VICTORIAN CONNECTIONS REFORM

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

IMPORTANT NOTICE

Purpose

AEMO has prepared this document to provide information about proposals for the reform of the Victorian connections model, in order to seek feedback from interested parties.

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EXECUTIVE SUMMARY

AEMO is proposing to streamline the process for connecting new generation to the Victorian 'declared transmission system' (DTS) by removing itself as party to the connection and augmentation contract(s) with the generator and transmission network service providers (TNSPs) as far as possible.

Generation connection applicants have previously indicated that the costs, delay and complexity of the connection process in Victoria are potentially greater than in other NEM regions. It has been suggested that the process may erode some of the benefits of contestability in the construction operation and ownership of shared network augmentations associated with new connections.

AEMO is currently a party to contracts for the construction and provision of shared network services by means of generator connection augmentations, consistent with the current legislative scheme under the National Electricity Law as applied in Victoria.

The National Electricity Objective 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 price, safety, reliability, and security of supply of electricity; and the reliability, safety and security of the national electricity system.

Connection contracting can be made less complex and more efficient by removing or reducing AEMO's role in contract negotiations while still retaining the benefits arising from contestability. AEMO is to retain its role as the independent Victorian planning authority thereby specifying the technical and incentive requirements for the shared network configuration with the TNSP(s) and negotiate the Generator Performance Standards with the generator.

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GLOSSARY

This document uses many terms that have meanings defined in the National Electricity Rules (NER). The NER meanings are adopted unless otherwise specified.

Abbreviations used in this document have the meanings in the table below

Term	Definition
AEMO	Australian Energy Market Operator
AIS	Availability Incentive Scheme
COAG EC	Council of Australian Governments Energy Council
CSA	Connection Services Agreement
DSN	Declared Shared Network
DTS	Declared Transmission System
DTSO	Declared Transmission System Operator
GPS	Generator Performance Standards
MOI	Minor Outstanding Items
NEM	National Electricity Market
NER	National Electricity Rules
NSA	Network Services Agreement
PCCD	Project Construction and Coordination Deed
PCR	Protection and Control Requirements
PFR	Primary Functional Requirements
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission Network Service Provider
UoSA	Use of System Agreement

1. INTRODUCTION

Victoria has had a contestable network augmentation framework in place since the privatisation of its electricity industry in the mid-1990s. Currently, this framework allows generators seeking to connect to the DTS to choose a TNSP other than the incumbent TNSP to construct any contestable augmentation works for their connection.

AEMO has the function of procuring shared network capability from asset-owning TNSPs and providing shared network services to users of the declared shared network (DSN). This means that AEMO must be a party to contracts between a connection applicant and the asset-owning TNSP(s). As contestability for the provision of generation connection augmentations has become more effective, AEMO considers that its involvement in general commercial negotiations for generation connections is no longer appropriate.

AEMO is proposing a reform of the Victorian connections framework such that, to the extent possible, AEMO is no longer a party to contracts for the procurement and provision of shared network services relating to new generator connections.

As the independent planning authority for the DSN, AEMO would retain responsibility for negotiating and setting the technical requirements and economic incentives applicable to new shared network assets, and technical requirements for connection and generation assets. This process results in an independent assessment of the appropriate standards required to maintain security, reliability and quality of supply to current and future users of the DSN to applicable standards on a consistent basis.

AEMO considers that these responsibilities, and any associated rights and obligations of AEMO, the connection applicant and TNSPs, can be provided for in the National Electricity Law or Rules, or in jurisdictional application legislation, so that AEMO does not need to be party to commercial contracts.

For the time being, AEMO does not propose that new load connections would be impacted, however we welcome stakeholder views on any benefits and challenges of extending the reforms to load connections, or any issues that may arise by not doing so.

This paper proposes a model to effect this proposed reform. AEMO seeks feedback from stakeholders on the proposed model, and wishes to work with stakeholders to deal with concerns.

The reforms proposed in this document are related to, but distinct from, the matters being considered by the AEMC as part of the Transmission Connections and Planning Rule change that was developed from a Rule proposal put forward by the COAG Energy Council. The COAG proposal included provisions designed to ensure that there is no diminution in the level of contestability that applies to Victorian transmission connections. Depending on the progress of the AEMC consultation, there is an opportunity to bring greater alignment to the Rules and connection application processes across the NEM. AEMO is participating in the AEMC's consultation process with a view to advocating a model that establishes a greater degree of effective competition for transmission connections across the NEM.

It should be noted, however, that this document is focussed on issues specific to Victoria; namely, AEMO's role within the Victorian transmission connections framework. As such, we expect it to require a separate regulatory change process.

2. REASON FOR REFORM

AEMO contributes to the efficient, secure and reliable development of the Victorian shared network by defining the technical requirements applicable to shared network, connection and generation assets (including generator performance standards (GPS)) and shared network economic incentives necessary to maintain system security, reliability and network performance to required standards. AEMO is well placed to undertake this role because it provides:

1. Holistic oversight: AEMO has planning oversight of the entire Victorian network as the planning authority for the DSN. This allows for a holistic assessment of each connection application, and the impact each will have on the rest of the network and the control and protection schemes required. This is important where there is a plurality of TNSPs each controlling, operating and maintaining their own assets on the network.
2. Independent assessment: AEMO is not paid to build assets. Instead, AEMO's interest is to ensure maintenance of system security, reliability and network performance standards in an efficient manner, in the interests of current and future DNS users. AEMO's specification of appropriate requirements to efficiently meet these objectives should promote cost effective connections.

Once the technical and incentive requirements for the DSN and GPS have been established, contestability can be expected to result in competitive offers from TNSPs for the shared network arrangements required for the connection. AEMO's objective is to ensure that the terms reached by the applicant and its selected TNSP are consistent with the technical requirements and incentives at the time of connection and into the future. We are not well placed to participate in negotiations concerning commercial matters such as charging and payment terms, bank guarantees, project delivery timing, liquidated damages, planning permits, land tenure etc.

AEMO is a not-for-profit organisation with specified statutory functions that require strict activity ring-fencing, to ensure that costs attributable to each function are charged to the beneficiaries of that function (or a particular activity within it). Most of the costs associated with AEMO's Victorian declared network functions[1] are ring-fenced and charged to Victorian electricity customers through Transmission Use of System Charges. Costs arising from the provision of *negotiated transmission services* for the DSN, however, cannot be recovered via TUOS charges. These must be recovered directly from the recipient of the transmission shared network service.

As a service provider but not an asset-owner, and with limited or no ability to set aside reserves, or factor contingencies or risk premiums into prices, AEMO is unable to absorb unforeseen costs.

The proposed reforms will remove the need for AEMO to have any active participation in matters that the applicant and the selected TNSP are best able to negotiate among themselves. Instead, contestability is expected to empower connection applicants to negotiate competitive terms.

[1] See AEMO's Declared Network Functions under sections 50C – 50J of the National Electricity Law

3. CURRENT CONNECTION PRACTICE

As the planning authority in Victoria, AEMO must plan, authorise, contract for and direct augmentation of the DSN. AEMO also provides shared transmission services to users of the DSN. As AEMO does not own or operate the network assets, it procures the capability to provide those services from the asset-owning TNSPs (also called declared transmission system operators or DTSOs). Whenever an applicant wishes to connect generation to the DTS, AEMO therefore contracts with relevant TNSPs to procure any required network augmentation and provides the associated use of system services to the applicant.

In the rest of this paper, we use the word '**generator**' to include a connection applicant who is a prospective generator.

3.1 Preliminary

A connection will consist of:

- Works required to cut-into the existing transmission line, the incumbent TNSP's asset. These are known as the interface works and will belong to the incumbent.
- Building new parts of the shared network, including, but not limited to, breakers and busbars. These works are procured through a contestable process, and are thus the contestable TNSP's assets.
- Building of the connection assets. These may be built by either the generator or a contestable TNSP (usually the same TNSP who is responsible for the contestable shared assets).
- Installation of the generating system, for which the generator is responsible.

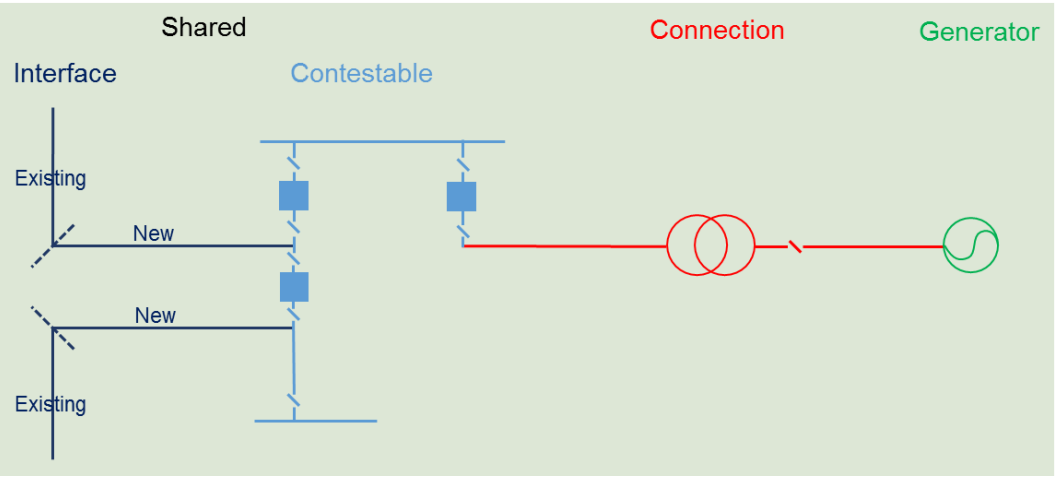


Figure 1: An indicative connection and associated shared network layout

Figure 1 shows an indicative primary shared network/connection/generation asset layout[2] in single line diagram form. The party who owns or controls each segment in the chain is accountable for that segment and contractual arrangements and risk allocation should reflect that accountability. The interface (incumbent) TNSP is responsible for the existing shared network, and cut-in works (dark blue). The selected contestable TNSP is responsible for the shared network assets constructed due to the connection (light blue). The generator or contestable TNSP responsible for the connection assets (red), and the generator is responsible for its own generating plant (green).

Due to the "causer pays" principle upon which the NER connections process was predicated, the costs of the service made up of the above assets will be paid for by the generator irrespective of who owns and operates them.

[2] These elements are indicative of a standard "greenfield" connection but not exhaustive of the works necessary to connect a generator or necessarily typical of all connections

3.2 Connection process

This section describes how the current connection process typically progresses when a prospective generator seeks to connect to the DTS.

3.2.1 Application

The generator will submit its application to AEMO, having already undergone the pre-feasibility and enquiry connections stages with AEMO[3].

3.2.2 Assessment & development of connection requirements

AEMO will assess the application, and arrange the technical requirements and incentives for the shared network augmentation and generator performance standards. In doing so, AEMO will produce a set of requirements for the connection project.

Primary Functional Requirements (PFR)

The PFR are concerned with the functional requirements for the primary transmission assets in the shared network. The PFR do not specify the detail of the assets required. Rather they specify the performance requirements and parameters within which the shared network augmentation must function. The PFR describe the new shared network layout, seamless operation between existing and new shared assets and the connection assets, co-ordination with other asset-owning TNSPs and their assets, details of equipment ratings and ultimate arrangement. There is a separate PFR for the contestable TNSP and interface TNSP. The requirements of the PFR are obligations which the TNSPs must meet.

Protection and Control Requirements (PCR)

The PCR are concerned with the secondary requirements for the transmission assets in the shared network and the connection assets. That is, the PCR describe the obligations to be performed by the TNSPs on the shared network. They also specify seamless operation and co-ordination with the operation and protection and control systems on other assets in the DTS. There is a separate PCR for the contestable TNSP and interface TNSP for assets located on the shared network. The PCR for the interface TNSP have the potential to extend deeper into the network, and can comprise a spectrum of work from software programming changes to hardware installations for control or run-back schemes. They also have the potential to extend to the connection assets and coordination with the shared network.

Availability Incentive Scheme (AIS)

The AIS sets out the incentives for the contestable TNSP to maximise availability of its service. This differs from the AER's Service Target Performance Incentive Scheme (STPIS) which only applies to transmission network assets that are subject to economic regulation. Any revenue recovered from the AIS is returned to Victorian customers through credits to their Transmission Use of System (TUoS) charges.

Generator Performance Standards (GPS)

In preparing the GPS, AEMO negotiates with the generator to meet the automatic access standards, or if appropriate, another standard can be negotiated between the minimum and automatic access standard in the National Electricity Rules (NER) to allow connection. The GPS focus on the generator and connection assets built solely for the connection, with the boundary defined by the connection point. However, in meeting the required standards the performance of shared network assets are also

[3] Please refer to the AEMO website for more details on this process: http://aemo.com.au/Electricity/National-Electricity-Market-NEM/Network-connections/Victoria-transmission-connections---process-overview

taken into account. Coordination between the TNSPs' assets and generator's assets is therefore crucial to provide the standards needed when the generator connects.

The GPS, PFR, PCR, and incentives ensure that the TNSPs for the DSN together provide a service that meets the system standards, quality of service and network performance requirements under Chapter 5 of the NER, and AEMO's obligations in respect of the supply of services to other users are not impacted by the generator's connection.

The generator is able to choose a contestable TNSP to construct, own and operate the augmentation. Under the current NER provisions, connection applicants are also able to request AEMO to tender for the shared network services on their behalf.

3.2.3 Contracts

The generator will negotiate with AEMO, the selected contestable TNSP and the interface TNSP to finalise and document the connection arrangements and the terms of the service. This includes the technical details defined in the GPS, PFRs, PCRs, the incentives (if any) and the common provisions to all, as well as the commercial arrangements for project construction, project delivery, charges, co-ordination, energisation, commissioning and practical completion.

These negotiations result in a number of contracts between the parties, with the technical requirements incorporated in those contracts as follows:

- **PCCD:** The PFRs and PCRs are contained in the Project Construction and Coordination Deed (PCCD), which is the overarching contract between all parties and also includes the details for construction and delivery, co-ordination, energisation, commissioning and practical completion. This agreement usually contains the connection agreement between the contestable and interface TNSPs where they are different TNSPs.
- **UoSA:** The Use of System Agreement (UoSA) contains the obligation for the generator to pay the charges as required by the TNSPs' NSAs. The UoSA also contains the technical requirements of the shared network, the Generator Performance Standards and the point of supply at the shared network boundary.
- **NSAs:** The Network Services Agreements (NSA) between each TNSP and AEMO also point to the respective PFR and PCR. The TNSP(s) charges to AEMO for the network services and related early termination payout amounts are also contained in these agreements. The AIS for the contestable TNSP is also captured here where applicable.
- **GPS:** The GPS is captured on a register held by AEMO and enforced by the AER. It is also encapsulated in the Use of System Agreement (UoSA) between AEMO and the connecting party. The UoSA also contains the charges AEMO charges the generator comprising of the charges levied by the TNSPs under the NSAs. AEMO does not engross those charges or charge a margin. The TNSPs' charges are treated as a direct pass-through to the generator.
- **CSA:** Finally, typically, the generator has a Connection Services Agreement with the contestable TNSP. AEMO is not a party to this agreement but the agreement is necessary to cover the service provided by the connection assets. Depending on the land ownership arrangements, the contestable TNSP and the generator may enter into a lease.

Figure 2 provides a diagrammatic view of the contracts between the parties, and how the technical requirements are captured through these.

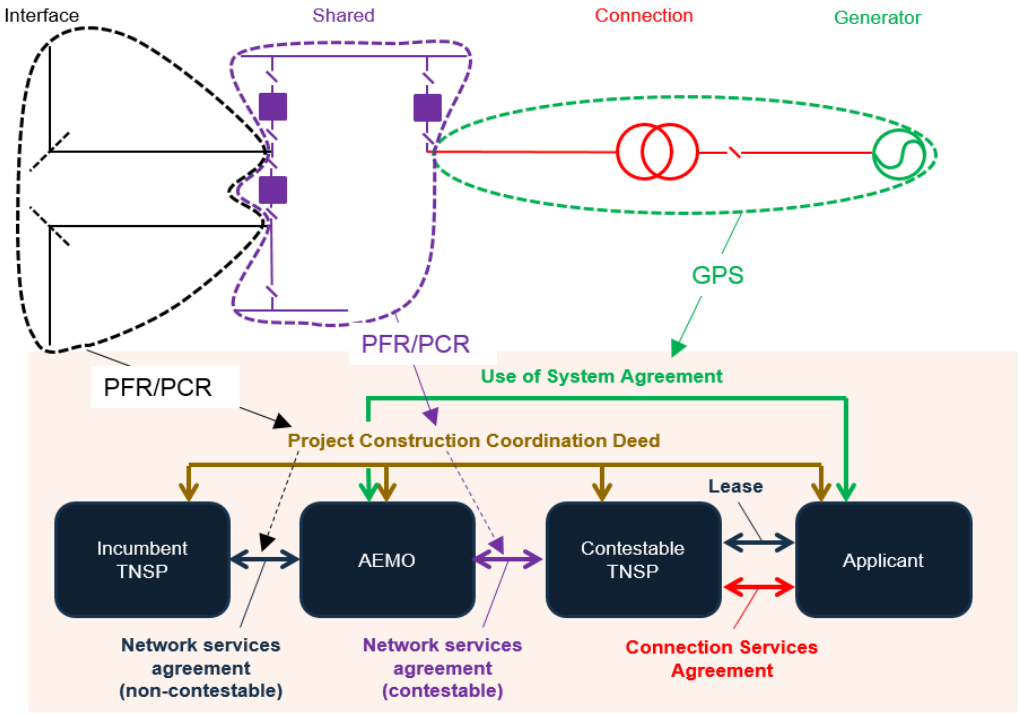


Figure 2: Technical requirements of a typical connection[4]

3.2.4 Energisation, commissioning and practical completion

Once constructed, AEMO grants practical completion and performs due diligence on system security. At this point, there may be minor outstanding items (MOI) relating to the shared networks works—appropriate incentives are set in the contracts to resolve these items post practical completion.

AEMO is able to enforce the technical requirements for the connection through the contracts between the various parties. The AER is responsible for enforcing the GPS, although AEMO may enforce them directly against the generator under the UoSA.

[4] Note, requirements for the ultimate arrangement have not been captured in this diagram, but are considered in determining the PFRs and PCRs.

4. CONNECTION REFORM PROPOSAL

As detailed above, the proposal seeks to establish a regulatory framework to ensure that a generator connection and associated DTS augmentation is consistent with AEMO's network planning, performance and service requirements. Current connection arrangements rely on contractual obligations of the generator and TNSPs for AEMO to enforce relevant requirements. This section sets out a proposal to replace those obligations with regulatory obligations and powers. The remaining contractual arrangements will more closely reflect the provision of service to the generator by the TNSPs who physically control the provision of that service.

4.1 New connection process

AEMO is proposing substantial revisions to the connection process, as described in this section.

4.1.1 Application

A generator wishing to connect to the DTS will submit its application to AEMO, having already undergone the pre-feasibility and enquiry connections stages with AEMO, as is currently the case.

4.1.2 Assessment & development of connection requirements

Consistent with the current arrangements, AEMO will assess the application and supporting information provided by the generator and determine the TNSP technical requirements and AIS and the generator performance standards. In doing so, AEMO will produce the following technical documentation for the generator:

- PFRs for both the interface and contestable TNSPs;
- PCRs for both the interface and contestable TNSPs;
- AIS for TNSPs' new assets not covered by STPIS;[5] and
- GPS.

These documents will inform the project specification and commercial negotiations between the generator, its selected contestable TNSP and the interface TNSP.

The generator will select a contestable TNSP to construct, own and operate the augmentation. AEMO proposes to remove the option for generators to request AEMO to tender for shared network augmentation services on their behalf. It has not been used by a generator connection applicant since the introduction of clause 8.11.8 of the NER, which allowed connection applicants to arrange funded augmentations themselves.

The generator will negotiate contract arrangements with the chosen contestable TNSP and the interface TNSP.[6] These arrangements must incorporate the PFRs and PCRs, and must be consistent with the GPS and AIS set by AEMO. If any changes are proposed, they must be approved by AEMO before being included in the contract, and will otherwise be invalid.

4.1.3 Contracts

The generator, its selected TNSP and the interface TNSP will negotiate with each other for the construction of the network augmentation (interface and contestable assets) and connection assets, and the terms for provision of ongoing services to the generator. Those services would continue to be classified under the existing NER as negotiated transmission services. The generator will pay for them directly rather than to AEMO as a broker.

[5] Where *negotiated transmission network services* are being or are proposed to be provided using generator funded transmission assets, the STPIS does not govern asset availability and performance. Consequently, to avoid "gaps" arising in the incentive arrangements relating to the availability performance of contiguous assets, a separate incentive scheme will be required to ensure consistency of outage incentives.

[6] As to the contract model see the discussion in section 4.3.

AEMO's intention is to not be a party to the connection and services agreements, although as indicated above, AEMO's approval will be required before those agreements can become effective in order to ensure consistency with the technical and incentive requirements.

For the purposes of continuity of supply to other transmission network users, the service provided by the shared network assets associated with the connection must be made available to AEMO by the relevant TNSPs. AEMO's preference is for this service to be covered in the regulatory framework, but an alternative is for some form of NSAs to continue between AEMO and the TNSPs (see also section 4.3.2 of this paper).

It's proposed that the final PFRs and PCRs will be captured on a new register held by AEMO, similar to the register AEMO currently maintains as market and system operator under the NER for GPS across the NEM. Generators and TNSPs would have regulatory obligations to comply with the registered PFRs and PCRs. In order to maintain accountability, the PFRs and PCRs would be drafted in a way that clearly allocates responsibility for meeting each technical requirement. The contractual relationship between the generator and TNSPs as shown in the "Proposed" part of Figure 3 will depend on the contracting arrangements discussed in section 4.3.1.

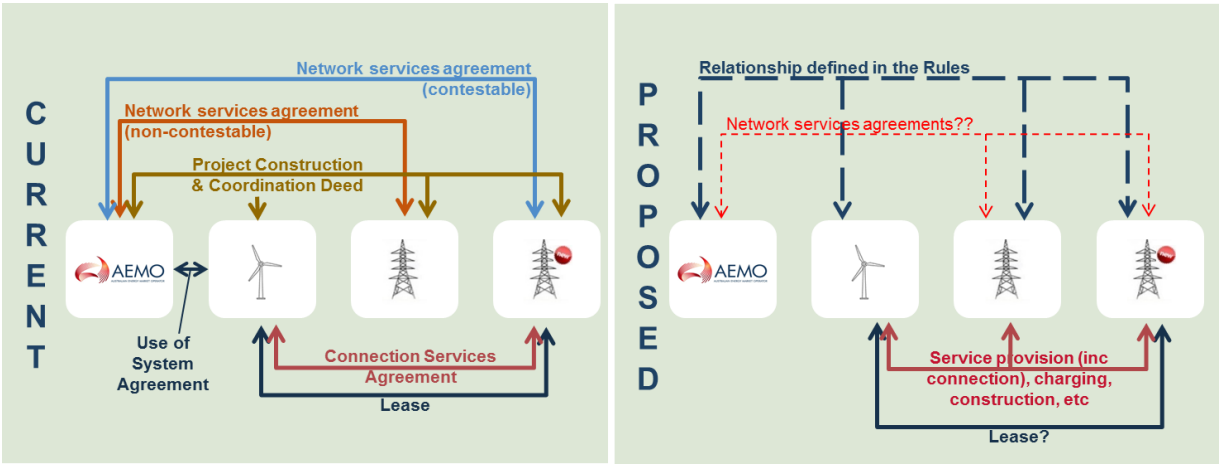


Figure 3: Proposed contractual and rules relationship between the parties involved in the connections process.

4.1.4 Completion and commissioning

Once the assets are constructed, AEMO will perform due diligence on compliance with the PFRs and PCRs and system security via a series of energisation and commissioning tests. Similar to GPS requirements, the generator will need to satisfy AEMO that the TNSPs have met the PFRs and PCRs before its application for registration in the NEM is granted. AEMO is considering whether regulatory provisions are appropriate to incentivise TNSPs to meet all necessary service requirements within agreed timeframes.

AEMO considers that the regulatory framework should also provide for the timely completion of minor outstanding items (MOI), where service provision can be permitted to commence because it meets all material requirements under the PFRs/PCRs, and additional time can be permitted to finalise MOIs while the assets are in service.

4.2 Direct comparison of the current and proposed processes

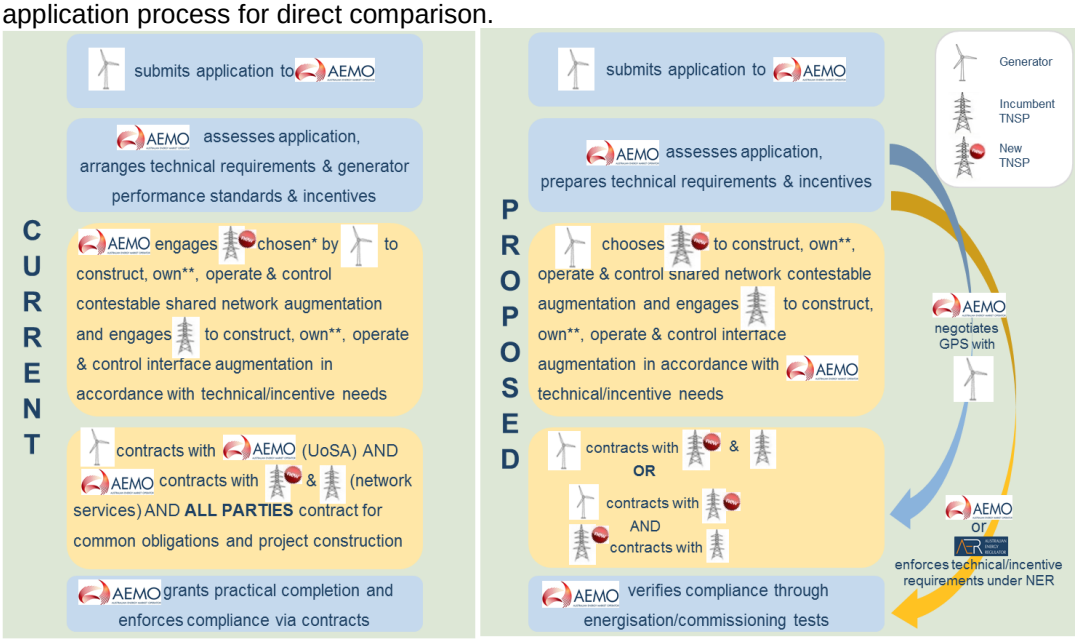
Whereas AEMO currently engages the TNSPs to construct, own, operate, and control the contestable and interface shared network augmentation, the generator will now take full responsibility for this engagement. To the extent that existing rights and obligations involving AEMO and its functions can be

addressed in regulatory instruments,[7] connection parties will no longer be required to contract with AEMO. Instead, AEMO will fulfil its network planning, performance and reliability function primarily by setting the technical requirements and economic incentives applicable to each connection via the NER or other regulatory instruments, and the connection application process.

In theory, AEMO will interact primarily with the generator, and only at the beginning of the connection process (to develop the PFRs, PCRs, GPS and AIS), prior contract execution (if any changes are proposed to the AEMO requirements), and at the end of construction (to confirm those requirements have been met before registration).

In practice, the position may be more nuanced. System studies for proposed connections are done in sequence as applications are received. If a generator's negotiations are protracted or the project is otherwise delayed, a subsequent applicant may reach contract stage earlier. This will require the studies to be revised and may result in varied technical requirements, such as the addition of a control scheme. Consequently, it may be necessary to include a mandatory confirmation step before contract execution (even if no changes are proposed to the initial AEMO technical requirements), to avoid the risk that contracts are concluded and construction commences based on system studies that have become out of date.

Figure 4 shows the current connection application process and compares it against the proposed application process for direct comparison.



*Generator can also request AEMO to tender for a contestable TNSP.
**Operational control by a registered TNSP and DTSO is important for system security and planning reasons

Figure 4: Comparison of current and proposed connection process

4.3 Issues for consideration

4.3.1 Contracting arrangements

Under a structure where the generator no longer acquires a bundled use of system service from AEMO incorporating both the interface and contestable augmentation, we need to consider whether the generator needs to contract with one or both of TNSPs, and the associated arrangements underlying each model. The models outlined in this section assume that the contestable TNSP would also provide the connection services to the generator.

[7] Detailed consideration of changes to the regulatory framework will form part of the next stage of AEMO's consultation, in conjunction with the AEMC, AER and Victorian Government.

AEMO recognises that proponents and prospective TNSPs may be better placed than AEMO to identify the commercial or administrative benefits or burdens of each model, or may wish to suggest variations that better meet all parties' reasonable requirements. AEMO therefore welcomes feedback on the most appropriate contract model.

Single contract model

Under this model the applicant enters into one contract with the contestable TNSP for all the necessary shared network and connection requirements. This is attractive due to its apparent simplicity. On its face, the applicant need only deal with the contestable TNSP. That TNSP would in turn be responsible for procuring the interface services from the interface TNSP(s) and supplying a bundled service to the generator.

Figure 5 depicts the service bundling effect provided by each TNSP to the generator.

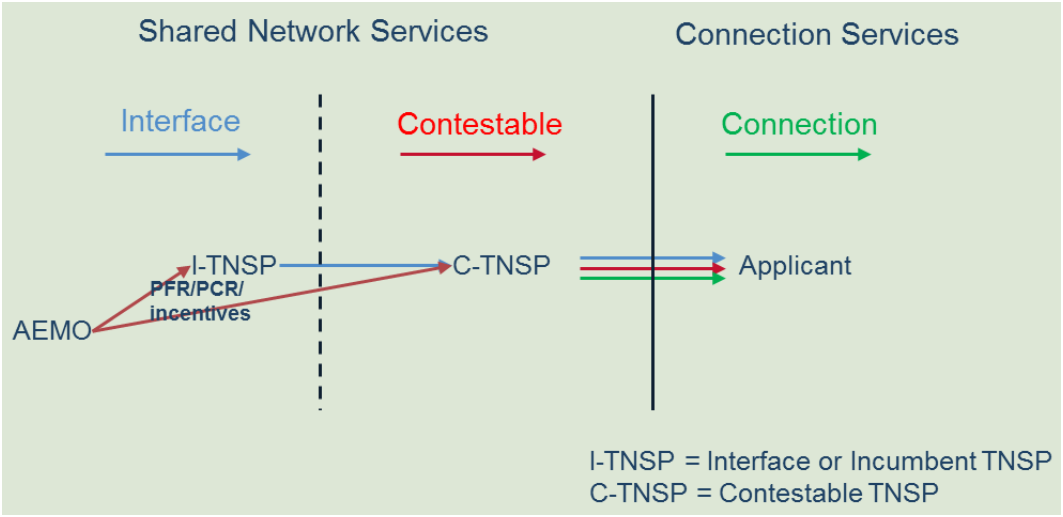


Figure 5: One Contact Model – Contestable TNSP procures interface services from the interface TNSP and provides a bundled service to the generator

Multiple contract model

This model requires the generator to enter into separate agreements with both TNSPs. It is possible that there may be more than one intervening interface TNSP, depending on the configuration of the network at the proposed connection point location. In that case an agreement would be required with each of them.

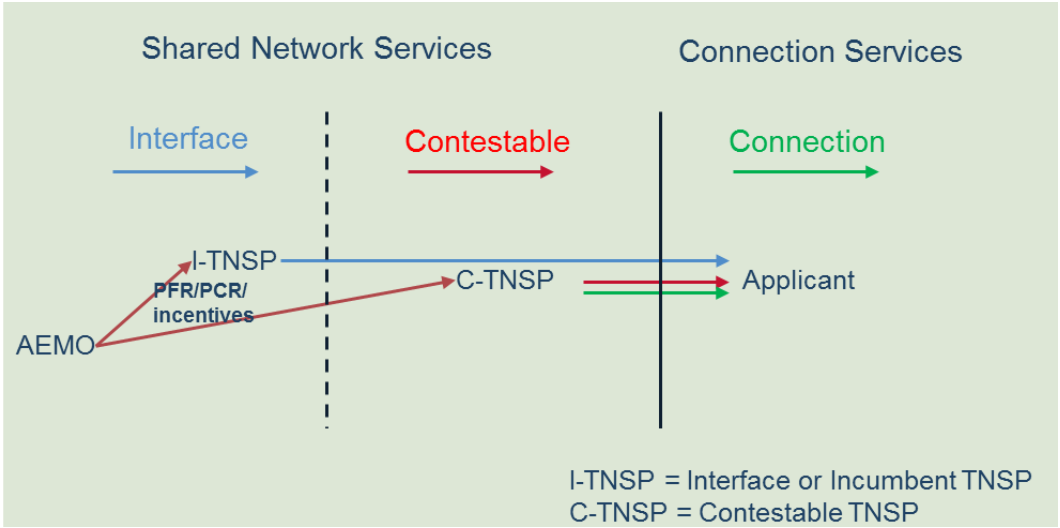


Figure 6: Multiple contract model – Generator enters into two agreements, one each with the contestable and interface TNSPs

4.3.2 Enforcement of technical requirements

This can be divided into:

- Enforcement of the GPS
- Enforcement of the PFRs and PCRs

Enforcement of the GPS

To date the GPS enforcement role in Victoria has been undertaken by both AEMO under its UoSAs and the AER under its generator compliance program.[8] All GPS for registered generators in the NEM are maintained by AEMO in a register under rule 4.14 of the NER.

If AEMO no longer enters into UoSAs with new generators, the GPS for Victorian generators will continue to be documented in AEMO's GPS register and will need to be documented in the generator's agreement with the TNSPs. As proposed in section 4.1 above, in addition to its system operator role in approving GPS,[9] AEMO would have a number of checkpoints in setting, approving changes and verifying compliance with the GPS for generators in relation to the Victorian shared transmission network.

AEMO is considering whether the responsibility for ongoing enforcement and monitoring of compliance with the GPS should remain entirely within the existing NEM-wide framework in the NER – subject also to TNSP enforcement rights under their connection agreements – or whether additional rules-based enforcement rights should be established for AEMO, to the extent necessary for AEMO to carry out its DSN functions.

Enforcement of the PFRs and PCRs

Currently, AEMO is able to enforce PFRs and PCRs under contract with the TNSPs. Under the proposed new arrangements there are two options:

1. AEMO enters into direct NSAs with the TNSPs containing the PFR and PCR obligations.
2. The AER enforces compliance with them as part of the compliance program it currently runs for conformity with the requirements of S5.1a and S5.1 of Chapter 5 of the NER.

Similar to the GPS, AEMO would require that compliance with the PFRs and PCRs will be a pre-condition to granting generator registration.

Option 1 may strengthen AEMO's ability to ensure that the technical standards it sets are complied with. It would also reduce the level of resources required of the AER, and would provide the mechanism by which AEMO obtains the capability for continuous provision of service to other network users utilising the whole of the shared network, including the augmentation (see section 4.1.3 above). The key disadvantage of Option 1 is that it reintroduces complexity in contracts and requires AEMO to maintain a level of involvement in negotiations.

If Option 1 were adopted, the contractual structure would resemble that set out in Figure 3 where the TNSPs enter into NSAs with AEMO. If Option 2 were adopted, NSAs would not be required for enforcement purposes.

4.3.3 Availability incentive scheme

Unlike assets within a regulated TNSP's regulated asset base, assets that provide negotiated services are not subject to the AER's Service Target Performance Incentive Scheme (STPIS). The performance

[8] The AER enforces compliance with registered GPS standards under the NER, in particular rule 4.15. AEMO also has a role in overseeing rectification of any GPS breach that comes to its attention.

[9] Other than AEMO advisory matters under clause 5.3.4A of the NER, AEMO's current NEM role in approving GPS is limited to changes that could affect power system security.

of those assets is not subject to incentive arrangements under the NEM economic regulatory regime. Consequently, without negotiated incentives, those assets can remain unavailable for extended periods of time without any financial consequences for the relevant TNSP. Due to the AER's third party outage causation exemption[10], any flow-on effects for the availability of a connected TNSP's network assets would also be excluded from STPIS liability consequences.

Figure 7 shows a theoretical terminal station initially with shared responsibilities between two TNSPs (I-TNSP and C-TNSP 1) and services provided to generator A. If there is no incentive arrangement for the operation of the contestable asset, a continued outage of its assets not only impacts the generation output of generator A, but also existing network users' service if it causes an outage on the existing line.

When a new connection is made by generator B and a new TNSP (C-TNSP 2) is chosen, the same or consistent incentive arrangements would be required in order to encourage coordinated outages at the terminal station for the benefit of all users.

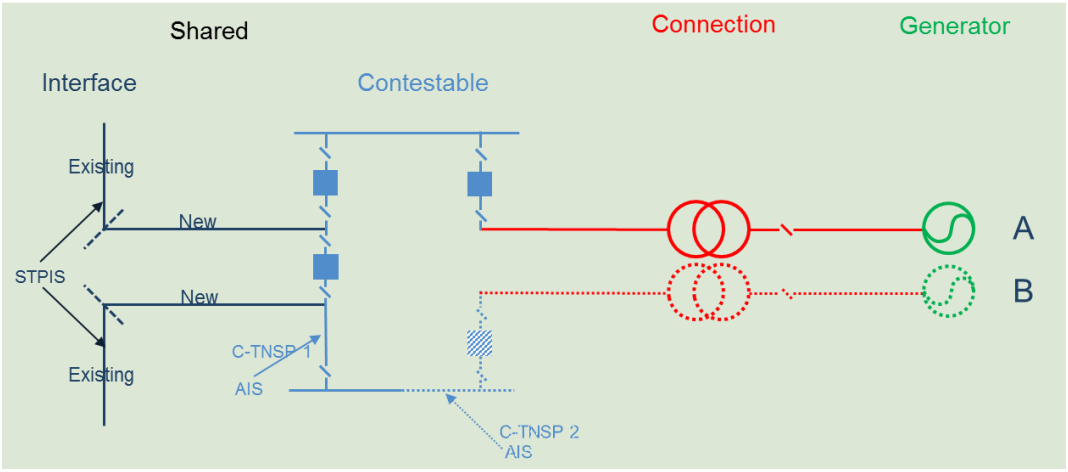


Figure 7 Potential AIS configurations

The regulatory framework should ensure that contestable TNSPs are appropriately incentivised to manage the market impact of outages on their assets, Given the complexity of interacting incentive arrangements, there might be benefits associated with having the AER administer an extension of the STPIS or introduce a new scheme based on the performance of single assets or a small group of connected assets. The AEMC is considering what, if any, new functions should be conferred on the AER as part of the Transmission Connections and Planning Rule Change Process. If the outcome of that rule change process introduces contestability to the other NEM regions, this issue is one that may need to be dealt with on a NEM-wide basis. In the absence of AER-administered arrangements, AEMO could develop an availability incentive scheme to apply to the contestable TNSP as part of the package of technical requirements determined during the connection process. This approach would reflect the existing Victorian arrangements.

4.3.4 Variations

There are occasionally cases where AEMO needs to raise a variation to the technical requirements. If an issue subsequently comes to light, whether or not as a result of changed circumstances, variation will be necessary if required to avoid:

- placing system security at risk;
- impacting quality or reliability of supply to other network users;
- cause a party to be in breach of the NEL or the NER; or

[10] See https://www.aer.gov.au/system/files/AER%20-%20final%20decision%20-%20electricity%20transmission%20service%20target%20performance%20incentive%20scheme%20%28STPIS%29%20version%205%20-%2017%20September%202015.pdf

- impacting AEMO's ability to carry out its functions under the NEL or jurisdictional legislation.

In these circumstances, the NER should permit AEMO to raise a variation to the technical requirements and the relevant TNSP would be required to ensure that the varied requirements are met. This is consistent with the arrangements present in the current suite of agreements. Consistent with those agreements, the cost of the variation would be borne by the parties in accordance with their agreements.

4.3.5 Cost sharing terminal stations

In order to get more efficient outcomes and engage in better planning outcomes, AEMO supports the sharing of terminal stations and users sharing in the costs. Provisions may need to be inserted into the NER to assist in achieving this outcome and allow AEMO to apply its cost allocation policy.

4.3.6 Guidance and dispute resolution

AEMO has in the past played a role in guiding an applicant through the connection process and mediating disagreements between it and the TNSP. We have also been involved in resolving issues arising between the incumbent TNSP and that contestable TNSP. AEMO is open to consider a limited role and seeks feedback in this regard.

5. BENEFITS OF REFORM

This reform seeks to further the NEO by improving the efficiency of the connections process. The proposal does not seek to change any of the technical requirements or incentives that AEMO is able to set, just the mechanism by which AEMO sets and enforces these (including the GPS, PFRs, PCRs and AIS).

5.1 Improved efficiency

The proposal leads to efficiency gains for AEMO, connection applicants, and asset-owning TNSPs through:

- Cost and time savings for generator applicants and TNSPs in relation to the legal and commercial negotiation of multiple connection agreements.
- Lower risk profile by removing the need to 'back to back' contract arrangements with AEMO as a pass-through for both services and financial flows.
- Streamlined contract administration processes by removing AEMO from day-to-day involvement, subject to consents and approvals required in relation to compliance with, or proposed changes to, technical requirements.
- AEMO maintains its focus on its key roles - providing the technical requirements and incentives to ensure system security, reliability and flexibility of the network, maintaining quality of supply to existing users, and planning for future developments.

Generators have indicated that timeliness is a key commercial priority. A more streamlined connections process should allow for processing of new connections at a faster rate compared to the status quo. In the absence of reform, and with the prospect of more renewable generation applications to meet policy targets, AEMO's involvement in the commercial negotiations is likely to slow down connections in Victoria.

5.2 Consistency

It is proposed that the PFRs, PCRs and AIS are set by AEMO and enforced in accordance with NER requirements. We have methodologies and policies in place in relation to terminal station configurations, although it will be important to preserve sufficient flexibility to deal with different proposed configurations and other physical and technical circumstances. We also propose that the PFRs and PCRs are registered, as for GPS.

5.3 Flexibility

While Section 4 outlines a process for an applicant generator to coordinate with AEMO and the two TNSPs, AEMO envisages there would be flexibility for the generator to have its chosen contestable TNSP liaise with AEMO on its behalf in relation to the preparation of technical and incentive requirements for the connection.

5.4 Risk perception

In the current connections process, AEMO's non-commercial stance can often be perceived as a risk particularly by investors and financiers. By removing AEMO from the commercial contracts, this perceived risk is removed.

6. TIMEFRAMES AND SUBMISSIONS

AEMO invites submissions on this consultation paper by 5 December 2016.

AEMO will take feedback received on this paper into account when developing a final detailed model for Victorian Connections Reform, to inform the drafting of legislative and NER changes required for implementation.

AEMO will attempt to respond to stakeholder comments towards the end of December. If there is sufficient stakeholder support for a workshop during the consultation period, we would be happy to organise it. We currently propose a workshop for 16 November 2016. The aim is to develop proposed legislative and rule change applications needed to implement the reform by end of first quarter 2017, for implementation in the second half of 2017.

Submissions can be sent to franc.cavoli@aemo.com.au by 5 December 2016.