Powercor's transmission licence application

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Executive summary

Baringa Partners (Baringa) has been engaged by AusNet Transmission Group Pty Ltd (AusNet or AusNet Transmission) to assess whether there are issues which may warrant further consideration by the Essential Services Commission of Victoria (ESC), having regard to its legislated objectives, in its assessment of the electricity transmission licence application by Powercor Australia Limited (Powercor).

This Report and Baringa do not put forward a position on whether the ESC should grant Powercor an electricity transmission licence in line with its application.

Instead, our assessment focuses on the potential implications of the transmission licence application given its unique nature, which proposes a departure from the current arrangements and seeks a transmission licence based on a geographic area (alone) without reference to specific assets. We identify several unintended consequences which might arise from this change in licencing approach, absent mitigation actions, for the ESC's consideration.

Our assessment has not raised any material issues with a distribution network service provider (DNSP) or its affiliates, per se, being issued one or more licences to transmit electricity in the context of an actual or contemplated augmentation to the declared shared network (DSN)[1] in Victoria. There is precedent for this in Victoria, including with entities we understand to be affiliates of Powercor, and it is not in itself problematic.[2]

Our assessment is also supportive of a more competitive sector. A core principle of the policy and regulatory framework underpinning the national electricity market (NEM) is the promotion of competition where feasible. This is also a central factor of Victoria's unique transmission regulatory arrangements. Competition promotes efficiency, choice, and innovation in the long-term interests of Victorian consumers. This includes contestability of, and competition for, transmission services where feasible.

It is important to note, however, that contestability of transmission services is not determined by licensing, but through legislation. Contestability of various transmission services exists in Victoria, with several entities other than AusNet owning, controlling, or operating parts of the Victorian transmission system, including, as noted above, affiliates of Powercor. At present, potential

[1] Under the National Electricity Law ((NEL), Schedule, Part 2), the declared shared network of an adoptive jurisdiction (Victoria) means the adoptive jurisdiction's declared transmission system excluding any parts of it that is a connection asset within the meaning of the National Electricity Rules (NER). In turn, under the National Electricity (Victoria) Act ((NEVA), Part 5, Division 1), a declared transmission system is a transmission system, or part of a transmission system, situated wholly or substantively in Victoria which the Minister, by Order published in the Government Gazette, declares to be a declared transmission system.

[2] Australian Energy Operations (formerly Transmission Operations (Australia)) through several entities has transmission licences to transmit electricity via the assets connecting the Mount Mercer Wind Farm, Moorabool Wind Farm, Elaine Wind Farm and Ararat Wind Farm to the declared transmission system.

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transmission operators bid for contestable transmission projects via the Australian Energy Market Operator (AEMO) or directly with customers. After winning the work, they seek a transmission licence if they will be the party undertaking the activity of transmitting electricity via the transmission assets which they have been awarded or designated to build, own and operate. As with other potential transmission operators, Powercor is able to participate in this competitive process irrespective of whether it has a pre-existing transmission licence. Powercor is nonetheless seeking a licence in advance of being selected to provide any specific contestable services, rather than after winning the work, as currently occurs.

Our assessment has identified several potential unintended consequences (risks of potential harm) of the granting of a licence as proposed in Powercor's application:

- based solely on a geographical area without reference to specific assets; and
- particularly in circumstances for a geographical area in which the applicant is the sole licenced provider of non-contestable distribution services.

Defining a transmission licence by geographic area alone without reference to any specific assets is without precedent, with other granted electricity transmission licences in Victoria defined by assets. This includes AusNet whose transmission licence is not defined by geographic area. Rather, AusNet has a licence to transmit and supply electricity using the declared transmission system that it owns, operates, and augments. This is an important distinction in relation to the current application which does not identify a specific transmission system to which it would apply. The current regulatory framework has not been developed with this approach in mind, nor do the nuances of Victoria's unique contestability framework for transmission take this type of licence, or the implications of it being granted, into account.

In summary, without reconsidering the geographic licence approach or introducing mitigation measures (e.g. through licence conditions), we consider the granting of such a licence risks the following potential harms:

a) reducing transparency of options and pricing for customers to the extent this results in 'bundling' non-contestable distribution services and contestable transmission services (for which customers can shop around for competing offers) such that the delineation is unclear. While a bundled offer may be a simple offer for the customer, it risks detracting from, rather than enhancing competition for, contestable services;

b) risk of costs not being appropriately allocated between (including over time in situations in which the nature of a service, and or use of assets, may change) distribution service customers and transmission service customers;

c) inconsistences, and confusion, with the current national regime that applies in Victoria regarding augmentations to, and the provision of shared transmission services and connection services utilising, the declared shared network in Victoria, as well as uncertainty as to whether the potential use cases will help or hinder the Victorian Government's ongoing development of the Victorian Transmission Investment Framework.

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Lastly, if the ESC is minded to grant a licence based on a geographic area that correlates with the geographic area of the sole licensed electricity distributor in that area, there is a case to consider the imposition of several licence conditions to avoid, or mitigate the risk of, these potential harms.

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1 Introduction

Baringa has been engaged by AusNet to identify matters which warrant further consideration by the ESC in its assessment of the electricity transmission licence application by Powercor. This Report captures Baringa's view, informed by discussions with relevant personnel at AusNet to understand some of the key concerns and challenges faced under current and the potential future arrangements.

It is important to note that Baringa has not sought to comment on Powercor's technical, financial, or legal capacity to undertake transmission activities. Instead, this Report provides non-exhaustive commentary on the current state of play and some of the potential implications for the provision of network services in Victoria should Powercor's unique transmission licence application be approved by the ESC.

The remainder of this report is structured as follows:

- **Chapter 2** outlines the current arrangements in Victoria for the provision of transmission and distribution network services, including the current arrangements for contestability in the provision of network services.
- **Chapter 3** summarises Powercor's geographic area-defined transmission licence application and the reasons why Powercor submits the ESC should grant it a transmission licence.
- **Chapter 4** sets out our assessment of the implications should Powercor's transmission licence application be approved, focusing on the process of connecting new network users or expanding connections for existing network users. We use several case studies to illustrate these points.
- **Chapter 5** sets out our assessment of Powercor's application in the context of the consultation questions issued by the ESC, and the legislative framework the ESC must follow in assessing transmission licence applications.
- **Chapter 6** concludes by outlining our view on, if Powercor's application is approved, what conditions should be considered to be included in its licence, to manage the potential risks which could otherwise arise.

Generally, in this Report we refer to:

- Declared transmission system operators (DTSOs) or prospective DTSOs when referring to transmission operators in the context of the unique Victorian transmission planning and contestability arrangements under the National Electricity Law (NEL) and *National Electricity (Victoria) Act*;
- Transmission network services providers (TNSPs) when referring to the economic regulatory arrangements for transmission network services under the NEL and National Electricity Rules (NER); and

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- Transmission operators when referring to entities in more generic terms, including when referring to potential competitors or future competitors for contestable transmission services in Victoria but who are not yet a DTSO or prospective DTSO.[3]

The same entity can be both a DTSO, TNSP and transmission operator.

It is important to note that greenfield shared transmission projects can be contestable at the outset, but once a transmission operator becomes a DTSO of a new declared transmission system, subsequent augmentations to that new declared transmission system may be contestable or non-contestable depending on the circumstances. We refer to contestable transmission services in this Report at times referring to services which are contestable at the outset, and at times referring to contestable augmentations, extensions, or connections to the transmission network, depending on the context.

[3] Under the NEL (Part 5, Division 2), the term prospective DTSO has a specific meaning and refers to a transmission operator who has already been selected to carry out an augmentation to the declared transmission system and will become a DTSO on completion of the augmentation.

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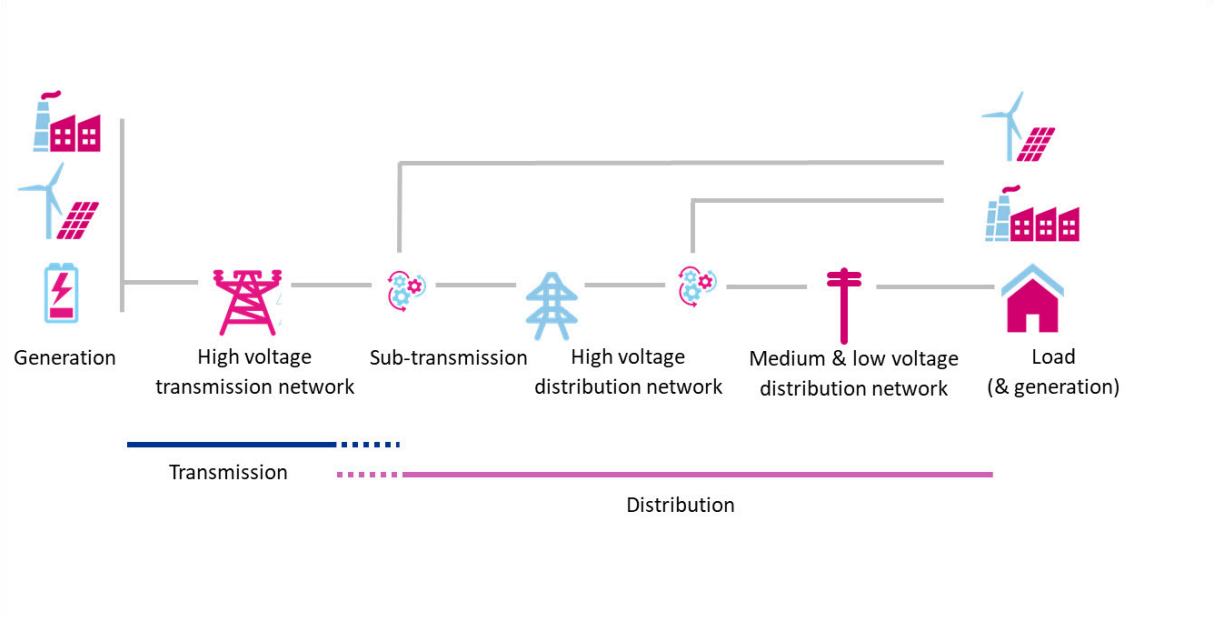
2 Network arrangements and service classification

Given the complexity of the electricity network regulatory framework, including the unique arrangements in Victoria, we provide an overview of the different types of electricity networks that connect to the national electricity system and the different use of system and connection services that large embedded generators and load customers can choose from.

Networks are central to the electricity system, providing a physical connection between electricity generation and the consumers that use it. Electricity network infrastructure is broadly categorised into two classes based on voltage (notionally) and the use of the assets: transmission[4] and distribution[5]. The distinction between transmission and distribution networks is illustrated at a very simplified level in Figure 1 below.

Figure 1 – Simplified network voltage level diagram



The regulation of electricity network infrastructure is governed nationally by the National Electricity Law (NEL) and the NER. These frameworks establish the rules and standards for the operation, planning, and management of the national electricity market and infrastructure. Victoria applies the

[4] NER, Chapter 10, definition of 'transmission network'.

[5] NER, Chapter 10, definition of 'distribution network'.

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NEL and NER through the *National Electricity (Victoria) Act 2005*[6] (NEVA) and provides for several Victorian-specific derogations, including significant departures from the national framework for transmission network planning and ownership – detailed further below.

The NEVA applies in parallel to the *Electricity Industry Act 2000* (Vic) and *Essential Services Commission Act 2001* (Vic)[7].

2.1 Distribution network arrangements in Victoria

In Victoria, the electricity distribution networks are owned by five private businesses—AusNet Electricity Services Pty Ltd (AusNet Electricity), CitiPower, Powercor, Jemena, and United Energy. These companies plan, build, operate, and maintain the distribution networks for electricity consumers.

AusNet Electricity and Powercor predominantly serve rural and regional Victoria, whereas Jemena, United Energy and CitiPower predominantly serve urban customers. The geographic areas are illustrated in Figure 2 below.

[6] Sections 6 and 7.

[7] Electricity Industry Act, section 19(1). See also the ESC Act, section 34(1).

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Figure 2 – Electricity DNSPs in Victoria and their geographic region

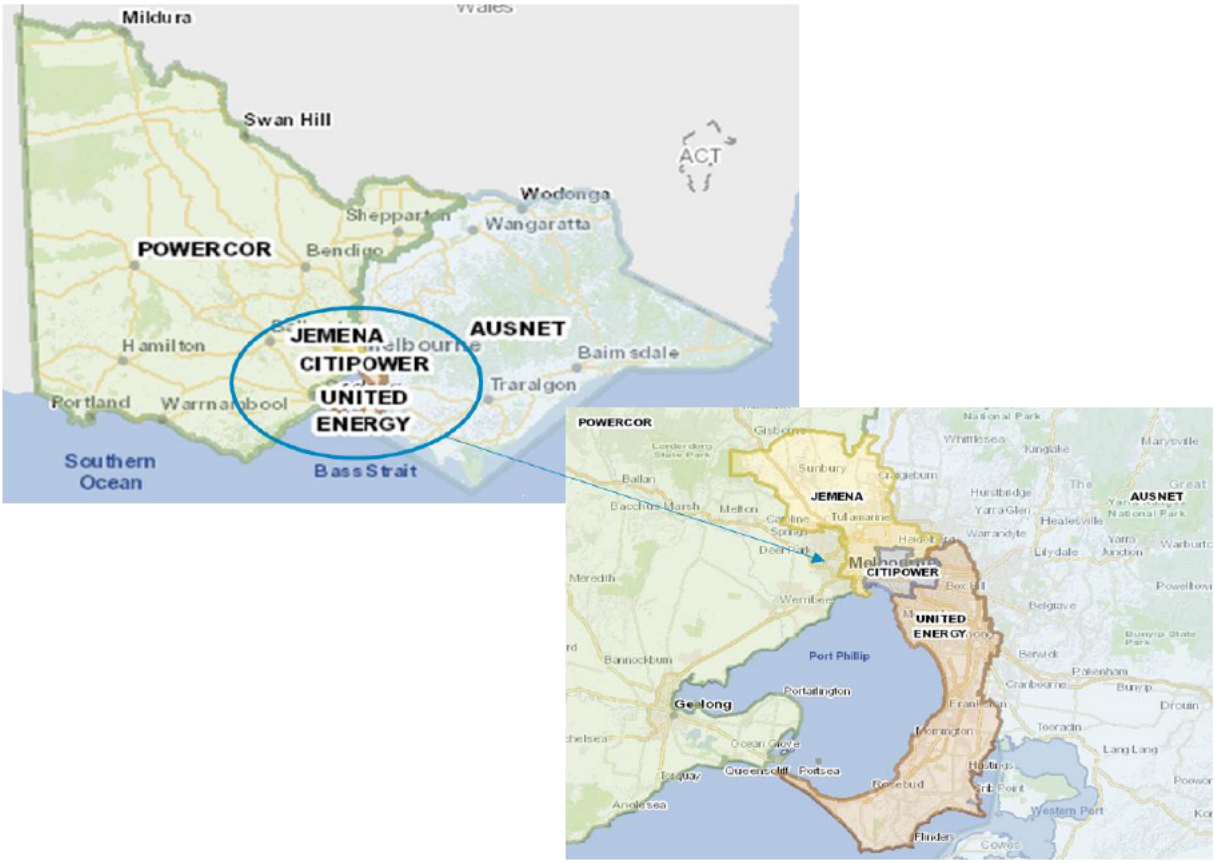

Table 1 – Summary of Victorian network characteristics

DNSP	Region	Customer numbers	Circuit line length (km)
AusNet	Outer northern and eastern suburbs; and Eastern Victoria	796,624	46,043
CitiPower	Melbourne city and inner suburbs	348,303	4,578
Powercor	Western suburbs; and Central and Western Victoria	902,215	76,999
Jemena	Northern and north-western suburbs	374,388	6,818
United Energy	Southern and south-east suburbs; Mornington Peninsula	710,296	13,475

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Businesses operating distribution networks are also registered as distribution network service providers (DNSPs) with AEMO, in accordance with the NEL.[8]

Consistent with the approach in other states, the Victorian DNSPs are regulated and receive a regulated revenue consistent with requirements under the national framework. Individual DNSPs submit revenue proposals every five years for consideration and approval by the Australian Energy Regulator (AER) to meet their efficient and prudent forecast expenditure over the coming five-year window with various incentives built in for efficiency gains and other matters. Approved revenues can then be recovered from electricity consumers, via distribution use of system charges, over the five-year term to which they apply. This approach ensures that checks and balances are in place to safeguard cost-efficiency outcomes for consumers while operating with geographic monopoly positions.

Ring-fencing guidelines dictate how DNSPs can participate in contestable service markets, with all five regulated DNSPs having established separate unregulated businesses to deliver some of these services at arm's length. DNSPs are permitted to only provide direct control services (with some limited exceptions) and must adhere to anti-discrimination requirements in the delivery of those services. Ring fencing requirements are targeted are addressing the two potential harms to competition of cross-subsidisation and discriminatory treatment.

Embedded generators are generation or storage plants that are directly connected to the distribution network. Embedded generator pricing typically involves a connection fee, which may vary depending on whether the service is standard or negotiated. For standard control services, the costs are usually predefined and are associated with the connection of embedded generators that meet certain conditions. Negotiated connection services are those tailored to the specific requirements of the embedded generator as required. These costs can include capital contributions for the construction of network assets required for the connection. Additionally, embedded generators may receive compensation for providing a share of avoided distribution system costs, which represents the cost savings that the DNSP incurs by not having to transmit electricity over long distances.

Each of these DNSPs holds an electricity distribution licence issued by the ESC. This licence provides a mechanism to regulate the distribution of electricity to customers so that it is undertaken in a safe, efficient, and reliable manner. For each of these DNSPs, their respective electricity distribution licences specify the specific geographic area in which they can operate in addition to prescribing any conditions or limitations on their operations.

Load customers connected to distribution networks pay distribution use of system (or network charges/tariffs) for use of the electricity distribution system either through their retailer or, direct arrangements with the distribution network service provider. They may also pay certain alternative control service charges (a subset of direct control services) in relation to any, additional relevant services that may be provided, such as fault response or reserve feeders.

NEM registered embedded generators generally only pay costs associated with the augmentation to the distribution system required to facilitate their connection. This can be on an upfront or deferred

[8] NEL, section 11(2) and NER, clause 2.5.1(a).

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basis. Embedded generators may also be entitled to avoided TUOS rebates from their electricity distribution network service provider.

A distribution network service customer, including embedded generators have their system usage or export metered at or as close as reasonably practicable to their point of connection to the relevant electricity distribution network. Embedded generators can bid into the national electricity network (subject to applicable AEMO registration and performance standard requirements) but are subject to different loss factor calculations due to their connection to a distribution network connected to the declared shared transmission network, rather than being directly connected to the declared shared transmission network.

2.2 Transmission network arrangements in Victoria

Unlike the distribution network, and in contrast to most other states, the Victorian transmission network is not owned and operated by a single transmission network service provider.[9] Victoria instead applies a unique framework which, as an adoptive jurisdiction, has conferred separately the declared **network planning functions on the Australian Energy Market Operator** (see further below) with AEMO reliant on **declared transmission system operators (DTSOs)** of specified parts of the declared transmission system or systems to provide it with shared transmission network services. These arrangements permit AEMO, in turn, to provide shared transmission services to the electricity distribution networks, as well as large load and generation customers, that are directly connected to the declared shared network.

A contestability framework applies in relation to separable and sufficiently material ($10M) augmentations to the declared network, and transmission operators may compete to build, own and operate this infrastructure and, in turn, once commissioned provide shared transmission services to AEMO in respect of that infrastructure, as well as connection services to any DNSPs or other, directly connected, load or generator customers that are connected to the declared shared transmission network through that augmentation. The NEL and chapter 5 of the NER, among other provisions and instruments, specify the respective roles of AEMO, and the respective DTSOs in Victoria. For example, rule 5.3B of the NER specifies that (among other things) in relation to a declared transmission system:

a) AEMO is the Network Service Provider in respect of the of shared transmission services (or shared use of system services); and
b) the relevant declared transmission system operator is the Network Service Provider in respect of the provision of connection services (being services for the expansion of entry or exit to the declared shared network).

These roles are further explained below.

[9] At the distribution level, the exception to this is Docklands where both CitiPower and Powercor hold a distribution licence. In NSW, contestable transmission for Renewable Energy Zones is also being introduced.

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2.2.1 Network planning function

The Australian Energy Market Operator (AEMO) currently holds the Victoria-specific function of network planner.[10] At a high level, it is responsible for developing and maintaining the long term economically and technically robust Victorian electricity Declared Shared Network (DSN). In a practical sense, it has responsibility for planning and procuring augmentations on the declared shared transmission network in Victoria and providing shared transmission services.

To undertake this function, AEMO procures shared transmission network services from the DTSOs, either through issuing directions for non-contestable augmentations or through competitive tenders for contestable augmentations (those that are severable, and which meet the monetary threshold). AEMO also assists load customers or generators or integrated resource system providers with tenders, wishing to use the DSN (either to draw or export electricity, or both, and/or participate in ancillary markets) with tenders for augmentations to the DSN from current DTSOs and other potential transmission operators. As these augmentations are customarily "funded" either upfront or through an annuity arrangement (paid to AEMO, who, in turn pays the selected DTSO), the customer may also simply elect the DTSO it wishes to use to undertake the augmentation to the DSN and in turn, provide shared transmission services (referred to in the NEL as shared network capability services) to AEMO in connection with the augmentation.

AEMO, in turn, provides a shared transmission network to the customer pursuant to a use of system agreement (UoSA) and customarily, the parties enter into a joint project construction and co-ordination requirements. The DTSO undertaking the augmentation must also have a connection agreement, pursuant to which it provides connection services to the customer. Once an augmentation to the DSN has been constructed, for example, the Elaine Terminal Station (the augmentation of the DSN) for which Australian Energy Operations (AEO) group (formerly Transmission Operations Australia) is the DTSO, customers may connect to the Terminal Station (the DSN) by (among other things):

- establishing a UoSA with AEMO, so they can enjoy shared network services; and
- establishing a connection agreement with AEO (as DTSO), so they can enjoy entry/exit services.

As the relevant DTSO for Elaine Terminal Station, AEO provides connection services to the Mount Mercer Wind Farm, Moorabool Wind Farm and Elaine Wind Farm. These services are provided through various connection assets, including kilometres of 132kV conductors, and transformers. As explained further below, while customers or other parties may choose to build, own, or operate their own balance of plant, including poles/towers and wires, the point of demarcation with the relevant DTSO facility (interface) is the entry (or reasonably practicable closest point) to the demarcated boundary to the existing station.

In the case of Elaine Terminal Station, as in many other cases, the customer has utilised the DTSO to also provide build, own and operate connection assets (through which it provides entry/exit services)

[10] NEL, section 50C(1).

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outside of the demarcated boundary of the existing station. Equally, customers can choose to incorporate connection assets outside of the relevant terminal station as part of their generating system or electrical installation and the Crowlands Wind Farm, which connects into the Crowlands Terminal Station for which AusNet is the DTSO, is an example where a generator has elected to do so.

In addition, the Victorian Government is implementing the Victorian Transmission Investment Framework (VTIF). The VTIF is a new arrangement for how transmission infrastructure is planned and developed in Victoria with the framework currently considering the benefits of consolidating transmission planning and procurement functions into a single entity. This would provide VicGrid with the ability to procure transmission projects directly, rather than through AEMO as the current Victorian transmission system planner.

Box 1: Victorian transmission network nomenclature

Legislation and regulations concerning the Victorian electricity transmission network employ a different suite of terms to those in the national framework.

Victoria's transmission network is declared to be the 'declared transmission system' (DTS) pursuant to a Ministerial Order made under section 30 of the NEVA. The DTS comprises the Declared Shared Network (DSN) of Victoria as an adoptive jurisdiction,[11] (typically elements rated 220 kilovolts (kV) or higher) and transmission connection assets. The NER adopts and applies these definitions from the NEL.[12]

The DSN is operated by DTSOs, which is a designation assigned to transmission network service providers (TNSPs) after they have built or augmented a network asset that they own, operate or control by declaration from the relevant Minister of the Victorian Government and which forms part of the. DTS. An entity is declared a DTSO by the Minister in respect of those assets (which may include the concept of future augmentations to that asset).

2.2.2 Declared transmission system operators (DTSOs)

There are several transmission operators involved in providing transmission services in Victoria. These are transmission operators who are declared by an Order in Council to be a DTSO. Victoria also employs the concept of a relevant (or incumbent) DTSO, primarily in the context of augmentations. The incumbent DTSO is the DTSO that owns the asset(s) to be augmented or in relation to which there is application to connect by a customer, including a DNSP.

[11] Section 2 of the NEL defines the declared shared network of an adoptive jurisdiction to mean "the adoptive jurisdiction's declared transmission system excluding any part of it that is a connection asset within the meaning of the [NER]".

[12] NER, Chapter 10, definitions of 'declared shared network' and 'declared transmission system'.

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Other DTSOs or transmission operators (also usually intending TNSPs) can compete for contestable augmentations to the DSN in as explained elsewhere in this Report, these are augmentations where the capital expenditure is expected to be $10m or more and where AEMO is satisfied the augmentation is separable.[13] As in the case for distribution, companies must be granted a licence by the ESC to provide transmission services. Licences at the transmission level have, to date, been granted in respect of specific assets for which the licence holder has been the successful tenderer or appointed by the Customer.

Network agreements refer to the Network Services Agreement by which DTSOs provide network services to AEMO to permit AEMO to offer a customer a use of system agreement[14]. Connection agreements are between a DTSO and connecting proponent directly, covering the connection services delivered to customers via 'dedicated' connection assets[15] that are not shared with others, as required by the NEL.[16]. These agreements are crucial for ensuring that new connections meet the technical and safety standards required by AEMO and the ESC.

Currently a number of other companies (various separate entities in the Australian Energy Operations group (formerly TOA), Transgrid (directly and through Lumea,) Basslink and Marinus Link) hold electricity transmission licences in Victoria. We are also aware of a number of intending applicants.

As with DNSPs, businesses operating transmission networks are also registered as Network Service Providers (NSPs) with AEMO, in accordance with the NEL.[17]

Ultimately, the Minister for Energy declares a person who owns, controls, or operates the declared transmission system, or a part of the declared transmission system, to be a DTSO[18]. With the exception of non-separable works, the rules determining who may augment the declared shared network apply equally to existing and prospective DTSOs.

Cost recovery arrangements for Declared Transmission System Operators/TNSPs are regulated by the AER and are dependent on the type of services being provided:

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[13] A separable augmentation is an augmentation that (a) will result in a distinct and definable service to be provided by the contestable provider to AEMO; and (b) will not have a material adverse effect on the incumbent declared transmission system operator's ability to provide services to AEMO under any relevant network agreement: NER, clause 8.11.3.

[14] NEL, section 50E(1)(a).

[15] This is distinct from the 'dedicated connection asset' concept defined in Chapter 10 and used in rule 5.2A of the NER.

[16] NEL, section 50E(1)(b).

[17] NEL, section 11(2) and NER, clause 2.5.1(a).

[18] NEVA, section 31.

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- **Prescribed transmission services**: Prescribed transmission services are the principal services provided by a transmission network and include the use of the system for the conveyance of electricity at required network performance standards (including a service that ensures the integrity of the transmission system) and all network to network connection services. Transmission Use of System (TUOS) charges recover the costs of providing shared transmission network services in Victoria. These charges are calculated in accordance with the NER[19] and AEMO's Pricing Methodology[20]. Prescribed transmission services are subject to revenue regulation by the AER.

- **Negotiated transmission services**: Usually provided to a single or small group of direct-connect customers for DSN connection services. Negotiated transmission services include, most relevantly, the interface between the shared network and contestable connection or shared network services: for example, an entry service connecting a new generator or generators to the transmission network at a connection point. The terms for providing negotiated transmission services, including the cost, are determined through private contract between the TNSP and the party wishing to receive these services, but must be negotiated in accordance with the framework set out in Chapter 5 of the NER.[21] Negotiated transmission services are typically non-contestable.

- **Non-regulated transmission services**: Not all services provided by TNSPs are subject to price regulation. Non-regulated transmission services are services that the providers are not obliged to provide, and which are able to be provided on a contestable basis by a range of suppliers. They include augmentations to the DSN which are contestable under chapter 8 of the NER, as well as funded augmentations, such as the construction of a new line between a new generating system and the declared transmission system. For example, a customer may choose to engage the relevant (or incumbent) DTSO to build, own and operate such a line or build, own and operate it as part of their own generating system. The interface point between the relevant DTSO's facility (declared transmission system) and the generator or other customer's facility (in the case they have decided to build, own and operate their own line) is the demarcated boundary of the terminal station.

2.3 Victoria's contestability framework

Under the national framework, augmentations of the DSN are contestable when they meet the requisite separability and monetary requirements. The successful or selected DTSO will build, own, and operate the augmentation and negotiate the associated shared network (capability) services to

[19] Chapter 6A, Part J and Schedule 6A.4.

[20] https://aemo.com.au/-/media/files/electricity/nem/participant_information/fees/2023/revised-pricing-methodology-for-1-july-2022-to-30-june-2027.pdf?la=en

[21] Chapter 5 (version 109), rule 5.4A. Rule 5.4A continues to apply in Victoria and the deletion of that rule by the *National Electricity Amendment (Transmission Connections and Planning Arrangements) Rule 2017* is of no effect: clause 11.98.8(2).

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be provided to AEMO and connection services to the customer. AEMO will also negotiate a use of system agreement with the customer pursuant to which it will provide shared transmission (system) services. A customer wishing to directly use the electricity transmission system in Victoria, such as a generator, large load customer or integrated resource system must have both a use of system agreement with AEMO and a connection agreement with the relevant (incumbent) DTSO.

A customer may also (directly or use other parties to perform one or more of the following) build, own or operate the assets which connect the transmission system of the relevant DTSO (e.g. interface at demarcated boundary of terminal station) including power lines, and transformers and other balance of plant infrastructure.

Unlike the remainder of NEM states, contestable shared network asset augmentations are owned ***and*** operated by a relevant DTSO in Victoria. Operation and maintenance is not handed back to a "primary" TNSP as it is in the other States in the NEM. In Victoria, this is because the primary TNSP is AEMO who is not established to have the capabilities for operation and maintenance of transmission assets.

Table 2 – Summary of connections and augmentations characteristics

	Connection	Augmentations
Definition	Involves linking a specific user (like a generator, large load customer or integrated resource system) to the network. This includes the construction, operation, and maintenance of assets required to establish this link.	Involves expanding or upgrading the network's overall capacity and infrastructure. This includes upgrading existing infrastructure or adding new infrastructure to meet growing demand or improve network reliability.
Contestability criteria	Contestable when the connection is directly funded by generators or large loads up to the demarcated boundary of the terminal station.[22]	Contestable if the augmentation exceeds the cost threshold and is separable outside the existing or incumbent DTSO station.
Stakeholders	Direct involvement of customers who may select relevant DTSO or manage connection assets themselves.	Managed by AEMO and the relevant DTSO, with competitive processes applied where relevant.

[22] The exact demarcation point for the contestability arrangements for connection assets were somewhat unclear across the NEM before the 2016 rule change. This rule change clarified the NEM arrangements outside Victoria, but the rule change did not apply to Victoria. The demarcation point in the above table reflects our understanding of the practice of TNSPs generally under the regulatory framework across the NEM before the 2016 rule change and which continues in Victoria. AEMC, *National Electricity Amendment (Transmission Connection and Planning Arrangements) Rule 2016, Draft Determination, Draft Rule Determination*, 24

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The relevant DTSO of an existing part of the DSN, or augmentation to the DSN, provides shared network capability services to AEMO (so it can, in turn, provide transmission services to the customer) and negotiated services, in the form of connection services, to the customer and may, depending on the option selected by the customer provide expanded connection services by also designing, building or operating connection assets that extend beyond the boundary of the demarcated boundary of the relevant terminal station.

This section provides a high-level overview of these processes, as context for the rest of this report.

2.3.1 Augmentations

Transmission augmentations in the Victorian DSN may be contestable. Clause 8.11.6 of the NER details the contestability framework for contestability in the DSN. AEMO is responsible for determining whether augmentation works on the DSN are contestable. It may also act as the intermediary between the DTSO and Connection Applicants during contractual agreements. An augmentation is contestable if:

- the cost of the augmentation is expected to be greater than $10 million, and
- the augmentation is not difficult to separate from existing transmission infrastructure, and
- AEMO does not consider contestability to be uneconomic, impractical, or adversely impacting power system security.

Several projects have been awarded to different DTSOs through contestable processes, including the Kiamal Solar Farm Terminal Station and the Berrybank Wind Farm Terminal Station, both awarded to Transgrid/Lumea entities. Elaine and Ararat Terminal Stations are owned and operated by separate entities connected to Australian Energy Operations, who we understand is affiliated to Powercor. We understand there are further new intending DTSOs across the transmission network.

Consistent with its declared network planning function conferred under section 50C of the NEL, AEMO acts to ensure that terminal stations are designed and built so that they do not inhibit any future development in line with AEMO's planned augmentations of the DSN, including planning for ultimate station configurations.

If an augmentation is contestable, parties are permitted to competitively source the construction and operation of an augmentation from a suitably qualified business, who may be a DTSO or a current or prospective DTSO. In contrast to the contestability framework in other NEM sates, there is no requirement for a competitively sourced augmentation of the DSN to be transferred to the incumbent DTSO for operational purposes post service commencement. A non-contestable augmentation must be constructed and operated by the incumbent DTSO – that is, the DTSO which owns and operates that part of the transmission system to which the augmentation will connect. In all cases, the incumbent DTSO is also responsible for building the interface works that connect the augmentation to the DSN at the point of interconnection.

November 2016, p 12. See also *Electricity Amendment (Transmission Connection and Planning Arrangements) Rule 2015, Consultation Paper,* 26 November 2015, pp 9-10 and Grid Australia, *Categorisation of Transmission Services Guideline*, August 2010, section 3.2 and footnote 3, p 7.

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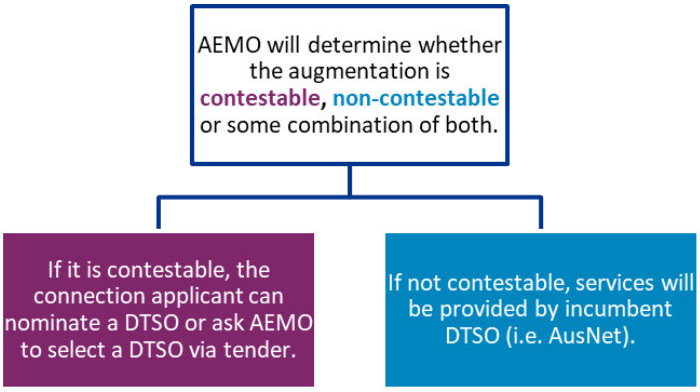
AEMO is responsible for investment and augmentations, whereas AusNet is responsible for the ongoing replacement and maintenance of the vast majority of the DSN. Non-contestable augmentations commissioned by AEMO to the DSN in the immediately preceding regulatory period (referred to in the determination for AusNet as 'growth assets') are added to AusNet's Regulatory Asset Base (RAB) at the start of the next regulatory control period. The reason for this treatment is that growth assets provide prescribed transmission services, but their associated capital expenditure does not reflect in AusNet's revenue determination (as AusNet is not responsible for the planning of these assets). The other DTSOs in Victoria do not currently maintain a RAB of assets which provide prescribed transmission services.

Figure 3 – Augmentation contestability provision



If a connection requires an augmentation to the DSN, the cost of that augmentation is incorporated into the use of system charge payable by customer to AEMO. If another connection project later uses this augmentation the initial use of system charge may be reduced and reallocated between all users from the date that project is connected in accordance with the Cost Allocation Policy.

AEMO enters into a Use of System Agreement with the connecting party and procures network services under separate network services agreements from the relevant DTSO to the existing DSN and the DTSO for the augmentation to the DSN (which is the relevant DTSO for the augmentation), respectively.

A generator customer will pay TUOS charges reflective of the cost of the augmentation and ongoing maintenance and operation thereof. A large load customer will also pay a prescribed TUOS charge in accordance with the AEMO Revenue Methodology[23] and depending on the configuration at the terminal station to which the customer's facility has been connected, the customer may also be required to share in the prescribed TUOS charges payable by those already connected to the terminal station, including electricity distribution network service providers (interconnection services).

Interconnection services, being services between transmission network service providers or transmission network service providers and distribution network services providers, are generally

[23] https://aemo.com.au/-/media/files/electricity/nem/participant_information/fees/2023/revenue-methodology-for-victorias-electricity-transmission-system-clean.pdf?la=en

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prescribed transmission service and charged in accordance with the revenue determination of the relevant DTSO. The provision of such services is also subject to antidiscrimination obligations under the Transmission Ring Fencing Guideline from the AER.

Metering of customers directly connected to the declared shared (transmission) network is conducted in accordance with applicable metering standards for the applicable voltage / facility and clause 7.6.3 of the NER specifies that the relevant TNSP is the responsible metering co-ordinator in such instances. The metering point will be as close to the connection point to the DSN, so far as reasonably practicable.

2.3.2 Connections

In Victoria, ownership of new transmission assets is subject to contestability. Generators and large energy users have the option to build, own, and operate their own connection assets, which can be part of the generation facility. Examples include the Mortlake South Wind Farm and the Crowlands Wind Farm up to the demarcated boundary of the relevant terminal station.

In order to connect a generator or large load to the transmission network, some or all of the following are required:

c) The provision of a physical connection between the connecting party's facilities and the shared transmission network, including the construction, operation and maintenance of any assets required to provide that physical connection.
d) The construction, operation, and maintenance of a new terminal station (otherwise known as a substation) to form part of the DSN to facilitate the connection, or upgrades to an existing substation.
e) Construction or implementation of any upgrades necessary to the DSN, as a result of the connection, to ensure it continues to meet regulatory and contractual requirements.
f) The construction, operation, and maintenance of an 'extension' from the connecting party's facilities to transmission network assets that provide the physical connection – e.g., that may comprise transmission lines and transformers between from the generator's system and boundary of the shared network aspect of the substation.

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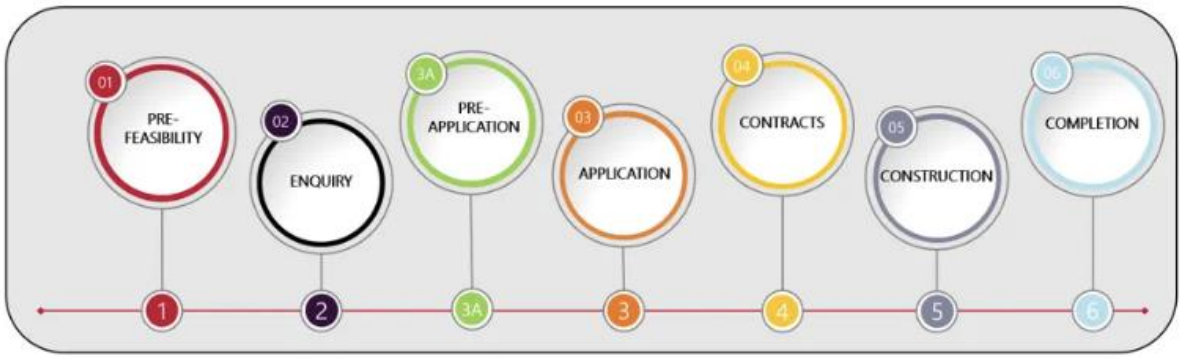
Figure 4 – AEMO new connection process overview[24]



The technical requirements for connecting a new generator are primarily dependent on the:

- timing of the connection application
- location of the connection
- complexity of the connection arrangements and their flexibility for future development
- impact on the reliability of the DSN
- project commissioning order, relative to other projects connecting to the DSN in the same region.

The initial feasibility design for new connections will support the development of transmission network augmentation assets such as terminal stations that are flexible, economical and which allows for future expansion to accommodate geographically dispersed generation sources, loads, and increased intra- and inter-regional DSN capacity and/or performance.

[24] See AEMO | Victorian transmission connections process overview

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3 Powercor's application

In this Section, we summarise our understanding of Powercor's transmission licence application, before analysing the implications of this licence if approved in the next two Sections of this Report.

Powercor currently holds an electricity distribution licence for a geographic area in the west of Victoria (plus the Docklands) which permits it to distribute or supply electricity to supply points within its licensed distribution area. It is now seeking an electricity transmission licence for the same geographic area. Powercor acknowledges the granting of this licence would be 'relatively novel'.[25]Powercor is currently one of five holders of an electricity distribution licence issued by the ESC in Victoria, having held such a licence since 1994. It operates as the provider of distribution network services in the western region, illustrated in Figure 5, below.

As a licensed DNSP, Powercor has responsibility for providing regulated network services on distribution-level voltages in the specified area. We note that Powercor's existing electricity distribution licence does not specify the voltage levels to which it applies. Some transmission and distribution licences do include a definition. This is relevant given, in the absence of a definition in the licence, Powercor's mandate can be assumed to sit within the NER definition of distribution network, i.e. up to 220 kV (nuances noted in Section 2), while some but not all transmission licence holders who are able to operate in the same geographic area (including AusNet's electricity transmission licence) are licensed, as per the transmission network definitions by the NER as extending down to 66 kV.

Powercor's distribution network consists of both overhead and underground lines, substations, switchgear, and other equipment. It is primarily carrying electricity from terminal stations, where electricity voltage is reduced from transmission-levels to sub-transmission (usually from 220kV to 66kV), to customers connected at lower voltage levels.

[25] Powercor, *Electricity transmission licence application form*, p.6.

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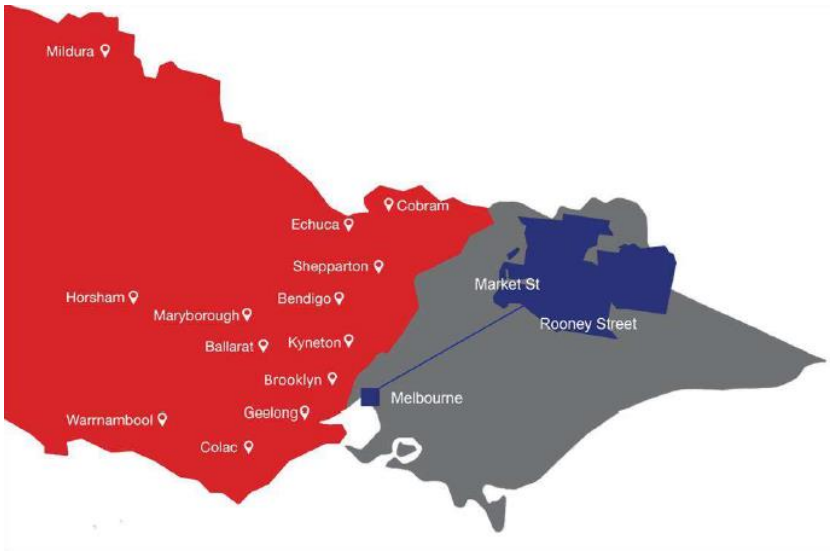
Figure 5 – Map of Powercor's distribution network area, citation: Powercor application.



Powercor is not able to build, own or operate transmission assets itself – by virtue of the NER, this means it is not able to deliver assets and provide services at 220kV and above, which is typically terminal stations and the lines and other equipment on the higher voltage side of these stations. Powercor is responsible for network assets and service provision at the sub-transmission level.

In the case that connections to Powercor's network, or organic growth in Powercor's load, require network augmentation at transmission voltage levels, there are currently regulated options for Powercor to work with AusNet (or the appropriate DTSO if not AusNet) to enable these works to take place.

For example, if a large customer is seeking to connect to Powercor's distribution network at high voltage levels and augmentation of a transmission network asset such as a terminal station is required to support the connection, Powercor is currently able to request the necessary augmentations of AusNet or other incumbent DTSO, noting that there are multiple contestably-owned terminal stations in western Victoria. Where AusNet is the incumbent DTSO, there is an agreement between Powercor and AusNet to enable the necessary augmentations to occur. AusNet would typically be able to recover the costs of the transmission augmentation from the distribution-connected customer via Powercor.

Similarly, in the case that transmission network augmentation is required to support the changing needs of the distribution network (organic growth in the network or load, for example), Powercor can initiate its own augmentation requests to AusNet or other incumbent DTSO.

It is important to note that, in both cases, AusNet is responsible for delivery of the augmentations as the incumbent DTSO only when the required services are non-contestable, for example, where augmentation of an existing terminal station is required. In the case that the required services are contestable, responsibility for delivery of the augmentations will be allocated through the competitive tendering process (see section 2.3 of this Report).

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3.1 Transmission licence application

Powercor states it intends to use the licence to deliver new transmission infrastructure, including shared network infrastructure, to support the connection of customers, such as data centres and embedded generators, to its distribution network. It states the connection of these customers often requires augmentation of both the distribution and transmission network.[26]

The rationale of the licence application, as provided in the application and cover letter, is to improve competition in the market, providing customers with choice in their transmission network service provider, "leading to lower prices and faster delivery times" (Cover letter). Powercor is seeking the licence to enable it to deliver new transmission infrastructure to support the connection of larger generation or load customers to its distribution network (connections which require both distribution and transmission network works). Powercor views this as enabling an improved experience for its customers.

In Victoria, electricity transmission licence applications are made with respect to activities undertaken by reference to defined network assets. In a unique departure from this asset-based approach, Powercor has applied for an electricity transmission licence based on a geographical area commensurate with its distribution network area (the area described in Schedule 1 of the Powercor electricity distribution licence). The proposed transmission licence would see the geographic area identified in Schedule 1 rather than specific assets and would give Powercor the ability (but not the exclusive right) to provide transmission services within this area. Importantly, the provision of transmission services would remain contestable, as contestability is determined by legislation, not licensing.

In terms of the scope of assets Powercor is seeking to develop, it intends to deliver new terminal station infrastructure to connect new customers to the Victorian declared shared network. The application states that "this would include, but not be limited to, busbars, circuit breakers, power transformers, capacitors, reactors, and secondary systems as functionally defined by whichever party is procuring the new infrastructure" (Application section 1.5(h)). Powercor has specifically identified that it is not seeking to construct large transmission line corridors. While this is the stated intention, as the licence is being sought for the geographic area it would not inherently limit the transmission assets Powercor could deliver.

Once developed, it is expected that new terminal station infrastructure and other transmission network augmentations pursued by Powercor under a transmission licence would form part of the declared transmission system in Victoria. It can be expected that Powercor would be declared to be a 'Declared Transmission System Operator' from the time it has commissioned projects that form part of the DTS.

[26] Powercor, *Electricity transmission licence application form*, p.6.

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4 Implications of licence approval

In this Section, we assess the implications of Powercor's transmission licence application if approved on the geographic basis without reference to specific assets, as proposed. We assess Powercor's application through the use of several case studies.

As identified in Section 3 of this report, Powercor's application for an electricity transmission licence is primarily concerned with the potential to facilitate new connections, or expand existing connections, at higher network voltages than can otherwise be delivered solely through distribution network services.

Given this primary intention, our assessment of the implications of licence approval is focused on the process of connecting new projects or expanding connections for existing projects. Specifically, while the licence application is agnostic of the connecting asset, the use case of focus in this Section of the Report is the connection of large loads, such as data centres. We understand that network service providers are fielding an increasing number of inquiries about large load connections, specifically data centres, and that the size of this load is increasingly pushing up into the upper distribution voltages and transmission voltages. In some cases, these load connections may be initiated at the distribution level (mostly likely sub-transmission) with voltage requirements shifting upwards and later needing a transmission connection as load increases.

For many of the new larger connections, particularly load, the connecting parties do not necessarily have extensive prior experience in the NEM or well-resourced domestic teams to support network connection. This may be true, for instance, of international developers, data centre providers, or hydrogen production proponents. It cannot be assumed that these connecting parties have a clear understanding of the connection process, the roles and responsibilities of different service providers, and where services are available via a monopoly provider versus contestable procurement. Given the unique arrangements in Victoria, even those with prior experience in other NEM regions cannot be assumed to have clarity of the unique Victorian connections process and when contestability does and does not apply. This potentially limited knowledge of the process is particularly relevant to consider in the context of connections which could be delivered at the distribution or transmission levels. Data centres, in particular, are interesting to explore here as the nature of the industry means they are open to connecting at a wide range of locations (mostly but not exclusively in metro areas), and as a new and significantly growing industry, most of the locational decisions on where to invest have not been made yet – so getting the regulatory arrangements right to promote efficient investment decisions by both the data centres and networks building supporting network infrastructure could have a material impact on the NEM and long term interest of consumers.

Without reconsideration or mitigation (e.g. through licence conditions), the granting of such a licence as sought by Powercor risks the following potential harms:

d) reducing transparency of options and pricing for customers, by 'bundling' non-contestable distribution services and contestable transmission services (for which customers can shop around for competing offers) such that the delineation is unclear. While a bundled offer may be a simple offer for the customer, it risks detracting from, rather than enhancing competition for contestable services;

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(a) risk of costs not being appropriately allocated between (including over time in situations in which the nature of a service, and or use of assets, may change) distribution service customers and transmission service customers and potential long term market impacts and dynamics;

(b) inconsistences, and confusion, with the current national regime that applies in Victoria regarding augmentations to, and the provision of shared transmission services and connection services utilising, the declared shared network in Victoria, as well as uncertainty as to whether the potential use cases will help or hinder the Victorian Government's ongoing development of the Victorian Transmission Investment Framework.

This Section provides an overview of the connection process under current arrangements and then puts forward several distinct illustrative use cases to consider the potential outcomes under the prospective scenario that Powercor's transmission licence is approved.

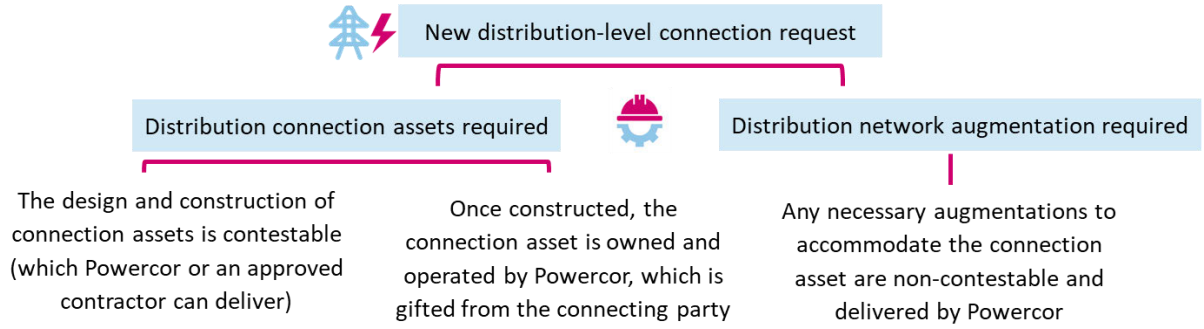
4.1 New connections under current arrangements

Under its current electricity distribution licence, Powercor is able to support new connections to its distribution network either through directly delivering the necessary services or by facilitating the required works in the transmission network. These connections processes, as they occur under the current arrangements, are outlined below.

4.1.1 New connections to the distribution network

For new connections into lower voltage levels of Powercor's distribution network which do not directly require augmentations to the transmission network (such as a basic connection), Powercor is able to deliver this connection without dependence on a DTSO based on its electricity distribution licence.

Figure 6



Under this scenario, Powercor is able to deliver the necessary augmentations to the distribution network to enable the connection. In negotiating the terms and conditions of the connection contract, Powercor must assess the extent and costs of any necessary augmentation and provide this information to the connection applicant. Powercor may call for tenders to deliver the augmentation

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works, however certain tasks can only be undertaken by Powercor for safety and operational reasons.

The separable connection assets which connect the project into the distribution network may be designed and constructed as a contestable service and can be provided competitively by a suitably qualified entity (EPC contractor or other service provider that is accredited by Powercor). Powercor can also provide the contestable service if requested to do so by the customer.

Depending on the nature of the connection, a connection charge may be payable by the connecting party (in addition to ongoing distribution use of system (DUOS) tariffs) to make a reasonable contribution towards the cost of augmenting the distribution network and/or extending the network to facilitate the connection.[27] This connection charge framework applies to non-registered participants who connect under Chapter 5A of the NER, which typically means load customers and small generation under 5 MW.

Connection charges may consist of a capital contribution towards the cost of supplying standard control services, alternative control connection service charges and any applicable pioneer scheme charges (the latter applies where connection assets initially used for a single customer are later shared with other new connections). Each distributor must submit a connection policy to the AER for approval which sets out its approach to calculating connection charges. The connection policy must be consistent with the AER's connection charge guidelines and requirements of the NER.[28]

The intent of the connection charge framework is to promote cost reflective, efficient, and fair outcomes where new connections make a reasonable contribution towards the costs they impose on the distribution network, rather than for these costs to be subsidised by other customers.

Box 2: New connections between 66 kV and 220 kV

As identified in Section 3, the responsibility for connection assets and network augmentation required for connections between 66 kV and 220 kV under current arrangements is not straight forward. The arrangements described above currently apply for connections up to (but excluding) 220 kV in Powercor's distribution network, with Powercor able to, as a monopoly distribution network service provider, deliver the necessary network augmentations in this range.

4.1.2 Connection requiring both distribution and transmission works

For new connections into Powercor's distribution network which do require augmentations to the transmission network, Powercor must engage with the relevant incumbent DTSO to have the necessary network augmentations delivered.

[27] *National Electricity Rules*, chapter 6, part DA.

[28] AER, *Connection charge guidelines for electricity customers*, Final version 3.0, April 2023.

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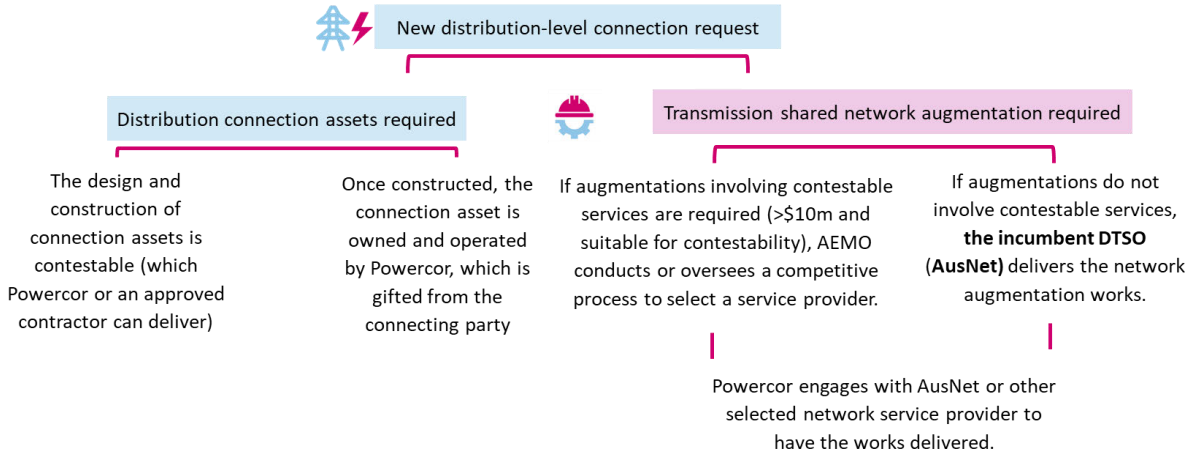
Figure 7



Under this scenario, Powercor is dependent on other parties to deliver the connection to its distribution network. Augmentations to the shared transmission network will either be delivered by AusNet or will be delivered by a DTSO (or intending DTSO) chosen through competitive tender, in consultation with AEMO.

Consistent with the previous case above for distribution connections, the separable connection assets which connect the project into the distribution network may be delivered as a contestable service and can be provided competitively by a suitably qualified entity (EPC contractor or other service provider that is accredited by Powercor). Powercor can provide the contestable service if directed to do so by the customer.

Costs for the private connection asset are fully recovered from the connecting party. Costs for the transmission network augmentations are likewise fully recovered from the connecting party. The costs for any additional augmentations to the distribution network are recovered from the connecting party via the calculations described in subsection 4.1.1.

4.2 Connections with prospective arrangements

Using the connections processes under current arrangements as a reference point, it is then pertinent to consider the connection process in the context of Powercor holding both an electricity distribution licence and an electricity transmission licence for projects within the geographic area to which its electricity distribution licence already applies.

The licence would see Powercor able to compete to provide contestable transmission network services and to deliver separable connection assets within the geographic area. This would apply to both customers seeking a distribution-level connection which requires transmission network augmentations, as well as for customers seeking a transmission-level connection. Powercor already has this ability to compete, as contestability is determined by legislation, not licensing. The difference being under the current arrangements, if Powercor builds, owns, and operates the contestable transmission assets it would need to obtain a transmission licence before operation commenced, with an assessment made on a case-by-case basis, rather than the geographic approach to

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transmission licencing that Powercor now seeks. In either case, Powercor would still not be able to deliver a combination of distribution and transmission services for non-contestable brownfield augmentations.

With an electricity transmission licence, Powercor would be in a position to deliver select transmission network assets under a number of circumstances outside of brownfield augmentations at existing terminal stations despite the presence of the relevant incumbent DTSO. However, importantly, the licence would not change the relevant DTSO, and therefore delivery of augmentation projects that are both non-contestable or non-separable associated with new connections would still be within the remit of the relevant DTSO.[29]

Powercor would still need to compete with other bidders (who may or may not be transmission licence holders) to be allocated the delivery of network augmentations at transmission voltage levels. That said, in the case that generation or load is seeking to connect at the distribution level (albeit requiring transmission network augmentations), Powercor would likely be the first point of contact and responsible for delivery of elements of the connection works through its distribution network responsibilities.

Once Powercor has developed an asset at the transmission level which forms part of the declared shared network, Powercor would typically be declared a DTSO with regard to that particular asset, and a new declared shared network covering those specific assets may be declared. In the case of further brownfield network augmentations (upgrades to the new DSN equipment), Powercor will thereby take on ownership of these newly constructed assets.

[29] NER, clause 5,3B.

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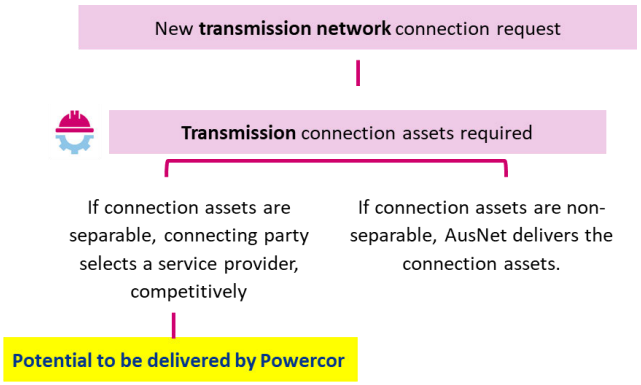
4.2.1 Illustrative case: New transmission connection by Powercor

Figure 8



Background

This illustrative case could arise in a future in which Powercor is granted a transmission licence consistent with its application, allowing it to operate connection assets at transmission voltages, within its existing distribution licence area.

The situation would occur when a new customer with large load (or generation) capacity, such as a data centre, requires a connection to the transmission network within western Victoria. This connection would require the development, ownership, and operation of new, separable, network infrastructure to connect the new load to the high-voltage transmission network (at or above 220 kV) to meet the customer's significant power demand.

Given the connection assets are separable and are connecting into the transmission network, the connecting party is able to seek a service provider with a transmission licence (or working with a transmission licence holder) to deliver, own and operate the assets, via competitive tender. Powercor would be able to compete for the delivery of these assets.

Implication

This illustrative case highlights, first and foremost, the value in having a wider field of electricity transmission licence holders in Victoria. At transmission voltages, only transmission licence holders are able to operate the connection assets (as the connection assets are considered transmission network assets), which can act as an initial barrier to potential candidates in a competitive process. We note that other parties can bid for these projects and are able to design and deliver the infrastructure, but only transmission licence holders may own and operate the assets. However, we note that new entities regularly enter into connection agreements before holding a transmission licence and seek licensing prior to commencing operations. Granting Powercor's licence, whether defined by geographic area or asset, would provide an advantage for them against the pool of potential providers that connecting parties could seek bids from.

Transparency and distinction between distribution and transmission services

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A risk that may arise if not suitably mitigated, however, is uncompetitive outcomes on account of information asymmetries and incumbent advantage for projects connecting near existing Powercor distribution network assets. Given the spatial coincidence of Powercor's proposed transmission licence with its existing distribution licence, Powercor would be preparing its bid for the connection asset with knowledge of, access to, and control over the existing distribution network infrastructure in the area. There is the potential that this will enable Powercor to submit bid based on information not accessible to its competitors, creating an unfair advantage, in the absence of appropriate distinctions between distribution and transmission services. This is particularly the case if Powercor puts forward a bid which leverages distribution assets – for example, by using existing distribution network poles/towers or reconfiguring distribution assets to accommodate the transmission connection asset – which its competitors would not have access to or control over.

While this has the potential to deliver pro-competitive outcomes for the connection applicant by bringing down the cost of the connection, it may be problematic if it results in distribution customers paying for assets or services which are being used to serve the needs of a private connection, and if it dissuades competition by creating an uneven playing field.

It also risks creating an incentive for scaling up, or 'gold-plating' the distribution network at the expense of distribution customers, to allow for use of the distribution assets in the provision of contestable transmission services down the track, lowering the cost for the connection applicants and improving the competitiveness of bids.

Accordingly, there remains the potential under the current regulatory arrangements for cross-subsidisation or discriminatory behaviour to competitors between distribution services and transmission services.

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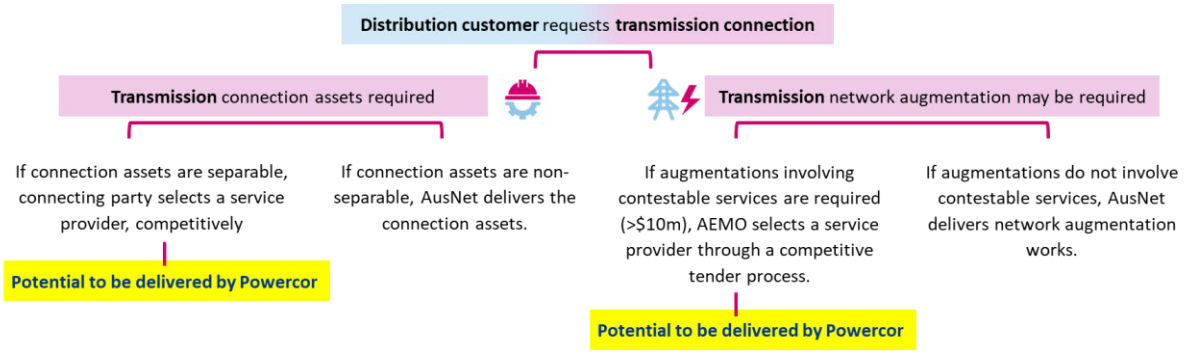
4.2.2 Illustrative case: New distribution connection requiring scale-up to transmission voltages

Figure 9



Background

This illustrative case considers the situation in which a new load in western Victoria, such as a new data centre, initially requires connection at lower distribution voltages with the knowledge that it will require network connection at transmission voltages as its electricity requirements scale up in the near- or medium-term.

As the holder of both an electricity distribution licence and electricity transmission licence across the same geographic region, Powercor would be in a position to connect the new load into its distribution network and would also be licenced to compete for the development and operation of the connection assets for connection to the transmission network if separable. It should be noted that in the majority of brownfields, our view is that these assets would not be separable.

Implication

As in the previous illustrative case, this situation does reinforce the potential value in Powercor being granted a transmission licence, as this would add to the potential competition for the operation of transmission connection assets across a large region of Victoria. Greater competition has the potential to benefit the connecting parties, overall system, and ultimately consumers, by enabling more efficient connections to the grid.

However, there are a number of potential challenges to enabling a single entity to offer distribution services as a monopoly provider and then transmission connection services as a contestable service, to the same customer.

Transparency around contestability

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At low voltage levels in western Victoria, Powercor operates as a geographic monopoly for the provision of regulated distribution network services and owns and operates all connection assets into the distribution network at this voltage level. Connection applicants seeking to connect initially at this level are likely to initially engage with Powercor for this reason.

If a connecting applicant does pursue an initial connection into distribution levels and then seeks to scale up, it is critical that the existing requirements to disclose when services are contestable is upheld. There is a risk that Powercor is viewed by connecting parties to be a 'one stop shop' and that applicants choose Powercor to deliver and operate their subsequent transmission connections, waiving (perhaps inadvertently) their opportunity to competitively procure the work.

Preferencing distribution connections

Powercor may advise prospective connecting parties on the sizing of their connection. This includes advising on whether to connecting at higher voltages from the outset rather than scaling up the connection over time, and advising on whether a higher voltage connection should be at the distribution level (sub-transmission) or the transmission level.

Powercor has no incentive to be impartial in this advising role, given that operation of connection assets and delivery of distribution-level network augmentations to support a distribution-level connection are the sole remit of Powercor and not contestable, whereas transmission connection assets and augmentations are contestable or are undertaken solely with AusNet. Connections into the distribution network rather than the transmission network will also attract DUOS payments to Powercor, which transmission connections would not. Existing infrastructure, market knowledge and the effective extension of their monopoly on distribution give Powercor a significant advantage into the transmission system, creating potential barriers for other contestable proponents. This can stifle competition and innovation in the sector.

In cases where the connecting party knows at the outset that it ultimately requires a high voltage connection for its project, it may be the case that connecting in at a transmission voltage at the outset will be the most cost-efficient option. It is important that measures are in place to ensure connecting parties have full visibility of the options available to them and are made aware of the spectrum of parties able to deliver them at this initial stage.

Cost recovery

The scaling up of distribution-connected loads to transmission connections presents a cost recovery risk under the current cost recovery framework for DNSPs. This is due to the connection charge framework not envisaging this situation, and therefore not being fit-for-purpose to deal with the situation.

As discussed above, connection charges may consist of a capital contribution towards the cost of supplying standard control services. The capital contribution is determined by applying the 'cost-revenue test'. This test estimates the incremental cost that the new connection is expected to impose on the distribution network and subtracts from this the incremental revenue the new connection is expected to pay through DUOS charges over a defined time period. For business customers, this period is 15 years by default, though DNSPs may choose an alternative time period

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where 15 years is not a reasonable estimate.[30] Whether 15 years or an alternative time period is selected, either way, the assumed period must be chosen upfront at the time of connection and there are no subsequent adjustments if the future reality does not reflect the assumption made upfront.

These arrangements recognise that new connections will already make some contribution to the costs they impose on the distribution network via DUOS charges (over time), and so the capital contribution component of their upfront connection charge should only be for costs over and above the amount they are already expected to contribute via DUOS charges.

However, if the default 15-year period is applied in the cost-revenue test, and the connection disconnects from the distribution network (in order to upgrade and connect to the transmission network) in less than 15 years, then the capital contribution made by the customer will have been too small and they will contribute too little towards the costs of their connection. However, those costs no longer paid by the customers remain in the DNSP's RAB and would now be subsidised and paid for by other customers. This would not reflect an efficient or fair outcome in the long-term interests of Victorian consumers.

[30] AER, *Connection charge guidelines for electricity customers*, Final version 3.0, April 2023.

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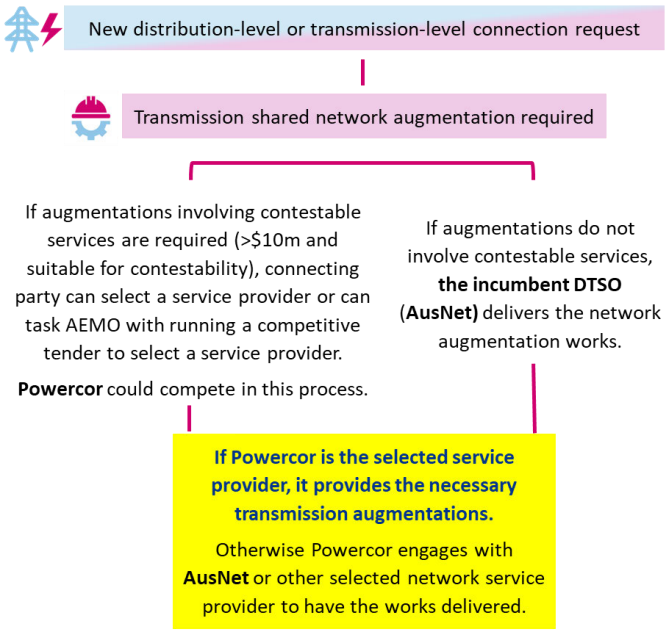
4.2.3 Illustrative case: Contestable augmentations to the shared transmission network

Figure 10



Background

This illustrative case considers the outcomes of Powercor being granted an electricity transmission licence in the context of delivering augmentations to the transmission network, to facilitate a new or altered network connection. Specifically, the illustrative case considers the situation when a large load (such as a data centre) is being connected to either the transmission or distribution networks and the connection necessitates augmentation of the declared shared network to accommodate the increased capacity and ensure stable integration with the existing network. In this example, the augmentation could include brownfield augmentations to equip existing network infrastructure to facilitate the new connection.

It is worth noting that this is the use case Powercor puts forward in its licence application – seeking to undertake transmission network augmentations itself, when required to enable distribution-level connections. Despite this being the core rationale for its electricity transmission licence application, Powercor would only be in a position to deliver augmentations which are contestable, including costs exceeding $10 million, and for which it is the chosen provider.

Implication

With a transmission licence and as a ***prospective*** DTSO or declared DTSO, Powercor would be able to compete with other licenced transmission network service providers to secure the contestable network augmentations.

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As for the prior illustrative cases, it is important to note that licensing Powercor to compete for contestable transmission projects is, overall, expected to be a positive outcome for competition. Enabling Powercor to undertake transmission network augmentations when contestable will afford them advantages to compete as a prospective bidder and may lead to more efficient outcomes for Victorian consumers.

Coordination of technical and operational needs

If selected as the preferred tenderer to deliver a network augmentation, upon delivery of the works Powercor would be expected to be declared a DTSO for the purposes of those assets. In the case that the augmentations were brownfield, the result of this declaration may be that some assets change operating responsibility – likely from the incumbent DTSO to Powercor. Even without a change of ownership, the augmentations may result in Powercor developing and owning equipment which is co-located with equipment owned and operated by another DTSO.

This situation already arises under current arrangements, as an inevitable outcome of a contestable framework. However, until now the other prospective DTSOs for network augmentations have typically ***applied*** for a transmission licence in relation to the specific asset, and there has been time and ***a*** process for ***the*** incumbent and ***prospective*** DTSOs to engage on and work through complex technical and operational needs, including placement, security, and access to site for the arrangement. Relevant authorities and AusNet have highlighted that the operation of the Victorian network has become increasingly complex and difficult as the transition proceeds at pace.[31] In the case of Powercor's current application, which proposes a geographic area approach, there is a possibility that this important juncture to assess risk is lost, and the same project-by-project technical and operational discussions do not occur, given there is no requirements to meet the incumbent DTSO technical specifications or security obligations.

This is particularly important in the context of switchyards and other sites which contain a range of equipment vital to network operations ***which may be subject to national security legislation***. A change in ownership or co-location of equipment from two different DTSOs at these sites must be carefully managed, so that a range of measures including equipment technical specifications, placement, safety and access protocols, site plans and security measures are properly communicated and coordinated in line with the current operational and technical requirements that the incumbent operator must maintain.

The *Security of Critical Infrastructure Act 2018 (Cth) (SOCI Act)* imposes obligations on entities owning or operating critical infrastructure assets, which includes transmission assets, and the exact requirements for individual entities will differ. Given that DTSOs captured under this legislation are required to have stringent risk management plans in place and are liable for compliance breaches, ensuring structure around communication, technology, cyber security, people access, roles and responsibilities in the context of brownfield network augmentations will be important to both DTSOs (and the wider system and society, given the ramifications of a failure of Critical Infrastructure).

[31] See section 3.4 of AEMO's Victorian Annual Planning Report, Oct 2023 and AEMO's 2024 update to the 2023 Electricity Statement of Opportunities.

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From a site planning and use perspective, AEMO and AusNet, where it is the relevant DTSO, have typically planned and agreed existing terminal station ultimate configuration and have planned the declared shared network connection assets during the initial development stage[32]. In the case that an alternative DTSO takes on operating responsibilities of a future terminal station site, or requires access to and use of the station, it is important that there is a concerted effort to share and communicate these initial plans to ensure site use remains consistent with the plans.

[32] AEMO, 2023, Guidelines for Establishing or Connection to Declared Shared Network Terminal Stations and Transmission Lines in Victoria

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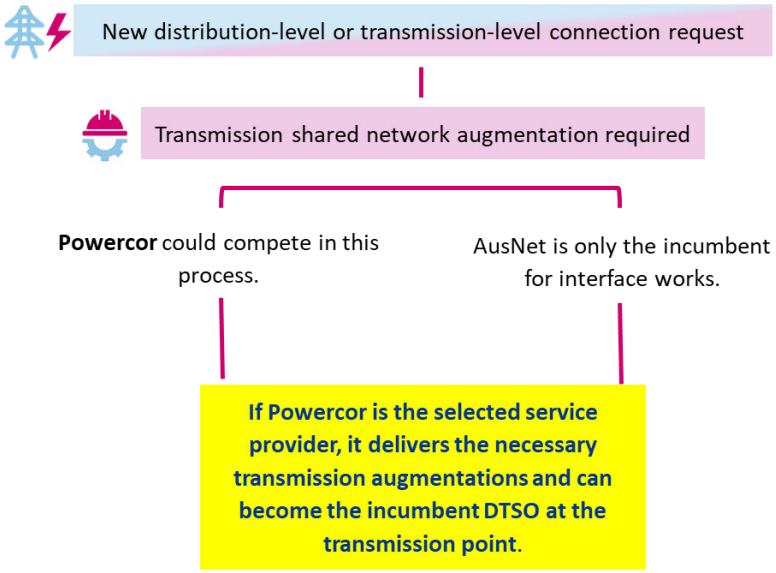
4.2.4 Illustrative case: Entities undertaking augmentations to the shared network (brownfield augmentations) interacting with the incumbent DTSO

Figure 11



Background

In the context of terminal station ownership and operations, the delineation of responsibilities can be complex, particularly when multiple DTSOs are involved. AusNet as the relevant DTSO for the majority of the DSN will be responsible for any interface works, which could include the connections and interactions between the terminal station and the wider network. However, when the terminal station itself is owned or operated by another entity that has a transmission licence, AusNet's role as the relevant DTSO does not extend to the station works. This distinction is crucial for clarifying operational responsibilities and ensuring that the correct entity is identified for specific tasks.

Implication

The ownership between the shared network and an augmentation asset plays a pivotal role in determining the relevant DTSO at a given site such as a brownfield terminal station. It is important to note that transmission connections to a terminal station are managed by the relevant asset owner and DTSO, which may not always be AusNet. This underscores the importance of clear agreements and understanding of roles among the various stakeholders involved in the operation of terminal stations and the broader shared network.

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There would be value in ensuring that any new transmission licence does not confer rights to new DTSOs as a result of brownfield augmentation at existing terminal stations. As noted above, these are either non-contestable prescribed network to network services or negotiated services when they involve a direct customer. This move could potentially alter the existing dynamics as Powercor may effectively become the incumbent DTSO at stations where it owns the transmission connections, even if another DTSO like AEO or AusNet already operate at the station. It should be made clear that brownfield augmentations are non-contestable, and that Powercor should not be able to combine monopoly distribution and contestable transmission services as a 'package' in these circumstances.

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4.3 Other matters of concern

The illustrative cases above shed light on a number of potential challenges which may arise with the allocation of a geographic area-defined electricity transmission licence to Powercor within the current regulatory framework. In part, these challenges may arise because the current licensing framework was not designed to accommodate such an arrangement and the situations which may arise, such as those illustrated in section 4.2, were not contemplated.

These include, as identified in the illustrative cases above:

- Gaps in the existing regulatory arrangements, such that it is possible for regulated distribution network services and contestable transmission network services to be combined as a package. There should be a focus on reinforcing existing requirements, rather than introducing an additional change, and ensuring there is appropriate service allocation right throughout the life cycle.
- Cost recovery risk with distribution-connected load scaling up to transmission connection within the initial 15 years of its connection to the network.
- Uncertainties around coordination of specifications, safety and security measures for switchyards and other sites which may change hands or require access and use by multiple parties without a formal process to work through these issues (in the case that Powercor does not need to seek a licence variation with each new asset it becomes responsible for).

In addition to these potential challenges identified in the illustrative cases, there other potential matters of concern worth consideration when assessing Powercor's application:

- Uncertainty around anticipated VTIF arrangements
- Network strategy and planning

4.3.1 Uncertainty around anticipated VTIF arrangements

The Victorian Government has flagged its intention to reform and reallocate the network planning and procurement functions in the Victorian electricity network system in the near-term, as part of the Victorian Transmission Investment Framework (VTIF) work program. In particular, it is anticipated that this role will shift from AEMO to VicGrid. This would see VicGrid responsible for consolidated transmission planning and jurisdictional transmission planning functions, being a single point of accountability and oversight. The proposed reforms would also enable VicGrid to procure augmentations and network services directly to deliver its network plan, rather than via AEMO as the current Victorian transmission system planner.

Given that significant reforms to the network planning and procurement arrangements in Victoria have been foreshadowed and are understood to be imminent, any decisions about operation of the transmission network should be made with caution. The Victorian connections arrangements already differ from those in the rest of the NEM and granting Powercor a transmission licence will add to the complexity. In particular, the VTIF should be strongly considered when deciding to grant an electricity transmission licence in a form which deviates from precedent (in the sense that it is defined based on geographic area). Through its publications, it is clear that the intention of VicGrid is to control the connection of generation much more tightly in Victoria.

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4.3.2 Network strategy and planning

The proposed geographic area-defined licence would, if introduced, allow Powercor to pursue some transmission network projects, including connection assets and some augmentations, without the same level of market engagement as would be required for other transmission licence holders who would be required to approach the ESC for a licence variation or a new licence. This is because the application is considered by interested stakeholders in the context of the specific assets that the prospective licensee intends to use. Depending on when the application is submitted, the licence application process can also act as a prompt for AEMO and the incumbent DTSO about the proposed project. This oversight is weakened, if not absent, if the transmission licence is granted on a geographic basis.

Another potential challenge which may arise in this instance is the risk that Powercor acquires a de facto planning function because its licence permits it to construct transmission assets outside the formal planning process.[33] To be clear, Powercor is only responsible for planning its own distribution network, unlike transmission planning, which is currently performed independently by AEMO. Powercor does not have a role in transmission network planning and is not well-placed to make decisions about transmission network design in line with long-term network outcomes or plans. The VTIF Final Design paper notes that the Victorian Government "will continue to engage with AEMO and AusNet Services to discuss options for future jurisdictional planning roles and responsibilities", reinforcing the practical role that AusNet currently plays in network planning, along with AEMO. This existing role should be kept in mind when determining the level of engagement required from AEMO or AusNet on individual Powercor network project decisions if the proposed form of licence is approved.

[33] Powercor would, however, be subject to the prohibition in section 50F(1) of the NEL prohibiting it from augmenting the DSN, or any part of the DSN, other than as permitted in accordance with that section.

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5 Response to ESC's stakeholder consultation questions

In this Section, we present our views on Powercor's application in the context of the ESC's statutory objectives and the particular stakeholder consultation questions posed by the ESC to inform its assessment of the application.

The ESC may grant or refuse to grant a transmission licence for any reason it considers appropriate, having regard to the ESC's statutory objectives under the *Electricity Industry Act 2000* (Vic) (EI Act) and the *Essential Services Commission Act 2001* (Vic) (ESC Act). These objectives are laid out below, for clarity. The only mandatory criterion is that the ESC must not grant a transmission licence unless it is satisfied the applicant has the technical capacity to comply with the conditions of the licence.[34]

To inform its assessment of Powercor's transmission licence application against these statutory objectives, the ESC has published a range of consultation questions on matters it is seeking stakeholder feedback on. In this section, we present our assessment and response to those consultation questions.

5.1 Statutory objectives

The ESC must have regard to its statutory objectives and a range of other matters. It is important to be cognisant of this requirement when considering the potential benefits and likewise concerns the ESC may seek to take into account when assessing a licence application.

Electricity Industry Act 2000

The ESC's statutory objectives under the EI Act are:

a) to the extent that it is efficient and practicable to do so, to promote a consistent regulatory approach between the electricity industry and the gas industry;
b) to promote the development of full retail competition; and
c) to promote protections for customers, including in relation to assisting customers who are facing payment difficulties.[35]

Essential Services Commission Act 2001

The ESC's statutory objective under the ESC Act is to promote the long term interests of Victorian consumers. In seeking to achieve this objective, the ESC must have regard to the price, quality and

[34] *Electricity Industry Act 2000*, section 19. If the activities specified in the licence are not likely to commence within the next 12 months, technical capacity can be demonstrated to the ESC at a later point rather than at the point of application.

[35] *Electricity Industry Act 2000*, section 10.

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reliability of essential services. Further, the ESC must have regard to the following matters to the extent they are relevant in any particular case:

- efficiency in the industry and incentives for long term investment;
- the financial viability of the industry;
- the degree of, and scope for, competition within the industry, including countervailing market power and information asymmetries;
- the relevant health, safety, environmental and social legislation applying to the industry;
- the benefits and costs of regulation (including externalities and the gains from competition and efficiency) for—
    - consumers and users of products or services (including low income and vulnerable consumers);
    - regulated entities;
- consistency in regulation between States and on a national basis; and
- any matters specified in the empowering instrument.[36]

5.2 Consultation questions

Alongside Powercor's transmission licence application, the ESC published a range of questions it is seeking stakeholder feedback on to inform its assessment of the application. These questions link back to its statutory objectives outlined above. Specifically, the ESC is seeking stakeholder feedback on:

- What effect on transmission infrastructure pricing do you think Powercor's transmission licence will have?
- If Powercor is granted a transmission licence do you think this will have a positive impact on competition for the provision of transmission infrastructure?
- Do you have any views on Powercor's ability to comply with its regulatory obligations?
- Do you think Powercor's being granted a transmission licence will benefit the long term interest of Victorian consumers?
- Is there anything else you think we should consider as we assess Powercor's electricity transmission licence application?

We have provided views on these questions below, based on the matters identified in earlier sections of this Report.

5.2.1 What effect on transmission infrastructure pricing would Powercor's transmission licence have?

Powercor's ability to leverage its existing experience in network service provision, its understanding of the needs and existing network topology of western Victoria, and even its potential to leverage its distribution network infrastructure and operations may lead to cost efficiencies and the ability to bid

[36] ESC Act, sections 8 and 8A.

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competitively for contestable projects, to the benefit of connecting parties and consumers more widely. It is worth noting, however that the application is largely focused on the delivery of network augmentations to facilitate new connections and these cost reductions would be to the benefit of the connecting parties specifically, generation or load, rather than the wider customer base.

As identified in section 4.2 of this Report, mitigating measures may be required to safeguard competition and competitive pricing for consumers and connecting parties, in the context of Powercor operating transmission in the region in which it is the distribution provider.

Further, measures may be required to ensure clear delineation between costs incurred to facilitate contestable transmission services versus those to facilitate prescribed transmission services and to ensure these are appropriately recovered. It will be important to ensure that distribution customers are not paying for infrastructure which is being adjusted, upsized, shared or otherwise used for the provision of contestable transmission services. These outcomes, if not appropriately safeguarded against, could result in distribution customers paying more for network infrastructure (albeit distribution infrastructure rather than transmission) than they otherwise would.

5.2.2 If Powercor is granted a transmission licence, would this have a positive impact on competition for the provision of transmission infrastructure?

Under section 8A (1) (c) of the ESC Act, to extent that it is relevant, the commission must have regard to the degree of, and scope for competition within the industry, including countervailing market power and information asymmetries. As discussed elsewhere in this Report, contestability is determined in accordance with legislation, not licensing. Powercor, either directly or via a related party, already has the ability to bid for all contestable transmission services in Victoria. The granting of a licence has typically occurred subsequent to the contestable process rather than in advance of (and with regard to the specific transmission system). Accordingly, we would not expect granting of the licence to technically increase competition. That said, having an additional active participant in contestable processes, and particularly a participant with extensive experience in network operations, is expected to have a positive impact on competition for the provision of contestable network services. However, to enhance competition for contestable transmission services, rather than impair this competition, as identified in section 4.2 of this Report, mitigating measures may be required to safeguard effective competition amongst the potential bidders for a contestable project, in the context of Powercor operating transmission in the region in which it also operates the distribution network.

In particular, Powercor will have access to information and infrastructure that its competitors will not. There is a risk that this information asymmetry provides, or is perceived to provide, a competitive advantage to Powercor which may impact the number and nature or competitor bids put forward for contestable services.

There are also means by which Powercor could feasibly adjust its distribution network (for example, upsizing some assets) to make its contestable transmission bids more cost competitive with the costs of the adjusted distribution network assets sitting with its distribution consumers. This would result

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in a cross-subsidy and would, like information asymmetry, potentially pose a risk to competition if Powercor has, or is perceived to have, a competitive advantage.

5.2.3 What is Powercor's ability to comply with its regulatory obligations?

It is not within the scope of our assessment to comment on Powercor's ability to comply with its regulatory obligations.

However, we do note that there are a number of elements of the regulatory framework under which Powercor operates which do not appear to be fit-for-purpose in the context of Powercor's proposed geographic area-defined licence. Of particular note, in the absence of a clear process for coordinating between DTSOs on the access to and use of sites, such as switchyards, there is a risk of at least sub-optimal outcomes if not non-compliance with standards and requirements, including those under the SOCI Act (see section 4.2). This risk is particularly pronounced in the context of Powercor potentially seeking to develop connection assets for projects requiring 'deep' connection into existing sites owned and operated by other DTSOs.

5.2.4 Would Powercor being granted a transmission licence benefit the long term interest of Victorian consumers?

As identified in section 5.2.2, an additional active participant in the provision of contestable services, particularly from an experienced network operator, is a good outcome for competition. However, we note that competition for the provision of contestable network augmentations or connection assets is not actually dependent on holding a licence and this is something Powercor can already do.

However, as identified elsewhere in this Report, there are potential risks resulting from a licence being granted on a geographic area-basis as requested which need to be addressed to ensure unintended consequences do not eventuate, in order to promote the long term interests of consumers.

5.2.5 Is there anything else the ESC should consider in its assessment of Powercor's application?

The ESC should consider several additional factors in its assessment of Powercor's application for a transmission licence to ensure a comprehensive evaluation that aligns with the long term interests of Victorian consumers and the overall efficiency of the electricity market. The ESC should consider:

- whether sufficient regulatory protections are in place to mitigate the risk of anti-competitive outcomes. In particular, whether existing measures are suitable to ensure Powercor's distribution customers will not bear the cost of the use, alteration or expansion of its distribution network for the purposes of delivering contestable transmission network services.
- whether existing requirements are sufficient to protect competition by ensuring connection applicants are clearly informed of the delineation between non-contestable and contestable services when connecting into higher voltages.

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- the implications of a geographic area-defined licence on coordination of technical and operational needs of sites with critical network equipment, such as switchyards. Communication and coordination on an ad hoc basis has worked in the past, with the licence application process as a useful juncture to initiate engagement between DTSOs, but this approach is insufficient in the context of a geographic area-defined licence.
- whether granting an electricity transmission licence with a novel approach risks creating challenges in the context of the Victorian Transmission Investment Framework and the significant reforms to transmission planning and procurement which have been foreshadowed.
- similarly, whether granting a geographic area-based transmission licence could result in disparate asset ownership, whereby Powercor owns and operates individual, discrete, assets which do not form part of a connected and coherent transmission system, and whether this will create operational challenges for the network. `

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6 Licence conditions and reforms

In this Section, we identify several licence conditions the ESC may wish to impose if it approves Powercor's transmission licence application, in order to promote the long term interests of consumers. We also identify some regulatory reforms to the broader regulatory framework that may be considered by, primarily, the AER and AEMO.

The unique contestable framework for delivering transmission services in the Victorian transmission system has been designed to deliver the most efficient outcomes for consumers. The entry of new participants is important to enable strong competition in the market for contestable transmission services. While Powercor's ability to bid for contestable services is not actually contingent on a pre-approved licence, its active participation in the market will nonetheless help to bolster competition at a time of significant market transformation in which the transmission sector will play a critical role.

This Report has identified a number of potential challenges which may arise if Powercor's electricity transmission licence is granted consistent with the terms of its application. In particular, the novel geographic area-defined licence approach may present issues which are not currently fully accommodated in the existing regulatory framework. In some cases, these are not new issues but may arise more frequently, or have more acute consequences for competition, if the proposed licence is approved. Powercor's application presents the ESC with an opportunity to revisit the existing arrangements and ensure they are fit-for-purpose.

To the extent that broader reforms to the regulatory framework are required, the ESC is unlikely to be best placed to action these. However, the ESC could play an important role in enabling these changes by working with the relevant bodies (for example, the AEMC or AER) to facilitate the necessary reforms. Licence conditions may present a nearer term option for the ESC to address some of the identified challenges in the meantime, as the broader regulatory reviews and reform processes take place.

6.1 Licence conditions

6.1.1 Area or assets to which the licence applies

Powercor's request that it be permitted to transmit electricity within a defined geographical area rather than via specific assets represents in a material change in the Victorian approach to transmission licensing.

As identified by the ESC, the EI Act does not preclude it from granting a licence in the terms Powercor seeks. However, as noted elsewhere in this Report, doing so raises issues that the ESC must engage with before granting the licence in these terms.

Given the wider set of issues which need to be worked through if a geographic area licence is granted, it would be reasonable for the ESC to request Powercor provide further explanation of why it considers a unique licence of this nature is required and in the best interest of Victorian consumers.

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There are various potential reasons why Powercor might be seeking a geographic area-based licence. For example, Powercor may be looking to minimise the burden of having to apply for a new or amended licence each time it constructs connection assets on a new site, for administrative simplicity. However, barriers to obtaining asset-specific licences appear to be low, as evidenced by Transgrid/Lumea's transmission licences and those held by AEO. In the absence of further explanation from Powercor on the need for this novel arrangement, it is not clear that the ESC has a compelling reason to grant a transmission licence on a geographic area basis.

The ESC recently confirmed its view of the appropriateness of issuing asset-based transmission licences. The draft transmission licence the ESC published as part of its draft decision to revoke the Electricity System Code[37] proposed to grant licences authorising the licensee to transmit electricity "via the Transmission Assets listed in Schedule 1" of the draft licence on the terms and conditions set out in the draft licence. This is consistent with the approach adopted in the current transmission licences. We agree with the ESC that this approach should be maintained to preserve and promote clarity.

The approach applied to transmission licencing (granting of 'transmission authorities") in Queensland could be considered as a model for balancing a proactive and more administratively simple approach with asset-based licencing. Our understanding is that the Queensland framework allows for a pre-emptive licence approval with the schedule of assets to which the licence applies then updated over time.

Powercor's application omits any substantive discussion about the way its licence (if granted) would be in the long-term interest of end-users and how it considers that a licence defined in such a way is consistent with the ESC's statutory licensing objectives (see further Section 5). Testing this evidence in the public domain is an important way for the ESC to ensure it can be confident that it is performing its functions in line with its statutory duties.

6.1.2 Interaction with the national registration framework

The Victorian transmission licensing framework applies to a person through the activity or activities they engage in i.e. generating, transmitting, distributing, supplying or selling electricity. Conversely, the registration framework under the NEL[38] and the NER[39] uses the concepts of ownership, control or operation of a 'transmission system' to determine when an entity is required to register with AEMO. The differing focus of the Victorian licensing framework (activities) from the national electricity framework (systems) is a matter the ESC should remain mindful of when considering the activities that an applicant is seeking to be licensed to carry out, and how those activities intersect with the system-based concepts embedded in the national regime.

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[37] Essential Services Commission, *Revoking the Electricity System Code, Draft decision*, 28 September 2023. See Annex A for the draft model transmission licence.

[38] NEL, section 11(2).

[39] NER, clause 2.5.1.

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The centrality of a transmission system to the national framework (as opposed to individual assets) is reflected in the *National Electricity (Victoria) Act 2005* (NEVA) and its instruments. Each of the Ministerial Orders made under section 31 of that Act provide that the person named in the order:

> "…being a person who owns, controls or operates the **declared transmission system**, or a part of the **declared transmission system**, is a declared transmission system operator." (emphasis added)

The more recent Orders refer to the assets the DTSO has constructed, but only for the purpose of determining a date on which the declaration takes effect i.e. the date the asset is energised. The approach taken in these Orders is consistent with the focus of the national framework being on transmission systems rather than specific assets.

The practical consequence is that there is a disconnect between the way the NEL and NER regulate the operation of a transmission system and the terms on which Victorian transmission licences are granted (with a focus on assets).

It is important that the ESC is cognisant of the areas of difference between the national framework and Victorian framework as it assesses Powercor's application, and future licence applications, to ensure that applicants and other stakeholders have a clear understanding of the licensee's role and responsibilities.

6.1.3 The relationship between augmentations and connection assets

The explanatory note to the Tender Policy that Powercor submitted as part of its licence application refers to Powercor's intention to construct "augmentations to transmission connection assets".[40]

It is unclear what Powercor means by this phrase. Augmentations are to the declared shared network and are procured following a competitive tender process (if the project meets the criteria for contestability), or where AEMO directs the augmentation to occur. While there may be circumstances where connection assets are altered, it is not the case that connection assets in Victoria are 'augmented'.

Given the uncertainty around what Powercor intends to pursue with regard to augmenting transmission assets, the ESC should consider clarifying the intent with Powercor and engaging further on this element of the application with relevant stakeholders. Given this current lack of clarity, it is not obvious at this stage whether or how the proposed activity would be reflected in licence conditions.

6.1.4 Other licence conditions

The EI Act empowers the ESC to grant a licence subject to conditions, including (but not limited to) any of the matters set out in section 21 of that *Act*. Licence conditions provide an opportunity for the ESC to directly address some of the concerns which may arise from granting of Powercor's licence,

[40] See for example paragraphs 7, 8, 9, 19 and 20.

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and also provide a potential opportunity for near-term risk mitigation ahead of broader regulatory reforms being pursued with or by other entities.

There are several conditions the ESC should consider imposing to ensure competition flourishes and the long-term interests of consumers are protected. The ESC may be minded to adopt all of these conditions, adopt a selection, or adapt these conditions as it sees fit. Regardless of its approach, it will be important for competition and Victorian electricity consumers for the ESC to monitor the effectiveness of licence conditions, and to modify its approach as necessary.

It is important to note that, in the case that other DNSPs, including AusNet's DNSP, seek to obtain transmission licences, they would appropriately be subject to equivalent conditions.

Non-exclusivity

Any geographic area-based licence should expressly state that it is granted on a non-exclusive basis. This will ensure that prospective new entrants, and prospective connection customers, can be confident that Powercor is not the beneficiary of a geographic monopoly for providing transmission services, and that those services are, in fact, contestable in that region.

Register of assets

If the ESC is minded to grant a licence in the terms proposed by Powercor, it should consider including a mechanism to identify the specific assets that Powercor is permitted to use to transmit electricity. This could be as simple as a register contained in a schedule to the licence that describes the assets, similar to the approach adopted in Marinus Link Pty Ltd's transmission licence. We understand a similar approach is also used in Queensland for transmission licences (referred to as a 'transmission authority') The ESC could update the register progressively as Powercor provides written notification of each new connection asset or contestable augmentation it will use to transmit electricity.[41] Incorporating an asset register like this in the licence would promote consistency with the transmission licences issued to date, which all reference the transmission assets the licensee uses to transmit electricity. It would also be consistent with the approach used in the ESC's draft updated transmission licence.

An asset register in Powercor's transmission licence is also appropriate to ensure there is a public record of who the licensee is in respect of those assets. Making this information publicly available may also promote competition by allowing prospective connection applicants to identify the TNSP who owns the assets they wish to connect to.

Contestability disclosure

As discussed in Section 4 of the Report, the proposed alignment of Powercor's distribution supply area and its transmission licence gives rise to a material risk that connection customers will believe

[41] We note Powercor's comment in its Vision Statement that it does not propose to construct large transmission corridors but recognises that there may be other contestable augmentations that Powercor does with to deliver if selected.

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that Powercor is the sole provider of transmission connection services in that area. This risk is heightened by the realities of commercial negotiations for these services, particularly for data centres, where the data centre typically approaches the distributor for connection of a low load, and subsequently increases its requirements over time such that it eventually becomes more appropriate to connect the data centre at transmission voltages. Having already invested time and money in the relationship with Powercor, the data centre customer is likely to become "sticky", requiring greater incentives to pursue a commercial opportunity with a TNSP (or a different DNSP, if relevant).

As identified elsewhere in this Report, there is a genuine possibility that some customers will incorrectly conclude that none of the elements of the connection service are contestable. Powercor has no incentive to correct that misapprehension. Allowing this assumption to remain uncorrected risks creating a material distortion in the market, foreclosing competition in the provision of these services. The adverse effects on competition are exacerbated once customer stickiness is taken into account. Given that it currently appears the intention for Powercor to provide both distribution services and transmission services under the one legal entity and operating name, this risk is perhaps heightened.

To prevent these undesirable outcomes, the ESC could consider including a new licence condition in Powercor's electricity distribution licence requiring it to disclose information to connection applicants explaining which elements of the connection service are contestable. Requirements for transparency around, and delineation of, the different services being offered, their contestability and their respective costs will also help to mitigate any risks of service bundling and thereby help to ensure customers can compare costs and make informed decisions.

The condition could be modelled on section 21(j) of the EI Act which allows the ESC to require a licence holder inform customers from time to time of the arrangements in place or proposed to be in place to allow them to elect to become a customer of another licensee.[42] Although this section is directed at ensuring retailers act consistently with (if not, promote) full retail competition, it provides a useful model for the transparency that will be required to promote competition in transmission services.

Information transparency

An important contributor to effective competition is promoting information transparency so that customers can make informed and timely decisions. There are several simple yet impactful requirements that could be imposed on Powercor to ensure its entry into the market for transmission services does, in fact, promote competition. These might include a licence condition requiring the DNSP to:

- disclose to the potential connection customer which services are contestable and how it can access contestable service provision (including through other DTSOs or potential DTSOs);
- clearly articulate and delineate the nature and terms of any distribution services and the nature and terms of any proposed transmission services;

[42] *Electricity Industry Act 2000*, section 21(j).

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- refrain from making, or promoting, bundled offers which combine distribution services and transmission services.

Access to distribution infrastructure

AusNet's experience of the contestable connections market is that some DNSPs use (or may be incentivised to use) their distribution network assets to provide transmission connection services and augmentations. As noted in the use case in 4.2.1, an example might be that the DNSP uses its existing distribution network poles/wires to leverage a deeper discount with a client - assets that its competitors do not have access to. This raises an important question about whether the DTSOs and prospective DTSOs should have access to that DNSP's distribution assets.

Part 5, Division 4 of the NEVA requires a DTSO to grant access to its land pursuant to a model lease or licence. To the extent that access to the distribution assets can be arranged pursuant to the model lease, this may be appropriate. To cover off the scenario where it proves to be difficult or incomplete to rely on the lease, the ESC may wish to consider the appropriateness of including licence conditions to resolve these access concerns.

6.2 Interplay between licence conditions and broader regulatory reforms

Powercor's application raises some wider issues for the electricity sector, which could be addressed either inside the licensing regime (specifically for Powercor and in any future licence applications) or through national reforms by the AEMC and/or AER.

While addressing these matters through the national framework might, in principle, be preferable, in this would require the ESC to assess Powercor's application in the absence of any confidence or certainty those changes to the national regime would eventuate given the time it would take for substantial reforms to be pursued. Accordingly, a more pragmatic solution may be for the ESC to address these matters through licence conditions in the case of Powercor (and any other licence applications) until changes to the national regime materialise.

One key matter which falls into this category is pricing. While there is an existing national framework for pricing, this is also a matter which appropriately falls within the ESC's remit to address through licensing conditions. The *Electricity Industry Act* provides the ESC with a broad power to impose licence conditions when it approves a licence application.[43] The *Act* also includes a non-exhaustive list of the types of licence conditions the ESC may impose, which expressly includes:

[43] *Electricity Industry Act 2000*, section 20.

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- Pricing requirements related to specifying methods or principles to be applied by the licensee in determining prices or charges.[44]

6.2.1 Pricing

In Section 4.2.2, in the context of the case study of a distribution connection that subsequently upgrades and connects to the transmission network, we identified and explained a problem with the current national connection charging regime that would lead to an unintended cross-subsidisation. This situation would occur where a connection disconnects from the distribution network and connections to the transmission network within 15 years which is the default assumed connection period used in the calculation of connection charges.

The cross-subsidisation could be addressed by imposing an exit fee on the distribution customer who chooses to disconnect early and upgrade to the transmission network. The exit fee could be calculated based on the amount the customer would have paid over the remaining portion of the 15 years (or a reasonable contribution towards this amount). This approach would prevent cross-subsidies, in the long-term interests of Victorian consumers. It would be important that potential distribution connections are informed of these arrangements upfront so there are no 'surprises' at the point of disconnection. This may encourage distribution connections who expect to upgrade to the transmission network in the medium term to instead consider connecting to the transmission network in the first place. Where customers make this decision, this would reflect an efficient outcome which avoids potentially stranding distribution assets which are cross subsidised by other customers. As discussed in Section **Error! Reference source not found.** above, the necessary transparency could be procured by imposing a licence condition require the DNSP to provide minimum information, sufficient information to enable the connecting party to make a fully informed decision about its preferred connection configuration.

We understand that, while not required by the regulatory regime, some distributors already impose exit fees for early disconnection from the distribution network via their commercial arrangements with connecting parties. However, we are unsure how common this practice is and, as noted, it is not a regulatory requirement so the practices of distributors who currently impose such charges could change in future at their discretion. Accordingly, including this as a licence condition would provide more certainty of its application.

An additional pricing concern is ensuring appropriate cost allocation where a DNSP utilises its existing distribution network assets to connect transmission customers. If the DNSP relocates or upgrades existing distribution network assets to 'make way' for new dedicated transmission assets, these costs may be smeared across the distribution customer base, who bear a portion of these costs. Distribution customers' policy expectation is that where asset use changes, it is appropriate that the regulatory treatment of the asset to be updated to reflect principles such as causer-pays.

[44] *Electricity Industry Act 2000*, section 21 (p).

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6.3 Broader regulatory reforms

Powercor's application raises wider issues for the electricity sector that are more appropriately addressed in fora outside of the licensing framework. These reforms are not within the ESC's remit, but the ESC may nonetheless have a role to play in engaging with the appropriate entities and initiating their reviews.

6.3.1 Over-building distribution to benefit transmission

Based on the contestable connections that AusNet and Powercor have competed for to date, it appears that one of Powercor's drivers in obtaining a transmission licence may be to be able to leverage its distribution assets to allow it to offer more competitively priced transmission connections. Such an approach is likely to be pro-competitive where there is no cross-subsidisation, and it results in lower, more efficient prices for consumers.

Such an approach is to be encouraged where it can deliver lower, more efficient prices for consumers.

However, it does create an incentive for a distributor to build its distribution assets to performance specifications that are higher than necessary and/or with excess capacity which the distributor can then leverage to provide transmission services at lower cost compared to TNSP-only competitors. For example, a network service provider that provides both distribution and transmission services may have a competitive advantage if it can use excess capacity on its distribution poles (particularly in urban or built-up areas) to host transmission voltage lines where its competitors, without access to equivalent distribution assets, are forced to offer connection services using vastly more expensive undergrounding options.

As DNSPs begin to compete more directly with TNSPs in the provision of contestable transmission services, it is necessary to ensure appropriate mechanisms are in place to ensure parity between participants. These measures might include:

- continued oversight by the AER of DNSPs' revenue proposals to ensure that capex forecasts do not result in gold-plating;
- implementing additional or updating existing cost allocation principles and methodologies to prevent distribution customers from subsidising transmission connection customers; and
- the ability to reallocate cost allocations from standard control services to contestable transmission services and make corresponding adjustments to the DNSP's RAB once its regulated distribution assets become dual use.

There are already some mechanisms in place in the NER to promote parity and prevent cross-subsidisation. Nevertheless, the AER should review their efficacy in promoting effective competition and consider whether they are fit-for-purpose in the specific context of DNSP's participating in the market for contestable transmission services.

While review and revision of national regulatory frameworks is outside of the ESC's remit, the ESC can play a role in engaging with the appropriate entities, such as the AEMC and AER, and initiating discussion about reviews which may be needed.

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6.3.2 Coordination of operational arrangements at critical sites

Coordination of the operational arrangements of critical sites in the transmission network, in cases where multiple DTSOs may require access to and use of the sites for the purpose of providing network services, is already needed. To date, this has been managed on an ad hoc basis, aided by the asset-by-asset approach which has been taken to allocating electricity transmission licences. If a decision is made to move away from this licensing approach to geographic area-defined licensing, there will be an even greater need for clearer processes and requirements for coordinating on the management and operation of critical sites, like switchyards, to ensure safety, security, reliability, and other necessary outcomes are maintained.

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