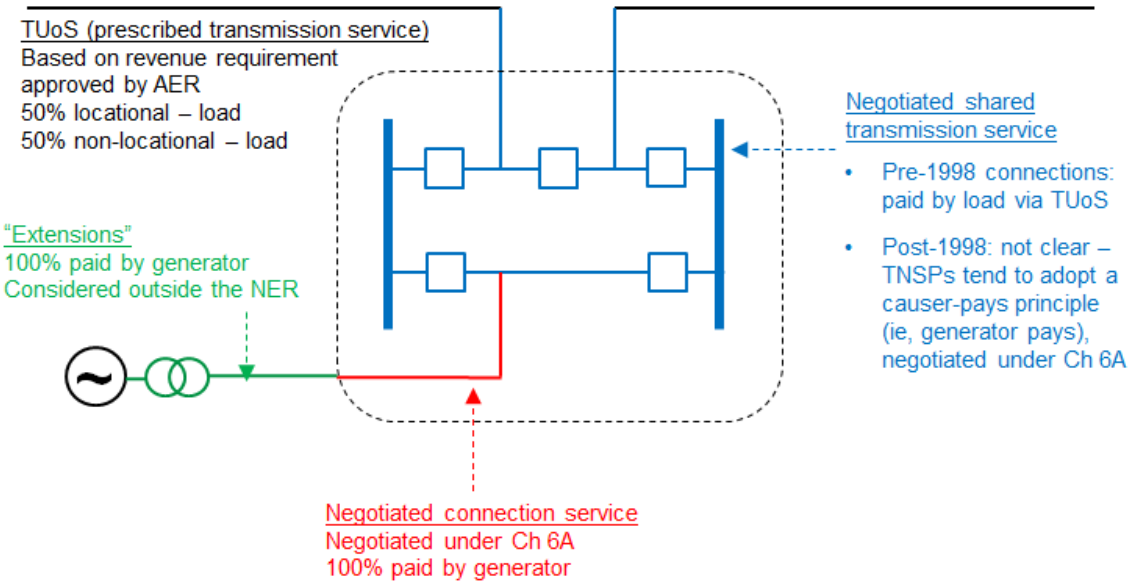
As identified in the Transmission Frameworks Review (TFR), and discussed further below, the Rules do not clearly set out or classify the services that are provided for the various types of assets that are required for connection.

As a result, a degree of interpretation is required on the part of both TNSPs and connecting parties in establishing their respective obligations and rights with regard to connections. This room for interpretation may mean that connection processes differ depending on the TNSP involved. Set out below is the AEMC's understanding of the current practices of most TNSPs, which was developed during the TFR. This is intended to illustrate the key concepts and terms that are used in the current connections provisions of the NER.

Generator connection

As noted above, several services are required to connect to the transmission network. Figure 2.1 provides a simplified illustration of the services that may be required to connect a new generator.

Figure 2.1 Current generator connection charging, based on our understanding of TNSP practice



This connection requires the construction of a new substation to allow the generator to connect to the existing shared transmission network. Prior to the connection, the transmission line at the top of the diagram was joined up and formed part of the shared transmission network. The existing line is shown in black. The entire shared transmission network is paid for by customers, through Transmission Use of System (TUOS) charges. None of the shared transmission network is paid for by generators.

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 (ie, split) and a new substation is connected to it. Once operational, all electricity in that part of the network flows through that substation. The new substation is shown in blue.

Typically, TNSPs consider that this new substation provides a shared transmission service and so the substation forms part of the shared transmission network. It is understood that incumbent generators connected prior to the start of the NEM are not required to pay any share of the costs of the existing substations to which they are connected, or contribute to the ongoing maintenance of those substations.

A physical link or "connection" is required to connect the generator to the new substation. This connection is shown in red. The connection service usually involves the physical connection plus any assets that are used exclusively by the generator and are located between the shared transmission network and the substation fence (ie, the dotted line on the above diagram). Most TNSPs consider that the connection point is located at the boundary where the red and blue lines meet. This physical connection

(or red assets) is provided by the TNSP as a negotiated service, and so is paid fully by the generator.[10]

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 treat this line as an extension under the NER.[11] This extension runs from the generator's transformer to the substation fence. 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 current practice of TNSPs 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. Therefore, TNSPs treat extensions as a non-regulated transmission service on the basis that extensions are contestable. As such, TNSPs consider that they are not obliged to provide extensions, nor are TNSPs subject to the negotiating framework when negotiating the terms and conditions for the provision of extensions. That is, these assets (and the services required to provide them) sit outside the scope of the NER.

Regardless of uncertainties about how these 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. The treatment of these services 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.[12]

Load connection

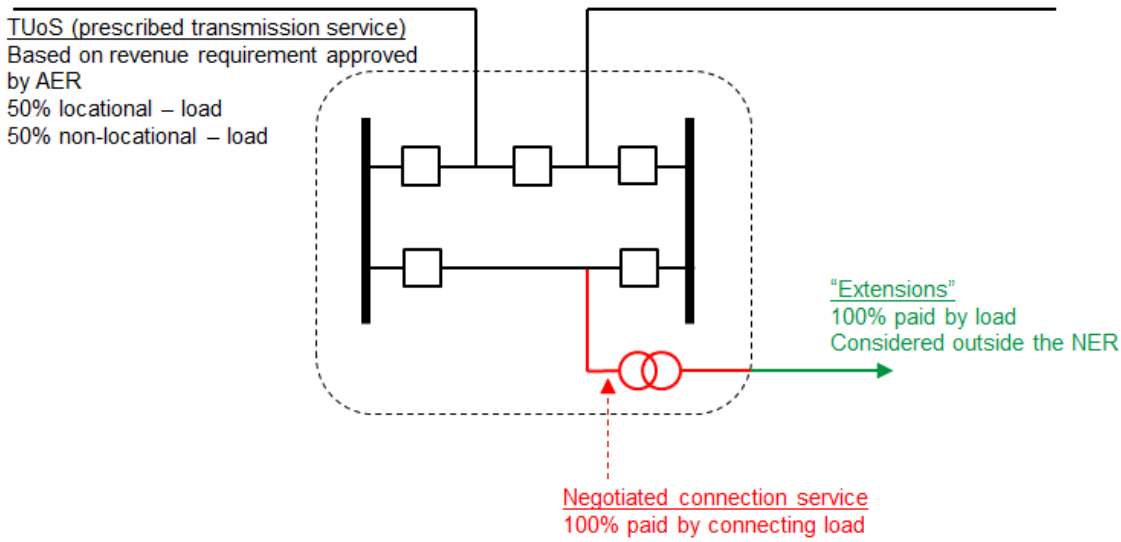
Figure 2.2 provides a simplified version of the services that may be required to connect a new load, based on the AEMC's understanding of current TNSP practice. Similar to above, prior to the connection, the transmission line at the top of the diagram was joined up and formed part of the shared transmission network.

10 Prior to 2006, these assets were considered prescribed entry services.

11 See Chapter 10 of the NER.

12 The only assets in Figure 2.1 that are not paid for by the connecting generator are the black line that represents the existing shared network. There may be some circumstances where a new substation to connect a new generator could be classified as a prescribed transmission service and therefore paid for by all users rather than by the connecting generator, for example if it passed the Regulatory Investment Test for Transmission (RIT-T), but those circumstances are rare and are outside of the scope of this chapter. It is noted that different rules apply to generators in existence at the start of the NEM, who do not pay for the construction, operation or maintenance of substations to which they are connected.

Figure 2.2 Current load connection charging, based on our understanding of current TNSP practice



In order to connect the load, the existing transmission line is cut into (ie, split) and a new substation is connected to it. The substation is considered to form part of the shared transmission network. Unlike a generator connection, and as set out in the NER, TNSPs treat this new substation as providing a prescribed transmission service, and so it is paid for by Transmission Use of System (TUOS) customers based on a revenue requirement approved by the AER.[13]

For costs related to the provision of prescribed TUOS services (ie, the substation above) the costs are split evenly into locational and non-locational components. That is, half of the costs are attributed to the connection point at which they are incurred, while the other half of the costs are shared across all customers using a "postage stamp" method (ie, a charge that does not vary by location or the level of utilisation of assets). So, through this method, the connecting load should, in practice, pay for some proportion of the costs of the substation.

The remaining elements are treated the same as with a generator connection, ie:

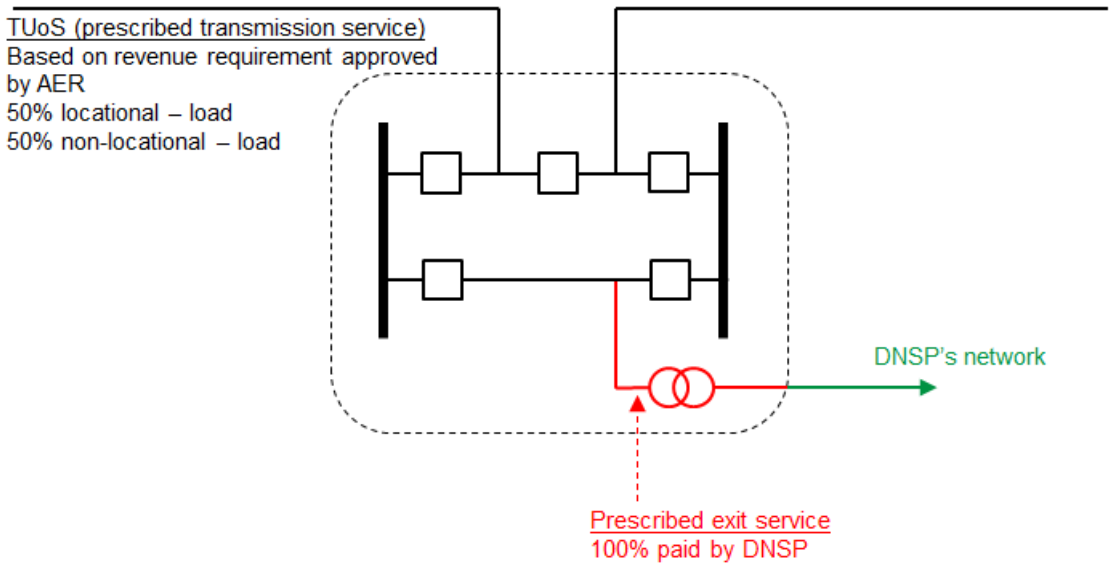
- a physical link or "connection" is required (shown in red), which is treated as a negotiated connection service and so paid for by the load as a negotiated service provided by the TNSP; and
- a new transmission line is constructed from the facility to the boundary of the assets used to provide the 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.

13 Customers also pay a prescribed common transmission service charge, which covers costs associated with non-assets.

DNSP connection

Finally, Distribution Network Service Provider (DNSP) connections to the shared transmission network are considered. Figure 2.3 sets out an indicative representation of a DNSP connection to the network, based on our understanding of current TNSP practice.

Figure 2.3 Current DNSP connection charging, based on our understanding of TNSP practice



The connection of a DNSP to the transmission network operates similarly to connecting load, but with the following key differences:

- the physical link or connection is treated as a prescribed exit service, which is charged to the DNSP through TUOS. Ultimately, customers pay this through Distribution use of System (DUOS); and
- an "extension" as such is not required - the physical connection simply links the transmission and distribution networks.

Arrangements in Victoria

In Victoria, the process is slightly different. If a connection requires additional investment in shared assets, then the connecting party must liaise with AEMO. If this investment is "separable" from the existing network, then a DTSO would be appointed to make this investment through a contestable process. Where the augmentation was not separable, the work would be undertaken by the incumbent DTSO (which would usually be AusNet Services).

Summary

The above arrangements set out the AEMC's current understanding of how connecting parties connect under the NER. In summary the connection arrangements, and how the services are treated, are different depending on whether it is a generator, load or DNSP connecting to the transmission network. These differences are discussed further in appendix A.

Question 1 Current connection arrangements

(a) Is the AEMC's explanation of the current connection arrangements consistent with how this is done in practice?

(b) Has anything changed about TNSP practice in relation to transmission connections since the conclusion of the Transmission Frameworks Review in 2013?

2.1.5 What were the findings of the TFR?

From August 2010 to April 2013, the AEMC undertook a comprehensive review of the transmission arrangements that underpin the NEM. One aspect of the transmission arrangements that were investigated in this review was that of connections.

The TFR found that there are two main problems relating to transmission connections in the NEM:

- The complexity, ambiguity and lack of clarity in the Rules and the frameworks in this area:
  - Chapters 6A and 10 focus on "services", whereas Chapter 5 relates to the construction of "assets". Therefore, there is a disconnect between the provisions in Chapter 5 that specify the connection process and the connection assets provided, and those in Chapter 6A that govern the economic regulation of services. As a result, this has led to TNSPs and connecting parties developing differing interpretations of these rules in order to establish their respective obligations and rights with regards to connections. The current arrangements leave it open to some degree of TNSP interpretation and discretion about which services they provide and how they are regulated.
  - The economic regulation of transmission services is not provided for in a consistent manner between the different parties that could connect to the transmission network (ie, generators, load and DNSPs) as set out in the rules, or between different TNSPs in providing these services. A substation that is built in order for a load to connect is provided as a prescribed transmission service, whereas a substation that is built in order for a generator to connect is provided as a negotiated transmission service. The economic regulation of transmission services (eg, whether they are

prescribed, negotiated or non-regulated) in part depends on the individual practices of TNSPs, which varies across the jurisdictions;

- The asymmetric power held by TNSPs in negotiating with connecting parties. Generators perceived the TNSPs did not provide them with enough information about the cost of the construction, nor did they provide the connection itself in a timely manner. Generators considered there was little they could do in response to these problems, partly because it was not clear what assets the TNSP would provide.[14]

2.1.6 What were the TFR recommendations?

Given these findings, as part of the TFR, the AEMC made three key recommendations relating to the connection arrangements in the NEM:

- Clarify and simplify the Rules so that generators know exactly what they are negotiating for. This included making a clear distinction between those services provided by assets that form part of the shared transmission network, and those provided by assets used exclusively by the connecting party.

- Strengthen negotiating frameworks to require TNSPs to provide better information to connecting parties, allowing parties to negotiate in a more informed manner. This included allowing parties to access an independent engineer, and clarifying the interaction of a dispute resolution process.

- Enhance competition in the construction of assets required to facilitate connections, enabling connecting parties to better manage costs and timing, as well as to place competitive pressure on TNSPs to improve performance. But, to make it clear that control of the shared network assets remains with the local TNSP.

To an extent, addressing the first problem set out above would help in mitigating the second. That is, making the rules clearer and simpler should make it easier for generators to know exactly what assets and services they are negotiating for, and enhance their ability to negotiate on more equal terms with TNSPs.

These recommendations form the basis of the proposed rule amendments in this rule change request.

14 AEMC, Transmission Frameworks Review, 11 April 2013, Final Report.

2.2 Planning

2.2.1 What is planning?

Planning concerns the investment needs of the transmission network in general terms, rather than specific investment decisions. Planning will result in specific investment decisions.

There are a number of different forms of transmission planning:

- long-term strategic planning, which focuses on the need for major new investments and has a longer-term focus (eg, more than ten years);
- short-term planning, which focuses more on the near-term, and is driven by specific investment needs; and
- project specific planning, which relates to a particular investment need.

The project specific planning culminates in a specific investment decision.

2.2.2 What are the current arrangements under the Rules?

Currently, there are a number of mechanisms that work together in the Rules to promote an efficient and transparent 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 (NTP); and
- jurisdictional planning bodies, for each region of the NEM, which are typically the local TNSP.[15,16]

Table 2.1 Jurisdictional Planning Bodies

Region	Jurisdictional Planning Body
Queensland	Powerlink
NSW (and ACT)	TransGrid
Victoria	AEMO
South Australia	ElectraNet
Tasmania	Transend

15 Except for in Victoria where AEMO is the jurisdictional planning body as part of its Declared Network Functions.

16 While ElectraNet is the jurisdictional planning body for South Australia, AEMO also performs "additional advisory functions" in South Australia.

Long-term strategic planning

Long-term strategic planning in the NEM is largely undertaken by the NTP. TNSPs may also undertake long-term planning for their own networks, although this is not required in the NER. Long-term planning is focussed on the need for major new investments and has a long term focus. In undertaking this function, the NTP is required to produce the National Transmission Network Development Plan (NTNDP), which provides a holistic, strategic vision of the transmission network over the next 20 years.

This focuses on major transmission flow paths (ie, those areas of the transmission network connecting major generation or demand centres). Planning is undertaken over a number of different scenarios, covering different economic and government policy outcomes, demand forecasts and also generation scenarios. Other documents produced by AEMO are also relevant to long-term strategic planning:

- 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; and
- the NEM Constraint Report, which provides details on constraints in the transmission network.

Short-term planning

The detailed planning is undertaken by the jurisdictional planning bodies (ie, the TNSPs). Under the Rules, parties must produce short-term (ie, two to three year) plans for particular regions in the network. This is done through Annual Planning Reports (APRs).

The APRs draw upon the high-level strategic plan (NTNDP), but outline more specific investment needs and drivers. The APRs contain details of potential network investments, given forecast loads. 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

Project specific planning is undertaken by the TNSPs as well, and 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), see Box 2.2, which is applied for all augmentation investments greater than $5 million in value;[17] and
- non RIT-T assessments, where all other assets (eg, $5 million or less in value, replacement assets) must be planned at least cost over the life of the investment.

In these processes, a detailed cost-benefit assessment is undertaken to identify the investment option that has the highest net benefits. Based on these assessments, the TNSP then makes the investment decision.

Box 2.2 Regulatory Investment Test for Transmission

The Regulatory Investment Test for Transmission (RIT-T) is a process for individual investment decisions, which examines the costs and benefits of various project options and establishes the one that maximises net market benefits. The RIT-T is undertaken by the entity with responsibility for transmission planning in each jurisdiction. Importantly, the RIT-T serves as a transparent guide to efficient investment, and no obligations or other consequences flow from its results.

The focus of the RIT-T is on the "net market benefits" to those who produce, consume and transport electricity. The RIT-T is prescriptive about what market benefits must be estimated. For investments to meet the relevant jurisdictional network reliability standard, such net benefits may be negative, that is, at least cost where benefits are lower than the cost incurred. However, TNSPs are also permitted, but not obliged, to undertake investments for "market benefits". Such investments pass the test only when they have a positive cost-benefit ratio (that is, maximise net market benefits).

The RIT-T must be applied to all augmentation investments with a value over five million dollars. The RIT-T is not currently required if a transmission asset is being replaced, rather than augmented. There is also a specified process surrounding the RIT-T, which is set out in the Rules. This includes public consultation on the options under consideration in the RIT-T, as well as the associated input assumptions.

However, the RIT-T itself does not determine the revenue allocated for a particular project. It is part of a broader economic regulation process, in which ex ante incentive based regulation promotes efficient investment decisions by TNSPs. It may be considered by the AER when the AER is determining the revenue TNSPs can recover from customers.

There is some limited oversight of the RIT-T provided by the AER; however, this focusses only on matters of process rather than assessing (or approving) the TNSP's analysis.

17 The AER has recently published a final determination, which states that this $5 million cost threshold will be increased to $6 million on 1 January 2016. See: AER, Cost thresholds review for the regulatory investment test, Final determination, November 2015.

Last resort planning power

The Last Resort Planning Power (LRPP) is held by the AEMC, and allows the Commission 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 connecting NEM regions. The Commission reports annually on the LRPP. 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.

2.2.3 What were the findings of the TFR?

Another aspect of the transmission frameworks that were considered in the TFR was that of planning.

The TFR considered that there were a number of measures that could be undertaken to enhance the efficiency of the existing arrangements. In particular, these modifications would aim to improve transparency in the planning process, most notably for inter-regional planning, and allow opportunities to be identified for a more coordinated approach.

2.2.4 What were the TFR recommendations?

Given that the TFR considered that there could be increased promotion of national co-ordination of planning, the TFR recommended:

- arrangements should be introduced that promote the identification and implementation of network investment options that cross regional boundaries;
- TNSPs should provide greater input into the NTNDP to ensure that coordination between national and local issues occurs at the outset of the planning process; and
- the structure of APRs should be consistent across the various TNSPs.

These form the basis of the proposed rule under this rule change request.

3 Details of the Rule Change Request

This chapter summarises the Energy Council's rule change request, including the:

- issues the Energy Council identifies with the current arrangements (section 3.1);
- Energy Council's proposed model and supporting arrangements (section 3.2); and
- Energy Council's view on how the proposed changes are likely to promote the National Electricity Objective (section 3.3).

See the rule change request for a full description of the proposal and rationale. The proponent's rule change request includes a proposed rule.[18]

3.1 What the Energy Council identifies as the problem with the current arrangements

The Energy Council notes that the AEMC identified inefficiencies in the provision of connection services and transmission network planning under the existing framework in the TFR.

3.1.1 Connections

In relation to connections, the 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 Energy Council refers to the AEMC's TFR findings, identifying 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 or 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 Energy Council also agree with the AEMC's recommendations 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 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 of technical requirements, timeliness and risk allocation.

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

3.1.2 Planning

The Energy Council cites the AEMC's TFR findings, which states that some aspects of transmission planning could be improved to better reflect the needs and intention of the market and promote more efficient transmission investment in the NEM, specifically the:

- Rules do not explicitly allow for TNSPs funding investments to meet an identified need in a different region to the one in which it operates. As a result TNSPs may have little or no incentive to consider inter-regional options in determining their optimal investment;
- Rules do not require TNSPs to formally comment on the NTNDP; and
- Rules do not require TNSPs to consider the consistency of their APRs with the NTNDP and other APRs and so TNSPs may adopt different approaches to present the outcomes of its annual planning.

3.2 Energy Council's proposed solution

3.2.1 Connections

The rule change request proposes the following in order to address the problems identified with the current arrangements:

- clarify the definitions for connection assets, connection services and classifications by introducing two new categories of those assets into the NER. 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;
- clarify that contestable identified user shared network assets and dedicated connection assets are automatically exempt from regulation under Chapter 5 and 6A of the NER. For identified user shared network assets this would be subject to them being operated, controlled and maintained by the local TNSP;
- provide for a mechanism to grant access to these 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 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.

3.2.2 Planning

The rule change request proposes the following in order to address the problems identified by the Energy Council:

- support a nationally coordinated planning approach that would ensure that both intra-regional and inter-regional options would be considered in determining the optimal investment through the introduction of:
  - a new requirement on TNSPs to consider whether an option in another jurisdiction may also meet their investment needs when preparing their APRs;
  - a new requirement on TNSPs to consult with each other on the potential for inter-regional investment to deliver market and reliability benefits;
  - a requirement to specifically consider investment in other regions as a credible option when undertaking a RIT-T; and
  - clarifying the Rules to ensure that cross-regional investments are treated as regulated investments;
- introducing a requirement for AEMO to establish a working group consisting of TNSPs to provide input into the development of the NTNDP; and
- introducing a uniform approach to APRs, by providing minimum requirements for the content of APRs, as well providing for the NTNDP to report on the consistency on APRs.

3.2.3 Separate arrangements for adoptive jurisdictions with AEMO's declared network functions

The Energy Council notes that transmission connection and planning arrangements are different in those jurisdictions for which AEMO is authorised to exercise its declared network functions, although the current provisions in Chapter 5 apply in all jurisdictions.

Where such arrangements are applied, there is a separation of ownership of the declared transmission system from certain aspects of operation and control of that system (see Box 2.1). Instead, AEMO has additional functions to plan and direct augmentations of the declared transmission system as well as to provide network

services while the TNSPs own and operate the system, subject to the functions conferred on AEMO.

The Energy Council considers that many of the requirements imposed on TNSPs under the above changes are not necessary to impose on AEMO since AEMO "does not have the same commercial incentives faced by [TNSPs] that own, plan, operate and invest in transmission infrastructure." Therefore, the proposed rule isolates most of the proposed changes to the transmission connection and planning framework from any jurisdiction where AEMO is authorised to exercise its declared network functions.

The Commission notes that a request for a rule regulating AEMO's declared network functions can only be made by AEMO, the Victorian Minister or a DSTO.[19] None of these entities have joined Energy Council in this request. Accordingly to the extent the proposed changes to the connection and planning rules in Chapter 5 impact AEMO's declared network functions, they cannot extend to Victoria. That is, any draft rule made in respect of this rule change request, could not apply in Victoria where the draft rule related to AEMO's declared network functions. It may be necessary to preserve the existing connection and planning rules for application in Victoria in separate rules, though such structuring issues will be considered in further detail as part of this request.

3.3 Energy Council's assessment of how the changes would promote the National Electricity Objective

The Energy Council consider that the proposed rule changes would contribute to the achievement of the National Electricity Objective (NEO) since they would ensure that the provisions around transmission connection and planning are focused on efficient outcomes in terms of investment, operation and use of transmission services.[20]

The proposed changes would address the cost, complexity and time delays associated with both negotiating with a monopoly business and having the connection energised within commercial timeframes. As these costs are ultimately borne by consumers, such amendments would be in their long-term interests.[21]

Specifically, the proposed changes would strengthen the negotiating framework, providing connecting parties with greater ability to negotiate a feasible and effective connection and provide a number of safeguards to reduce the risk of TNSPs over-specifying the assets - and therefore the cost - required for connections. Further, new incentives would be placed on TNSPs to be more responsive to the needs of

19 Section 91(7).

20 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 21-22.

21 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 21-22.

connecting generators and customers - for example in facilitating connections in a timely manner or being prepared to accept an appropriate liability for late delivery.[22]

The Energy Council note that the proposed changes would be less intrusive and less administratively costly than directly regulating connections as a prescribed transmission service.[23]

The proposed changes around transmission planning would better facilitate the development of the transmission network as a national grid, thereby allowing for greater competition in the wholesale market and delivery of the most efficient network augmentation solution, be it within a region or across boundaries.[24]

As a result, the Energy Council consider that the NEO, with regards to the efficient provision, operation and use of electricity services would be promoted through the making of the proposed rule.

22 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 21-22.

23 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 21-22.

24 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 21-22.

4 Assessment Framework

This chapter sets out the requirements under the National Electricity Law that the AEMC must satisfy in considering the rule change request, and provides detail of the proposed approach for assessing the rule change request.

4.1 Requirements under the National Electricity Law

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

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

In addition to determining whether the rule change request is or is likely to contribute to the achievement of the NEO, the Commission must take into account:

- the form of regulation factors in making a Rule that specifies an electricity network service as a negotiated network service;[25] and
- the revenue and pricing principles in making a rule for or with respect to transmission system revenue and pricing, and pricing or regulatory economic methodologies.[26]

4.2 Proposed assessment framework

This section sets out the approach for assessing whether the proposed rule change will, or is likely to, promote the NEO. Stakeholder feedback on this proposed assessment framework is welcomed.

Given the broad scope of the rule change (ie, all of the arrangements that apply for generators, load or DNSPs connecting to the transmission network, as well as some aspects of the planning arrangements), an appropriate assessment framework to take account of the range of issues is proposed. For example, there may be differences between generators and load, making it appropriate to develop different arrangements for connections to the transmission network. The assessment framework must

25 NEL, Part 1, s 2F.

26 NEL, Part 1, s 7A.

accommodate, and recognise, any differences in the issues for, and the approach between different parties connecting.

The AEMC's previous work in the TFR is relevant to this rule change. The rule change request is consistent with the recommendations and findings of the TFR as it seeks to amend the arrangements in the NER to enhance transparency, contestability and clarity in the transmission connection framework, and to enhance the TNSP planning and decision making arrangements.

In considering this rule change request, the AEMC will need to analyse whether these changes would:

- encourage efficient investment in, and operation of, electricity services;
- provide energy services at lowest possible cost to consumers, while promoting 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.

To inform this analysis, the following factors are proposed to be considered:

4.2.1 Efficient investment in, and operation of, electricity services

Generators and large end-users should be able to effectively negotiate technically and economically efficient outcomes in relation to connecting to the transmission network. This would require decisions to be made in relation to investment in particular transmission equipment, as well as decisions about the ongoing maintenance and operation of this equipment.

Connecting parties wish to have the most cost efficient services provided to them by TNSPs, while meeting their specified requirements. The introduction of increased competition, where appropriate, in the construction of assets required to facilitate connections could contribute to more efficient investment 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 performance.

As inefficiencies in the connection process (eg, a delay) may be ultimately borne by consumers, changes that would provide incentives for the timely and efficient investment in, and operation of, these services, would be in the long-term interests of consumers.

This would 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 lowest congestion less the cost of the project. In order for this to occur, the TNSPs should have the information and incentives to effectively trade-off the cost of augmenting and replacing the network or contracting for demand side options, with the value to generators and consumers of reliving congestion and maintaining reliability. This

should also include information on investments in other regions, that could help maximise net benefits (ie, cross-regional investments).

4.2.2 Efficient trade-offs between costs and system security/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. It is important that an appropriate balance is struck between maintaining the secure and reliable operation of the network, and enabling generators and load to connect at efficient cost. An effective connections regime can help in this regard by ensuring that there is an appropriate balance, and that this balance is clear in the connections process.

Maintaining power system security within a safe operating state reduces the potential for damage to assets and human harm. Therefore, there should be a clear line of responsibility for the operation, control and maintenance of the shared transmission network. This would include those assets that are required to facilitate connections, but which form part of the shared transmission network.

Increased competition in connection arrangements should be balanced against the maintenance of clear accountability for outcomes on the shared network.

4.2.3 Transparency and predictability

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

The arrangements should promote the provision of information. Readily available market information (either on planning or on connections) can assist in efficient outcomes. For example, in relation to planning, increased information sharing could contribute to more co-ordination between TNSPs, and so more efficient investment across the network. Arrangements to standardise the information provided in APRs could make it easier to examine plans and facilitate comparative analysis, resulting in more informed feedback from interested parties.

In relation to connections, market participants need access to clear, timely and accurate information in order to allow them to negotiate in a more informed manner and to 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 not vary based on location or the TNSP in question.

Further, the 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.

Question 2 Assessment factors

(a) Is the assessment framework appropriate to consider the proposed changes to the transmission connection and planning arrangements?

(b) Are there any additional factors that should be considered in assessing this rule change request?

5 Issues for Consultation - proposed connection arrangements

The following section describes the key features of the proposed connection framework as set out in the rule change request.[27] The objective of this chapter is to understand stakeholder's views on the proposed changes in the rule change request, specifically:

- section 5.1 discusses the objective of the connections arrangements;
- section 5.2 discusses the new categories of connection asset;
- section 5.3 discusses exemption to registration, and third party access arrangements;
- section 5.4 discusses how assets could transition to the shared network;
- section 5.5 discusses negotiated services; and
- section 5.6 provides a summary of the existing process and the modified process under the rule change.

The matters outlined are provided for guidance. Stakeholders are encouraged to make submissions to the AEMC on these issues, as well as any other relevant aspects of the rule change request.

5.1 Objective of the connections arrangements

The Energy Council state that the objective of the connections framework is to deliver efficient connection services to those parties seeking to connect to the transmission network. Efficient outcomes are more likely to be delivered through the competitive delivery of those services. However, clear lines of accountability for the reliable, safe and secure supply of electricity across the shared network are also important in the Energy Council's view. Reflecting this objective, the Energy Council articulates a preferred framework for connections, to:[28]

- facilitate timely, technically appropriate and cost-reflective connections to the transmission network;
- promote transparency in the connection process, including transparent information on standard designs and costs;

27 These features of the proposed connection framework were developed in detail in the Final Report of the TFR. See: http://www.aemc.gov.au/Markets-Reviews-Advice/Transmission-Frameworks-Review

28 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 4.

- enable connecting parties to seek the competitive provision of assets, construct them themselves, or have the TNSPs carry out the construction as a negotiated service;

- facilitate effective negotiation between connecting parties and TNSPs so that the terms of a negotiated connection service are fair and reasonable and maximise the efficiency of outcomes;

- maintain clear accountability for the safe and secure operation of the network; and

- incorporate a robust dispute resolution process including the ability to obtain an independent review of the technical requirements in the connection process.

This articulation of the framework for connections is consistent with the TFR final report. With that said, stakeholder feedback on these proposed objectives of the transmission connections framework is invited.

Question 3 Connections framework

(a) Is the objective for a connections framework, as articulated above, complete? Is there anything else that needs to be incorporated, and therefore reflected in the framework?

5.2 New categories of transmission assets

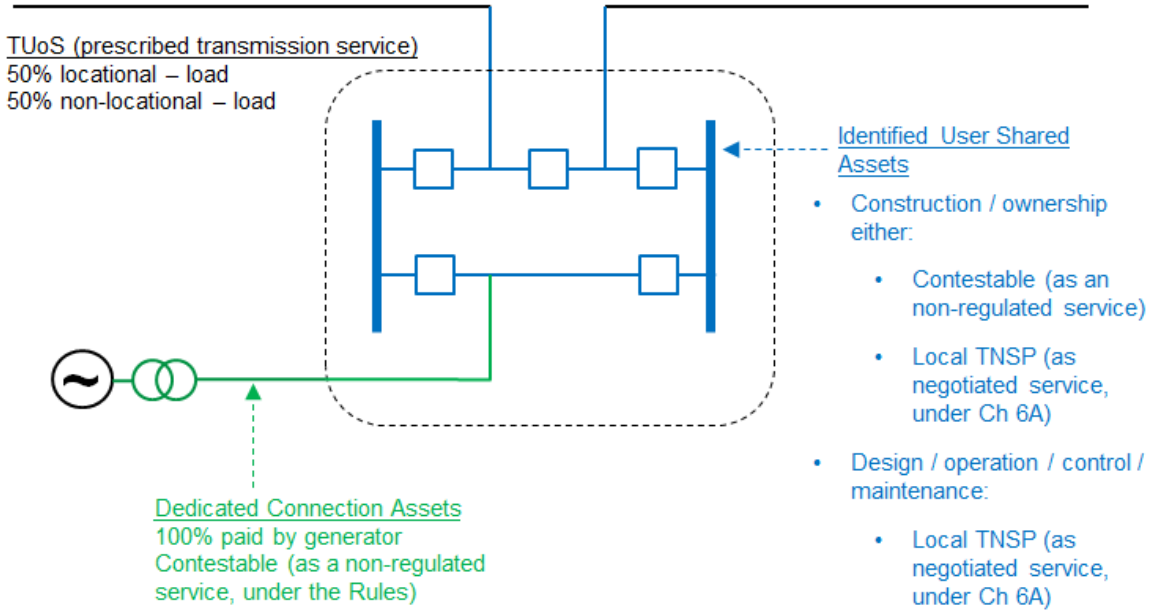
5.2.1 Overview of new categories

The rule change request proposes to include new categories of transmission assets in the NER.[29]

Figure 5.1 sets out an indicative illustration of what the connecting charging arrangements would look like for generators under the proposed rules.

29 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, pp. 5-7.

Figure 5.1 Proposed generator connection charging, as opposed by the rule change request



The definitions would replace the existing connection definitions in the NER, and would lead to three types of transmission asset. Table 5.1 summarises the categories of transmission assets that are proposed through this rule change. This table uses the existing service classifications in the rules to develop the "paid for by" column.

Table 5.1 Categories of transmission asset

Asset type	Description	Paid for by	Contestability
Shared assets	Used by the broad base of consumers	All market customers (through TUOS)	Built, owned and operated by TNSP
Identified user shared assets	Required for connecting generators or load but not used exclusively by it	Connecting generator for generator connections Potentially by the connecting load	TNSP accountable for operation, control and maintenance Construction and ownership contestable
Dedicated connection assets	Required and used exclusively by connecting generators or load	Connecting generator or connecting load	Construction, ownership and operation contestable

These new definitions of assets would be linked to one of the three categories of services that are required to connect a generator, load or DNSP to the transmission network. That is, the rule change request does not contemplate changing the existing service based provision system for categorising transmission services (see Box 5.1). The new categories would still require the connecting party to pay for all of the assets,

consistent with the current approach. What would change is the definition of these services.

Box 5.1 Summary of the 2006 Review of Electricity Transmission Revenue and Pricing Rules

The AEMC's 2006 review of the electricity transmission revenue and pricing rules considered the economic conditions of supply for transmission services. It led to a number of changes to the arrangements that govern generator and other transmission user connections to the transmission network. Notably, these changes included:

- changing the system for categorising transmission services from asset based to service based provision. Prior to the adoption of Chapter 6A in the Rules, services were characterised according to the function of the asset and the service that asset provided. The current arrangement is now based on the provision of services, without reference to the underlying assets; and
- migrating connection services provided to generators and other transmission users from the prescribed transmission service category to the negotiated transmission service category.

The 2006 review resulted in a continuation of the three-tiered approach to the economic regulation of transmission services by maintaining the categories of prescribed transmission services, negotiated transmission services and non-regulated transmission services[30].

5.2.2 Identified User Shared Network Assets

Identified user shared network assets ("identified user shared assets") would be those assets that form part of the shared transmission network, which are developed and constructed for the purpose of connecting an identified user group to an existing transmission network, but not used exclusively by the relevant identified user group. An "identified user group" would be a group of one or more specifically identified generators or large loads that would be connected to transmission assets that are, in turn, connected to the shared transmission network at the same point.[31,32]

In other words, identified user shared assets would be those parts of a substation which, while forming part of the shared transmission network, are required solely for the connection of an identified user group (this could include the substation itself, switches or circuit breakers and busbars).

30 Although, non-regulated services are not subject to any form of economic regulation.

31 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 5.

32 The discussion of identified user shared network assets is consistent with the AEMC's recommendations in the TFR.

Connecting parties would be able to choose who constructs these identified user shared assets to enable their connection to the network. The applicant could require the local TNSP to carry out the construction of these assets as a negotiated service; or it could engage a contractor itself to construct the assets.[33] Under either option, the assets would be fully funded by the connecting party.

Allowing the connecting party the opportunity to seek a contractor, which best suits its needs in terms of cost, timing or other terms, rather than having to simply accept the TNSP's choice of contractor, could be beneficial. The ability to use alternative contractors would give the connecting party more information, and may address information asymmetry. For example, during the application to connect process[34] the applicant would be able to seek quotes and negotiate prices with a range of parties. However, before signing the connection agreement[35] the applicant would need to choose which party would construct and own the identified user shared assets.

The local TNSP would always be the party responsible for:[36]

- the high-level design and commissioning of the assets, regardless of who *constructed* the identified user shared assets; and
- operating, controlling and maintaining the identified user shared assets, regardless of who *owns* the identified user shared assets.

A connecting party (or, indeed, another third party) would be able to retain ownership of identified user shared assets if it can agree terms with the local TNSP to allow the TNSP full operation, control and maintenance rights, including the ability for the TNSP to facilitate future connections and network expansion where necessary.[37] The terms of the lease, transfer or any other arrangement would be negotiated as part of the connection application, and the protections and regulations which apply to TNSP provision of negotiated services could apply.[38]

33 It would be necessary for construction of some identified user shared assets to be undertaken by the TNSP, ie, works to "cut into" the broader shared network. The local TNSP would be required to safely interface the identified user shared network assets with the TNSP's existing shared network as a negotiated service.

34 NER clause 5.3.4.

35 NER clause 5.3.7.

36 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 7.

37 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 6.

38 We note this rule change request proposes changes to the provision of these services as well. See section 5.5.

In a practical sense, these changes would mean there could be contestability in construction and ownership in one of the following ways:

- a TNSP "build, own, operate" service, where the connection applicant would require the local TNSP to provide all identified user shared assets as a negotiated transmission service;

- a TNSP " own, operate" service, where the connection applicant's contractor would build the assets, and the TNSP would own, operate, control and maintain the assets as part of its network as a negotiated transmission service; or

- a TNSP "operate only" service where the connecting party would appoint its own contractor to construct the assets or construct them itself. The connection applicant or another party could choose to retain ownership of the assets, but arrangements would need to be made for the TNSP to operate, control and maintain the assets as part of its network after commissioning.

Question 4 Identified User Shared Network Assets

(a) What are the benefits of amending the transmission connections process to allow contestability in the construction of identified user shared assets?

(b) Would these changes promote contestability, while still having clear responsibility for the provision of a safe, secure and reliable transmission network?

(c) Are there any other aspects or criteria that need to be considered when defining identified user shared assets?

(d) Should the same set of negotiation principles that apply to negotiating the services that a TNSP provides to a connecting party apply to the negotiating of the lease or transfer of the identified user shared assets?

(e) Given AEMO's role in declared network jurisdictions, could this definition of an identified user shared network asset apply in these jurisdictions?

5.2.3 Dedicated Transmission Connection Assets

Dedicated transmission connection assets ("dedicated connection assets") would be defined as those assets developed and constructed for the purpose of connecting an identified user group (as defined above) to an existing transmission system and used exclusively by the relevant identified user group.[39,40]

Dedicated connection assets would broadly comprise the transmission equipment between a substation and a generator's plant or large customer's site. The boundary between dedicated transmission assets and identified user shared assets would be defined as the first point at which the power flow from the generator or to a major load customer can be isolated from the shared network.[41]

Connecting parties would have the flexibility to engage any qualified party (or parties) to provide dedicated connection assets, and to construct, own, operate and maintain these assets. Therefore, the provision of dedicated connection assets would be fully contestable.[42]

In a practical sense, this means the following options would be available to connecting parties (or, indeed, any combination of the below options):[43]

- connecting parties (eg, a generator) could construct, own and operate these assets themselves;
- connecting parties could engage a third party (who is not the local TNSP) to construct, own and operate these assets; or
- connecting parties could engage any TNSP in the NEM to construct, own and operate these assets who would provide these as a non-regulated service, and would therefore be free to provide these assets in all parts of the NEM (ie, not just the jurisdiction for which it is the local TNSP).

These dedicated connection assets would be subject to the provision of the NEL and rules (subject to the exemption criteria discussed below).

39 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 7.

40 The discussion of dedicated transmission connection assets is consistent with the AEMC's recommendations in the TFR.

41 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 7.

42 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 7.

43 Subject to parties meeting any relevant regulatory obligations relating to safety.

Question 5 Dedicated Connection Assets

(a) What are the benefits of clarifying that any party can provide dedicated connection assets contestably?

(b) Are there any concerns with allowing any party to provide these dedicated connection assets? For example, are there any concerns related to the provision of a safe, secure and reliable transmission network?

(c) Are there any other issues or criteria that need to be considered when defining dedicated connection assets?

(d) Is the proposed boundary between the dedicated transmission connection assets and identified user shared assets appropriate?

(e) Given AEMO's role in declared network jurisdictions, could this definition of dedicated connection asset apply in these jurisdictions?

5.2.4 Application to load

The TFR only considered in detail the changes that would be required to generators connecting to the transmission network. However, this rule change request seeks to clarify the arrangements for all parties that could connect to the transmission network (ie, generators, load or DNSPs).[44]

The Commission will therefore need to consider what arrangements should apply to load connecting to the transmission network, a generator connecting to the transmission network, and DNSPs connecting to the transmission network. As noted in chapter 2, and discussed further in appendix A, the current arrangements differ depending on the type of party is connecting to the transmission network.

The Commission will need to work through these issues in detail over the coming months, but welcomes any initial thoughts from stakeholders on these matters.

Question 6 Application to load

(a) Is it appropriate to apply the "identified user shared asset" and "dedicated connection assets" and associated service classifications to load connecting to the transmission network? If yes, what are the reasons? If no, what are the reasons?

(b) Is it appropriate to apply the "identified user shared asset" and "dedicated connection assets" and associated service classifications to DNSPs connecting to the transmission network? If yes, what are the reasons? If no, what are the reasons?

44 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 3.

5.3 Exemptions from registration and third party access

5.3.1 Exempt from registration and conditions on exemption

Under the current NER, only a registered Network Service Provider (NSP) may own, control or operate a transmission or distribution system, unless it is exempted under clause 2.5.1(d) of the NER.

The rule change request sets out that it would be inappropriate for any party only owning transmission assets (ie, identified user shared assets or dedicated connection assets) to be required to register as a TNSP and so be subject to all of the obligations under the NER. Therefore, it proposes that:[45]

- dedicated transmission connection assets, would be exempt from regulation under Chapters 5 and 6A of the NER, and the need to register as a TNSP; and
- identified user shared network assets would also be exempt from regulation under Chapters 5 and 6A of the NER and the need to register as a TNSP, subject to them being operated, controlled and maintained by the local TNSP.

The exemptions for both identified user shared assets and dedicated connection assets would be automatic, and be clearly set out in the NER. The exemption would be subject to certain conditions, specifically that:[46]

- owners of the assets would have to allow third party access to the asset on reasonable terms;
- a negotiating framework would be established under the NER that would apply to all parties negotiating access to these assets (see below); and
- owners of identified user shared network assets would have to allow the TNSP to operate, control and maintain the asset, including the ability for the TNSP to facilitate future connections and network expansion where necessary.

The dedicated connection assets would also need to enable the generator to meet any performance standards that must be met. Therefore, this may need to be a condition of the exemption as well.

Interactions between the exemption framework and obligations in the NER will need to be considered further.

45 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 9.

46 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 10.

5.3.2 Ownership and third party access

TNSPs are currently subject to third party access requirements under Chapter 5 of the Rules. These requirements are proposed to continue. The requirements of Chapter 5 would apply to a party owning transmission voltage equipment and registers as a TNSP (or is already a registered TNSP).

The rule change request proposes that these arrangements should be clarified to specify that if dedicated transmission connection assets are owned by a TNSP, the existing generator or customer should not have to accept terms that disadvantage it as a result of the TNSP providing access to a third party.[47,48]

If a third party wishes to connect to the line, access should only be offered if there is sufficient spare capacity on the line, or if the party that wishes to connect funds any upgrade that is required to ensure that it can be operated to an unconstrained level up to the point of connection to the shared network (unless the connecting party who the line was originally built for (ie, the foundation user) agrees to the contrary).[49]

Question 7 Exemptions from registration and third party access

(a) Is the proposed process for exemption (ie, that parties have to register with AEMO to be exempt) appropriate?

(b) Are there any other conditions that should be part of the registration process?

(c) How should AEMO satisfy itself that the identified user shared assets are operated, controlled and maintained by the local TNSP?

(d) What conditions should be imposed on parties in relation to third party access?

5.4 Transition to the shared network

In some circumstances it may be appropriate for assets developed as dedicated connection assets to transition to shared transmission assets. In the TFR, the AEMC proposed that there would be two triggers as to when this could occur:[50]

- where a DNSP connects to the dedicated connection assets; or

47 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 11.

48 This discussion is consistent with the AEMC's recommendations in the TFR.

49 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 11,

50 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 11.

- where a TNSP is augmenting the existing shared transmission network to facilitate additional capacity, and the most efficient option would be to utilise the dedicated connection assets.

In the TFR, the Commission recommended that the circumstances under which dedicated connection assets would transition to the shared network should be clearly specified in the NER in order to provide certainty to owners of dedicated connection assets.

The Energy Council did not consider these triggers as the most appropriate way of determining whether such assets should transition to the shared network.[51]

Instead, the rule change request proposes that an application would be made by a party[52] to an appropriate regulatory body (including potentially the local TNSP) to have a dedicated connection asset transition to the incumbent's TNSP's shared transmission network. The merits would be assessed in each case before a determination is made on the transition of the asset.

This approach would provide for consideration to be given to all the costs and benefits of transitioning the asset in each case. An appropriate regulatory body would assess the application to regulate the asset as a new shared asset, and consider matters such as potential abuse of monopoly power. Since the AER already has a function in assessing whether transmission services are being provided as part of the shared network, it is proposed that the AER should carry out this assessment.[53]

The Energy Council also contemplate the situation where the assets transition to the shared transmission network, but are still owned by the connecting party (or third party engaged by the connecting party), ie, not the local TNSP. In this case, this would create a new and separate shared network that would be regulated as a separate entity under Chapter 6A of the Rules, and so the owner would have to go through the regulatory determination process. While there may be concerns about the regulatory burden that this would place on parties, the Energy Council consider that this process is important for transparency in the decision making process, and so that sufficient stakeholder engagement is undertaken. The Energy Council considers that amending this process could potentially impact on its effectiveness without any substantial benefit to the owner.[54]

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51 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 12.

52 We will need to consider what parties could make an application to the AER.

53 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 13.

54 The Energy Council also recognises that there is potential for a third party, who is unable to negotiate access to a dedicated connection asset, to apply for the asset to be classified as a shared network, and so be covered by the access provisions in the Rules. We will need to think through the implications of this

Question 8 Transition to the shared network

(a) Should there be specific criteria under which assets can transition to the shared network, or is the proposed process where an application is made and a case-by-case assessment is made appropriate?

(b) Is the AER the appropriate body to carry out the assessment of whether assets could transition to the shared network?

(c) What costs and benefits should be taken into account when considering whether assets could transition to the shared network?

(d) What issues, if any, may arise from economically regulating owners of these assets that have become part of the shared network?

5.5 Negotiated services

5.5.1 Negotiating principles

Currently, the rules set out that the provision of negotiated services are subject to negotiation between parties, or alternatively arbitration and dispute resolution by a commercial arbitrator. The rules attempt to set out some "ground rules" for negotiation. The effectiveness of the existing principles contained in Chapter 6A of the NER have not been fully tested since there have been no formal disputes over the terms and conditions of connection agreements to date.

Currently, Chapter 6A of the rules sets out the following requirements:

- clause 6A.9.1 sets out principles relating to access to negotiated transmission services;
- clause 6A.9.4 requires those principles to be given effect in each TNSP's negotiated transmission service criteria, which are determined by the AER as a part of that TNSP's five-yearly transmission determination; and
- clause 6A.9.5 sets out the requirements that a TNSP must incorporate within its individual "negotiating framework" document (and that this document must be approved by the AER).

The effect of these clauses means that for the purpose of facilitating negotiating and arbitration for these services, a TNSP must prepare, for the AER's approval, a negotiating framework which sets out procedures for negotiating the terms and conditions of access to a negotiated transmission service.

In addition, the AER specifies the negotiated transmission service criteria that it must apply in negotiating terms and conditions of access, including the prices and access charges for negotiated transmission services. These must also contain the criteria that a

commercial arbitrator must apply to resolve disputes about such terms and conditions and/or access charges.

The existing principles are focussed on cost and price issues and do not adequately cover a number of the issues which are the sources of disagreement in connections negotiations in practice, such as perceived over-specification of technical matters, timeliness and risk allocation. Some of these issues have been brought up in the informal consultation that the AEMC has conducted in relation to scoping the Technical Standards Review.

Under this rule change request the negotiating principles would be updated and extended to ensure they cover all aspects of the service provided by a TNSP in respect of identified user shared assets.[55]

The requirements in the NER relating to negotiated services would also be rationalised, since these clauses would be amalgamated into a single set of negotiation principles, contained in the NER, that apply directly to all TNSPs.[56] These would replace the individual negotiating frameworks developed by each TNSP and approved by the AER. This would provide a simpler set of Rules, which could reduce both the administrative burden on the AER, TNSPs and connecting parties and the potential for a divergence in arrangements across the NEM.[57]

However, in recognition that it is not just TNSPs that could hold the power for negotiation of a connection service (see the discussion above on third party access in section 5.3.2) negotiation of these performance standards occurs under the same negotiating framework as (re)negotiating a connection agreements to a connection service above), the rule change request considers "it is appropriate for the negotiating principles to apply as a uniform framework to all connections covered under Chapter 5 of the Rules."

The intent of the rule change request is that the proposed new negotiating principles should apply as a uniform framework to all connections to the *transmission network* covered under Chapter 5 of the Rules. Stakeholder views are invited on whether the same set of negotiating principles should apply to generators, load and DNSPs connecting to the transmission network.

55 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 15.

56 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 15.

57 The proposals regarding negotiating principles is consistent with the AEMC's recommendations in the TFR.

Question 9 Negotiating principles

(a) What do the negotiating principles need to take into account?

(b) What are the issues to be considered in transitioning from a framework where the AER approves these negotiating principles as part of the revenue determination process, to a framework where the principles are enshrined in the Rules? For example, would this need to occur at the next revenue determination?

(c) Should the same set of negotiating principles apply to generators, load and DNSPs connecting to the transmission network?

5.5.2 Increasing transparency

While contestability of construction provides additional bargaining power to connecting parties, transparency remains important in enabling effective negotiations. In order to make a decision on whether to request the TNSP to build the identified user shared assets as a negotiated service, or to engage another party for the construction, the connecting party needs to be able to accurately compare the costs and terms of negotiated services in order to negotiate on an informed and even basis.[58]

Under the proposed rules, TNSPs would be required to publish:[59]

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

When providing a quote for negotiated services, TNSPs would be required to provide to the connection applicant:

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

Design standards and philosophies

Publication of design standards and philosophies could help to eliminate misunderstanding about how and why a TNSP has designed identified user shared assets in a particular way. It would also help connecting parties to assess whether the

58 The proposals regarding increased transparency are consistent with the AEMC's conclusions and recommendations in the TFR.

59 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 15.

cost quoted is justified. This measure would also assist connection applicants to compare and contrast design philosophies and standards used by different TNSPs.

Ideally, the standards and philosophies would address two main issues:

- Substation configurations: The types of configurations for substations (both new and modified) which the TNSP expects to use, and the circumstances in which those augmentations/configurations would be used. Indicative costs for such arrangements at relevant voltage levels would also be published by the TNSP.

- Design components: TNSPs should provide an understanding of the standards the TNSP uses to specify the main components of a identified user shared asset such as primary and secondary equipment, non-current carrying items of plant and equipment such as earthgrid, rack structures, footings etc.

Standard form connection contracts

The availability of pro-forma connection contracts required to establish a connection would give intending connection applicants a better understanding of what they need to prepare for in their negotiations with a TNSP. These would cover the various services provided by the TNSP to effect a connection to the shared network, including for example: construction of identified user shared assets; operation and maintenance of the assets; lease/transfer agreement options (if the connecting party manages the construction); and preparation/cut-in/interface works.[60]

The standard form contracts could be used as a starting point for negotiations. In combination with the publication of design standards and philosophies recommended above, this should enable connection applicants to form a relatively accurate estimate of the type of connection service they require and the likely cost and other terms of the agreement. Where TNSPs' offers vary substantially from these estimates, the connection applicant would have a basis for challenging the offer and requesting an explanation.

Pro-forma preliminary programs

To assist in making timeframes and milestones more transparent to connection applicants, TNSPs would be obliged to publish a pro-forma, "typical" preliminary program on their websites.[61]

TNSPs would be obliged to include in the program more specific detail about each aspect of the negotiation and construction processes. This would include, for example, what key decisions need to be made, and when; when detailed design would begin and how long it should take; when long lead items should be procured; when civil

60 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 16.

61 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 16.

works should commence and when commissioning should occur. This would also include an obligation to update the program if timings or milestones change during the process.

Clearer cost breakdown

When negotiating for a connection, connecting parties often receive little information from TNSPs about costs, and how they have been determined.[62]

Where a TNSP is providing a quote for negotiated services, it would be required to provide to the connection applicant with a reasonable cost breakdown for identified user shared network assets. The level of information should be sufficient to enable the connection applicant to seek a second opinion of costs if they choose. It would also inform the applicant's view as to whether the costs are appropriate

TNSP quotes for service should, as a minimum, break down the following items listed in Table 5.2 below.

Table 5.2 Items to be Included in a Quotation

Items of large primary plant	Other items of primary plant	Secondary equipment (eg, communications equipment)
Land costs (lease/purchase/easement)	Internal services/overheads	Planning and environmental approvals
Project management	Site investigation costs	Design costs
Civil works	Installation costs for both primary and secondary equipment	Commissioning costs
Operation and maintenance of the life of the plant, or the duration of the service	Finance costs	Insurance
Allowance contingencies	Legal fees	

Range of options

Clause 5.3.6(e) of the NER entitles a TNSP to include in its offer options for connection which can be considered by the connection applicant. However, this provision is not a binding commitment on the TNSP and, it is understood that it is therefore rarely included in offers.

In addition, receiving information about options at the offer to connect stage (ie close to the end of negotiations) is too late in a connection applicant's project development

62 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 15.

phase. A connection applicant should be given an idea of the realistic options for connection as early as possible, and by no later than the end of the connection enquiry stage.

The rules should require a TNSP to set out a full range of options and an analysis as to which are preferred and which are not. This information may help the connection applicant to formulate its business case, and to prepare its application to connect. It may also help to identify any connection options which the TNSP may have overlooked.[63]

Other information

The draft rules accompanying the rule change request also contemplate the following information being provided, in addition to what is discussed above:[64]

- a statement of the nature of capital and recurrent costs likely to be required to make and maintain the connection and the basis on which they would be calculated;
- the terms on which transmission assets that are not owned by the TNSP will operate;
- the terms on which the TNSP would accept a transfer of transmission assets (including dedicated transmission connection assets and identified user shard network assets) that do not belong to the TNSP;
- the terms on which a connection applicant would be permitted to construct identified user shared network assets;
- the design and construction of work at the interface between the transmission network and the transmission connection asset;
- a statement of costing principles for work undertaken by the TNSP;
- the extent the TNSP would require the connection applicant to contribute to the capital and recurrent cost of establishing and maintain the connection; and
- details of any lease or other instrument necessary for the TNSP to gain exclusive possession of, or unrestricted access to, parts of the network that the TNSP does not own.

63 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 15.

64 See clause 5.3.A1 of the proposed draft rules that accompany the Energy Council's rule change request.

Question 10 Increasing transparency

(a) What benefits would accrue from requiring TNSPs to provide the above information to connecting parties?

(b) Is there any additional information that would be beneficial, and at what stage would this information be beneficial?

(c) What would be the costs to TNSPs of providing this information to connecting parties? To what extent is some of this information already available?

5.5.3 Independent engineer

Where agreement cannot be reached between a 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 their opinion. The choice of engineer would be agreed between the TNSP and the connecting party, and the cost of the engineer's services would be shared equally between the two parties.[65,66]

Providing for access to independent technical experts would allow for proposed technical specifications of the connection assets for the service being provided and the level of risk to the shared network to be tested.

Where parties are unable to agree to on a suitable expert, either the connecting party or the TNSP may request the AER to nominate an independent expert from a panel of technical standards experts.

The AER would be required to set up and maintain a relevant panel of technical experts on the basis of advice from AEMO. AEMO must keep the AER advised of any changes to the advice it has previously provided. In addition, the AER would advise AEMO on whether it is necessary to increase or decrease the number of members of the panel in light of its experiences in dispute resolution.

Parties should also be obliged to provide the expert with sensitive commercial information, as is necessary to perform the assessment. The Energy Council has requested the AEMC consider whether the requirement to provide this information should be subject to civil penalties.

65 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 17.

66 These proposals are consistent with the AEMC's recommendations in the TFR.

Question 11 Independent engineer

(a) Do parties consider that recourse to an independent engineer would be helpful in negotiating the connections process? Would this be helpful in terms of negotiating the cost and specification of any assets required for connection? Would this be helpful in terms of negotiating the technical standards required for connection?

(b) If established, should the independent engineer panel be set up and maintained by the AER? What role should AEMO have in relation to this panel?

(c) What criteria should govern the selection of a panel comprised of independent engineers?

(d) What information would an independent engineer need? What process should be in place for the independent engineer to access such information?

(e) To what extent could (or does) the current dispute resolution framework accommodate the seeking of such independent technical advice?

5.5.4 Dispute process

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

- NER Chapter 6A, Part K provides commercial arbitration for "transmission services access disputes" (meaning disputes about provision of a negotiated service and related access arrangements as part of the connections process); and
- NER Chapter 8, Part B applies its comparatively lengthy and involved dispute resolution procedure to "the proposed access arrangements or connection agreements of an Intending Participant or a Connection Applicant".

Given the interrelated nature of connection agreement and the provision of associated services – where both should be negotiated contemporaneously – this existing approach should be clarified.

In the context of commercial and technical negotiations, where a relatively swift mechanism to resolve deadlocks is preferable, the rules could be amended to confirm that the commercial arbitration process should apply to all disputes during negotiation of a connection service.[67,68]

67 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 18.

68 The detail on this in the remainder of this section is consistent with the conclusions and recommendations in the TFR.

The arbitrator's role would be to determine whether the price or other terms of any element of a negotiated connection service, are appropriate as required by the rules. Where the arbitrator determines that the terms of a negotiated connection service are not fair and reasonable, it may issue instructions to either party which, in the arbitrator's view, make the terms of the service fair and reasonable.

Changes are proposed to be made to the principles and negotiating framework requirements in Chapter 6A of the Rules (as set out above), and both parties would be required to observe those principles when negotiating for a connection. If a dispute is raised, the arbitrator should apply these principles in determining whether the issue(s) in dispute is fair and reasonable.

The arbitrator could be engaged by either party, at any stage of the connection process. For example, parties could ask the arbitrator to determine whether the cost of negotiated services or the timeframes for delivery of services, are fair and reasonable. The parties could also ask the arbitrator to rule on any of the issues where the independent engineer could be engaged to provide their view. Where the engineer has previously provided an opinion, this could be taken into account by the arbitrator.

The rule change request proposes that the rules be amended to clarify that the price, terms and conditions of all negotiated services are subject to commercial arbitration processes. The rules could clarify that any decision reached through commercial arbitration is binding on the parties, including, for example, any instruction to amend the terms of the connection agreement to make them fair and reasonable.

Question 12 Dispute resolution

(a) Is the proposal to clarify the arrangements relating to dispute resolution for connections appropriate?

(b) Would this help stakeholders in relation to disputes for negotiating connections and/or technical standards?

5.6 Summary of existing process and modified process under the rule change

Table 5.3 compares the existing process for connection and the modified process under the rule change request.

Table 5.3 Comparison of existing process and modified process

Overview of Existing Process	Overview of Proposed Process
Making of a connection enquiry and TNSP's response	Making of a connection enquiry and TNSP's response, including: • analysis of the potential locations, connection options and configurations; • provision of indicative cost estimates for the options
Connection applicant lodges an application to connect	Connection applicant lodges the application to connect
	Negotiation of access standards (can incur in parallel with the following)
	TNSP to design the primary and secondary requirements of the identified user shared assets
	Seeking quotes: • connection applicant can seek quotes from potential contractors; • TNSP to prepare an offer in relation to the cut-in works; and/or • connection applicant can request TNSP to provide negotiated services offer for the whole identified user shared asset works
	Connection applicant to select approach (all services provided by TNSP or tender for construction/ownership)
Preparation of offer to connect: • Negotiation of access standards; • Negotiation of price & other terms of access - under Chapter 6A and the TNSP's negotiating framework Finalisation of the connection agreement	Negotiations on commercial, technical, construction and agreements relating to the service, including the connection agreement Finalisation of the connection agreement
Construction	Construction
Commissioning	Commissioning
Operation	Operation

6 Issues for Consultation - proposed planning arrangements

The following section describes the key features of the proposed connection framework as set out in the rule change request. The objective is to understand stakeholder's views on the proposed policies as articulated in the rule change request.

The matters outlined are provided for guidance. Stakeholders are encouraged to make submissions to the AEMC on these issues, as well as any other relevant aspects of the rule change.

6.1 Cross-regional investment options

TNSPs would be required to investigate investment options in other regions that may help them to meet their reliability standards.[69] For example, a reliability standard in NSW could potentially be met by an option undertaken in Queensland. A nationally coordinated planning approach would ensure that both intra-regional and cross-regional options would be considered in determining the optimal investment.

TNSPs would be required to consider whether there were options located either wholly or partly in other regions that could address an identified need. These options could be identified and developed through consultation with neighbouring TNSPs.[70]

Where a TNSP does not consider that options in other regions would meet an identified need, it would be required to explain the reasons for this. TNSPs would be required to make transparent any consultation that had taken place with other TNSPs. This process would be followed in developing APRs and in undertaking both RIT-T and non-RIT-T assessments.[71]

To assist in this process, AEMO would be required to develop guidelines on assessing whether an investment need could be met by an investment in another region.[72]

If an option in another region was identified as being the preferred option, the TNSP in that region would need to agree to be the proponent of the investment. Without a proponent, the option could not be chosen as the preferred option under the RIT-T.

The economic regulatory regime would also provide incentives (or at least not provide disincentives) for TNSPs in neighbouring regions to agree to be a proponent for cross-regional investments. The current framework for economic regulation does not explicitly allow for TNSPs funding investments to meet an identified need in a

69 These proposals are consistent with the AEMC's conclusions and recommendations in the TFR.

70 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 18

71 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 18.

72 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 18.

different jurisdiction, for example, TransGrid may undertake an investment project to help Powerlink to meet its reliability standards. The framework should be clarified to ensure that cross regional investments are treated as regulated investments under Chapter 6A of the NER. This is because these may be substantial investments, whose use may change over time. For example, such an investment (while initially for the purpose of meeting an identified need in a different jurisdiction) could later be augmented to meet investment needs within its own jurisdiction.

Question 13 Cross-regional investment options

(a) What benefits would there be from encouraging TNSPs to consider cross-regional investment options?

(b) Do the existing economic regulation arrangements sufficiently allow for cross-regional investments to be made?

6.2 TNSP input into the NTNDP

The Energy Council propose that the NER be amended to establish a committee, and set out the functions by which that committee would review and provide comments on the NTNDP during the document development.[73] The perspectives of the different parties involved in planning would be appropriately captured and reflected throughout the process. Coordination between national and local issues should occur at the outset of the planning process.[74]

A committee, comprising of TNSP representatives from all jurisdictions,[75] would comment on, and provide input to, the NTP's development and preparation of the NTNDP. This would complement the NTP's role in commenting on aspects of the TNSP's own planning and investment decision making process.

The Commission understands that AEMO currently seeks input from TNSPs (as well as other interested parties) on the NTNDP through one of its working groups, and so this practice could largely represent a formalisation of existing practice. Stakeholder feedback is welcome on the benefits of this process, and how effective this has been.

Question 14 TNSP input into the NTNDP

(a) Do stakeholders consider that it would be useful to formalise TNSP input into the NTNDP?

73 These proposals are consistent with the AEMC's conclusions and recommendations in the TFR.

74 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 19.

75 Aside from in Victoria. See section 3.2.3.

6.3 Consistency of Annual Planning Reports

Amendments would be made to the NER to improve the consistency of TNSP's APRs, as well as requiring AEMO to report on the consistency of APRs in the NTNDP.[76]

Improving the consistency of the information presented in the APRs would increase the transparency of the planning process, facilitate comparative analysis, and ultimately increase the predictability of the investment planning process.

The Energy Council has proposed that the NER should be amended to introduce specific, minimum requirements for TNSPs to include in their APRs. In addition, the NER would require AEMO as NTP to report on the consistency of APRs in the NTNDP. Further, the proposed rule also contemplates that the AER should have a role in developing guidelines as to the consistency between different APRs.[77]

In the TFR, it was noted that the following would further facilitate comparison between APRs:

- commonality of project labels and constraint labels between TNSPs, to the extent possible; and
- distinction of projects addressing intra- and inter-regional issues, to the extent possible.

Since the recommendations in the TFR were made, the AER has launched a strategic compliance project to engage with TNSPs to help improve future APRs.[78] As part of this, TNSPs committed to developing and implementing an "APR improvement plan" for future APRs, beginning in 2014.

In early 2015, the AER met with TNSPs to discuss their APR process and provide feedback on their 2014 APRs.

The AER's review found that:

- while the majority of TNSPs had begun to implement their APR improvement plans, some of the substantive changes outlined in the APR improvement plans could not be implemented in time for the 2014 and 2015 APRs; and
- although the quality of APRs had improved in general, there remained areas for further improvement. For example, in some cases the level of information in the APR was not sufficient for a non-network service provider to identify potential commercial opportunities with the TNSP.

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76 These proposals are consistent with the AEMC's conclusions and recommendations in the TFR.

77 Energy Council, Transmission Connection and Planning Arrangements Rule Change Request and Proposal, 23 July 2015, p. 20.

78 As part of this the AER hosted a workshop in March 2014 with all TNSPs (including AEMO as the Victorian planner) to understand their APR processes and discuss how to improve the quality of

All TNSPs have committed to continue to work with the AER to improve the quality of information in the APRs and ensure compliance with the NER requirements

Question 15 Consistency of Annual Planning Reports

(a) Do stakeholders still consider it is important for the consistency of APRs to be improved, or have sufficient developments in this area been made?

(b) What information would stakeholders consider useful to be presented in a consistent manner across TNSP APRs?

(c) What roles should the AER, and AEMO NTP play in promoting consistency of TNSP APRs?

(d) Would AER guidelines addressing the conduct of an annual planning review, or preparation of a report be of assistance?

information in their reports. The AER also met with businesses individually to outline specific areas of concern with their 2013 APRs.

7 Lodging a Submission

The Commission invites written submissions on this rule change proposal[79]. Submissions are to be lodged online or by mail by 28 January 2016 in accordance with the following requirements.

Where practicable, submissions should be prepared in accordance with the Commission's Guidelines for making written submissions on Rule change proposals.[80] The Commission publishes all submissions on its website subject to a claim of confidentiality.

All enquiries on this project should be addressed to Victoria Mollard on (02) 8296 7872.

7.1 Lodging a submission electronically

Electronic submissions must be lodged online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code "ERC0192". The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

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

7.2 Lodging a submission by mail or fax

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

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

The envelope must be clearly marked with the project reference code: ERC0192.

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

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

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

79 The Commission published a notice under section 95 of the NEL to commence and assess this rule change request.

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

Abbreviations

AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
DNSP	Distribution Network Service Provider
DTSOs	Declared Transmission System Operators
DUOS	Distribution use of System
LRPP	Last Resort Planning Power
MNSP	Market Network Service Provider
NECF	National Energy Customer Framework
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
NSP	Network Service Provider
NTNDP	National Transmission Network Development Plan
NTP	National Transmission Planner
RAB	Regulatory Asset Base
RIT-T	Regulatory Investment Test for Transmission
TFR	Transmission Frameworks Review
TNSP	Transmission Network Service Provider
TUOS	Transmission Use of System

A Concerns with the current transmission connection arrangements

During the TFR, the AEMC considered the transmission connection arrangements in detail. This included reviewing the rules to better understand the causes of uncertainty, and how this has resulted in parties interpreting the rules in different ways.

There is a lack of clarity in the Rules regarding a number of elements of the regulation of services required for connections.

This uncertainty stems in part from definitions in Chapter 10 of the Rules that provide limited guidance and contain some ambiguity. The disconnect between the provisions in Chapter 5 that specify the connection process and those in Chapter 6A that govern the economic regulation of services also adds to uncertainty. Therefore, the current arrangements leave it open to TNSP interpretation and discretion about which services they provide and how they are regulated.

This section explains the key causes of that uncertainty in more detail.

A.1 Categorisation of services related to connections under the Rules

As noted in section 2.1.3 several services are required to connect to the transmission network. This section sets out a simplified illustration of the various services that may be required to connect a new generator, load and DNSP respectively.

A.1.1 "Connection services"

Every connection to the transmission network requires the TNSP to provide a *connection service*. However, the exact scope of a *connection service* as defined in the Rules is unclear.

A *connection service* is defined in the Rules as:[81]

> "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*)."

This definition does not make it clear what the service involves - ie, what is required "to serve a Generator ... at a single connection point".

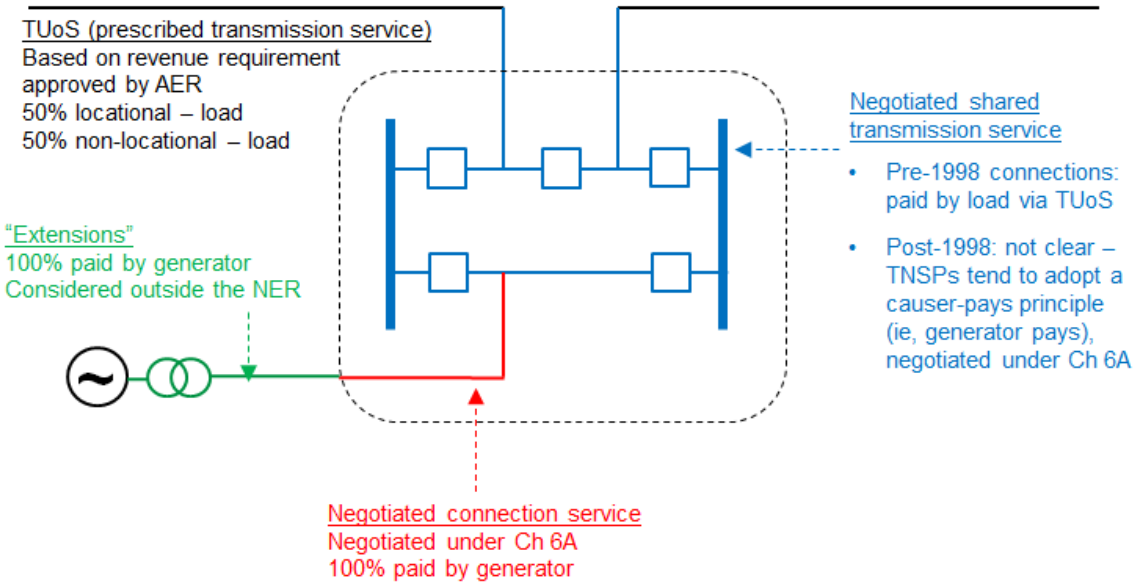
81 NER Chapter 10.

The boundaries of the service are also unclear, due to uncertainties about the location of the "connection point". A *connection point* is simply defined as "the agreed point of supply" established between the TNSP and the generator.

The definition of a *negotiated transmission service* (which is discussed in section A.1 below) includes *connection services* that are provided to a generator at a single *transmission network connection point*. A *transmission network connection point* is defined as a *connection point* on a *transmission network*. The Commission understands that some TNSPs use the transmission network connection point and the connection point to define the two ends of the connection service (and therefore the connection assets that are used to provide that service). In particular, through discussions with TNSPs during the TFR process, one TNSP considers that:

- the *connection point* marks the boundary between the assets that are used to provide the *connection service* and the assets that are used to provide the *extension* - ie, the boundary between the green and red lines in Figure A.1;[82] and
- the *transmission network connection point* marks the boundary between the assets that are used to provide the *connection service* and the assets that form part of the shared transmission network - ie, the boundary between the red and blue lines in Figure A.1.

Figure A.1 Current generator connection charging, based on our understanding of TNSP practice



However, because the relevant definitions do not provide certainty as to the location of either of these points, the extent of the connection service and the demarcation between the various services remains unclear.

82 This interpretation appears to differ from most TNSPs, who consider that the *connection point* is located at the boundary between the red and blue lines.

These definitions could be considered to support a minimalist approach in respect of TNSPs' obligations to provide a physical connection to the network. In particular, it could be interpreted that the *connection service* only involves the physical connection at the connection point, and does not include any obligation to construct any assets between that point on the shared transmission network and the generator's facilities, including any extension.

The definition of *connection assets* does not help resolve this issue, essentially defining them as assets that are used to provide *connection services*. Accordingly, neither the definition of *connection assets* nor the definition of *connection services* provides certainty as to what comprises a *connection service*.

A.1.2 "Shared transmission services"

The Rules define a *shared transmission service* as:[83]

> "a service provided to a *Transmission Network User* for use of a *transmission network* for the conveyance of electricity (including a service that ensures the integrity of the related *transmission system*."

This definition provides little guidance as to the types of services that it covers and whether it covers any services related to connections.

The Commission understands that TNSPs consider that the construction, operation and maintenance of any augmentations to the existing shared transmission network that are required to connect a generator, NSP or other transmission user to the transmission network are a *shared transmission service*. This approach is adopted in Grid Australia's Categorisation of Transmission Services Guidelines.[84] These augmentations would include a new substation, or other augmentations that are necessary to allow a connection (such as an upgrade to communications or protection systems).

The Commission understands that the practice of most TNSPs is to distinguish between *connection services* and *shared transmission services* based on either:

- whether the service relates to assets that, once operational, will form part of the shared transmission network (in which case the service is treated as a *shared transmission service*); or
- whether the relevant assets will be used exclusively by the connecting party (in which case the service is treated as a *connection service*).

However, this distinction is not set out in Chapter 6A of the Rules or the relevant definitions.[85]

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83 NER Chapter 10.

84 Grid Australia, *Categorisation of Transmission Services Guideline Version 1.0, August 2010*, pp. 8-10.

85 TNSPs may base this distinction on the approach taken in the transitional provisions in NER clause 11.6.11.

As noted above, the distinction between *connection services* and *shared transmission services* does not affect who pays for those services. Grid Australia's Guidelines state that any works that are required to the shared transmission network in order to effect a generator connection are funded by the relevant generator in accordance with the "causer pays" principle.[86] However, the Commission notes that a "causer pays" principle is not expressly set out anywhere in the Rules.

A.1.3 "Extensions"

The classification of extensions, and the boundary between extensions and connection services, is particularly important because the Rules provide that TNSPs are obliged to provide *connection services* but TNSPs consider that they have no obligation to provide *extensions* except in limited circumstances.[87]

The Rules define an *extension* as:[88]

> "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*"

An extension is therefore a specific type of *augmentation*, which is defined in the NEL as work to enlarge a transmission system or increase its capacity.

These definitions do not clarify whether, or in what circumstances, works that are required for a connection to the transmission network are classified as an extension.

TNSPs' practices regarding the classification of extensions appear to vary. The Commission understands that many TNSPs effectively treat an *extension* as covering anything that is required for a connection but which is not a *connection service* or a *shared transmission service*. In practice, many TNSPs use the substation fence as the boundary between the assets that are used to provide a *connection service* and the assets that are used to provide an *extension*, although there is nothing in the Rules to suggest that this is the appropriate demarcation.[89] This approach is shown in Figure 2.1 where the *extension* involves the construction, operation and maintenance of the new transmission line shown in green.

However, one TNSP appears to consider[90] that an *extension* as defined in the Rules is part of the *connection service* and only relates to assets that are within the substation

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86 Grid Australia, *Categorisation of Transmission Services Guideline Version 1.0, August 2010*, p. 9. Under Grid Australia's approach, generators are required to pay for all such services, provided that they are classified as *negotiated transmission services*.

87 See NER clause 5.3.6(k), which is discussed in section A.3 below.

88 NER Chapter 10.

89 The use of the substation fence as the demarcation point appears linked to TNSPs' views that contestability is the key factor in determining whether a service should be economically regulated (see section A.2 below) and the view of several TNSPs that works within the substation fence are not contestable.

90 Discussed during the TFR process.

fence. That TNSP considers that the transmission line outside the substation fence does not provide a service that is regulated under the Rules.

A.1.4 Distinction between assets and services

In relation to each of the above categories of service under the Rules, it is not clear whether the relevant service includes the construction of the assets that are required to provide the service.

This lack of clarity arises in part because construction of the assets is not clearly part of any of the defined services under the current Rules provisions. For example, the definition of a *connection service* does not provide any guidance as to whether a *connection service* also includes constructing the underlying *connection assets*.

This issue is important because, if the construction of the assets is part of a *prescribed transmission service* or *negotiated transmission service*, then:

- TNSPs are required to undertake that construction if requested by a connecting party; and
- the recovery of the capital costs of construction will form part of the charge for that service and will be regulated by the Rules.

This uncertainty is also related to a difference in approach between Chapters 5 and 6A of the Rules. Chapter 5 relates to the connection process and is primarily focused on asset provision. In contrast, Chapter 6A, which sets out a framework for the economic regulation of services, focuses on the provision of services and implicitly assumes that the assets that provide those services have already been constructed.[91]

Since the construction of an asset is not clearly part of the services referred to in Chapter 6A, there is no express link between the regulation of a service and the construction of the asset that provides that service.

This issue is relevant to all assets necessary to facilitate a connection, including connection assets, substations and extensions.

The Commission understands that the current practice of most or all TNSPs is to treat the construction of the underlying assets as part of the relevant services referred to in the Rules. For example, the charges for a connection service will generally include recovery of the capital costs for constructing any connection assets.

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91 Prior to the introduction of Chapter 6A of the Rules, the system for classifying transmission services was primarily based on the function of the underlying assets. When Chapter 6A was introduced, transmission services became classified by the characteristics of the service without reference to the underlying assets.

A.2 Categories of services for economic regulation purposes

For the purposes of the economic regulation of services - ie, how charges are determined - the Rules divide transmission services into the following three categories:

- *Prescribed transmission services*: Charges for *prescribed transmission services* are recovered from transmission customers in accordance with the Rules, not directly from the connecting party under a connection agreement. The assets that are used to provide *prescribed transmission services* are included in a TNSP's Regulatory Asset Base (RAB) and the revenues that a TNSP can recover for those services are regulated by the AER pursuant to the TNSP's transmission determination under Chapter 6A. Several specific types of transmission services are defined in the Rules as *prescribed transmission services*.

- *Negotiated transmission services*: Charges for negotiated services are not directly regulated by the AER and the assets that are used to provide *negotiated transmission services* are not included in a TNSP's RAB. Instead, the connecting party negotiates with the TNSP under a framework set out in Chapters 5 and 6A, with certain high-level requirements set out in the Rules (for example, obligations on the TNSP to offer fair and reasonable connection terms and to negotiate in good faith[92]) and recourse to arbitration if agreement cannot be reached. Several specific types of transmission services are defined in the Rules as *negotiated transmission services*.

- *Non-regulated transmission services*: The charges and other terms applying to non-regulated transmission services are commercially negotiated outside of the Rules. A *non-regulated transmission service* is simply defined as any service that is not a *prescribed transmission service* or a *negotiated transmission service*. This definition potentially leaves significant scope for services to be assigned to *non-regulated transmission services* due to the uncertainties regarding what services fall within the above two definitions. A TNSP is required to provide prescribed and *negotiated transmission services*,[93] but the Rules do not impose any obligation on a TNSP to provide non-regulated transmission services.

Each of these three categories are relevant to the services that are required to connect a generator, NSP or other transmission user to the transmission network. The NER are currently not clear on the economic regulation of connection-related services. Under the NER:

- All transmission services, including *shared transmission services* and *connection services* required to connect NSPs[94] to the transmission network, are categorised as *prescribed transmission services. Prescribed transmission services* are subject to a revenue cap that is determined by the AER during transmission revenue determinations.

92 NER clauses 5.3.6(c) and 5.3.7(a).

93 NER clause 6A.1.3(2).

94 Except MNSPs.

- *Connection services* provided to generators and other transmission users are characterised as *negotiated transmission services.* However, as explained above, the scope of *connection services* is unclear and appears to be very narrowly applied in practice.

- Apart from *connection services,* the Rules are unclear in relation to the categorisation of other connection-related services. In particular, it is unclear how the services associated with the construction, operation and maintenance of a new substation to enable a generator to connect to the transmission network are economically regulated. For example, it is unclear whether these services meet the requirements of a *prescribed transmission service* or a *negotiated transmission service.*

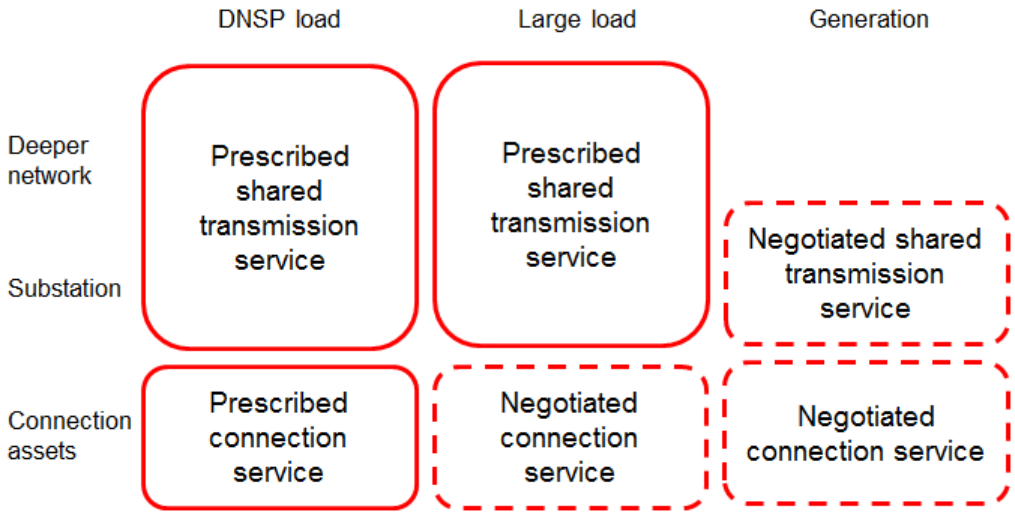
The Commission understands that it is the practice of TNSPs to treat all connection-related services that are provided to generators (other than extensions to connect a generator's facility to a substation) as a *negotiated transmission service*. The Commission understands that TNSPs consider that services associated with the construction, operation and maintenance of a new substation to enable a generator to connect to the transmission network are classified as a *shared transmission service* that is a *negotiated transmission service*. However, there is some uncertainty as to whether this service comes within the strict wording of the relevant definitions. These definitions are not clearly worded, which adds to the uncertainty.

In contrast, the Commission understands that TNSPs' practice is to classify the construction, operation and maintenance of a new substation to enable a DNSP or other transmission user (such as a large load) to connect to the transmission network as a *shared transmission service* that is a *prescribed transmission service*.

This issue is further complicated by the varying regulatory treatment between incumbent and new generators. The Commission understands that incumbent generators connected to the transmission network prior to the start of the NEM are not required to pay any share of the costs of the existing substation to which they are connected, or contribute to the ongoing maintenance of those substations.

Figure A.2 illustrates the Commission's understanding of TNSP's practices regarding the classification of connection-related services.

Figure A.2 Classification of services



A.3 The role of contestability

There is currently uncertainty as to whether contestability is a relevant factor in determining whether a service is subject to economic regulation under the Rules. The appropriate test for determining whether a service is contestable is also unclear.

The Grid Australia Guidelines, and the practices of most TNSPs, treat contestability as the key factor in determining whether a service should be classified as a negotiated transmission service or a non-regulated transmission service.[95] If a service is contestable, Grid Australia considers that there is no reason why TNSPs should have an obligation to provide it or why it should be economically regulated.

There is no formal linkage in the Rules between a service being non-regulated and it being contestable.[96] However, at the time Chapter 6A was introduced into the NER, a link may have been intended. For example:

- The rule determination noted that "contestable services are outside the scope of regulation".[97]
- The draft determination noted that "The Commission has...clarified in the Draft Rule that services that are capable of competitive supply will not be subject to the commercial negotiation/arbitration requirements".[98]

95 Under TNSP's current practices, contestability does not appear to have any role in determining whether a service is classified as a prescribed transmission service.

96 There are specific provisions in Chapter 8 of the Rules that relate to the Victorian connections arrangements and allow certain augmentations to the shared network to be provided on a contestable basis. However, those provisions are not relevant to the more general issue of whether services are classified as negotiated or non-regulated.

97 AEMC, *National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, Rule Determination, 16 November 2006, Sydney, p. 37.

However, the final determination did not consider in detail whether extensions were considered to be "capable of competitive supply". The definition of "contestable" in Chapter 10 of the Rules provides only limited guidance, stating that a transmission service is contestable if the laws of the relevant jurisdiction permit it to be provided by more than one TNSP "as a contestable service or on a competitive basis".

A.3.1 Contestability of construction versus operation and maintenance

If contestability is an appropriate test for determining whether a service should be subject to economic regulation, then a question arises as to whether a distinction should be drawn between the construction, operation and maintenance parts of the service and the level of contestability of each part.

For example, if a generator connection requires the construction, maintenance and operation of a new substation, it is likely that only a registered and licensed TNSP can operate and maintain the substation once it is built. Accordingly, these aspects of the service are unlikely to be contestable. However, it appears to be possible for someone other than a TNSP (either the connecting generator itself or a third party) to construct the substation. That party could potentially either gift or lease the substation to the TNSP. If such an arrangement is possible, then it may be appropriate to treat the construction aspect of the service as contestable and not regulated but treat the operation and maintenance as non-contestable and subject to economic regulation.

The Commission is aware of generators undertaking the construction of substations themselves (or through their own sub-contractors) in at least two instances, with the substation subsequently being gifted or leased to the TNSP. However, the Commission understands that these TNSPs had some concerns about this arrangement and may be reluctant to adopt it in future. Any such arrangement would need to be agreed to by the TNSP, as it would not be appropriate to compel a TNSP to accept a gift or lease of an asset that has been constructed by someone else where the TNSP would then take on the liability for the maintenance and operation of that asset.[99]

Currently, TNSPs generally treat extensions as a non-regulated transmission service on the basis that extensions are contestable. As such, TNSPs consider that they are not obliged to provide extensions, nor are TNSPs subject to the negotiating framework when negotiating the terms and conditions for the provision of extensions.

A.4 What are TNSPs' obligations in relation to connections?

There is also uncertainty in the Rules as to the extent of TNSPs' obligations in relation to connections. Several provisions of Chapters 5 and 6A set out the specific obligations of TNSPs. However, these provisions are unclear and there is no single provision that

98 AEMC, *Draft National Electricity Amendment (Economic Regulation of Transmission Services) Rule 2006*, Draft Rule Determination, 26 July 2006, Sydney, p. 24.

99 The Commission also understands that the gifting or leasing of such an asset may have significant taxation consequences for the TNSP, which may make the TNSP reluctant to enter into such an arrangement.

exhaustively sets out the extent of a TNSP's connection obligations and clarifies exactly which services they are required to provide.

The key obligations on TNSPs in relation to connections are as follows:

- Under clause 5.3.6(a) of the Rules, a TNSP is obliged to make an offer to *connect* a prospective user to its *network* (where to *connect* means to form a physical link to the TNSP's *network*). This obligation leaves doubt as to the extent of a TNSP's obligations. For example, it is unclear whether the TNSP is only required to form a physical link at the *connection point*, or whether the TNSP is also required to construct, operate and maintain any assets that are required to facilitate the connection.

- Under clause 5.3.6(b), a TNSP's offer to connect must be fair and reasonable and must be capable of acceptance to constitute a *connection agreement*. Under clause 5.3.7(a), a connection applicant must negotiate and enter into a *connection agreement* with a TNSP if it wishes to accept the TNSP's offer to connect. A *connection agreement* is defined as an agreement by which a person "is *connected* to the *Network Service Provider's transmission* and/or *distribution network* and/or receives *transmission services* or *distribution services*".[100] TNSPs therefore have a clear obligation to make a fair and reasonable offer to connect a generator (or other party), but it is unclear what transmission services, if any, must be offered to the generator and provided under the resulting connection agreement. The wording "and/or receives transmission services" leaves uncertainty as to whether the TNSP is required to provide any transmission services under a connection agreement, or whether the provision of any such services is optional. It is also unclear what "transmission services" are intended to be provided under a *connection agreement*, for example whether the only services that must be provided under that agreement are *connection services* or whether the agreement should also cover *shared transmission services* and/or *extensions*.

- Under clause 6A.1.3, a TNSP must provide *prescribed transmission services* or *negotiated transmission services*. As explained above, there is some uncertainty as to what services are prescribed or negotiated, and what services are non-regulated.

In relation to extensions, clause 5.3.6(k) provides that:

> "Nothing in the *Rules* is to be read or construed as imposing an obligation on a *Network Service Provider* to effect an extension of a *network* unless that extension is required to effect or facilitate the *connection* of a *Connection Applicant* and the *connection* is the subject of a *connection agreement*."

The interpretation of this provision, in particular the exception regarding connections, is unclear.

100 NER Chapter 10.