

28 January 2016

John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Level 9
99 Gawler Place
Adelaide SA 5000
Postal Address:
GPO Box 2010
Adelaide SA 5001
T 1300 858 724
F 08 8410 8545

Dear Mr Pierce,

Connections and Planning Rule Change Proposal - Consultation Paper

AEMO welcomes the opportunity to provide feedback on the Energy Council's rule change proposal. We take a strong interest in the proposed reforms as they have the potential to affect both our national transmission planning functions and our declared network functions.

During the Transmission Frameworks Review (TFR), a number of connection applicants expressed dissatisfaction with the process for obtaining a transmission connection. Put simply, connection applicants are in a much weaker negotiating position than the transmission network service provider (TNSP), and there is little transparency on cost and technical requirements.

This submission sets out AEMO's views on the key features of the proposal set out in the consultation paper. We have also provided an overview of the connection arrangements for a declared network (see Attachment 1), to inform consideration of the potential interaction between the proposed rule and those arrangements.

1. Changing market environment

At the conclusion of the TFR in 2013, TNSPs faced a substantially different market landscape to the one they face now. The role of electricity networks is changing and as this occurs there more scope introduce competitive market structures.

Declining demand growth, and the subsequent decline in network augmentation investment, means that TNSPs are looking beyond traditional projects to grow their business. AEMO, in its role as planner-procurer of the Victorian transmission network, has observed a significant increase in the level of competition in its tender processes. Rival providers of network services are participating in our tender processes as network businesses seek new opportunities.

In addition, further clarity on government climate policy means that the connection arrangements are more crucial than they were at the end of the TFR. It is likely to be necessary to significantly increase in the number of renewable or low emissions generators connected to the NEM transmission system if Australia is to meet its carbon emissions reduction target.

Given the increase in both supply and demand, the Energy Council's Rule change proposal presents a timely opportunity to establish effective competition in the market for transmission connections.

2. High level objectives of the proposed reforms

An underlying premise of the proposed framework is that accountability for performance on the shared transmission network can only be maintained by ensuring ultimate control by the incumbent TNSP.

Accountability is necessary, but it does not follow that the incumbent TNSP is the only party capable of providing certain network services (such as network design and ongoing operation and maintenance). Most TNSPs in the National Electricity Market outsource their construction, operational and maintenance work to engineering firms. They use a range of techniques to manage their risk, such as ensuring that contractors are suitably qualified, and using robust commissioning and testing activities at handover.

In our view, the National Electricity Objective is best met by a transmission connections framework that promotes a competitive electricity generation market by removing unnecessary barriers to entry.

Rather than carving out contestable elements of the process, with the remainder exclusively provided by TNSPs, we support arrangements that empower connection applicants to drive savings by making the whole service contestable. This would involve arrangements that permit a substation to be operated and maintained by a registered TNSP other than the incumbent TNSP. Accountability would be maintained through minimum technical standards for protection and control systems, and provisions that allocate liability for outcomes on the shared transmission network when a failure occurs at a substation.

3. Scope for contestability in connections

Under the Energy Council's proposed model, connecting parties would have scope to choose who constructs their connection assets. However, the local TNSP retains a key role in that they are responsible for high level design and, once constructed, the operation, control and maintenance of identified user shared network assets.

This framework may prove difficult to implement in practice. In particular, a requirement for incumbent TNSPs to assume operational responsibility for the operation and maintenance of assets that they did not build may add significant costs and unacceptable risk for the connection applicant. Based on AEMO's experience of a similar type of situation in Victoria, transfer requirements can be complex and costly. This may negate any benefits of choosing a third party provider to construct the assets, and therefore deter connection applicants from choosing this approach.

We are concerned that the scope for competition in the proposed model is too limited to drive overall benefits, particularly given the additional complexity and risk associated with transferring responsibility for O&M. The benefits of contestability are unlikely to be realised so long as the incumbent TNSP retains control over key elements of the connections process and subsequent service provision.

Further, incumbent TNSP control over key aspects of the design process could add to cost and restrict the scope for innovation. Having an independent party involved in setting technical standards could help to ensure that connections services are output-focussed and not over-specified. The AEMC's review of technical standards could present an opportunity to consider these issues.¹

¹ <http://www.aemc.gov.au/Markets-Reviews-Advice/Review-of-Technical-Standards>

We note that the experience of NSW electricity distribution provides an example of how network businesses can leverage their control over part of a contestable process to distort the competitive market. Following a review by the NSW Better Regulation Office, the NSW government removed DNSPs from the connections process and instead gave the Department of Industry responsibility for overseeing the competitive connections market.²

Finally, there is potential for contestability to drive cost reductions in the case of distribution-transmission connection points. However, given that (outside Victoria) all parties involved are regulated network businesses, it may be necessary to consider their incentives to make the project contestable.

4. Clarifying the definitions

To an extent, the perceived lack of clarity associated with NER definitions relating to transmission services and assets is symptomatic of problems associated with monopoly power rather than genuine deficiencies in the drafting of the National Electricity Rules (NER). For instance, even though there is general agreement that any party can provide dedicated connection assets on a contestable basis, some connection applicants may feel pressure to procure all services from the incumbent TNSP in order to promote a timely and smooth process with respect to the non-contestable aspects of their connection.

That said, there are certainly different interpretations of the current definitions that will hinder the implementation of reforms if not addressed. By definition, a transmission or distribution *system* already includes connection assets. The current concept is that a network and its associated connection assets (roughly equivalent to the proposed 'dedicated transmission connection assets') together form a system, of necessity under the ownership, operation and control of a single person or group together acting as one NSP.

We support relatively simple definitions that are based on whether an asset is used to support power flows solely to the connection applicant. It may also be necessary to clarify that land, as well as equipment, may be part of the relevant assets. There may otherwise be instances where efficient access to the network can be prevented because the TNSP has insufficient rights over the land. We are happy to work with the AEMC to improve the NER definitions.

5. Exemptions from registration or compliance

We note the proposal to apply a presumptive exemption to 'dedicated connection asset' operators from the requirement to register as a TNSP or to comply with all or part of chapters 5 and 6A of the NER. It is unclear which one of the exemption options the presumption is intended to apply to, but AEMO considers that these operators ought to be subject to Chapter 4 provisions that require Registered Participants to follow AEMO instructions for power system security purposes, and Chapter 5 provisions in relation to performance standards. We would also benefit from provisions that ensure that the local TNSP and AEMO are informed about changes to dedicated connection assets that could affect power flows.

Given these issues, we suggest that the operators of dedicated connection assets are required to register, but may be exempt from specified chapters of the NER (in particular, Chapter 6A and parts of Chapter 5), subject to any appropriate conditions to address future

² NSW Government, *Review of contestable services on the New South Wales electricity network, Final report*, July 2010

access requirements. We support the development of a simplified access regime to apply to dedicated connection assets.

If there is robust competition between registered TNSPs for connection services (including for services relating to ‘identified user shared assets’) then it may be unnecessary to develop a separate regime that applies only to dedicated connection assets.

6. Measures to address unequal bargaining positions

Transparency and information are desirable, but the connection applicant needs to be able to make use of the information. In practice, transparency is unlikely to have much impact if the connection applicant has no choice but to deal with the incumbent TNSP.

We are not convinced that a proposal to enhance the dispute resolution process by prescribing a role for an independent engineer will be effective. Connection applicants have been unwilling to raise disputes during the connections process because of the risk of delay and the potential for damage to their relationship with the incumbent TNSP. Enhancing the dispute resolution mechanism is unlikely to be useful if no-one is willing to activate the mechanism in the first place. We note that the Australian Standard dispute resolution procedure already includes a process for appointing an independent expert. We understand that TNSPs apply the standard yet we are not aware of instances where this process has been invoked.

Rather than attempt to rely on dispute resolution, an alternative approach might be to permit connection applicants to exercise choice in who determines the technical requirements in the first instance. Under this approach, the connection applicant could appoint an independent party (such as an approved independent expert) to assess whether a proposed design meets the relevant technical standards rather than the TNSP.

7. Interaction with the Victorian arrangements

In Victoria, the problem of unbalanced negotiating power is mitigated to an extent by arrangements that give greater scope for competition and the presence of an independent planner.

The key difference between the Victorian arrangements and the arrangements set out in the rule change proposal is that the Victorian arrangements establish a framework that permits multiple TNSPs to compete to provide transmission services. It is not useful to distinguish between “identified user shared assets” and “dedicated connection assets” under the Victorian arrangements since this would reduce the scope of competition compared to the status quo.

We have attempted to inform the development of the rule change proposal by providing an overview of the connection process in an adoptive jurisdiction - see Attachment 1.

8. Making the planning arrangements more integrated

The rule change proposal includes a number of measures that are designed to make the planning arrangements more integrated, primarily by facilitating the consideration of inter-regional transmission options.

In addition, AEMO has encountered instances where an issue on the transmission system could more efficiently be resolved by investment or operational changes on the distribution network. Accordingly, the regulatory framework should allow for consideration of (and

funding for) distribution-based solutions to issues on the transmission network and vice versa.

With respect to the proposed requirement for AEMO to consult with TNSPs regarding the content of the National Transmission Network Development Plan (NTNDP), AEMO already has a process for seeking stakeholder feedback on the content of the NTNDP. This includes the publication of a consultation document as required by clause 5.20.1 of the NER. TNSPs are only one of a range of stakeholders; other key stakeholders include proponents of non-network alternatives to network upgrades. AEMO values the input from TNSPs to the development of the NTNDP. However we do not see the need to formally prescribe a specific working group to accommodate this input.

Finally, a key problem with current Annual Planning Report (APR) framework is that it tends to become out of date, particularly in the context of rapidly changing market conditions. For instance, NER 5.12.2 does not require TNSPs to report on IT and communications projects, even though these types of projects account for an increasing proportion of TNSP capex. Rather than prescribing the minimum requirements in the NER, we support an approach where the high level objectives of APRs are set out in the NER and the AER is responsible for developing and maintaining an APR guideline.

9. Conclusion

We hope you find these comments helpful. We are happy to work with the AEMC to address the issues raised in this submission, in particular the interaction with the Victorian arrangements. If you would like to discuss any of the issues raised, please don't hesitate to contact Jess Hunt on 08 8201 7315 or jess.hunt@aemo.com.au.

Yours sincerely

David Swift
Executive General Manager, Corporate Development

Attachment: Overview of the connection process in an adoptive jurisdiction

Attachment 1 Overview of the connection process in an adoptive jurisdiction

Under the National Electricity Law (NEL), a participating jurisdiction can opt into the adoptive jurisdiction framework under which AEMO plans and provides shared network services for the 'declared shared network'.

As a general proposition, connection applicants obtain shared network services from AEMO who, in turn, must procure these services from asset owning TNSPs. Those TNSPs are responsible for providing connection services directly to the connection applicant.

This overview outlines aspects of the connections arrangements that are most relevant to the rule change proposal:

- technical assessment
- contestable procurement process
- ownership and operating and maintenance (O&M) models, and
- cost allocation.

In principle there is little difference between a direct connect load and a generation connection. Consequently, while this overview concentrates on generator connections, similar considerations apply to load connections. Connection of and alterations to existing distribution connections are dealt with differently and are not addressed in this discussion.

1. Technical assessment

Whenever a new user seeks to connect to the shared network, the impact that the new plant has on the remaining network and users must be assessed and conditions to alleviate the impacts established. In Victoria, this role falls to AEMO. AEMO conducts studies and the results from those studies are used to develop the functional specification and the protection and control requirements (Requirements) of the shared network portion of the connection.

In carrying out this function, AEMO seeks to balance the integrity of the transmission service provided to existing users resulting from a new connection with the costs that the applicant will need to bear to achieve the connection.

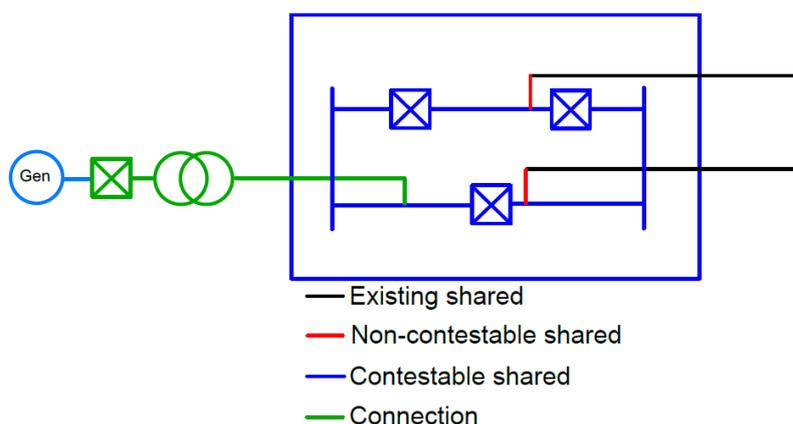
Each application is different and will generally require a different solution. AEMO takes into account the applicant's preferences, provided the applicant is prepared to accept any associated risks associated with the operation of the connection and does not undermine the security of the broader network.

2. Contestable procurement process

The Requirements are used to procure incremental transmission services. These will usually consist of contestable and non-contestable portions. What constitutes a contestable portion is set out in the NEL and revolves around whether the service can be provided as a service separate from the balance of transmission services and cannot have a material adverse effect on the incumbent TNSP's ability to provide services to AEMO under any other network agreement. There is also a cost threshold of \$10 million that the augmentation needs to exceed in order to qualify as contestable.

A new terminal station required to accommodate a new connection is likely to be a contestable augmentation. A generic diagram of a typical connection is set out below

showing the contestable and non-contestable portions of the shared network augmentation (including fully dedicated connection assets). There are also secondary assets (comprising of protection, communication and control equipment) that need to be considered. These are usually divided between the contestable and non-contestable portions, with the non-contestable portion potentially having to be installed deeper into the network.



2.1. Options available to connection applicant

Under the NER, a connection applicant has three options when sourcing its contestable shared network service. They are:

- Approach a TNSP or potential TNSP directly
- Build the contestable augmentation itself
- Ask AEMO to tender for the contestable service.

These options are subject to the condition that whoever operates the shared network assets must register as a TNSP under the NER. The contestable provider does not necessarily need to be a TNSP at the time of entering contracts and constructing the augmentation but must be registered prior to commissioning.

Further, all parties must enter into agreements with AEMO in accordance with the NEL and NER that reflect the fact that AEMO procures the transmission network services required for the connection in order to provide them to the connection applicant.

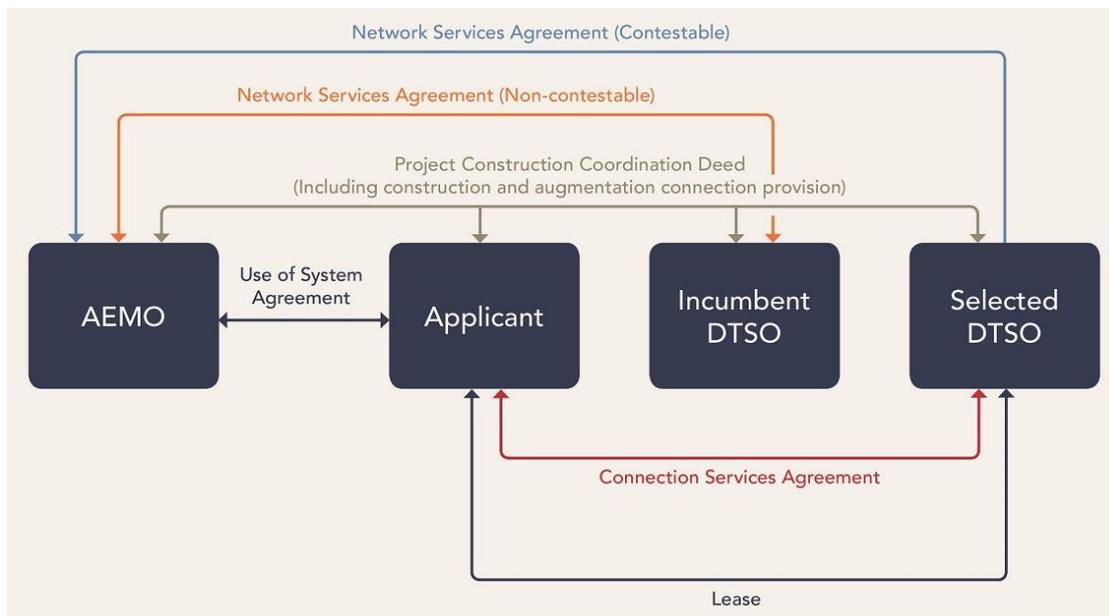
The non-contestable portion is reserved for the incumbent TNSP. Historically this has been AusNet Services. However, as more contestable services are added to the network and become available to provide services to future connection applicants, there is an increased possibility of the incumbent being a TNSP other than AusNet Services.

2.2. Contractual arrangements

The contract structure adopted depends on the option chosen by the connection applicant. The most common arrangement that applicants have used since the introduction of clause 8.11.8 of the NER has been for the applicant to choose the contestable TNSP directly.

It should be stressed that despite the NER giving the applicant the option to source a contestable TNSP directly, the NEL requires AEMO to procure the shared network services

and enter into contracts for that purpose. A typical contract structure (used when the applicant directly sources the contestable TNSP) appears below.³



Different contractual arrangements apply for the alternative options. For instance the contract structure for situations where AEMO agrees to go to tender for the shared network services will differ slightly from the above.

3. Ownership and O&M models

The contestability framework in Victoria seeks to allow competition in the provision of transmission network services. We consider the requirement to be registered as a TNSP to be important, but no mandate exists to oblige providers to own the assets used to provide the services.

“Build-Own-Operate” is the most common form of ownership model. The TNSP will take on the responsibility of building the required assets and provide the associated services to the connection applicant. This can be applied to both the contestable and non-contestable portions and to the dedicated connection assets themselves.

The land on which the TNSP will build the assets will usually be owned by the TNSP (a common approach, particularly for generators, is for the applicant to secure the development land when it secures land for its own development and transfer it to the TNSP prior to construction activities). Other arrangements include the leasing of the development land. Accommodation must also be made to ensure that the terminal station can be expanded for the shared network requirements of future connection applicants. This obligation is usually required of the first mover applicant who will be reimbursed if a new applicant seeks to

³ To be a Declared Transmission System Operator (DTSO), a network provider must be licensed under relevant jurisdictional requirements and registered as a TNSP under the NER. Note the lease is only necessary if the incumbent owns the land on which the contestable asset will be built.

connect to the terminal station and requires an augmentation of the shared network to do so (e.g. bus extension, additional switchgear etc).

Generally, connection applicants have little desire to operate transmission equipment and obtain the licences and registrations that go with it. Building a transmission assets to appropriate standards and requirements is a time consuming and difficult process and one which a generator or direct connect customer would generally wish to avoid so that they can proceed with their core business.

In our view, the flexibility enjoyed by connection applicants being free to “shop” around for the best price/service combination while not being encumbered by the construction, regulatory, operational and other requirements is very valuable to them. Connection applicants have tended to prefer the Build-Own-Operate model because it provides genuine choice and more control over costs.

The Build-Own-Transfer model is also available to connection applicants in Victoria, but it is rarely used. Under this model, the applicant is permitted to build the contestable portion of the shared network augmentation plus the connection assets. If the applicant wishes to operate the terminal station after commissioning, it must obtain the appropriate licences and registrations as well as gain expertise in operating and maintaining a part of the shared transmission network where this not part of their core business.

4. Cost allocation

Common practice has been to build a switchyard for each new connection, funded by the connection applicant. This is necessary in order to conduct switching to maintain service to the rest of the network when maintenance is being carried out and to assist in the maintenance of system security.

There is generally sufficient excess capacity in the initial cut-in to allow a subsequent connection to the switchyard to connect at an overall lower marginal cost. In recognition of this, AEMO has developed cost allocation policies that require a subsequent connecting party to contribute to the ongoing costs of the shared network costs allocated to any existing user at that point. Broadly, the policy apportions a proportion of the existing connected user’s shared network costs to the incoming applicant according to a combination of the relative capacity and physical space occupied by the shared network assets required by the incoming applicant.