- The AER may decide to consult on a DNA access policy. If the AER does consult on an access policy this will 'stop the clock' and the day submissions are due will 'restart the clock'.[306]

The Commission considers that in the majority of circumstances it is unlikely consultation on DNA access policies will be necessary. This is because:

1. The AER's only role in approving access policies is to check that the access policy complies with the negotiating principles for DNA services
2. Unlike under the draft rule, access policies are specific to the individual DNA and are therefore apply on a much smaller scale than the one policy the Primary TNSP would have submitted under the draft rule for all DNAs connected to their networks.

However, as mentioned above, there may be cases (e.g. a 'significant' DNA in terms of its length or other features) where the AER may determine consultation is beneficial.

If the AER decides to approve a submitted access policy or an AER developed access policy, within 7 days after the AER provides the DNA owner with its decision, the DNA owner must publish on its website:

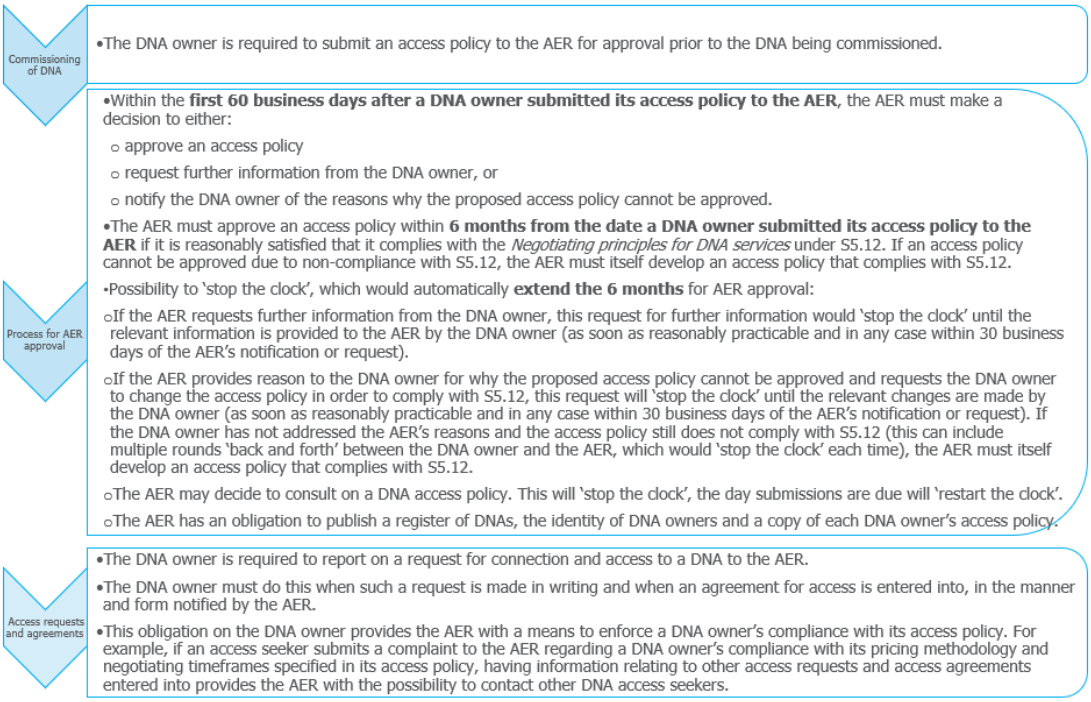
- the approved access policy or the AER developed access policy, and
- the AER's decision for that access policy.[307]

Figure C.1 below illustrates the process for AER approval of a DNA access policy.

306 Clauses 5.2A.8(h) and (f2) under Schedule 2 of the Amending Rule.

307 Clause 5.2A.8(i1) under Schedule 2 of the Amending Rule.

Figure C.1: Process for DNA access policy approval



Source: AEMC.

Basis for AER approval - compliance of the access policy with Schedule 5.12

When approving an access policy, including the pricing methodology and timeframes for negotiation, the AER must have regard to:[308]

- whether the pricing methodology is consistent with new Schedule 5.12 on *Negotiating principles for DNA services*, including compliance with the defined lower and upper price bounds for charging access, and
- whether the specified timeframes facilitate reasonable access negotiations.

The Commission considers AER approval of the pricing methodology is likely to reduce the negotiation costs and create transparency for both the DNA owner and the access seeker. By having general, AER approved pricing information in the access policy available, the access seeker can make an assessment upfront in terms of whether it would be willing to pay the indicative prices for DNA access. This will also assist DNA owners because approval by the AER will mean less risk for arbitration, assuming that the DNA owner sets the specific prices for DNA access in accordance with the DNA access policy.

Consistent with the approach for AER approval of the pricing methodology, the Commission also considers the need for AER approval will provide an incentive to a DNA owner to specify

308 Clause 5.2A.8(b1) under Schedule 2 of the Amending Rule.

negotiation timeframes that facilitate efficient and reasonable access negotiations. Similar to the rationale provided in relation to the pricing methodology, AER approval of timeframes for negotiation is also likely to reduce negotiation costs and create transparency for both parties, the DNA owner and the access seeker alike, and could reduce the potential for arbitration.

New obligation on the AER and the Primary TNSPs to publish information on DNAs

The final rule creates a new obligation on the AER to publish a register of DNAs, the identity of DNA owners and a copy of each DNA owner's access policy.[309] This provides a source of information on all DNAs, to assist access seekers.

Further, the final rule also creates a new obligation on the Primary TNSP to publish in its Transmission Annual Planning Report (TAPR):

- information about which parts of its transmission network are DNAs, and
- the identity of the DNA owner.[310]

Ongoing process for varying a DNA access policy

Under the final rule the DNA owner is responsible for maintaining, and seeking approval for variations to, its access policy for DNAs.[311]

The DNA owner can make minor and administrative amendments (e.g. correction of minor or typographical errors) to the access policy without seeking AER approval.[312] However, to vary its access policy in terms of substantive changes that would affect any obligations of connected parties or the DNA owner itself requires the DNA owner to follow the standard process for AER approval outlined above. The Commission considers the standard process for AER approval must apply in case of any substantive changes, which may, for example, include changes to the pricing methodology. In this case, the Commission considers it is important that the AER reviews an access policy, having regard to whether the pricing methodology is consistent with new Schedule 5.12 on *Negotiating principles for DNA services*, including compliance with the defined lower and upper price bounds for charging access.

C.5 Dispute resolution

BOX 14: CHANGES BETWEEN THE DRAFT AND FINAL RULE

There are no changes between the draft and final rule relating to the application of the commercial arbitration process to DNA access disputes. However, the party to the dispute in respect of access to a DNA will be the DNA owner under the final rule, as opposed to the Primary TNSP under the draft rule.

309 Clause 5.2A.8(o) under Schedule 2 of the Amending Rule.
310 Clause 5.12.2(6B) under Schedule 2 of the Ameding Rule.
311 Clause 5.2A.8(e) under Schedule 2 of the Amending Rule.
312 Clause 5.2A.8(e) under Schedule 2 of the Amending Rule.

C.5.1 Current arrangements

Parties have access to the commercial arbitration process set out under rule 5.5 of the NER for any disputes in relation to the provision of large DCA services.[313] All other arrangements regarding a third party's connection to the DCA would need to be negotiated and addressed between the relevant parties on a commercial basis.

C.5.2 Draft rule

Under the draft rule, disputes relating to DNA services are subject to commercial arbitration under Rule 5.5 of the NER. The draft rule thereby created consistency with the current approach for large DCA services, although under the draft rule the 'provider' of the service (as defined in Rule 5.5) that is party to the dispute would be the Primary TNSP, as opposed to the DCASP, and the services provided would be DNA services, as opposed to large DCA services.

The only other substantive amendments to rule 5.5 under the draft rule were:

- the terms and conditions of access in relation to DNA services include those determined under Chapters 4 and 5 of the Rules, in addition to the access policy[314]
- the commercial arbitrator must have regard to the legitimate business interests of both the Primary TNSP and any owner of the designated network asset, given the potential for these to be different parties.[315]

C.5.3 Stakeholder views

The AER expressed support for the application of the commercial arbitration process set out in rule 5.5 of the NER to disputes relating to DNA services.[316]

Further, based on the model under the draft rule whereby TNSPs were responsible for access administration, TNSP noted that they would become part in the negotiations and also disputes between connecting parties and the DNA owner, e.g. in relation to disputes on available DNA capacity. TNSPs questioned why they should be a party to these negotiations and whether they would have access to the information required to engage in those negotiations or meaningfully participate in the dispute resolution process.[317]

C.5.4 Final rule

Under the final rule, disputes relating to DNA services are subject to commercial arbitration under rule 5.5 of the NER. The 'provider' of the service (as defined in rule 5.5) that is party to the dispute is the DNA owner, as opposed to the Primary TNSP under the draft rule, in respect of access to DNA services.[318]

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313 Clause 5.2A.8(b)(5) and definition of 'large DCA services access dispute' under Chapter 10 of the NER.
314 Clause 5.5.1(c)(1) under the draft rule.
315 Clause 5.5.5(c)(3) under the draft rule.
316 AER submission to the draft determination, p. 2.
317 ENA submission to the draft determination, p. 6.
318 Clause 5.5.1(b) under Schedule 2 of the Amending Rule.

C.6 Other issues considered in the context of a special access regime

Stakeholders have raised a number of issues in their submissions and the Commission has considered further issues related to the allocation of the responsibility for DNA access to the DNA owner under the final rule. This section analyses the following issues that had not been considered in detail in the draft rule determination:

- Definition of DNA services
- Interaction of DNA ownership with registration requirements under the NEL and NER.

C.6.1 Definition of DNA services

Draft rule position

The draft rule defined DNA services as :"*A service provided by means of a designated network asset.*"[319]

Stakeholder comments

Only ENA commented on this issue and stated in its submission that the draft rule "has significant gaps in terms of identifying the appropriate roles and responsibilities of the relevant parties" and "these gaps are also reflected in a lack of clarity regarding the services that are being provided and the associated flow of funds".[320]

Based on the draft arrangements, under which the Primary TNSP was given full operational control of a DNA, including administration of access to the DNA, ENA suggested that the NOA between the Primary TNSP and the DNA owner would define:[321]

- DNA services (e.g. routine maintenance, operation consistent with shared transmission network, maintenance of spares, emergency asset step in and replacement, standard of care to apply to Primary TNSP in providing operation and maintenance services) and conditions to transfer operational control of the DNA to Primary TNSP
- Scope of obligations and carve outs relating to DNA service
- Charges payable by DNA owner for DNA services and adjustments for subsequent connecting parties, noting that the Primary TNSP has no involvement in the flow of funds between connecting party and a DNA owner.

The Commission notes that the above list does not include DNA access administration through the Primary TNSP.

Final rule position

Under the final rule, the DNA owner is responsible for providing DNA services. This includes the following:[322]

319 Definition of DNA service under Chapter 10 of the draft rule.
320 ENA submission to the draft determination, p. 9.
321 ENA submission to the draft determination, p. 20.
322 See definition of 'DNA services' under Schedule 4 of the Amending Rule.

- **Providing DNA access**: The DNA owner is responsible for providing access to the DNA, which may require the DNA owner to increase the capacity of the DNA to facilitate a connection (provided that the access seeker pays for the upgrade), but does not require that the owner of the to extend or replicate the DNA.[323]
- **Information provision**: To facilitate more effective negotiations the DNA owner must provide more specific information to access seekers.[324] The DNA owner must provide this information through the access policy (which must include a pricing methodology,[325] state whether the capacity of a DNA cannot be increased[326] and timeframes for negotiation[327]) and on its website (information on the current 'utilisation' of the DNA, in terms of existing connections to a DNA, to inform potential access seekers on prices for DNA access as set out in the pricing methodology).[328]
- **Undertaking cut-in works to the DNA**: In relation to cut-in works to a DNA, the final rule gives the DNA owner the exclusive right to provide the services as a DNA service in accordance with its access policy.[329]
- **Increasing the capacity of an existing DNA**: The DNA owner has the exclusive right undertake upgrades or increase the capacity of its DNA (or make a decision on which party provides the services of detailed design and construction of such a modification of an existing DNA). Further, ownership of the modification, e.g. upgrading switchgear, must remain with the DNA owner to ensure the same access arrangements apply to the entire DNA.[330]

With regard to the obligation of the DNA owner to provide DNA services, the Commission notes that under the final rule, the DNA owner has an obligation to increase the capacity of its DNA, if required, to connect a third party. This obligation is a result of the DNA owner's obligation to not engage in conduct for the purpose of preventing or hindering access to DNA services, which requires, if necessary, the DNA owner to upgrade or increase the capacity of the DNA to facilitate the connection of a third party to its DNA. However, given that the DNA regime allows for 'growing DNAs', i.e. DNA to DNA connections, a DNA owner has no obligation to extend or replicate its DNA, if upgrading or increasing the capacity of the DNA is not possible.[331]

With regard to the contestability arrangements that would apply to such an upgrade or increase in capacity of an existing DNA (e.g. through upgrading switchgear), Appendix D provides further detail. The Commission considers it is appropriate that slightly different contestability arrangements apply to such a modification of an existing DNA, in contrast to the contestability arrangements applying to the establishment of a new DNA.

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323 Limb (a) of the definition of 'DNA services' under Schedule 4 and Principles 1(1) and 5(d) in Schedule 5.12 under Schedule 2 of the Amending Rule.

324 Limb (b) of the definition of 'DNA services under Schedule 4 of the Amending Rule.

325 Clause 5.2A.8 (b1)(4) under Schedule 2 of the Amending Rule.

326 Clause 5.2A.8(b1)(2) under Schedule 2 of the Amending Rule

327 Clause 5.2A.8(b1)(5) under Schedule 2 of the Amending Rule

328 Clause 5.2A.8(n) under Schedule 2 of the Amending Rule.

329 Limb (c) of the definition of 'DNA services' under Schedule 4 and Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.

330 Limb (d) of the definition of 'DNA services' under Schedule 4 and Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.

331 Principle 5(d) in Schedule 5.12 under Schedule 2 of the Amending Rule.

Consistent with the 'separability' criteria that applies under the contestability threshold for IUSAs, transmission services can only be provided on a contestable basis to the extent that the relevant component satisfies the following criteria:

- the components being constructed are *new or a complete replacement of existing assets* (and do not involve the reconfiguration of existing assets), and
- detailed design and construction of the relevant component is *separable* in that the new component will be distinct and definable from the existing transmission network.

Given that a modification, i.e. an upgrade or increase of capacity of an existing DNA would not meet the separability criteria, the Commission considers in the context of DNAs a similar rationale applies as in the context of IUSA, that is, the services related to modification of an existing DNA (expect for functional specification and O&M of the modification) must be provided by the existing DNA owner.[332] Accordingly, under the final rule the DNA owner has an exclusive right to provide the services of detailed design, construction and ownership or can elect to engage a third party service provider to provide these services. In other words, the access seeker cannot choose the party that provides the service as the provision of these services is in relation to modification of an existing DNA.

Consistent with the contestability arrangements that apply in the context of establishing a 'new' DNA, the Primary TNSP is responsible for providing the services of functional specification and O&M in relation to modification of an existing DNA.[333] This is because the asset continues to form part of the Primary TNSP's transmission network.

C.6.2 No requirement for the DNA owner to be a registered participant

Under the existing rules, a person must not engage in the activity of owning, controlling or operating a transmission or distribution system unless that person is registered by AEMO as a NSP.[334] A transmission system is defined in the Rules as 'transmission network' together with the associated 'connection assets'. A DNA itself is only transmission network, and accordingly, ownership of a DNA would not automatically trigger registration of a DNA owner as a registered participant. However, if the DNA owner would own the DNA, i.e. transmission network, as well as the associated connection asset(s), i.e. DCAs connected to it, this could trigger the requirement for the DNA owner to register under Chapter 2 as a TNSP.[335]

The Commission does not consider it essential for a third party DNA owner to be a registered participant based on ownership of a DNA. As ownership of the DNA alone would not automatically trigger a requirement to register under Chapter 2 of the Rules, it would be necessary to create a new category of registered participant in order to make DNA owners registered participants. The Commission considers this would unnecessarily add complexity to the Rules without providing any substantive benefits. This is because the Primary TNSP, who

332 Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.

333 Clause 5.2A.4 under Schedule 2 of the Amending Rule.

334 Clause 2.5.1(a) of the NER.

335 There is also the intermediary framework under clause 2.9.3 of the NER, which allows a person to apply to the AER for an exemption from registration as a NSP where another person (an "intermediary") will be registered instead of that person. However, the Commission considers it unlikely that the Primary TNSP would want to agree to be an intermediary on behalf of an unrelated DNA owner.

is already registered in respect of its transmission system, will operate and control the third party DNA as part of its transmission network under the terms of the NOA. In this way, there will be someone registered in respect of the asset. In addition, the final rule clearly defines the rights, responsibilities and obligations of the DNA owner and ensures the AER has sufficient oversight to enforce compliance of the DNA owner with its regulatory obligations under the NER. For example, the DNA owner must report on requests for connection and access to a large DCA to the AER when such requests are made in writing and when an agreement for access is entered into.[336] This clause provides information to the AER that it can use for compliance and enforcement purposes. As a result, the Commission considers there is no immediate need to require the DNA owner to become a registered participant.

In the event that registration is triggered, if a DNA owner not only owns a DNA but also the connection assets connected to it, which would form a transmission system, the AER must exempt a DNA owner from the requirement to register as a TNSP. The DNA owner must in any case comply with clause 5.2A.6(c), clause 5.2A.7, clause 5.2A.8 and rule 5.5.[337]

336 Clause 5.2A.8(k) under Schedule 2 of the Amending Rule.

337 Clause 2.5.1(d3) under Schedule 1 of the Amending Rule.

D CONTESTABILITY AND CONTRACTUAL ARRANGEMENTS

This Appendix outlines the Commission's final decision in relation to contestability and contractual arrangements. For this purpose, the Appendix provides a summary of the current arrangements, the draft rule, stakeholder views on the draft rule and the final rule position on the following issues:

- Contestability of services for third party owned network assets
- $10 million monetary threshold for IUSA contestability
- No ownership restriction for IUSAs and DNAs
- Maintaining the 30km length threshold for DNAs, and
- Contractual arrangements.

D.1 Contestability of services for DNAs and IUSAs

BOX 15: CHANGES BETWEEN THE DRAFT AND FINAL RULE

There were no changes between the draft and the final rule relating to the contestability of services for DNAs and IUSAs.

However, the final rule does not maintain the concept of 'funded network assets' that was introduced under the draft rule. The final rule uses the terms DNAs and IUSAs and, where applicable, the term 'third party owned network assets' to refer to a DNA and third party IUSA for ease of drafting.

The Commission considers there is limited value in maintaining the umbrella concept of 'funded network assets' due to the differences between DNAs and IUSAs under the final rule. This is because of the differences in:

- the contestability arrangements applying to these assets based on the final rule re-instating the $10m contestability threshold for IUSAs (see appendix D.2 for further detail)
- the access arrangements applying to DNAs and IUSAs (see appendix D.5.4 for further detail).

Under the Commission's final rule, DNAs form part of the Primary TNSP's transmission network based on the establishment of TNCPs on transmission assets that represent material additions to the transmission network.[338] This requires changes to the current contestability arrangements for the provision of transmission services. Making DNAs part of the transmission network requires the Primary TNSP to be responsible for providing functional specification services, and operating and maintaining DNAs.[339] However, consistent with the

338 Clause 5.2A.2(b)(2) under Schedule 2 of the Amending Rule.
339 Clauses 5.2A.2 (b)(5) and (7) under Schedule 2 of the Amending Rule.

existing arrangements for IUSAs, DNAs can be designed, constructed and owned on a competitive basis.[340]

The new DNA framework is an overall reduction in contestability compared with the existing framework for large DCAs. This outcome is an inevitable consequence of creating individual TNCPs on DNAs, as this requires making these assets part of the transmission network. The Commission explained why creating individual TNCPs would require making assets part of the transmission network in the draft determination, in its exploration of the strawman model.[341] Under the strawman model, the Primary TNSP would have had a right to issue instructions to the DCASP to disconnect an individual connected party under certain circumstances, e.g. if that party posed a risk to power system security. The disconnection of one party would not have affected other parties connected to the DCA.

To give effect to the strawman model would have required incorporating DCAs and DCASPs into the sections of the rules governing power system security, i.e. primarily Chapter 4 of the NER. These are substantial and highly complex sections of the NER. The Commission's assessment of the extent to which DCAs and DCASPs would have needed to be covered (and a review of the relevant sections by our technical consultant GHD) revealed that, with only a few exceptions, the rules governing power system security must apply to DCAs, and thus DCASPs, to ensure power system security.

To extend these rules would have essentially meant creating a new, parallel regime for power system security in addition to the regime that already exists for the transmission network and for TNSPs. This would have significantly increased the complexity of the NER and would have imposed significant new obligations on DCASPs, similar to those applying to System Operators in Chapter 4 of the NER. The Commission therefore decided against the strawman model in the draft determination.

D.1.1 Current arrangements

Contestability of services for DCAs

Currently, all activities associated with the provision of DCAs are fully contestable, including design, construction, ownership, and operation and maintenance.[342] A connecting party can either provide the services itself, or choose its preferred service provider (e.g. the Primary TNSP, a generator, a government or a firm looking to invest in renewable energy) to construct, own and operate these assets on commercial terms. Consequently, there is:

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

340 Clauses 5.2A.2(b)(3) and 5.2A.4 under Schedule 2 of the Amending Rule.
341 See section 3.3.1 of the DCA draft determination.
342 Clause 5.2A.4 of the NER.

Contestability of services for IUSAs

Services provided by IUSAs are classified as either a non-contestable service that the Primary TNSP has an obligation to provide and must negotiate to do so as a negotiated transmission service, or as a contestable service that can be provided by any party on commercial terms.[343]

The services of detailed design, construction and ownership are contestable transmission services. The services of setting the functional specification, providing cut-in works as well as operation and maintenance (O&M) are non-contestable transmission services.

Table D.1 provides an overview of the transmission service classification and contestability set out in clause 5.2A.4 of the NER. Each of these services are discussed in further detail in the sub-sections below.

Table D.1: Transmission service classification and contestability for IUSAs

ASSET	SERVICE	EXAMPLE OF SERVICE	CLASSIFI-CATION
Transmission network including IUSA	Functional specification	Specification of: • Preferred equipment supplier • Preferred equipment • Land/access requirements • Design specifications • Single line diagram • Remote monitoring and communication requirement • Protection, control and metering requirements • Minimum operating conditions • Supervisory control and data acquisition system interface requirements • Equipment ratings • Equipment protection ratings • Spare part itineraries	Non-contestable
IUSA	Detailed design	Provision of: • Site plan • Asset layout and configuration • The specification of vendor equipment	Contestable

343 See clause 5.2A.4(a) of the NER.

ASSET	SERVICE	EXAMPLE OF SERVICE	CLASSIFI-CATION
		• Civil, structural, mechanical and electrical detailed design • Issued for construction drawings • as built drawings • Tender specifications • Cable schedules • Protection settings • Applicable technical studies • Earthing design • The design of lightning protection • The design of insulation co-ordination Consistent with the functional specification.	
Transmission network	Cut-in works	Interface works which cut into the existing shared transmission network, these may include tower realignment, protection control and communication requirements	Non-contestable
Contestable IUSA components	Construction/ownership of contestable IUSA components	Construction and/or ownership of a substation	Contestable
Non-contestable IUSA components	Construction/ownership of non-contestable IUSA components	Installation and ownership of supervisory control and data acquisition systems and cabling forming part of the Primary TNSP's control system	Non-contestable
IUSA owned by the Primary TNSP	Control, maintenance and operation	Primary TNSP provides operation and maintenance services	Non-contestable
Third party IUSA	Control, operation and maintenance under a NOA	See Clause 5.2A.7	Non-contestable
DCA	All development aspects	Design, construction, maintenance and ownership of a power line connecting a facility	Contestable

Source: Clause 5.2A.4 of the NER.

Functional specification and cut-in works — non-contestable

The current arrangements for IUSAs require that any services associated with setting the functional specification and providing cut-in works must be provided by the Primary TNSP as negotiated transmission services.[344] This is because the Primary TNSP is best placed to provide the cut-in (or interface) works required to facilitate the connection of new assets to its transmission network, as it can manage the provision of these works in a way that will not affect the service that end-use customers receive.

Functional specification refers to setting the minimum technical parameters for a connection to the network, which enables the Primary TNSP to manage the safety, reliability and security of its transmission network. The purpose of a functional specification is for the Primary TNSP to set out the minimum service requirements that an IUSA must meet. It is not intended to define specific assets, but rather the services and level of performance that an IUSA needs to deliver and the network conditions that it will need to withstand.

By means of functional specification, the Primary TNSP can specify its preferred equipment and preferred equipment suppliers, but the connecting party is not required to take up these options. However, doing so may result in lower operation and maintenance costs, for example if the Primary TNSP considered that the proposed suppliers or proposed equipment were less risky than the connecting party selecting other equipment or equipment suppliers.

Detailed design and construction — contestable

In the final determination for the TCAPA Rule, the Commission presented analysis suggesting that construction costs are the largest driver of overall connection costs, and that contestability in both the detailed design and construction of IUSAs has significant potential to reduce these costs.[345] Likewise, competition for the provision of detailed design services has the potential encourage innovation in the way IUSAs are built to meet the Primary TNSP's functional specification.

Arrangements for providing detailed design and construction services are to be agreed between the connecting party and its chosen service provider on a purely commercial basis. The Rules do not provide any specification regarding these commercial arrangements. However, the Rules do specify that a connection applicant's detailed design for contestable components of an IUSA must be consistent with the Primary TNSP's functional specification,[346] and must not unreasonably inhibit the capacity of future expansion of the IUSA or preclude the possibility of future connections.[347]

Before commissioning, the Primary TNSP must ensure that contestable IUSA components are built to the standards specified in the functional specification. The connection applicant must also provide access to the Primary TNSP to make inspections, and agree to such tests, as reasonably required for that purpose. The connection applicant must pay the reasonable

344 Nothing in the Rules prevents the Primary TNSP from using sub-contractors to provide these services.
345 AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, p. 147.
346 Clause 5.3.4(b1)(1) of the NER.
347 Clause 5.3.4(b1)(2) of the NER.

costs of inspections and tests for the IUSA which are reasonably required by the Primary TNSP.[348]

Ownership — contestable

Ownership of an IUSA is a non-regulated transmission service. Under the NER, an IUSA forms part of the Primary TNSP's transmission network rather than being a transmission system itself (unlike DCAs, which are defined as transmission systems for the purposes of registration under Chapter 2 of the NER). As a consequence, the owner of an IUSA is not required to be registered (or exempt) with respect to that asset.

Operation and maintenance — non-contestable

The Rules require the Primary TNSP to operate and maintain an IUSA (whether this is a third party IUSA or owned by the Primary TNSP).

Operation and maintenance of third party IUSAs - requirement to have a NOA

If the owner of an IUSA is not the Primary TNSP, that third party owner is required to have a NOA with the Primary TNSP, negotiated in accordance with the principles set out in Schedule 5.11 *Negotiating principles for negotiated transmission services* of the NER.[349] The term of the NOA must be for a time which is at least equal to the term of the longest connection agreement of a member of the initial identified user group for the third party IUSA.[350] The NOA also needs to include the terms and conditions set out in Part B of Schedule 5.6 *Terms and Conditions of Connection agreements and network operating agreements* of the NER and provide for the Primary TNSP to:[351]

- Have operation and control of the third party IUSA (including the rights and obligations to maintain the asset) for an agreed charge or based on an agreed charging methodology
- Have an option to purchase the third party IUSA at fair market value at the expiry or early termination of the NOA
- Alter, replace or augment the third party IUSA
- Have the right to connect other persons to the third party IUSA in accordance with the NER
- Have unrestricted use of, and access to, the third party IUSA
- Treat the third party IUSA as forming party of the Primary TNSP's transmission network in all material respects and provide transmission services to any transmission network user in accordance with the NER.[352]

These conditions aim to ensure the Primary TNSP can operate and maintain an asset that it did not design or build. By setting the functional specification and being responsible for

348 Clause 5.7.8 of the NER.

349 Clause 5.2A.7(b)(3) of the NER.

350 Clause 5.2A.7(c) of the NER.

351 Clause 5.2A.7(d) of the NER.

352 'Transmission network user' is defined under Chapter 10 of the NER "In relation to a transmission network, a Transmission Customer and: (a) a Generator whose generating unit; (b) a Network Service Provider whose network; (c) to the extent that a Dedicated Connection Asset Service Provider is not also one of the persons listed above, a Dedicated Connection Asset Service Provider whose dedicated connection asset, is connected to the transmission network."

operation and maintenance of any IUSA, the Primary TNSP can ensure that an IUSA interfaces safely, reliably and securely with the rest of the transmission network.

The Rules require a connection agreement and a NOA to be in place, with the latter only being required if the IUSA is contestably owned. The Rules do not contain any further specification regarding any other contractual arrangements that may be needed, e.g. in the context of contestable construction of the IUSA or with regard to the relationship between the owner of the IUSA and a connecting party.

Recovery of the costs related to operation and maintenance of an IUSA

Depending on whether an IUSA is owned by the Primary TNSP or by a third party, differences exist in relation to who pays the costs for operation and maintenance services for the assets.

TNSPs' standard generator connection agreements generally refer to charges for services to be provided by the TNSP, called 'entry services'.[353] These 'entry services' broadly refer to:[354]

- The provision of capability at connection points to enable transmission network users to:
  - deliver electricity to the TNSP's transmission network at the connection point, and
  - take delivery of electricity from the TNSP's transmission network at the connection point up to the agreed maximum capability.
- The management, maintenance and operation of the TNSP's assets (and any third party IUSA) associated with each connection point to provide the capability under (1).[355]

The Rules require that, under a NOA, the owner of a third party IUSA must provide for the Primary TNSP to have operation and control of that IUSA (including rights to maintain that asset) for an agreed charge or based on an agreed charging methodology.[356]

The cost-sharing provisions under Schedule 5.11 *Negotiating principles for negotiated transmission services* of the NER allow for an adjustment of costs related to the provision of a negotiated service, e.g. operation and maintenance through the Primary TNSP, if the asset is used to provide services to another network user. The adjustment of costs for operation and maintenance paid for by the first connecting party (in the case of a TNSP owned IUSA) or the IUSA owner (in the case of a third party IUSA) should reflect the extent to which the costs of that asset are being recovered through charges to a subsequent network user.[357]

The Rules do not provide a cost-sharing framework for contestable services. At the time of the TCAPA final rule determination, the Commission's view was that, as the basis for determining the price of a non-regulated, (i.e. contestable) service is not regulated by the

353 For a load connection the charges for services to be provided by the TNSP are referred to as 'exit services'.

354 See, for example, the standard transmission connection agreements from ElectraNet (Schedule 3, item 2), TasNetworks (Schedule 2) and TransGrid (clause 2.3).

355 A connecting party would, by means of the connection agreement with the Primary TNSP, also agree to pay other charges for services provided by the Primary TNSP, e.g. metering services.

356 Clause 5.2A.7(d)(1) of the NER.

357 Principle 6 of Schedule 5.11 of the NER.

NER, it would also not be appropriate for the NER to contain obligations on parties regarding the provision of contestable services.[358]

D.1.2 Draft rule

Primary TNSP was required to set the functional specification for, and operate and maintain, funded network assets as a negotiated service

Under the draft rule, the Primary TNSP was required to control, operate and maintain all assets that formed part of its network. By making DNAs part of the Primary TNSP's transmission network, the transmission network would have consisted of assets paid for by:

- Consumers through prescribed TUOS charges, and
- Third parties, with the respective assets being defined as 'funded network assets'.

The draft rule's concept of funded network assets captured third party IUSAs and DNAs and applied the same contestability arrangements to these assets.[359] As a result, the Primary TNSP was required to set the functional specification and provide O&M services (including control and data acquisition systems) for funded network assets as a negotiated service.[360] If a funded network asset was owned by a party other than the Primary TNSP, the Primary TNSP would have been required to operate the asset under a NOA.

Detailed design, construction, and ownership could have been provided by any party on a contestable basis

Under the draft rule, detailed design, construction and ownership services could have been provided by any party on a contestable basis (including by the Primary TNSP), provided the asset met the 'separability' limb of the current contestability threshold. That is, the asset is separable, distinct and definable from the existing transmission network.[361] This approach was consistent with the existing TCAPA framework for large DCAs and aligned with the Commission's broader objective of providing as much contestability as possible under the new DNA framework.

Existing cost-sharing arrangements for negotiated services continued to apply

The draft rule did not change existing cost-sharing arrangements for providing negotiated transmission services. The draft rule provided for the application of the existing cost-sharing arrangements to all funded network assets, including to DNAs.

In the draft determination, the Commission concluded that the complexities related to the design and application of a cost-sharing framework for costs resulting from the provision of

358 The Commission acknowledged that the lack of a cost sharing framework could lead to some unintended outcomes, e.g. create a first mover disadvantage, provide an incentive for connecting parties to connect to existing substations that were constructed contestably by a third party, or create an incentive for parties to build IUSAs that are not contestable. However, the Commission considered the complexity of the issues that would need to be resolved in the context of developing a costsharing framework for contestable services would outweigh the benefits. For a detailed discussion of the issues identified see: AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, pp. 177-180.

359 See the definition of 'funded network asset' in the Draft Rule.

360 See clause 5.2A.4(a) of the Draft Rule.

361 See clauses 5.2A.4(b) and (c) of the Draft Rule; for example, a separable transmission asset would not result in interface issues at existing substations.

contestable services, as identified in the TCAPA Rule determination, were still valid., [362] Consequently, the draft rule did not provide for a cost-sharing framework in relation to the contestable components of funded network assets.

D.1.3 Stakeholder views

Primary TNSP setting the functional specification for funded network assets as a negotiated service

Several stakeholders expressed concern about the proposed reduction in contestability in the provision of transmission services under the draft rule.

AusNet and CEIG expressed a preference for greater contestability in the provision of transmission services. Both were concerned that requiring the Primary TNSP to provide the functional specification and O&M of DNAs as a negotiated service could reduce innovation and increase costs compared with the existing large DCA regime. AusNet raised concerns that the Primary TNSP does not always offer low cost or innovative O&M services compared with third party service providers.[363]

Stakeholders also commented more specifically on the Primary TNSP providing the functional specification as a negotiated service. RES Group expressed concern that the provision of functional specification services through the Primary TNSP will add significant additional costs to DNAs.[364] While ERM Power supported the final rule applying existing system and performance standards to DNAs, it also wanted to ensure that under the new framework the Primary TNSP, in setting functional specification for DNAs:[365]

> "cannot over specify requirements above that it would reasonably impose on itself for another party's construction of a DNA".

To address the reduction in contestability, RES Group suggested the Commission consider introducing controls in the final rule to ensure the Primary TNSP and funding parties collaborate to deliver DNAs at least cost rather than strictly complying with existing network standards.[366] RES Group also recommended the Commission consider introducing a provision under the final rule restricting the ability of the Primary TNSP to revise functional specifications after agreements have been executed. RES Group cited the ability of the Primary TNSP, under the existing framework for designing and constructing IUSAs, to unilaterally vary functional specifications, which it said can result in cost increases and project delays.[367] CEIG likewise suggested ensuring functional specification provisions do not result in commissioning delays where the DNA is owned by a third party and allow for an efficient transfer of ownership between third parties and the Primary TNSP if required.[368]

362 AEMC, *Transmission Connections and Planning Arrangements*, Rule determination, 2017, see discussion on p. 179-180.
363 AusNet submission to the draft determination, p. 3.
364 RES Group submission to the draft determination, p. 2.
365 ERM Power submission to the draft determination, p. 4.
366 RES Group submission to the draft determination, p. 3.
367 RES Group submission to the draft determination, p. 6.
368 CEIG submission to the draft determination, p. 3.

Primary TNSP operating and maintaining funded network assets as a negotiated service

A number of stakeholders opposed O&M of funded network assets being provided by the Primary TNSP.

AusNet was concerned that:[369]

> "having control of the asset removed from the ownership may be perceived by financiers as adding risk to the owner, and increase the connecting parties cost of finance and/or insurance."

Similarly, Walcha Energy questioned whether maintenance by the Primary TNSP, for which the DNA owner would be charged, should be non-contestable for the life of the asset. It also asked if maintenance, as a negotiated service, would be subject to the dispute resolution provisions under NER rule 5.5.[370] ERM Power suggested the Primary TNSP should simply coordinate DNA maintenance in consultation with the asset owner, similar to arrangements for MNSPs and generators connecting to the transmission network.[371]

TNSPs expressed concern that the draft rule did not explicitly clarify the Primary TNSP's role with respect to providing O&M only. That is, whether the Primary TNSP would be responsible for DNA performance under the draft rule where the asset has been constructed by a third party. To address this issue, network businesses suggested that connection agreements should make it clear the Primary TNSP is not liable for any failure in relation to the DNA or the failure of the asset owner to comply with its obligations.[372]

Further, ENA commented the final rule should also clarify the ownership and payment arrangements in relation to secondary assets, including communication and system protection. ENA noted these assets need to integrate and inter-operate with the 'shared' transmission network and will need to be specified and operated by the Primary TNSP and the associated costs will need to be recovered through charges for DNA services.[373]

Network businesses were also concerned about the draft rule's lack of clarity about what happens if the DNA owner defaults on its O&M payments to the Primary TNSP. They considered the main problem was that while the Primary TNSP would no longer receive the necessary funds, the Primary TNSP would continue to face contractual obligations to provide O&M services to any third-party generators or load connected to the DNA. ENA stated that the problem derives from a lack of clarity regarding the services that are being provided and the associated flow of funds.[374] As a result, ENA stated that:,

> "The Primary TNSP is exposed to significant risks in relation to connections to DNAs, as these depend on the performance of a third party's assets. The connection agreements should make it clear that the Primary TNSP is not liable for any failure in relation to the

369 AusNet submission to the draft determination, p. 3.
370 Walcha Energy submission to the draft determination, p. 2.
371 ERM Power submission to the draft determination, p. 5.
372 ENA submission to the draft determination, p. 8.
373 ENA submission to the draft determination, p. 12.
374 ENA submission to the draft determination, p. 9.

> DNA or the failure of the asset owner to comply with its obligations."

ENA further added that the failure of the DNA owner to comply with its obligation would importantly also include ongoing payment of O&M charges to the TNSP.[375]

Powerlink added that given the Primary TNSP's requirement under the new framework to operate and maintain DNA assets that it may not necessarily own:[376]:

> "the final rule must provide greater clarity on roles, responsibilities, flow of funds for services and cost recovery arrangements to address the significant increase in a Primary TNSP's risks and liabilities"

Contestability of detailed design, construction and ownership services

While stakeholders generally supported contestability of DNA design, construction, and ownership, submissions nevertheless raised some concerns.

Terrain Solar argued for greater contestability by suggesting design and construction of switching stations cutting into existing network infrastructure should also be contestable.[377] AusNet argued that connecting parties would have no choice but to rely on the Primary TNSP to design and construct assets due to the complexity of working with third-party service providers.[378]

D.1.4 Final rule

Primary TNSP to set the functional specification for DNAs as a negotiated service

The final rule maintains the position from the draft rule that the Primary TNSP must provide the functional specification for DNAs as a negotiated service.[379]

The Commission acknowledges stakeholder concerns about the reduction in contestability compared with the existing regime for large DCAs. It agrees that by requiring the Primary TNSP to provide functional specification as a negotiated service, there may be reduced opportunities for cost-saving and innovation. However, the Commission considers the reduction in contestability a necessary downside to maintain system security and performance with increased investment in radial assets. It is only by the Primary TNSP providing the functional specification for a DNA that the Primary TNSP can operate and maintain DNAs in accordance with the system standards that also apply to other parts of its network.[380]

The Commission also notes that:

375 ENA submission to the draft determination, p. 8.
376 Powerlink submission to the draft determination, p. 2.
377 Terrain Solar submission to the draft determination, p. 2.
378 AusNet submission to the draft determination, p. 3.
379 Clause 5.2A.4(2) under Schedule 2 of the Amending Rule.
380 Clause 5.2A.7(d)(6) under Schedule 2 of the Amending Rule.

- By requiring DNAs to meet the same network standards as other parts of the Primary TNSP's transmission network, the Primary TNSP cannot impose higher network standards on third parties than it would otherwise apply to the rest of its network.
- Where the funding party wants to exceed minimum standards, potentially to facilitate future connections or upgrades, the Commission's view is that nothing in the final rule would preclude this from occurring through the negotiation for functional specification services.
- The functional specification is provided by the Primary TNSP in response to a connection enquiry and is based upon the information provided by the applicant at that time.[381] Where there is no change in project information provided by the connecting party between the connection enquiry and the connection application (or later stages), then the Primary TNSP is not able to vary the terms or requirements of the project's functional specification. However, if new information is provided by the applicant to the Primary TNSP after the functional specification has been provided, then there may be circumstances in which changes to the functional specification are necessary to ensure the DNA is built to meet the technical requirements of the NER. However, where such updates to the functional specification are necessary, the Commission expects that any changes should be limited to extent necessary for the Primary TNSP to meet its obligations under the NER relating to system performance and network standards.[382]
- It does not consider there is anything in the final rule regarding functional specification that would impede efficient ownership transfer, as mentioned by CEIG.

Primary TNSP to operate and maintain DNAs as a negotiated service

The final rule maintains the position from the draft rule requiring the Primary TNSP to provide O&M services to third party owned network assets, which will form part of its transmission network, as a negotiated service.[383]

The Commission acknowledges this represents a reduction in contestability compared with the existing framework for large DCAs. However, as with functional specification, this reduction in contestability is necessary in order to facilitate the establishment of individual TNCPs on DNAs, which requires that DNAs form part of the Primary TNSP's network.

Considering DNAs will likely become increasingly material extensions of the existing transmission system as DNAs, with more generation capacity being connected to these assets, the Commission considers there are system wide benefits from providing the Primary TNSP greater operational control over DNAs, to promote improved reliability and power system security across the transmission network.

The Commission does not consider any new provisions are necessary under the final rule to address stakeholders' further comments with regard to:

- TNSPs' limited responsibility for O&M, which does not include performance of the DNA,

381 Clause 5.3.2(a) of the NER.
382 See Schedule 5.1a of the NER.
383 Clause 5.2A.2(b)(5) and (7) and 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.

- the need for secondary assets to be integrated and inter-operated with the shared network, and
- contestable provision of maintenance and application of the dispute resolution process to disputes relating to DNA O&M charges.

Primary TNSP to be responsible for performance of DNAs

As part of its responsibility to provide the services of operation and maintenance for DNAs, and treating the DNA as 'network', the Primary TNSP will be responsible for operating a DNA in line with the system standards under Schedule 5.1a of the Rules.[384] Consistent with the existing arrangements on other parts of the transmission network, a connecting party at a TNCP on a DNA could reasonably expect that the TNSP operates a DNA consistent with the system standards.[385] Likewise, a connecting party could reasonably expect the same level of performance at its TNCP as at any other TNCP on the TNSP's transmission network. The connection agreement between the TNSP and a connecting party at a TNCP on a DNA will further define the level of performance the connecting party can reasonably expect.[386]

Regarding TNSPs' concerns relating to the Primary TNSP's responsibility for O&M for a DNA potentially designed and constructed by a third party, the Commission considers the Primary TNSP can ensure its operation of a DNA complies with the system standards by providing the functional specification for a DNA.[387]

Need for secondary assets to be integrated and inter-operated with the shared network

Concerning the need for secondary assets (including communication and system protection) to be integrated and inter-operated with the 'shared' transmission network, the Commission does not consider any changes between the draft and final rule are necessary. Consistent with the draft rule, the final rule requires the Primary TNSP to provide functional specification for DNAs non-contestably as a negotiated service.[388] The table in clause 5.2A.4 of the final rule states the Primary TNSP has the obligation and right to provide specification of, amongst other things:[389]

- remote monitoring and communication requirements
- protection, control and metering requirements, and
- supervisory control and data acquisition.[390]

Therefore, the Primary TNSP could through its functional specification of a third party DNA specify the need for secondary assets to be compliant with its systems in order to ensure the Primary TNSP can operate and control a DNA in line with other parts of its network.

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384 Clause 5.2A.7(d)(6) under Schedule 2 of the Amending Rule.

385 See Schedule 5.1a of the NER.

386 See Clause 5.2.3 of the NER.

387 Clause 5.2A.4(2) under Schedule 2 of the Amending Rule.

388 Clauses 5.2A.2 (b)()(7) and 5.2.4A(a)(2) under Schedule 2 of the Amending Rule.

389 The Commission notes that the examples of services in the table under clause 5.2A.4 are not an exhaustive list, but can also include specification of other things.

390 Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.

Contestable provision of maintenance and application of the dispute resolution process to disputes relating to DNA O&M charges

The Commission has decided not to adopt stakeholder suggestions to separate O&M to allow for contestable maintenance services. The Commission considers that operation and maintenance services are inseparable. The main reason O&M are inseparable is the difficulty categorising activities as either operation or maintenance services. The feasibility of separately providing operation and maintenance services was considered by the Commission at length in the TCAPA final rule determination in the context of IUSAs. In TCAPA, the Commission determined that separating O&M was not practical because:

- There appeared to be limited scope for innovation in how an IUSA is maintained once its functional specification and design has been set.
- Primary TNSPs have scale efficiencies that a contestable service provider would not, i.e. staff, spares on hand and the ability to respond at short notice. It therefore has a significant competitive advantage in providing maintenance services that contestable providers are unlikely to be able to compete with. While the Primary TNSP's scale efficiencies would likely be of benefit to the connecting party, the Commission was of the view that this approach would not be more efficient overall.
- If maintenance were a contestable service, the Primary TNSP would likely need to have a contract with the contestable provider of maintenance services to enable it to meet its obligations regarding the provision of a safe, reliable and secure transmission network. To manage the risk of needing to replace equipment at short notice, the contestable provider might choose to subcontract maintenance services to the Primary TNSP, which appeared to negate the objective of making the service contestable.
- IUSAs are comparatively small assets that are embedded in and operate in concert with the overall shared transmission system. It is therefore unlikely that the possible benefits of competition for maintenance services (for example reduced costs) would be significant for such assets.[391]

The Commission considers these reasons still apply in the context of IUSAs and DNAs. Consistent with the draft rule, the final rule therefore requires the Primary TNSP to be responsible for day to day operation of third party owned network assets, including decisions about when to undertake maintenance, and services required to keep the assets operational, e.g. replacement of parts.[392]

Stakeholders also requested clarification whether the dispute resolution process under rule 5.5 of the NER would apply to disputes relating to costs for DNA O&M.[393] Rule 5.5 includes commercial arbitration for negotiated transmission services and NER clause 5.5.1(b) further states that the rule applies to a dispute between a TNSP and a Connection Applicant. Under the final rule, the definition of 'Connection Applicant' is amended to include 'a person seeking to negotiate a network operating agreement for a designated network asset'. Based on the definition of Connection Applicant under the final rule, rule 5.5 will consequently also apply to

391 See AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, pp. 159-160.
392 Clause 5.2A.7(d)(1) and (3) under Schedule 2 of the Amending Rule.
393 Clause 5.5 of the NER.

disputes between a TNSP and a Connection Applicant (a person negotiating a NOA for a DNA) relating to costs for DNA O&M.[394]

Contestability of detailed design, construction and ownership services

Consistent with the draft rule, the final rule allows for contestable provision of detailed design, construction, and ownership services for IUSAs (which pass the monetary limb of the contestability threshold) and DNAs .[395]

The Commission does not consider it feasible to extend contestability to switching stations cutting into existing network infrastructure, as this would not be consistent with the separability limb of the contestability threshold. The Commission considers the 'separability' limb remains appropriate because it is important that the Primary TNSP continues to have singular accountability for outcomes on the shared transmission network.[396]

The Commission acknowledges concerns that the complexity of interacting with third parties may, in practice, limit opportunities for connecting parties to rely on contestable service provision. However, these concerns apply to third party provision of transmission services in general and as such the Commission considers these issues are outside the scope of the present rule change.

Further, the Commission intends to commence a broader review, together with the other market bodies, to consider options to support the timely and efficient delivery of large transmission projects that are in the long-term interests of consumers, recognising that the nature of transmission investment is invariably changing. The scope of the AEMC's *Transmission Investment and Planning Review* will include matters such as transmission financing, regulation, and governance in the context of the overall economic regulatory framework for network businesses.

394 See Clause 5.5 of the NER.

395 Clause 5.2A.4(a) under Schedule 2 of the Amending Rule.

396 Clause 5.2A.4(c)(1)(2) under Schedule 2 of the Amending Rule.

D.2 $10m contestability threshold for IUSAs

BOX 16: CHANGES BETWEEN DRAFT AND FINAL RULE

The monetary limb of the contestability threshold is reinstated for IUSAs under the final rule. Consequently, under the final rule different contestability arrangements will apply to DNAs and IUSAs based on the value of an IUSA:

- if the capital cost of an IUSA is reasonably expected to be greater than $10 million, the same contestability arrangement will apply to IUSAs and DNAs (i.e. the services of detailed design, construction and ownership are non-regulated transmission services and can be provided on a contestable basis)
- if the capital cost of an IUSA is reasonably expected to be $10 million or less, different contestability arrangements will apply (i.e. the services of detailed design, construction and ownership must be provided by the Primary TNSP as a negotiated transmission service), and
- consistent with the draft rule, the services of detailed design, construction and ownership for a DNA are provided on a contestable basis, regardless of the asset's estimated capital expenditure.

D.2.1 Current arrangements

'Monetary' and 'separability' limb of the contestability threshold

In the context of IUSAs, a contestability threshold of $10 million exists under current arrangements.[397] This means the Primary TNSP *must* provide the services of detailed design, construction and ownership as a negotiated transmission service only if the capital cost of all components of the IUSA is reasonably expected to be $10 million or less. If the capital cost of all components of the IUSA is reasonably expected to be greater than $10 million, the services of detailed design, construction and ownership of each component of the IUSA are non-regulated transmission services and can be provided on a contestable basis to the extent the relevant component satisfies the following criteria:

- components being constructed are *new or a complete replacement of existing assets* (and do not involve the reconfiguration of existing assets), and
- detailed design and construction of the relevant component of the IUSA is *separable* in that the new component will be distinct and definable from the existing transmission network.

Under current arrangements the Primary TNSP is required to determine whether each component of the IUSA meets the two criteria listed above. In the event that the parties do not agree on whether the asset meets or does not meet the criteria, the Rules provide for

397 Clauses 5.2A.4 (b)-(d) of the NER.

either party to engage an independent engineer to provide technical advice on the matter.[398] Further, if parties do not agree with the Primary TNSP's assessment, it is possible to raise a formal dispute under the commercial arbitration provisions set out in the NER.[399]

Application of cost-sharing arrangements to negotiated transmission services only

Further, a cost-sharing framework applies only for costs that occur through the provision of a negotiated transmission service. Accordingly, where the total cost of an IUSA is:

- $10 million or less, the service must be provided as a negotiated transmission service. Consequently, all costs related to that asset, including the costs for detailed design, construction and ownership could be shared when a subsequent party seeks to connect to the asset.
- greater than $10 million, the services of detailed design, construction and ownership are non-regulated transmission services and can be provided on a contestable basis. Consequently, only the costs for cut-in works, functional specification and operation and maintenance could be shared when a subsequent party seeks to connect to the IUSA.

Rationale for the contestability threshold under the 2017 TCAPA Rule

In the final determination for the TCAPA Rule, the Commission noted that in some circumstances it is neither feasible nor practicable for the services of detailed design, construction and ownership to be provided on a contestable basis:[400]

- **Interface issues may arise at existing substations** if a connection to the transmission network occurs via an existing substation rather than building a new substation. At the time, stakeholders suggested that connecting parties are increasingly seeking connection to the transmission network via an existing substation, as opposed to building a new substation. However, the construction of new assets within an existing substation is complicated as this may mean interfacing with live transmission equipment that forms part of the shared transmission network. Such an approach would increase risks for the Primary TNSP, which is accountable for outcomes on that network. The presence of both a contestably-appointed service provider and the Primary TNSP would be an unnecessary duplication of resources, potentially resulting in increased costs.
- **The costs and benefits of having some services opened to contestability may be relatively low** in some cases, such as connection to an existing substation, i.e. a brownfield connection. The costs of establishing a new IUSA at that substation would be relatively low compared to establishing a new substation, i.e. a greenfield connection. On this basis, the Commission considered it unlikely that many providers would have a strong incentive to provide the detailed design, construction and ownership for these assets, and that there may be limited benefits in allowing contestability in the provision of these services for these types of assets.

398 Clause 5.4.1(b)(3) of the NER.
399 Clause 5.1.2(f)(3) of the NER.
400 AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, pp. 163-164.

- **If equipment is embedded deep in the meshed network**, e.g. communication equipment may need to be upgraded or installed at a location that is located some distance away from the point where a party is connecting. Such equipment needs to be able to interface with existing communication equipment, and needs to be installed in a controlled environment because it has implications for the safe, reliable and secure supply of electricity to end-use consumers. Access to the site at which that equipment is located may also be an issue, as could compatibility with that equipment if the upgrade or replacement is being undertaken by a party other than the party who originally arranged its installation.

Further, both the 'monetary' limb and 'separability' limb are consistent with the existing Victorian arrangements for transmission investment, which also use a $10 million threshold and 'separable augmentation' criterion for contestability.[401]

D.2.2 Draft rule

The draft rule removed the $10 million 'monetary' limb from the contestability threshold for IUSAs.

The Commission's main justification for removing the monetary limb for IUSAs in the draft rule was:

- aligning the contestability arrangements that apply to IUSAs and DNAs as much as possible and also align the cost-sharing arrangements that apply to low cost IUSAs and high cost IUSAs to ensure simplicity and less complexity, and
- allowing for contestability to the extent this was likely. The Commission questioned whether the assumption that parties are increasingly seeking to connect to the transmission network via an existing substation, which may not have created strong financial incentives on potential third party providers due to the low cost nature of these assets, justified limiting contestability for low cost IUSAs.

The draft rule therefore maintained the 'separability' limb for both IUSAs and DNAs. The Commission considered it appropriate for the Primary TNSP to continue having singular accountability for outcomes in the shared network. This required only assets that were separable, distinct, and definable from the existing transmission to be open for contestable provision.

D.2.3 Stakeholder views

Investors and project developers partly supported removing the monetary threshold for contestability. CEIG suggested the reform will provide greater opportunities for private investment in transmission.[402] RES Group also supported removing the threshold for IUSAs. However, it noted that in practice it was not aware of any third party IUSAs.[403]

401 AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, p. 165.
402 CEIG submission to the draft determination, p. 3.
403 RES Group submission to the draft determination, p. 5.

In contrast, network businesses generally opposed removing the $10 million threshold for IUSAs. According to ENA, the $10 million threshold should be reinstated as connection applicants are highly unlikely to seek competitive tenders for small value projects and removal of the monetary threshold would mean increased costs for connection applicants.[404] This is due to the information a TNSP is required to provide to connecting parties in relation to a contestable IUSA based on NER clause 5.3.3(b)(9)(i), which requires the TNSP to provide the technical parameters for that asset with sufficient detail to enable the connection applicant to obtain binding tenders for the provision of detailed design, construction and ownership services. Removing the $10 million threshold would require the Primary TNSP to provide this extensive information to a much greater number of connection applicants. This would mean that for connection applicants who are unlikely to seek competitive tenders for low costs projects, and would obtain no benefit from the information provided, the costs for a connection enquiry would increase. All connection applicants would also have experienced the inconvenience of the TNSPs' additional time in preparing it.[405]

Powerlink recognised the benefits the Commission was seeking to achieve under the draft rule by achieving greater consistency between contestability arrangements for IUSAs and DNAs. However, it questioned whether removing the $10 million threshold for IUSAs would lead to net benefits for connecting parties:[406]

> "The substantial increase in work required by TNSPs to process connection enquiries for contestable IUSAs will require a material increase in connection enquiry fees and complexity in contractual negotiations that we expect will not be proportionate for all connection enquiries. In the past year, half of our 34 connection enquiry responses were non-contestable."

TransGrid also questioned the net benefits of removing the $10 million contestability threshold for IUSAs and noted that it will require substantially more information to be prepared for the connection applicant, at the applicant's cost, in circumstances where there may be no value of providing this additional information.[407]

Stakeholders did not directly comment on the issue of maintaining the separability limb under the contestability threshold.

D.2.4 Final rule

The final rule reinstates the $10 million threshold for IUSAs.[408] Accordingly, different contestability provisions will apply to DNAs and IUSAs based on an IUSA's estimated value under the final rule.

There are two main reasons for reinstating the $10 million threshold for IUSAs:

404 ENA submission to the draft determination, p. 13.
405 ENA submission to the draft determination, p. 13.
406 Powerlink submission to the draft determination, p. 2.
407 TransGrid, submission to the draft determination, p. 3.
408 Clause 5.2A.4(b) under Schedule 2 of the Amending Rule.

- **Costs would likely increase for connecting parties (where asset less than $10 million):** If detailed design, construction and ownership services for all IUSAs was contestable under the final rule, the Primary TNSP would be required to prepare a functional specification for each connection enquiry. Specification would need to be sufficiently detailed to allow the prospective connecting party to seek binding tenders from third party service providers, even if the connecting party did not want to seek third party services.
- **Lack of contestable IUSAs above $10 million under current arrangements:** As highlighted in stakeholder submissions to the draft determination, there are few IUSAs provided contestably under current arrangements.[409] It is likely IUSAs with an estimate capital cost less than $10 million would derive even less benefits from contestable service provision.

The Commission therefore concludes that, on balance, the cost of removing the monetary limb of the IUSA contestability threshold would likely outweigh the benefits.

In addition, the draft determination emphasised the importance of achieving greater consistency between IUSAs and DNAs when proposing removal of the monetary limb of the contestability threshold for IUSAs. However, under the final rule, access arrangements result in a considerably more active role for the DNA owner than IUSA owners.[410] This results in substantially more divergence between IUSAs and DNAs under the final rule than originally envisaged. Accordingly, there are reduced benefits from achieving consistency between IUSAs and DNAs in the context of the contestability threshold, based on differences in the arrangements for IUSAs and DNAs, which are no longer subsumed under the umbrella concept of 'funded network assets' for this purpose.

The final rule maintains the separability requirement for IUSAs.[411] This is consistent with the draft rule and the existing arrangements and reflects the lack stakeholder concerns in response to this aspect of the draft rule.

D.3 No ownership restriction for IUSAs and DNAs

BOX 17: CHANGES BETWEEN DRAFT AND FINAL RULE

There were no changes between the draft and final rule relating to the removal of the ownership restriction for IUSAs and no introduction of an ownership restriction for DNAs. As a result, no ownership restriction will apply to IUSAs and DNAs under the final rule.

409 RES Group submission to the draft determination, p. 5.
410 See Clause 5.2A.8 under Schedule 2 of the Amending Rule.
411 Clauses 5.2A.4(c) (1) and (2) under Schedule 2 of the Amending Rule.

D.3.1 Current arrangements

No ownership restriction applying to DCAs

No ownership restriction applies under the current framework for DCAs, i.e. a connecting party can also own the DCA that facilitates its connection.

Ownership restriction applying to IUSAs

IUSA ownership is contestable under current arrangements. However, a party (other than the Primary TNSP) who owns an IUSA (referred to as a 'third party IUSA') is subject to an ownership restriction under the current arrangements. This means that a person who owns a third party IUSA must not own, operate or control a generating system or facility that uses electrical energy (i.e. load) that is connected to that IUSA, or be a related entity of a person who owns, operates or controls a generating system or load connected to that third party IUSA.[412]

In the final determination for the TCAPA Rule, the Commission considered allowing a generator or load, or a related entity of that generator or load, to own a transmission asset which connects it to the 'shared' transmission network could raise competition concerns. For example, a generator who owned an IUSA may have the ability to exert influence over the Primary TNSP's granting of access to that asset to competing generators by contractual means (i.e. outside the NER framework), which could not be tested or be required to be made public due to the confidential and private nature of such contracts.[413]

The rationale underlying this obligation was to preserve competitive neutrality and the principles of an open access framework by limiting any incentive a generator or load connected to an IUSA, or a related entity of that generator or load, may have to prevent or frustrate another party's access to the transmission network through ownership of an IUSA.

D.3.2 Draft rule

Removal of the ownership restriction for IUSAs

The draft rule removed the ownership restriction for IUSAs. Consequently, a person who owned a third party IUSA could have also owned, operated, or controlled a generation system or facility that utilised electricity and was connected to that third party IUSA.

No ownership restriction applying to DNAs

DNA ownership would have been passive in nature under the draft rule. This was because the Primary TNSP would have had full control over the asset by operating it under an NOA, including administering access to the asset through its access policy.

As a result, under the draft rule only the funding party, i.e. the 'foundation user' would have had a direct contractual relationship with the owner of the asset. This commercially

412 Clause 5.2A.7(e) of the NER.

413 AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, pp. 155-156.

negotiated contract would have provided for and outlined the build and technical envelope of the DNA, and all associated time frames for constructing the asset.

Given the passive DNA ownership structure proposed under the draft rule, the Commission considered there was a low risk of a party owning a DNA being able to exert influence over the Primary TNSP's ability to grant access to competing parties. By allocating the responsibility for access administration to the Primary TNSP, the draft rule posed little risk of vertical integration and potential access frustration.

Further, preventing the connecting party from owning the asset would have effectively restricted the pool for potential DNA providers to TNSPs' affiliates, i.e. the 'contestable arm' of TNSPs' businesses, unless a market for DNA providers would develop. The Commission therefore considered that having no ownership restriction was likely to have materially increased the competitive pressure on Primary TNSPs for the provision of the services that are contestable.

As a result, in the draft rule the Commission considered that the existing ownership restriction for IUSAs was likely to have been disproportionate, and that there was therefore a good case for no ownership restriction for IUSAs. In addition, the Commission concluded removing the ownership restriction for IUSAs would have created consistency between the different types of assets that are operated by the Primary TNSP – IUSAs and DNAs – and thereby ensured less complexity and more clarity for connecting parties.

D.3.3 Stakeholder views

Investors and project developers generally supported removing the ownership restriction for IUSAs and not introducing an ownership restriction for DNAs.[414] CEIG highlighted the removal of the existing ownership restriction for IUSAs would provide more opportunities for private transmission investment in the NEM.[415]

D.3.4 Final rule

Consistent with the draft rule, under the final rule no ownership restriction applies to DNAs and IUSAs.[416]

That is, the final rule does not introduce an ownership restriction for DNAs and removes the existing ownership restriction for IUSAs.

However, the Commission notes that between the draft and final rule there has been a significant change to the proposed access arrangements for DNAs (as set out in Appendix C). Under the draft rule, DNA access would have been controlled by the Primary TNSP, whereas under the final rule, the DNA owner will be responsible for controlling DNA access. As a result, DNA ownership will not be of a passive nature with regard to administering access to a DNA.

414 Submissions to the draft determination: ATCO, p. 1; CEIG, p. 1; RES Group, p. 6.
415 CEIG submission to the draft determination, p. 1.
416 See the table under Clause 5.2A.4(a) under Schedule 2 of the Amending Rule.

The new DNA access regime will thereby allow for vertical integration without introducing an ownership restriction. The risks related to vertical integration – access frustration and monopoly pricing – are potentially more material under a regime where the DNA owner controls access.

However, introducing an ownership restriction may stifle efficient investment in transmission infrastructure if the party that makes the investment is not allowed to own and administer access to the assets. By limiting the number of parties potentially eligible to own these assets, an ownership restriction could increase financing costs or otherwise deter investment in new transmission infrastructure.

There are two main reasons an ownership restriction on DNAs may stifle investment under the final rule:

- **Reduced investor certainty:** If a connecting party cannot own the DNA that facilitates its connection to the shared network, it would have less certainty about controlling access, which would impact its ability to derive commercial returns from its investment in new transmission infrastructure.
- **Limited number of potential asset owners:** Imposing an ownership restriction would further limit the number of parties eligible to own these assets, which could potentially increase financing costs or otherwise deter investment in new transmission infrastructure.

In not introducing an ownership restriction, the Commission is mindful of the need to strike a balance between the interests of first-mover investors in new DNA infrastructure and subsequent access seekers. The Commission designed the new DNA framework to provide sufficient investment certainty to first-mover investors to ensure the new framework is utilitised - that is, the new framework encourages construction of new radial transmission infrastructure. However, through other design features of the new DNA framework, the Commission provides access seekers with increased transparency through information the DNA owner has to provide (on pricing, negotiating timeframes and current utilisation of the DNA) to balance the negotiating power of the DNA owner during access negotiations. The existing framework for large DCAs provides considerable protections for first-mover investors. The new DNA framework maintains these protections for first-mover investors whilst also ensuring access seekers can effectively negotiate access with a DNA owner.[417]

Establishing an ownership restriction for DNAs does therefore not align with the Commission's objectives for the new DNA framework to facilitate efficient investment in transmission infrastructure.

417 For further detail on this aspect of the new framework see Appendix C.

D.4 30km length threshold for DNAs

BOX 18: CHANGES BETWEEN DRAFT AND FINAL RULE

There were no changes between the draft and final rule relating to the existing 30km threshold to differentiate between DCAs and DNAs.

D.4.1 Current arrangements

Under current arrangements for DCAs, a DCASP must classify its DCA as either 'large' (30km or longer) or 'small' (shorter than 30km).[418] Currently all DCAs – small and large, i.e. with a length of less than 30km and with a length of 30km and more – are fully contestable assets. Further, only large DCAs, i.e. assets with a total route length of 30km or more, attract access obligations.

The Commission's analysis at the time of the TCAPA Rule change demonstrated:

- the regulatory burden of complying with the requirements of the access framework for DCAs of less than 30km route length would likely have outweighed the benefits that the obligation is seeking to provide - efficient access to the shared transmission network, and
- a low likelihood that relatively short DCAs would be subject to a request for access because the costs of duplicating the assets are likely to outweigh the costs of negotiating access directly with the Primary TNSP.

D.4.2 Draft rule

The draft rule maintained the existing 30km threshold to differentiate between DNAs and DCAs:

- **DNAs**: Assets with transmission lines with a total route length of 30km or more were subject to the new DNA framework.
- **DCAs**: Assets with transmission lines with a total route length of less than 30km were governed by the existing rules for small DCAs.

As a result of the draft rule's changed contestability arrangements:

- **DNAs** formed part of the Primary TNSP's transmission network and as such would have needed to be operated and maintained by the Primary TNSP, whereas
- **DCAs** remained fully contestable, private connection assets.

D.4.3 Stakeholder views

The South Australian Department of Energy and Mining supported maintaining the 30km length threshold for DNAs.[419]

418 Clause 2.5.1A(b) of the NER.

419 SA Department of Energy and Mining submission to the draft determination, p. 2.

However, several stakeholders opposed maintaining the existing 30km threshold to differentiate between DCAs and DNAs, with some stakeholders proposing alternative approaches.

Powerlink and Terrain Solar considered the threshold arbitrary. Powerlink cited general examples of DCAs on its network which are less than 30km in length, but would nevertheless benefit from the new DNA framework.[420] Terrain Solar sought further information on the origins of the 30km threshold, its supporting logic and work demonstrating why it was chosen. It expressed concerns that:[421]

1. "This sets a high, and costly bar, to be achieved before the proponent/s is afforded the access rights protections proposed under the Draft Rule Change.
2. This places smaller proponents such as Terrain, without the deep pockets of the "big boys" at a considerable competitive disadvantage.
3. By affording similar access rights protections to ANY proponent who funds the construction of network assets, so that they can defray costs for any other projects connecting to that infrastructure as well, the playing field would become much more level."

RES Group also opposed the 30km threshold for DNAs.[422] According to RES Group, the new DNA framework is essential to facilitate the delivery of complex projects such as staged projects, projects with multiple technology types, or separate projects with shared connection assets. Conversely, for 'simple' projects with a single stage, single technology type or single owner but with a connection asset, the draft rule unnecessarily limits contestability. Consequently RES Group proposed that instead of length of the asset, the threshold distinguishing between DNAs and DCAs should be based on the number of connecting parties:

- **Small DCAs** are retained for connections involving single generating systems with power lines less than 30km in length
- **Large DCAs** are retained for connections involving single generating systems with power lines longer than 30km
- **DNAs** are established for connections involving multiple generating systems (connecting parties).[423]

AusNet similarly suggested that the number of connected parties could be an alternative to the 30km length threshold. According to AusNet, this would increase the new framework's overall contestability. AusNet mentioned that there may be circumstances where asset sharing and/or future incorporation into the shared network is unlikely or impractical. For example, where connecting parties developing large renewable projects (e.g. onshore and offshore wind farms or pumped hydro projects) can support a DCA for their use only, the

420 Powerlink submission to draft determination, p. 2.
421 Terrain Solar submission to the draft determination, p. 2.
422 RES Group submission to the draft determination, p. 2-3.
423 RES Group submission to the draft determination, p. 3.

draft DNA framework is unnecessarily limiting contestability and opportunities for third parties to provide innovative solutions. On this basis AusNet suggested that an alternative to the draft rule could be to provide connecting parties with the option to chose whether transmission services related to connection are provided under the new DNA or the existing large DCA framework, regardless of the line length.[424]

D.4.4 Final rule

The Commission maintains its position from the draft rule that the new DNA framework applies to transmission assets with a total route length of 30km or longer.[425] Assets with a total route length less than 30km will continue to be classified as DCAs.[426] This is consistent with existing arrangements for small DCAs established by the TCAPA Rule.

The Commission recognises the merits of stakeholder concerns about the 30km threshold. However, on balance, the Commission considers the 30km threshold is the best available solution because of the:

- limitations of alternative approaches proposed by stakeholders, and
- continued relevance of the Commission's analysis informing the 30km threshold under the TCAPA framework.

One of the alternative approaches stakeholders suggested was to rely on the number of connecting parties, rather than length of the power lines forming the transmission asset, to distinguish between DCAs and DNAs. Under this approach, assets with a single connecting party behind the boundary point would be subject to the existing framework for DCAs. Assets with multiple connecting parties would be subject to the new DNA framework.

The Commission considers the main problem with this approach is its temporal nature. At any given point in time, the number of parties connected to a specific transmission asset could change. For example, there could only be one connecting party when the asset is commissioned, which would mean the asset would be classified as a DCA. But if a subsequent party seeks to connect to the asset at a later date, the asset would need to transition to the DNA framework. This is one of the key issues that this rule change seeks to resolve.

The Commission further considers:

- By creating individual TNCPs on DNAs, an increased number of new generators may seek to connect to existing assets. Under alternative approaches to the 30km threshold proposed by stakeholders, there could be a significant risk of single-user DNAs eventually needing to transfer to new arrangements. This could require complex transitional arrangements
- It is essential to ensure any material extensions of the transmission network comply with existing system security and performance standards. Under the proposed alternative

424 AusNet submission to the draft determination, p. 4.
425 See definition of 'dedicated network asset' under Schedule 4 of the Amending Rule.
426 See definition of 'dedicated connection asset' under Schedule 4 of the Amending Rule.

approaches, projects 'opting out' of the new DNA framework could undermine this objective

- There is benefit from promoting investor certainty by avoiding ambiguity regarding the distinct access obligations for DNAs and DCAs.

The Commission notes that stakeholder concerns that assets less than 30km will not be able to gain the benefits of the new DNA framework are addressed under the final rule. Project proponents less than 30km can voluntarily opt into the new DNA framework.[427]

D.5 Contractual arrangements

BOX 19: CHANGES BETWEEN DRAFT AND FINAL RULE

There were several changes between the draft and final rule relating to the aspect of contractual arrangements. These changes are necessary because the final rule allocates responsibility for administering DNA access to the DNA owner. The final rule therefore:

- Removes the obligation on the Primary TNSP to distribute to the owner of a DNA through the NOA any relevant amounts that the Primary TNSP has collected from connection applicants for connection to the DNA in accordance with its access policy.
- Maintains the right of the Primary TNSP under the NOA to alter, replace or augment a third party DNA if necessary in order for the Primary TNSP to operate and maintain the asset in line with network standards. However, only the DNA owner will have the right to alter, replace or augment a third party DNA in order to facilitate third party access or connect a 'daisy chained' DNA to an existing DNA.
- Maintains the right of the Primary TNSP under the NOA to connect other persons to a DNA. However, connection of another person to a DNA will be subject to an access agreement between the DNA owner and the connecting party - this is a consequence of allocating the responsibility to provide 'access services' to the DNA owner and allocating the responsibility to provide 'connection services' to the Primary TNSP.

Consequently, the scope of TNSPs' rights and obligations under a NOA will be narrower for DNAs than for IUSAs.

D.5.1 Current arrangements

Requirement to have a NOA for third party IUSAs

If a party (other than the Primary TNSP) owns an IUSA (referred to as a 'third party IUSA') it is required to have a NOA in place with the Primary TNSP.[428]

As an IUSA is not a transmission system in or of itself, there is consequently no requirement for the asset owner to register (or be exempted) in respect of that asset. This is because a

427 Clause 11.139.4 under Schedule 5 of the Amending Rule.
428 Clause 5.2A.7(a) of the NER.

third party IUSA forms part of the Primary TNSP's transmission network, for which the Primary TNSP is already registered.[429]

If a party other than the Primary TNSP owns an IUSA, any third party (i.e. any party other than the Primary TNSP) who owns an IUSA must have a NOA with the Primary TNSP.[430] The NOA needs to be in place before the IUSA is commissioned.[431] Under the NOA operation, maintenance and control of the IUSA is provided by the Primary TNSP. This enables the Primary TNSP to continue to have control over its whole transmission network, including the contestable components of the IUSA that form part of its network.

Accordingly, third party ownership of an IUSA is passive in nature under current arrangements. A third party owner does not have any role in making decisions about operation, maintenance or control of the asset, as these responsibilities lie with the Primary TNSP. For example, under the NER, a contestable owner is required to agree to the replacement of assets before this is undertaken by the Primary TNSP. Further, the Primary TNSP administers access to the IUSA in line with the open access regime and the connections process set out in rule 5.3 of the NER.

D.5.2 Draft rule

Requirement to have a NOA

To facilitate contestable ownership, the draft rule required the DNA owner to enter into a NOA with the Primary TNSP if the DNA was owned by a third party. This is consistent with current arrangements for IUSAs. Under the draft rule the Primary TNSP would have been required to prepare, maintain, and publish a standard NOA for funded network assets. Alternatively, the Primary TNSP could have prepared, maintained, and published multiple standard NOAs for different types of funded network assets (IUSAs and DNAs) to account for differences in the types of assets.

Under the draft rule the standard NOA would have needed to be:

- negotiated in accordance with the negotiating principles
- consistent with Part B of Schedule 5.6 (*Terms and conditions of connection agreements and network operating agreements*) of the NER
- set for a period at least equal to the term of the longest connection agreement of a member of the initial identified user group for the funded network asset.

In addition, the NOA must have provided for the Primary TNSP to:

- operate and control the funded network asset (including rights and obligations to maintain the asset) for an agreed charge or charging methodology
- have an option to purchase the funded network asset at fair market value at the expiry or early termination of the NOA

429 See definition of 'transmission network' under Chapter 10 of the NER.
430 Clauses 5.2A.7(a)-(d) of the NER.
431 Clause 5.2A.7(a) of the NER.

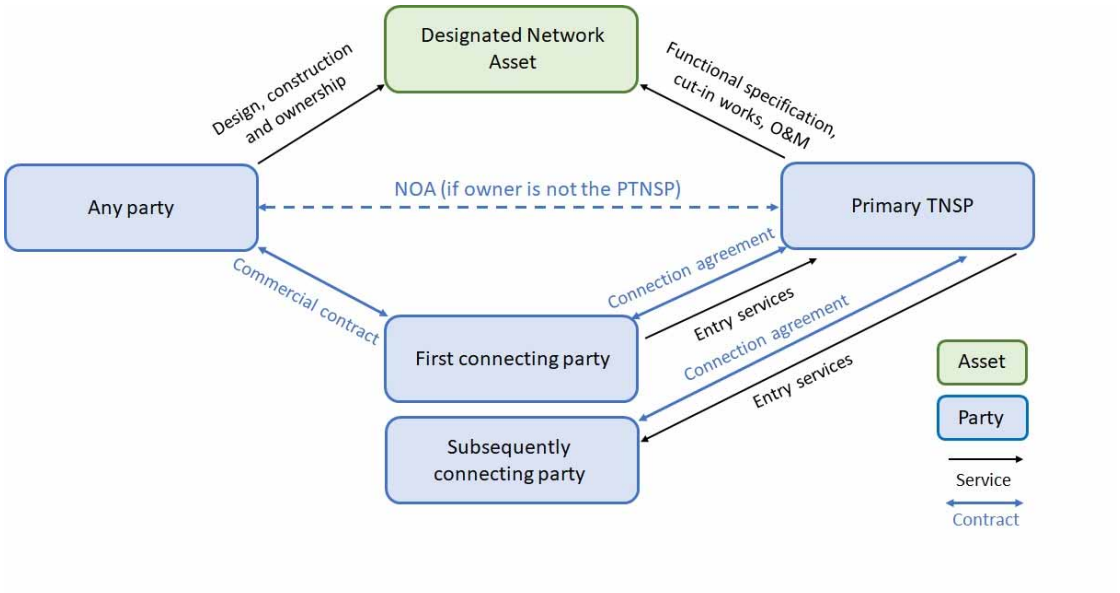
- alter, replace or augment the funded network asset
- have the right to connect other persons to the funded network asset in accordance with the NER, i.e. in the case of a designated network asset in line with the special access regime for designated network assets
- have unrestricted use of, and access to, the funded designated network asset
- treat the funded network asset as forming part of the Primary TNSP's transmission network in all material respects.

The draft rule added two further requirements on the NOA for a DNA associated with access and allocation of settlement residues. Accordingly, the NOA for a DNA was required to provide for the Primary TNSP distributing, in accordance with methodologies developed by the Primary TNSP, to the DNA owner any:

- relevant amounts that the Primary TNSP has collected from connection applicants for connection to the DNA in accordance with the access policy, based on the fact that the Primary TNSP would have been responsible for administering DNA access
- settlement residues accrued on the DNA.

Figure D.1 illustrates the contractual arrangements under the framework for DNAs as established under the draft rule.

Figure D.1: Indicative contractual arrangements for DNAs



Source: AEMC.

Multiple asset owners

Under the draft rule, there would have only ever been one DNA behind a boundary point. However, there could have still been multiple asset owners of a single DNA behind the boundary point. The intention of allowing multiple asset owners behind the boundary point

was to facilitate DNA development over time, with appropriate contestability arrangements at each stage of development. The Commission did not intend to determine or prevent any specific DNA configurations by allowing the Primary TNSP to operate a DNA under one or multiple NOAs.

One possible way DNAs could have developed under the draft rule was by physically 'expanding' the footprint of an existing DNA where a party seeking to connect to a DNA is located more than 30km away. As any connection asset with power lines longer than 30km could no longer have been classified as a DCA, the asset must have instead been classified as a DNA. Another way of expanding was by upgrading or increasing the capacity of a DNA without expanding its physical footprint. Such an upgrade might have been provided by upgrading switchgear in a substation or by the duplication of an overhead line.

Under the draft rule, the standard DNA contestability arrangements would have applied to expansions and increases in DNA capacity. That is, the Primary TNSP, the original contestable asset owner, or any other party could have designed, constructed, and owned the contestable components of the additional assets. Such modifications of the original DNA, e.g. upgrading switchgear, would have been contestable to the extent that they were separable from the existing asset in line with contestability threshold. Under the draft rule, the original DNA owner would have already entered a NOA with the Primary TNSP. If the assets forming the expansion or used to increase the capacity of the DNA were owned by a different party, the owner of those assets was also required to enter into a NOA with the Primary TNSP.

D.5.3 Stakeholder views

Investors, project developers, and network businesses commented on the contractual arrangements that would apply in the context of DNAs.

Investors and project developers expressed concerns regarding the scope of power the Primary TNSP could exercise through the NOA and this may deter third party ownership of funded network assets and asked the final rule provide greater clarification in this regard.

The CEC requested more information on how the proposed negotiating principles will ensure NOA fees are kept efficient in a noncompetitive negotiation between the DNA owner and the Primary TNSP.[432]

ERM Power expressed concerns about the NOA giving the Primary TNSP the right to:

- alter, replace, or augment DNAs
- have unrestricted use of, and access to, DNAs, and
- treat DNAs as part of the Primary TNSPs network in all material respects.[433]

Instead, ERM Power recommended the above rights being negotiated by parties to the NOA. Otherwise, it was concerned the new framework would represent a barrier to efficient investment in DNAs by any party other than the Primary TNSP.[434]

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432 CEC submission to the draft determination, p. 4.

433 ERM Power submission to the draft determination, p. 4-5.

434 ERM Power submission to the draft determination, p. 5.

Terrain Solar suggested the standard NOA to include a transparent charging methodology for O&M services provided by the Primary TNSP.[435]

In contrast, TNSPs identified the need for additional contractual arrangements beyond the NOA under the new framework for DNAs. ENA expressed concerns the contractual arrangements proposed under the draft would leave gaps in terms of identifying the appropriate roles and responsibilities of the Primary TNSP, the DNA owner, and connecting parties.[436] To address these gaps, ENA recommended the establishment of a "DNA access management deed", which would establish a contractual relationship between the Primary TNSP, the DNA owner, the first connecting party and any subsequent connecting party.[437] ENA suggested that the DNA access management deed would address liability arrangements and default and step in arrangements.[438]

D.5.4 Final rule

The Commission considers there is no need for changes between the draft and final rule with regard to the necessary contractual arrangements for DNAs. However, due to the changed access arrangements for DNAs under the final rule, the Commission considers changes with regard to the scope and terms and conditions of the NOA are necessary under the final rule to account for the DNA owner instead of the Primary TNSP controlling third party access to the DNA. The relevant changes are discussed in further detail below.

Consistent with the draft rule, the final rule sets out minimum contractual arrangements for DNAs. These include::

- a third party DNA owner is required to enter into a NOA with the Primary TNSP.[439]
- a TNSP negotiates and enters into a connection agreement consistent with rule 5.3 with a party connecting at a TNCP on a DNA.[440]

The Commission considers there is no need to prescribe the existence of contractual arrangements beyond the NOA and the connection agreement in the NER. However, it acknowledges that parties may nonetheless agree to additional contractual arrangements that are necessary for the parties to put in place their commercial arrangements. For example, this could include:

- a contract between the DNA owner and the foundation user that establishes the DNA
- a contract between the DNA owner and each party it provides DNA services to in the form of an access agreement

435 Terrain Solar submission to the draft determination, p. 3.

436 ENA submission to the draft determination, p. 9.

437 ENA submission to the draft determination, p. 10 and Attachment 1 to the submission.

438 ENA submission to the draft determination, p. 20.

439 Clause 5.2A.7(a) under Schedule 2 of the Amending Rule.

440 Appendix C on access clarifies the interaction between 'access', for which the DNA owner is responsible under the new framework, and 'connection' for which the Primary TNSP is responsible under the new framework. Where the DNA owner is responsible for granting DNA access, the final rule has a restriction on the Primary TNSP providing an offer to connect unless it has received written confirmation from the DNA owner that access to the DNA has been granted.

- a tripartite agreement between the DNA owner, the Primary TNSP and a connecting party (or more parties depending on the number of connected parties).

Contractual relationship between the DNA owner and a connecting party

As the DNA owner is responsible for granting third party access to its DNA under the final rule, the DNA owner and a connecting party are likely to enter a contractual agreement setting out the terms and conditions of DNA access.

Depending on which party owns the DNA (i.e. the Primary TNSP or another party), the contractual agreement governing the relationship between connecting parties and the DNA owner may take different forms. For example:

- If the DNA owner is not the Primary TNSP, but either the same party as the foundation user or a third party service provider, the agreement may take the form of a commercial contract between the DNA owner and a connecting party.
- If the DNA owner is the Primary TNSP, the agreement may form part of the connection agreement between the Primary TNSP (who is also the DNA owner) and a connecting party rather than a separate contractual agreement.

The final rule does not prescribe the need for, or form of, such contractual relationships between the relevant parties as the Commission considers that commercial parties are best placed to develop the appropriate contractual arrangements for their given circumstances, which may include a variety of connection configurations and business models.

Tripartite agreement between the DNA owner, the Primary TNSP and a connecting party

Consistent with the draft rule, the final rule does not require connecting parties, the DNA owner, and the Primary TNSP to enter into a tripartite contractual agreement. However, the parties may choose to do so, and the rules do not prevent this from happening.[441] The Commission's view is that liability and default arrangements can sufficiently be addressed under the existing contractual arrangements:

- Currently, a Primary TNSP provides for any liability arrangements through its connection agreement with a connecting party at a TNCP.[442] For a DNA connecting party, the connection agreement with a connecting party could further specify what would happen in the case of the DNA owner defaulting, e.g. the connecting party may be required to pay O&M directly to the Primary TNSP.
- Likewise, the NOA and the contract between the DNA owner and a DNA connecting party would also speak to liability in case of the DNA owner defaulting.[443]
- In addition, the NER would not prevent the involved parties to enter into additional contractual arrangements to deal with issues relating to liability and the DNA owner defaulting, e.g. a tripartite contract between the Primary TNSP, the DNA owner and a connecting party, but the final rule does not require the existence of a such a contract as

441 Clause 5.3.7(f1) under Schedule 2 of the Amending Rule.
442 Clause 5.2.3(d)(1) of the NER.
443 See with regard to the NOA Paragraph (e) in Part B of Schedule 5.6 of the NER.

the Commission considers the parties capable of addressing liability arrangements with respect to the DNA owner defaulting through commercial negotiations.

The Commission also notes there are existing requirements in the NER for the NOA to contain default provisions.[444]

Accordingly, the Commission does not consider there is a need to prescribe the existence of any other contractual arrangements to allocate and manage risk between the parties. Rather, the Commission considers it is important to provide parties with maximum possible flexibility under the new framework when negotiating their contractual agreements, including how those arrangements allocate and manage risk. The Primary TNSP, DNA owner and connecting parties are sophisticated, well advised parties that are capable of reaching legal and commercial outcomes suitable to their circumstances.

Scope and terms and conditions of the NOA

In relation to stakeholder concerns regarding the scope of power the Primary TNSP could exercise on a third party DNA owner through the NOA, the Commission does not consider any changes are necessary under the final rule.

As a Primary TNSP takes over full operational control over a DNA, the Commission considers it as necessary that a NOA (largely consistent with the draft rule) gives the Primary TNSP the right to:

- have unrestricted use of, and access to, DNAs in accordance with the Rules, and[445]
- treat DNAs as part of the Primary TNSPs network in all material respects.[446]

However, given that under the final rule the Primary TNSP is no longer be responsible for administering access to a DNA, the Primary TNSP has limited rights with regard to:

- **Altering, replacing or augmenting a third party DNA**.[447] The Primary TNSP has, under the NOA for a DNA, the right to alter, replace or augment a third party DNA if necessary in order for the Primary TNSP to operate and maintain the asset in line with its obligations in respect of the standards for operating the transmission network under the NER. However, only the DNA owner has the right to alter, replace or augment a third party DNA for the purposes of proving DNA access to a third party. Further, if a new/subsequent DNA seeks to connect to an existing DNA, i.e. a 'daisy chained' DNA, the owner of the original DNA has the right to undertake the cut-in works to facilitate the connection of a 'daisy chained' DNA. As a result, under the final rule slightly different contestability arrangements apply to such an alteration of an existing DNA, which could take the form of 1) upgrading or increasing the capacity of the existing DNA for the purposes of connecting a third party to the DNA, and 2) cutting-in to the existing DNA for the purposes of connecting another DNA to the existing DNA

  Further, the Commission notes that under the final rule:

444 Paragraph (e) in Part B of Schedule 5.6 of the NER.
445 Clause 5.2A.7(d)(5) under Schedule 2 of the Amending Rule.
446 Clause 5.2A.7(d)(6) under Schedule 2 of the Amending Rule.
447 Clause 5.2A.7(d)(3) under Schedule 2 of the Amending Rule.

  - The DNA owner has the exclusive right to provide the services of detailed design and construction of such a modification of an existing DNA.[448]
  - Ownership of the modification, e.g. upgraded switchgear, must remain with the DNA owner to ensure the same access arrangements apply to the entire DNA.[449]
  - For cut-in works, i.e. interface works that cut into an existing DNA for the purposes of connecting another DNA to an existing DNA, the DNA owner has the exclusive right to provide the service.[450]
  - The Primary TNSP retains responsibility for providing functional specification and O&M as a negotiated service.[451]
- **Connecting other persons to a DNA**.[452] However, the Primary TNSP's right to connect other persons to the DNA is subject to confirmation from the DNA owner that access to the DNA has been granted.[453] The Commission notes that under the final rule the responsibility to provide 'access services' is with the DNA owner whereas the responsibility to provide 'connection services' will lie with the Primary TNSP.[454]

However, as IUSAs will remain subject to open access and the Primary TNSP will continue to be responsible for controlling access to IUSAs, the Primary TNSP will continue to have the rights to 1) alter, replace or increase the capacity of the IUSA, and 2) grant access and connect other persons to the IUSA.[455] Accordingly, these differences require that the NOA for a DNA and IUSA be different in terms of the scope of the rights and obligations of the Primary TNSP in relation to operation of these different assets.

Further, consistent with the draft rule, the final rule sets out terms and conditions of NOAs.[456] According to the final rule, a NOA between the Primary TNSP and the owner of a contestable IUSA or DNA must include provisions relating to:[457]

- agreed boundaries and physical connection obligations and interface between the IUSA, DNA and the rest of the transmission network[458]
- conditions to transfer operational control of the asset to the Primary TNSP[459]
- the standard of care to apply to the Primary TNSP in providing O&M services[460]
- insurance obligations[461]

448 Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.
449 Clause 5.2A.4(a)(2)under Schedule 2 of the Amending Rule.
450 Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.
451 Clause 5.2A.4(2) under Schedule 2 of the Amending Rule.
452 Clause 5.2A.7(d)(4) under Schedule 2 of the Amending Rule.
453 Clause 5.3.6(a3) under Schedule 2 of the Amending Rule.
454 Appendix C on access provides further detail in this regard.
455 Clause 5.2A.7(d)(3) under Schedule 2 of the Amending Rule.
456 See Schedule 5.6, Part B under Schedule 2 of the Amending Rule.
457 See Schedule 5.6, Part B under Schedule 2 of the Amending Rule.
458 See Schedule 5.6, Part B, paragraph (a) under Schedule 2 of the Amending Rule.
459 See Schedule 5.6, Part B, paragraph (b) under Schedule 2 of the Amending Rule.
460 See Schedule 5.6, Part B, paragraph (c) under Schedule 2 of the Amending Rule.
461 See Schedule 5.6, Part B, paragraph (d) under Schedule 2 of the Amending Rule.

- termination, events of default and force majeure regime[462]
- liability and indemnity[463], and
- defect warranties.[464]

The Commission's view is that the regulatory framework leaves sufficient flexibility for the Primary TNSP and a third party DNA owner to negotiate the exact terms and conditions of a NOA, which will be a bespoke contractual arrangement between a third party DNA owner and the Primary TNSP.

Regarding stakeholder concern the NOA should include a clear and transparent charging methodology for O&M services, the Commission notes that the price for a negotiated service needs to be set in accordance with the requirements formulated under existing Schedule 5.11 *Negotiating principles for negotiated transmission services*.[465] The Commission considers the existing negotiating principles provide for effective cost bounds by ensuring, amongst other things, that the price for a negotiated transmission service should:

- be based on the costs incurred in providing that service[466]
- enable the Primary TNSP to recover the efficient costs of complying with all regulatory obligations associated with the provision of the negotiated transmission service, and[467]
- be fair and reasonable and consistent with the safe and reliable operation of the power system.[468]

Within these cost bounds, the price of O&M services would be negotiated between the Primary TNSP and the DNA owner on a bespoke basis. To maintain a consistent and flexible framework that applies to prices for a negotiated service in general, the Commission considers O&M for DNA should not be treated any differently than any other negotiated service provided by the Primary TNSP.

Considering broader stakeholder concerns on negotiating imbalances between the parties, the Commission considers the risk of such imbalances would potentially extend to all negotiations for prospective connections, including the prices for negotiated services in general. As such, making changes to the broader regulatory framework for negotiated transmission services is beyond the scope of this rule change.

462 See Schedule 5.6, Part B, paragraph (e) under Schedule 2 of the Amending Rule.
463 See Schedule 5.6, Part B, paragraph (f) under Schedule 2 of the Amending Rule.
464 See Schedule 5.6, Part B, paragraph (g) under Schedule 2 of the Amending Rule.
465 See Schedule 5.11 under Schedule 2 of the Amending Rule.
466 Principle 1 in Schedule 5.11 under Schedule 2 of the Amending Rule..
467 Principle 7 in Schedule 5.11 P under Schedule 2 of the Amending Rule.
468 Principle 8 in Schedule 5.11 under Schedule 2 of the Amending Rule.

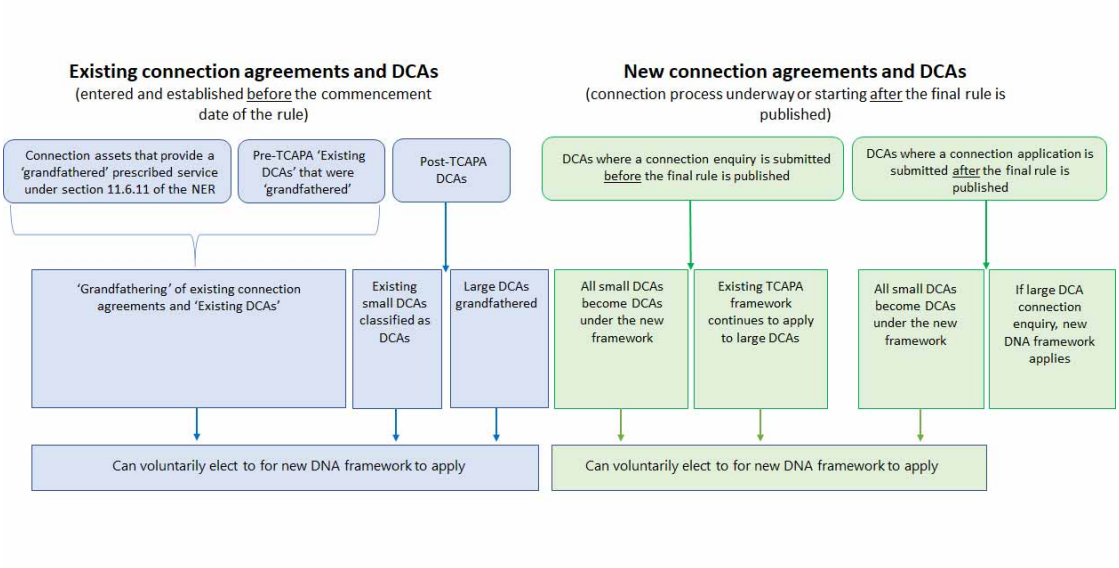
E IMPLEMENTATION, SAVINGS AND TRANSITIONAL ARRANGEMENTS

This Appendix outlines the Commission's final decision in relation to implementation, savings and transitional arrangements. For this purpose, the Appendix provides a summary of the draft rule, stakeholder views on the draft rule, and the final rule position on the following issues:

- commencement date for the new rule, including the steps that will need to be undertaken by industry and market bodies prior to commencement of the rule, and
- savings provisions for existing DCAs and connection agreements.

Figure E.1 below provides an overview of the Commission's approach to implementation, savings and transitional arrangements.

Figure E.1: Implementation, savings and transitional arrangements



Source: AEMC.

E.1 Commencement date, implementation and transitional arrangements

BOX 20: CHANGES BETWEEN THE DRAFT RULE AND THE FINAL

There were several changes between the draft and final rule relating to the commencement and implementation of the new framework. Specifically, the final rule:

- Introduces an implementation period of two weeks between the final rule's publication and commencement
- Provides for an 'allowance period' of 60 business days from the commencement date for the Primary TNSP to respond to connection enquiries to establish new DNAs
- Extends the time for an NSP to respond to a connection enquiry to establish a new DNA to 40 business days, and
- Requires NSPs to notify connection applicants about the application of the old or the new framework, as the case may be.

E.1.1 Draft rule

Commencement date

Under the draft rule, savings and transitional provisions for the new DNA framework were to commence on or about the day the final rule was to be made ("publication date"). Substantive parts of the rule were to commence approximately six months after that date ("commencement date").

The draft rule provided this six month transitional period to enable several parties to undertake a number of steps to ensure readiness and compliance with the new requirements upon commencement:

- Connecting parties needed to become familiar with the new arrangements
- Primary TNSPs needed to:
  - review and update internal systems, procedures and/or standard documentation to reflect the new arrangements.
  - amend the standard NOA to account for the new arrangements for funded network assets owned by a party other than the Primary TNSP (or create separate standard NOAs for DNAs and IUSAs), and
  - develop an access policy that could apply to any DNA that forms part of their network.
- AEMO needed to amend its *NEM Dedicated Connection Asset Classification Guide* regarding DCASP registration requirements to reflect that only small DCAs (with a length

of less than 30km) are captured by the concept of DCAs and there was no longer a registered participant category for DCASPs.[469]

- AER needed to:
  - amend and publish the *Electricity Network Service Provider Registration Exemption Guideline* to account for the draft rule.[470]
    - under the TCAPA Rule, DCAs were defined as 'transmission systems' for registration purposes. This led to the creation of the registered participant category DCASP
    - by contrast, under the draft rule DCAs were no longer defined as 'transmission systems' for registration purposes.
  - amend its existing procedures for approving access policies. Instead of approving access policies for large DCAs, under the draft rule the AER was responsible for approving Primary TNSPs' standard access policies for DNAs.

The most significant stakeholder action needed to be undertaken to implement the draft rule was the Primary TNSP developing a standard access policy for any DNA forming part of its network.

The Commission concluded that approximately six months between publication and the commencement date were necessary to provide TNSPs with enough time to undertake this obligation. The Commission also considered the feasibility of staged implementation, but considered it impractical to require Primary TNSPs to respond to connection enquiries and applications before finalising access policies.

Existing connection processes

Under the draft rule, connection enquiries made to a Primary TNSP in respect of a small DCA prior to the commencement date would have been assessed under the framework established by this rule (that is, the NER as it would have been in force on and from the commencement date). In practice, this would not have required a connection applicant to recommence its connection process. However, it may have required additional or alternative information to be provided before any offer to connect could be issued.

The draft rule did not provide transitional provisions for connection applications underway in respect of large DCAs. The Commission recognised in the draft determination that some proponents may have commenced the connection process for connection to a transmission network via a large DCA, and if so, those proponents would have already made some financial investment in preparing a connection enquiry. However, it considered that the costs for making a new enquiry would have likely been smaller than the benefits of using the new framework.

469 AEMO, NEM *Dedicated Connection Asset Classification Guide*, April 2018. Available under: https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/information-for-current-participants/classify-a-dedicated-connection-asset.

470 Developed under clause 2.5.1(d). See AER, *Electricity Network Service Provider Registration Exemption Guideline*, March 2018. Available under: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/network-service-provider-registration-exemption-guideline-march-2018.

Transitional arrangements for existing small DCAs

The draft rule provided transitional arrangements for small DCAs established under the TCAPA framework, with these assets deemed to be a DCA under the draft rule.[471]

Under the draft rule, connection enquiries made to a Primary TNSP, in respect of a small DCA, prior to the commencement date of the new rule would have been assessed under the framework established by this rule (that is, the NER as it will be in force on and from the commencement date). In practice, this would not have required a connection applicant to recommence its connection process, but may have required additional or alternative information to be provided before any offer to connect was issued.

According to AEMO's Registration and Exemption List, when the draft rule determination was published there were four small DCAs, all operated by TransGrid (i.e. TransGrid is the DCASP for these small DCAs).[472]

NER obligations for a small DCA under the existing TCAPA framework were relatively insubstantial. The main obligation on the owner, operator or controller of a small DCA was registering as a DCASP under Chapter 2 of the NER, classifying its DCA as a small DCA with AEMO and complying with the obligations in clause 5.2.7. Given the draft rule removed these obligations, and did not place any additional obligations on the owners or operators of 'dedicated connection assets' (which replaced small DCAs), the Commission did not consider it necessary to grandfather the four existing DCASPs and this category of assets.

As a result, the savings and transitional provisions under the draft rule provided for those DCASPs that had registered with AEMO in respect of a small DCA prior to the commencement date to cease being a DCASP in respect of that small DCA, and under the draft rule the small DCA was instead deemed a 'dedicated connection asset' (as defined under the new rules), on and from the commencement date.[473]

Therefore, the Commission determined that, on and from the commencement date the owners or operators of small DCAs would only face obligations applying to DCAs under the draft rule.

The parties to a connection agreement, in respect of a small DCA, would have been subject to the new framework if the connected party requested an alteration to its connection service. Otherwise, the draft rule was not intended to alter the terms or contractual rights or obligations of the parties to such an agreement.

In addition, under the draft rule existing small DCAs could have voluntarily converted to the new DNA framework if mutually agreed by all relevant parties, including the asset owner and the Primary TNSP.

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471 See clause 11.xxx.2(a)(2) of the draft rule.

472 See https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/participate-in-the-market/registration.

473 Clause 11.[xxx].2(a) of the draft rule.

E.1.2 Stakeholder Views

Commencement date

Stakeholder views on the proposed implementation period varied.

Project proponents argued for the new rule coming into effect as soon as possible and suggested flexible mechanisms for allowing earlier implementation on a voluntary basis.[474]

By contrast, TNSPs argued for at least six months between the final rule's publication and commencement date to give them time to prepare the internal systems, processes, and documentation needed to start responding to connection enquiries under the new framework. AEMO also argued for a longer implementation period, suggesting at least 12 months between publication and the commencement date. AEMO's concern was based on internal work needed to calculate MLFs at the boundary point between DNAs and the shared network.

Six month implementation timeframe

CleanCo submitted that six months should be the 'outer bound' for the new rule's implementation period. RES Group supported the six-month implementation period proposed under the draft rule, but nevertheless emphasised that a significant number of projects would benefit when the new framework is implemented.[475] Acciona added that:[476]

> "The existing DCA regime and the issues identified with it create significant impediments to new generation projects. It is effectively not possible to stage projects or to effectively share dedicated connection assets between projects or stages. As a result, many projects are either not possible or would not be financially viable, and will be unable to proceed until the commencement date."

In contrast, network businesses argued that six months was the minimum acceptable timeframe to implement the new framework after the final rule is published.[477] Network businesses maintained that a six-month implementation period would be necessary even if the Primary TNSP was no longer required to administer DNA access under the final rule, due to the need to:

- review and update internal systems, procedures, and standard documentation, and
- update NOAs.[478]

AEMO requested more than six months, and possibly as long as a year, to implement the final rule. It was concerned that the draft rule may not have provided sufficient time to update its processes, systems and documentation, given the high volume of competing priorities and regulatory change likely to fall in the same period.[479]

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474 Submissions to the draft determination: Acciona, p. 1 ; CleanCo Queensland, p. 1 ; CEC, p. 2.
475 RES Group submission to the draft determination, p. 7.
476 Acciona submission to the draft determination, p. 1.
477 ENA submission to the draft determination, p. 16.
478 ENA submission to the draft determination, p. 15.
479 AEMO submission to the draft determination, p. 8.

- AEMO anticipated the final rule commencing in August 2021, at which time it was also expecting to be implementing a number of other significant change programs which will impact on its capacity for implementing this rule change. These included five minute settlement, wholesale demand response mechanism, customer switching, electricity and gas B2B changes, and measures to improve transparency in the gas market.[480]
- AEMO anticipated significant implementation burden from boundary point metering, on the understanding that metering equipment capable of supporting financial settlement would need to be installed. This would require significant changes to AEMO systems, processes, and methodologies including for loss factor calculations and market system.[481]

Flexible approach to implementation of the new rule

A number of project proponents suggested a flexible approach to implementation to allow parties to apply the new framework earlier than foreseen by the draft rule, if mutually agreed by all relevant parties. For example, the AEC, Acciona, and CleanCo Queensland asked the Commission to consider shortening the six-month implementation period by allowing projects to voluntarily opt into the new framework ahead of the commencement date.[482]

Existing connection processes

Project developers and investors recommended transitional arrangements for projects part way through the connection process when the new framework commences. For example:

- Acciona Energy recommended a voluntary mechanism to opt into the new framework earlier (that is, before the commencement date) should be offered where the project proponent and the Primary TNSP have entered into a connection agreement between the final rule's publication and commencement date.[483] Acciona's approach was explicitly supported by CleanCo Queensland.[484]
- The CEC recommended an implementation pathway that would allow connections already underway when the final rule is publised to be governed by the new framework ahead of the commencement date.[485]
- Terrain Solar proposed that connections underway at the commencement date should not incur additional charges from TNSPs associated with complying with changes to the information project developers need to provide to comply with the new framework.[486]

Network businesses sought greater clarity in the final rule on transitional arrangements for any connections already underway when the final rule is published. For example, TransGrid and ENA requested the final rule provide transitional arrangements for large DCAs which

480 AEMO submission to the draft determination, p. 8.
481 AEMO submission to the draft determination, p. 7.
482 Submissions to the draft determination: AEC, p. 1; Acciona Energy, p. 2.
483 Acciona Energy submission to the draft determination, p. 1.
484 CEC submission to the draft determination, p. 2.
485 CEC submission to the draft determination, p. 2.
486 Terrain Solar submission to the draft determination, p. 3.

would become DNAs under the new framework, including large DCAs at the early stages of construction.[487]

Network businesses were also concerned the draft rule did not provide the Primary TNSP with enough time to respond to connection enquiries. This concern was exacerbated by the increased complexity of responding to connection enquiries with respect to DNAs. Under contestability provisions in the draft rule, the Primary TNSP was required to prepare functional specifications of sufficient detail to allow the prospective project proponent to seek binding tenders from third-party providers of detailed design and construction services.[488]

The problem raised by network businesses was that the existing timeframe of 30 business days for responding to a connection enquiry may not be long enough to provide sufficiently detailed responses to connection enquiries for establishing DNAs under the new framework.[489] For example, according to Powerlink, responding to each connection enquiry for a DNA could take as long as six months, on the basis each response is largely bespoke in terms of the functional specification that needs to be provided for the relevant asset.[490]

Transitional arrangements for existing small DCAs

Stakeholders did not raise concerns about the draft rule transitioning small DCAs to the new framework for DCAs.

However, ENA raised several concerns about the draft rule allowing small DCAs to voluntarily transition to the new DNA framework, where mutually agreed by all relevant parties including the asset owner, connected parties, and the Primary TNSP. ENA was concerned the draft rule did not provide enough information about:

- how an existing DCA would convert to the new framework for DNAs, and
- what happens if an existing DCA seeking to convert does not meet transmission network standards.[491]

According to ENA, there are potential benefits but also complexities from assets converting from the existing DCA framework to the new DNA framework. For this reason the final rule should provide stakeholders with guidance on the steps involved in the conversion process. ENA further recommended that the Primary TNSP should have the right to refuse to convert a DCA if the asset does not meet transmission network standards.

The Commission also received feedback from Powerlink that the pathway to opt-in to the DNA framework is helpful given that there are examples of DCAs that are less than 30km in length, which would benefit from DNA provisions. However, Powerlink suggested that the final rule should ensure a clear and transparent process if the DCA owner voluntarily seeks to convert the asset after it has been designed and built.[492] Powerlink also emphasised the need

487 Submissions to the draft determination: TransGrid , p. 4; ENA , p. 16.
488 Consultations with network businesses following publication of the draft rule determination.
489 Clause 5.3.3(b) of the NER.
490 Consultations between the Commission and Powerlink.
491 ENA submission to the draft determination, p. 16.
492 Powerlink submission to the draft determination, p. 2.

for appropriate protections for TNSPs and subsequent connecting parties regarding the quality of the assets that form the DNA if the DNA owner seeks to convert the asset from the DCA to DNA framework.[493]

Reach Solar also requested the final rule to clarify that a small DCA could opt into the new DNA framework.[494]

E.1.3 Final Rule

Commencement date

In contrast to the draft rule, the final rule commences two weeks after its publication.[495] This means that under the final rule, the implementation period (the period between the final rule being published and its commencement date) is reduced from six months to two weeks.

The first reason for reducing the implementation period is that the final rule allocates responsibility for administering access to the DNA owner, rather than the Primary TNSP. This reduces the amount of preparation work network businesses will need to undertake prior to implementation of the new framework. Instead of the Primary TNSP having to develop a standard access policy for all DNAs that form part of its network prior to the new framework being implemented, under the final rule each DNA owner must develop an access policy for its DNA.[496]

The second reason for reducing the implementation period is that under the final rule, AEMO's determination of transmission losses at the boundary point will be based on estimates of power flows.[497] AEMO's concern with the draft rule was that boundary point meters would not be used for settlement purposes. This would have required changes to AEMO systems, processes and methodologies to accommodate the boundary point meter and calculate the losses. In discussions with AEMO following the publication of the draft rule determination, the Commission clarified that AEMO can determine boundary point loss factors based on estimates of power flows rather than boundary point metering data.[498]

Further, regarding other preparatory steps, under the final rule the AER must amend and issue an updated version of the *Electricity Network Service Provider Registration Exemption Guideline* to account for the final rule.[499] The AER must do so as soon as reasonably practicable following the commencement date and is not required to consult on these changes.[500]

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493 Powerlink submission to the draft determination, p. 2.

494 Reach Solar submission to the draft determination, p. 2.

495 See definition of 'commencement date' under Schedule 5 of the Amending Rule.

496 For more information see Appendix C on access arrangements for DNAs.

497 Clause 3.6.2B(c) under Schedule 1 of the Amending Rule.

498 For more information see Appendix B on TNCPs.

499 Developed under clause 2.5.1(d). See AER, *Electricity Network Service Provider Registration Exemption Guideline*, March 2018. Available under: https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/network-service-provider-registration-exemption-guideline-march-2018.

500 Clause 11.139.10 under Schedule 5 of the Amending Rule.

Accordingly, the Commission considers an implementation time frame of six months prior to the new DNA framework commencing is no longer required.

Allowance period

Nevertheless, the Commission recognises that network businesses will need sufficient time to prepare for commencement of the new framework. In particular, network businesses will need to be ready to respond to connection enquiries that involve establishment of a DNA potentially as early as the first day of the new rule coming into effect. Conversely, where all relevant parties are ready and willing to submit and assess a connection enquiry under the new framework, the Commission considers parties should not be required to wait several months during an implementation period in order to progress a connection.

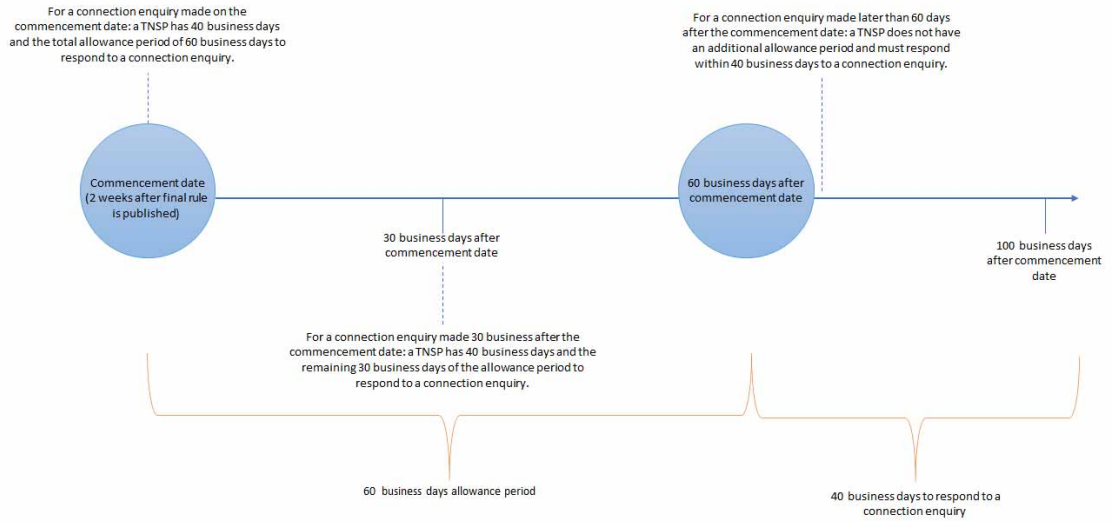
The final rule therefore provides the Primary TNSP with an 'allowance period' of 60 business days to respond to connection enquiries which require the establishment of a DNA, starting on the commencement date of the final rule.[501]

For example, this means that if a project proponent submits a connection enquiry:

- on the first day of the new framework being in effect, the Primary TNSP has an additional 60 business days to respond to a connection enquiry that involves a DNA in addition to the standard time allocated for responding to a connection enquiry
- 30 business days after the new framework commences, the Primary TNSP has an additional 30 business days to respond to a connection enquiry that involves a DNA in addition to the standard time allocated for responding to a connection enquiry
- 61 business days after the new framework commences - that is, after the allowance period has finished, the Primary TNSP must respond to a connection enquiry that involves a DNA within the standard time frame for connection enquiries, without any additional allowance for implementing the new framework.

501 Clause 11.139.9(b) under Schedule 5 of Amending Rule.

Figure E.2: Implementation timeline



Source: AEMC.

The additional allowance period of 60 business days is designed to meet the need for a flexible process for project proponents and network businesses needing time to be ready to respond to connection enquiries. By providing the allowance period at the outset of the new framework, the final rule allows network businesses to put in place the internal procedures and documentation that will allow them to respond to connection enquiries potentially as early as the new framework's first day. This preparatory work is necessary because the new framework requires network businesses to, among other things, provide functional specifications for DNAs, which can be complex for such assets.

The Commission notes that the allowance period is not intended to restrict network businesses and project proponents from working together to reduce the overall response time throughout the connection process.

Additional time to respond to connection enquiries

The Commission also considered the appropriateness of time periods which NSPs must respond to connection enquiries for a DNA under the new framework more generally.

The draft rule did not amend the NER's existing time frames within which network businesses must respond to a connection enquiry, which is currently 30 business days.[502] However, recognising the potential for increased complexity associated with responding to connection enquiries under the new framework, the final rule extends this time to 40 business days, where the NSP is a Primary TNSP and the connection enquiry requires the establishment of a new DNA.[503] This increased complexity arises from the more detailed nature of a functional

502 Clause 5.3.3(b)(1) and (2) of the NER.

503 Clause 5.3.3(b)(1) under Schedule 2 of the Amending Rule.

specification required for DNAs, which include 30km or more of transmission lines, compared with IUSAs which the Commission understands are less bespoke.

The Commission considers this change as striking the right balance between the need for network businesses to provide sufficiently detailed responses to enable third party service provision, and the interest of project developers and investors in a timely and responsive connection process. The Commission also emphasises that the additional response time allowed under the final rule represents a maximum, rather than minimum, response time. Again, the additional time is not intended to restrict network businesses and project proponents from working together to reduce the overall response time throughout the connection process.

Final rule will not apply in Victoria

The final rule will not apply in Victoria.[504]

Existing connection processes

Pre-connection enquiry for large DCAs

Project proponents that have not yet submitted a connection enquiry at the final rule's commencement date will be subject to the new rules.[505] This is due to the:

- more limited amount of resources that project proponents and the Primary TNSP will have committed to projects at this earlier stage
- importance of maximising the number of new investments and connections that will benefit from the new DNA framework, and
- length of time this rule change has been underway, with extensive industry consultation and indications of a new DNA framework.

This approach recognises AEMO's interest in maximising the application of the DNA framework to new projects.

If a large DCA has submitted a connection enquiry after the final rule is published, but before the commencement date, the connection enquiry is taken to have been made under the new DNA framework.[506]

Connection enquiry for large DCAs

Savings provisions apply to projects that have already submitted a connection enquiry when the final rule is published.[507] This means that existing connection processes in train when the final rule is published and relating to the establishment of a large DCA (as well as already existing large DCAs) will be subject to the connection rules established under the TCAPA framework for large DCAs.

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504 See Chapter 3 of this final determination for more information on the transmission arrangements applying in Victoria.
505 Clause 11.139.8 under Schedule 5 of the Amending Rule
506 Clause 11.139.8(a) under Schedule 5 of the Amending Rule.
507 See Clause 11.139.6 under Schedule 5 of the Amending Rule.

Extending savings provisions to projects which have already submitted a connection enquiry when the final rule is published recognises the new framework's impact on the investment case for such projects. In particular:

- **Reduced contestability**: The new framework removes the asset owner's ability to seek third-party service provision of O&M, and requires the asset to be built according to functional specifications prepared by the Primary TNSP. This may change the business model and investment case of projects part way through the connection process.
- **Different access arrangement**s: The new framework's access arrangements may also impact the business model and investment case of projects part way through the connection process.

Notwithstanding, the Commission recognises that parties may wish to use the new framework instead of remaining under the previous framework. Therefore, where mutually agreed by all relevant parties, they could choose to use the new DNA framework.[508] However, this would require complying with relevant obligations introduced by the final rule, such as the requirement for the DNA to meet the same technical standards and requirements for 'transmission networks' under Chapter 5 of the Rules and for the Primary TNSP to operate and maintain the asset.[509] This may require connecting parties to provide additional information to the Primary TNSP to assess the connection and to pay additional costs for the time required for the Primary TNSP to provide new information.[510]

For projects which have submitted a connection enquiry before the final rule is published:

- the NSP must provide written notification to the connection applicant as soon as reasonable practicable, that notwithstanding commencement of the new rule, the former rules apply to its connection application.[511]
- the connection applicant may, in response to the NSP's written notification, provide its own written notification that it elects for the new framework to apply to its existing connection application instead.[512] If so, the NSP:
  - must use reasonable endeavours to respond to the connection applicant's written notification as soon as practical and provide the applicant any further necessary information for the applicant to prepare its offer in accordance with the new framework. To the extent that the information relates to an AEMO advisory matter, the Primary TNSP must consult with AEMO with respect to responding with that information.[513]
  - must not charge any additional fees or charges in respect of the existing connection application, except to the extent necessary to cover the reasonable cost of works

508 Clause 11.139.6(b) under Schedule 5 of the Amending Rule.
509 Clause 11.139.4(b)(1) under Schedule 5 of the Amending Rule.
510 Clause 11.139.9(a)(1) under Schedule 5 of the Amending Rule.
511 Clause 11.139.6(a) under Schedule 5 of the Amending Rule.
512 Clause 11.139.6(b) under Schedule 5 of the Amending Rule.
513 Clause 11.139.6(b) under Schedule 5 of the Amending Rule.

required for the Primary TNSP to prepare an offer to connect under the new framework and provide any necessary further information,[514] and

- may extend its response time by a reasonable period of time (but not more than 60 business days in aggregate) to account for differences between the existing TCAPA framework and the new DNA framework.[515]

Small DCAs in the connection process

Connection processes that involve the establishment of a small DCA will be governed by the new DCA framework established by the final rule. That is:

- If a connection enquiry is made to a Primary TNSP by a connection applicant in respect of a small DCA before the effective date, the asset will be governed by the new framework for DCAs.[516] This is based on the new DCA framework maintaining all key features of the existing framework for small DCAs, including contestability arrangements, arrangements at the single TNCP and access arrangements.
- If a connection enquiry is made to the Primary TNSP under clause 5.3.2 in respect of a small DCA after the effective date but before the commencement date, the connection enquiry is taken to have been made under new Chapter 5, on the commencement date, and new Chapter 5 applies to the connection process.[517]
- However, a connection applicant may elect that its connection enquiry be assessed under the new DNA framework after the commencement date of the final rule. This would however require that the asset meets the relevant technical standards and requirements for 'network' under Chapter 5 of the NER.[518] If the connection applicant notifies the Primary TNSP in this regard, then the Primary TNSP must use reasonable endeavours to respond to the connection applicant's written notification as soon as practical and provide the applicant any further necessary information for the applicant to prepare its offer in accordance with the new framework. To the extent that the information relates to an AEMO advisory matter, the Primary TNSP must consult with AEMO with respect to responding with that information.[519]

For small DCAs in the connection process when the final rule is published, the NSP:

- must provide written notification to the connection applicant, as soon as reasonably practicable, that the new framework for DCAs will apply to its connection application.[520]
- must use reasonable endeavours to provide the connection applicant with any further necessary information to assist the applicant progress its connection enquiry under new Chapter 5.[521]

514 See Clause 11.139.9(a)(1) under Schedule 5 of the Amending Rule.
515 Clause 11.139.9(a)(2) under Schedule 5 of the Amending Rule.
516 See Clause 11.139.7 under Schedule 5 of the Amending Rule.
517 Clause 11.139.8 under Schedule 5 of the Amending Rule.
518 Clause 11.139.4(b)(1) under Schedule 5 of the Amending Rule.
519 Clause 11.139.7(b) under Schedule 4 of the Amending Rule.
520 Clause 11.139.7(a)(1) under Schedule 5 of the Amending Rule.
521 Clause 11.139.7(a)(2) under Schedule 5 of the Amending Rule.

- must not charge any additional fees or charges in respect of the existing connection application, except to the extent necessary to cover the reasonable cost of works required for the Primary TNSP to prepare an offer to connect under the new framework, and[522]
- may extend its response time by a reasonable period of time (but not more than 60 business days in aggregate) to account for differences between the existing TCAPA framework for small DCAs and the new DCA framework.[523]

If a small DCA has submitted a connection enquiry after the final rule is published, but before the commencement date, the connection enquiry is taken to have been made under the new DCA framework.[524]

Transitional arrangements for existing small DCAs

The final rule requires all existing small DCAs to transition to the new DCA framework established by this rule change.[525] This is consistent with the Commission's position in the draft rule and reflects the lack of stakeholder feedback on this issue.

Possibility to voluntarily opt-in the new arrangements for DNAs

The Commission also maintains its position under the final rule that after the commencement date:

- a pre-TCAPA DCA
- an existing large DCA
- a DCA (including an asset that was a small DCA before the commencement date)

can opt-in to the new DNA framework

- if mutually agreed by all relevant parties,[526] and
- the asset meets the relevant technical standards and requirements for 'network' as set out under Schedules 5.1a and 5.1 of the NER.[527]

The Commission considers ENA's concern, that the Primary TNSP may be required to transition assets which have not been built to the network specifications required by Chapter 5 of the Rules, are addressed by the final rule given:

- existing DCAs can only convert to the new framework where the asset complies with the new DNA framework. This requires the asset to comply with the the relevant technical standards and requirements as set out under Schedules 5.1a and 5.1 for transmission network infrastructure,[528] and

522 Clause 11.139.9(a)(1) under Schedule 5 of the Amending Rule.
523 Clause 11.139.9(a)(2).
524 Clause 11.139.8(a) under Schedule 5 of the Amending Rule.
525 Clause 11.139.2(a) under Schedule 5 of the Amending Rule.
526 Clause 11.139.4(b)(2) under Schedule 5 of the Amending Rule.
527 Clause 11.139.4(b)(1) under Schedule 5 of the Amending Rule.
528 Clause 11.139.4(b)(1) under Schedule 5 of the Amending Rule.

- any conversion would require the mutual agreement of all relevant parties, including the Primary TNSP.[529] If the Primary TNSP has any concerns about the DCA not meeting existing standards for transmission network infrastructure, nothing in the final rule would oblige the Primary TNSP to agree to such a conversion.

The Commission acknowledges ENA's interest in greater clarity under the new framework. However, given existing assets involve existing contractual arrangements among a host of parties, it would be difficult to develop a singular regulatory approach that applies to all such assets without significant risk of unintended consequences. The Commission has therefore decided to maintain its reliance on mutual agreement between the parties regarding whether, and if so how, any conversion to the new DNA framework occurs.

E.2 Savings provisions

BOX 21: CHANGES BETWEEN THE DRAFT AND FINAL RULE

- Post-TCAPA large DCAs are grandfathered, meaning that the existing TCAPA framework for contestability, a single TNCP and access arrangements will continue to apply.
- If all the relevant parties agree, the large DCA can transfer to the new DNA framework.

E.2.1 Draft rule

The draft rule provided savings arrangements for three types of existing assets:

- connection assets that provide a 'grandfathered' prescribed service under clause 11.6.11 of the NER, and
- pre-TCAPA 'existing DCAs'.

Connection asset that provides a 'grandfathered' prescribed service under clause 11.6.11 of the NER

Interaction between the AEMC's 2017 TCAPA Rule and clause 11.6.11 of the NER

The savings and transitional provisions under the 2017 TCAPA rule 'grandfathered' connection agreements entered into before 2006.[530]

Connection agreements entered into before 2006 are likely to cover the provision of prescribed transmission services for a connection but may also include some non-regulated transmission services. Clause 11.6.11 of the NER 'grandfathers' certain connection services

529 Clause 11.139.4(b)(2) under Schedule 5 of the Amending Rule.

530 See AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, p. 73.

(such as entry and exit services) that are being provided under certain connection agreements as prescribed transmission services.[531] Clause 11.6.11 of the NER sets out the effect of an amendment to a prescribed transmission service under such a connection agreement.

However, the TCAPA Rule introduced a requirement whereby if a transmission network user who is party to such a connection agreement requests an amendment after 1 July 2018, the date when the connections aspect of the 2017 TCAPA Rule came into effect, for the purposes of altering a service under that connection agreement (e.g. providing increased power transfer capability at the connection point), the arrangements established under TCAPA would apply to the provision of that altered service.[532] For example, if the new or altered service would involve an IUSA that met the contestability criteria set out in the 2017 TCAPA Rule, then certain services for that asset would be contestable, non-regulated transmission services.[533] Services that are provided as negotiated transmission services would be subject to the revised process and principles for the provision of negotiated transmission services under the 2017 TCAPA Rule.[534]

The Commission therefore concluded in the TCAPA final determination that the operation of clause 11.6.11 of the NER was separate to the changes resulting from the TCAPA rule change request.[535] Accordingly, amendments to clause 11.6.11 were not required to accommodate or reflect the TCAPA Rule. The savings and transitional amendments to the NER under the TCAPA Rule made it clear that the application of clause 11.6.11 of the NER was unchanged by the TCAPA Rule in relation to connection services provided under a connection agreement entered before 1 July 2018. That is, there was no overriding of the grandfathering arrangements under clause 11.6.11 through the TCAPA rule, as the TCAPA rule would only apply to any new or altered services.[536]

One of the objectives of the AEMC's 2017 TCAPA Rule was to provide connecting parties with increased choice by allowing for a contestable provision of transmission services related to assets relevant for the connection of a connecting party.[537] With regard to DCAs, all services can be provided on a contestable basis. For IUSAs, the services of detailed design, construction and ownership were introduced to be contestable transmission services.[538] Accordingly, any party, including the Primary TNSP, can provide that service as a non-

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531 Clause 11.6.11 was implemented by two separate rule changes. The *Economic regulation of transmission services* rule change, made in 2006, introduced Chapter 6A of the NER. Clause 11.6.11 of the NER was introduced to grandfather existing connection services as prescribed transmission services to minimise the impact of that rule change on those existing arrangements. Clause 11.6.11 was amended in 2009 under the *Cost allocation arrangements for transmission services* rule change, which clarified the scope and application of the grandfathering arrangements. Further information about these rule changes is available on the AEMC website.

532 The grandfathering arrangements under clause 11.6.11 end at the commencement of the relevant TNSP's next regulatory control period if the connection agreement has been amended at the request of the transmission network user for the purposes of altering a grandfathered connection service. If the negotiation of the request does not lead to a change to the connection service, clause 11.6.11 will continue to apply.

533 Clause 5.2A.4(b) and (c) of the NER.

534 AEMC, *Transmission Connection and Planning Arrangements*, 23 May 2017, pp. 69-70.

535 AEMC, *Transmission Connection and Planning Arrangements,* Rule determination, p. 70.

536 Clause 11.98.5(c) pf the NER.

537 Clause 5.2A.4 of the NER.

538 If the $10 million contestability threshold is met.

regulated transmission service on request from a connection applicant. In contrast, the services of functional specification, cut-in works as well as operation and maintenance were made non-contestable transmission services (which would be provided by the Primary TNSP as a negotiated service). As such, application of the 2017 TCAPA Rule provided the relevant transmission network user with increased level of choice.

Proposed interaction between the proposed new framework for designated network assets and clause 11.6.11 of the NER

The savings and transitional provisions under the draft rule did not override clause 11.6.11 grandfathering arrangements.

Further, the Commission did not consider it appropriate to provide for a similar application of the new arrangements for DNAs where an existing transmission network user requested an amendment to its existing connection agreement (that was grandfathered under clause 11.6.11 of the NER) for the provision of new assets or changes to existing assets, e.g. to provide an upgraded service.

Unlike the AEMC's 2017 TCAPA Rule, the draft rule did not necessarily provide a transmission network user with an increased level of choice in the case of amendments to a grandfathered connection agreement under clause 11.6.11 of the NER. Depending on the contractual arrangements of those connections, the draft rule may have provided for reduced contestability compared to the arrangements established under TCAPA, and therefore less choice. Therefore, the Commission did not consider it appropriate that the draft arrangements for DNAs should apply in the event a party requests an amendment to its connection service.

Pre-TCAPA 'Existing DCAs'

Grandfathering 'Existing DCAs' under the TCAPA Rule

When the TCAPA Rule was made there were several existing, contracted to be constructed or agreed to connect assets that would have met the definition of a DCA introduced by the TCAPA Rule. The savings and transitional amendments to the NER under the TCAPA Rule set out a means by which parties that owned, operated or controlled an 'Existing DCA' were grandfathered.[539] Consequently, the arrangements established under the TCAPA Rule do not apply to these 'Existing DCAs'.

In the TCAPA final determination the Commission recognised[540]

> "existing dedicated connection assets, or those under development, were established under the existing regulatory arrangements, under which there is potentially scope for these assets to be treated as forming part of a connecting party's facility, part of the Primary TNSP's transmission network or something separate."

539 Clause 11.98.1(a) of the NER. 'Existing DCA' means a dedicated connection asset which, before the commencement date: (1) exists; or (2) is contracted to be constructed under an existing connection agreement; or (3) a TNSP has agreed to connect to a transmission network under an existing connection agreement.

540 AEMC, *Transmission Connection and Planning Arrangements*, Rule determination, 23 May 2017, p. 73.

Although these assets were grandfathered, the Commission considered it important to have visibility of these assets. As a result, if the owner of such an 'Existing DCA' was not already registered or exempt with respect to that asset, that person was, by the commencement date of the TCAPA Rule (1 July 2018), required to either:

- register as a DCASP for the existing DCA, or
- seek an exemption from the requirement to register.[541]

If the owner of an 'Existing DCA' was already registered (or exempt) with respect to a specific asset, it was required to provide the AER with further information on the 'Existing DCA' (e.g. identity of owner/operator, registration category of the owner/operator of the existing DCA, classification of the existing DCA as either small or large DCA, location and route of the existing DCA).

The savings and transitional provisions under the TCAPA Rule required the AER to then establish and publish a register of Existing DCA owners that notified the AER.[542]

In accordance with the AER's register of '*Existing DCAs owned, operated or controlled by registered participants*', four registrations were received by the 1 May 2018 cut-off date specified in clause 11.98.2(a). The four Primary TNSPs – ElectraNet, Powerlink, TasNetworks and TransGrid – are recorded as 'Existing DCA owners'.[543]

Further, consistent with the approach taken with regard to connection assets that provide a 'grandfathered' prescribed service under clause 11.6.11 of the NER, under the draft rule if a transmission network user requested any changes to the respective connection agreement for the purposes of altering a connection service provided under that agreement, then the arrangements as established under the TCAPA Rule would have applied to that request.[544]

Grandfathering pre-TCAPA 'Existing DCAs' under the DNA framework

Under the draft rule, 'Existing DCAs' recorded in the AER's register at 1 July 2018 continued to be grandfathered under the draft savings and transitional provisions. This was consistent with the Commission's approach in the TCAPA Rule.

Connection agreements entered into prior to the commencement date of the TCAPA Rule (i.e. 1 July 2018) would not have been subject to the new rules, and instead would have been 'grandfathered'. Under current arrangements, if a connected party requests an amendment to a connection agreement entered into prior to 1 July 2018, then the Rules as amended by the TCAPA Rule will apply. However, in the draft rule determination, the Commission considered the TCAPA framework should not apply to a request for an altered connection service following the introduction of this rule. Given there were no known large DCAs under at the time of writing the draft rule determination, and small DCAs were not grandfathered, the Commission concluded there was no regulatory need to preserve the TCAPA framework.

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541 Clause 11.98.2(d) of the NER.

542 Clause 11.98.2(b) of the NER.

543 ElectraNet has registered 67 'Existing DCAs', Powerlink has registered 22 'Existing DCAs', TasNetworks has registered 41 'Existing DCAs', TransGrid has registered 10 'Existing DCAs'. See under: https://www.aer.gov.au/networks-pipelines/network-exemptions/register-of-existing-dedicated-connection-assets.

544 Clause 11.98.5(b) of the NER.

However, given the package of provisions contained in the draft rule reduced contestability and provided for the application of a specific access regime, the Commission concluded that requiring the application of the provisions contained in the draft rule when a party requested an amendment to its connection agreement had the potential to create significant issues. For example, if a transmission network user connected through an 'Existing DCA' with a total route length of more than 30km sought to amend its connection agreement, to upgrade its line capacity, applying the draft rule would impose new obligations for the relevant transmission network user.

Furthermore, because no access regime applied to such a grandfathered 'Existing DCA', under the draft rule an upgrade of the asset would have required applying the draft access regime for DNAs to an 'Existing DCA'. In addition, compliance with the draft DNA framework could have required the connected party to relocate its connection point or require the asset to meet the technical requirements applying to transmission networks in order to be compliant with the draft rules. The Commission wanted to avoid such outcomes under the draft rule.

The savings and transitional provisions in the draft rule therefore overrode existing NER clause 11.98.5. This clause provides the basis for the application of the arrangements established under the TCAPA Rule to apply in the event there is a request to alter the connection service. Instead, the savings and transitional provisions 'grandfather' those connection agreements entered into before the commencement of the TCAPA Rule (i.e. 1 July 2018) so that neither the TCAPA Rule nor the Rules as amended by the draft rule apply.

In summary, if a party to a connection agreement that was entered into prior to 1 July 2018 requests an amendment to their connection service under that connection agreement, neither the TCAPA Rule nor the draft rule would have applied under the draft rule.

Possibility to voluntarily convert to the new DNA framework

The draft rule did not preclude an 'Existing DCA' from voluntarily converting to the new framework, if mutually agreed by the Primary TNSP and connecting parties. However, it also did not set out a process for how such a conversion would occur. The Commission stated in its draft determination that converting to the new arrangements would have likely required moving the existing TNCP, which would in turn have required re-opening the connection agreement between the connecting party and the Primary TNSP in order to agree new terms and conditions and performance standards.

Assuming both parties could have agreed amendments to their existing connection agreement, the Commission stated in the draft rule determination that the following issues nonetheless may still have complicated the conversion of an 'Existing DCA' into the new DNA framework:

- The DCA would have needed to comply with network performance requirements under Schedule 5.1 in order for the Primary TNSP to be able to operate the asset as part of its 'transmission network'. Consequently, it is unlikely that a Primary TNSP would agree to a

conversion of assets unless an existing DCA is 'upgraded' to comply with the standards, or already meets those standards.[545]

- Moving the TNCP to the facility end of the transmission line would have required re-opening an existing connection agreement, including performance standards. Negotiating a new set of performance standards and the required physical changes to equipment may involve significant costs for a connecting party.
- The relevant connection services may have needed to be re-classified. O&M would have needed to change to non-contestable operation and maintenance provided by the Primary TNSP as a negotiated transmission service under a NOA. This would have further required the owner of the DCA to negotiate a NOA to provide for operation and maintenance by the Primary TNSP. This may have been easier if the connected party and asset owner were the same party, but may have been more complicated if these were not the same or related parties, where a third-party owner would not have had any existing contractual relationship with the Primary TNSP.

Post-TCAPA large DCAs

The draft rule did not provide transitional arrangements for post-TCAPA large DCAs. When the draft determination was published, there were no registered large DCAs. It instead determined to consider any arising issues on a case by case basis.

E.2.2 Stakeholder views

Connection asset that provides a 'grandfathered' prescribed service under clause 11.6.11 of the NER

Stakeholders did not provide feedback on the draft rule's approach to grandfathered assets under clause 11.6.11 of the NER.

Pre-TCAPA 'Existing DCAs'

AEMO was concerned that under the draft rule's proposed grandfathering provisions, the new framework would not apply to DCA assets under a Pre-TCAPA connection agreement should an amendment to that connection agreement be sought by a Transmission Network User.[546]

AEMO considered that this would undermine the rule change's objectives, particularly where new facilities connect to pre-TCAPA connection agreement, and asked the Commission to give this issue further consideration. The main reason for AEMO's concern was that the significant number of connection assets meeting the proposed definitions for DNAs and DCAs established under pre-TCAPA connection agreements. AEMO cited 140 existing DCAs registered with the AER at the commencement of the TCAPA rule.[547] AEMO therefore requested the Commission ensure the new framework address these issues in the context of

545 Even if the Primary TNSP was a DCASP, the DCA may not necessarily be built to meet the requirements under Schedule 5.1 of the Rules.

546 AEMO submission to the draft determination, p. 4.

547 AEMO submission to the draft determination, p. 4.

existing connection assets, not just future assets, to achieve the final rule's overall objectives in as many circumstances as possible.[548]

Post-TCAPA large DCAs

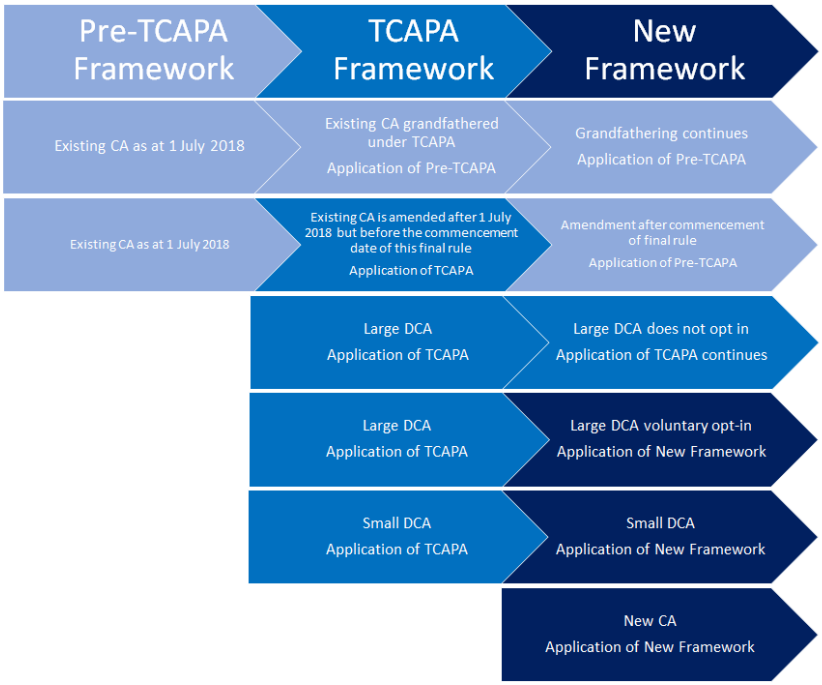
The main stakeholder feedback about post-TCAPA DCAs was to highlight the lack of provisions addressing the grandfathering of post-TCAPA large DCAs under the new framework.

There were no post-TCAPA large DCAs when the draft rule was prepared. However, as multiple stakeholders highlighted in submissions to the draft determination, OZ Minerals' Hill-to-Hill large DCA has subsequently been registered with AEMO.[549] Stakeholders also informed the Commission about a number of large DCAs in various stages of development or planning. TransGrid also asked for transitional arrangements to recognise existing large DCAs.[550]

E.2.3 Final rule

Figure E.3 outlines how various categories of connection assets are grandfathered under the final rule.

Figure E.3: Grandfathering arrangements under the final rule



Source: AEMC.

548 AEMO submission to the draft determination, p. 4.

549 For example, the Hill-to-Hill project was raised in stakeholder submissions on the draft determination from OzMinerals, AEMO, and ENA.

550 TransGrid submission to the draft determination, p. 3

Connection asset that provides a 'grandfathered' prescribed service under clause 11.6.11 of the NER

Consistent with the draft rule, the final rule does not override clause 11.6.11 grandfathering provisions.[551]

Pre-TCAPA 'Existing DCAs'

Consistent with the draft rule, the final rule continues grandfathering arrangements for pre-TCAPA 'Existing DCAs'.[552]

The Commission acknowledges AEMO's interest in maximising application of the new DNA framework, particularly where a new generator or load would seek to connect to an 'Existing DCA' covered by TCAPA grandfathering provisions. However, the Commission considers these grandfathering rights are necessary to:

- protect property rights for investors in those existing assets,
- promote regulatory stability among investors, and
- maintain consistency with the approach to grandfathering taken in the TCAPA rule change.

This aligns with the Commission's reasoning in the draft rule determination.

Furthermore, while AEMO was concerned about maximising application of the new framework, it is important to note that AEMO considers significant new investment in radial transmission infrastructure will occur as the energy transition accelerates. With the new framework applying to all of this new investment, the framework will apply to an increasingly significant proportion of transmission assets over time.

The Commission similarly maintains, in the final rule, its position in the draft rule on grandfathering arrangements for pre-TCAPA 'Existing DCAs'. This position is based on the importance of recognising existing contractual arrangements between relevant parties.

However, as stated above, pre-TCAPA 'Existing DCAs' can voluntarily convert to the new DNA framework at any time after the commencement date.[553] Any converting asset would need to obtain the consent of the Primary TNSP and all parties connected to the asset,[554] and the person owning the asset would need to ensure that the asset meets the relevant technical standards and requirements for 'network' under Chapter 5 of the NER.[555]

Further, with regard to amendments to pre-TCAPA 'Existing DCAs' the following applies:

- If a transmission network user made an amendment to that pre-TCAPA connection agreement *after the commencement date of the TCAPA Amending Rule, but before the commencement date of the final rule* and to which clause 11.98.5 applied, request an amendment to that connection agreement after the commencement date for the

551 Clause 11.139.5(d) under Schedule 5 of the Amending Rule.
552 Clause 11.139.5(a) under Schedule 5 of the Amending Rule.
553 Clause 11.139.4(a)(1) under Schedule 5 of the Amending Rule.
554 Clause 11.139.4(b)(2) under Schedule 5 of the Amending Rule.
555 Clause 11.139.4(b)(1) under Schedule 5 of the Amending Rule.

purposes of altering a connection service provided under that agreement, then the former Chapter 5 applies to that request.[556]

- If a transmission network user under a pre-TCAPA connection agreement requests and amendment to that connection agreement *after the commencement date* for the purposes of altering a connection service provided under that agreement, then clause 11.98.5 does not apply and the Rules as amended by the Amending Rule and the TCAPA Amending Rule do not apply to that request.[557]

Post-TCAPA large DCAs

Under the final rule, post-TCAPA large DCAs are grandfathered on or from the final rule's commencement date.[558] Any large DCA for which a connection enquiry was submitted prior to the final rule's publication date continues to be governed by the existing TCAPA framework.[559]

When the draft rule was prepared, there were no known post-TCAPA large DCAs. However, since then, there is now one known large DCA as highlighted by stakeholders. Given the existence of a large DCA, the final rule provides for grandfathering provisions for large DCAs. These apply to any large DCAs which have already submitted a connection enquiry prior to the publication date of the final rule.

By grandfathering post-TCAPA large DCAs the final rule allows for the continuation of the existing framework,[560] including:

- full contestability of operation and maintenance services
- applying the existing access arrangements for large DCAs, and
- only facilitating creation of a single TNCP where the large DCA connects to the shared network at the IUSA, with no individual TNCPs created where subsequent load or generation may connect to the large DCA.

Notwithstanding, if parties can mutually agree for these assets to instead use the new DNA framework implemented by the final rule, then voluntary converting to the new DNA framework at any time after the commencement date is permitted.[561] The final rule does not prescribe a process for this to occur.[562] Any converting asset would need to obtain the consent of the Primary TNSP and all parties connected to the asset.[563] Further, the person owning the asset would need to ensure that the asset meets the relevant technical standards and requirements as set out under Schedules 5.1a and 5.1 of the NER.[564]

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556 Clause 11.139.5(b) under Schedule 5 of the Amending Rule.
557 Clause 11.139.5(c) under Schedule 5 of the Amending Rule.
558 See Clause 11.139.3 under Schedule 5 of the Amending Rule.
559 Clause 11.139.6(a) under Schedule 5 of the Amending Rule.
560 Clause 11.139.3(b) under Schedule 5 of the Amending Rule.
561 Clause 11.139.4(a)(2) under Schedule 5 of the Amending Rule.
562 See Appendix F on 'Other issues raised by stakeholders', where the Commission explains similar difficulties associated with providing detailed arrangements for potential voluntary conversion of a DNA to the 'shared' network.
563 Clause 11.139.4(b)(2) under Schedule 5 of the Amending Rule.
564 Clause 11.139.4(b)(1) under Schedule 5 of the Amending Rule.

If a transmission network user under a TCAPA connection agreement for a facility connected to an existing large DCA requests an amendment to that agreement after the commencement date for the purposes of altering a connection service provided under that agreement, then the former Chapter 5 applies to that request.[565]

565 Clause 11.139.5(b)(1) under Schedule 5 of the Amending Rule.

F OTHER ISSUES RAISED BY STAKEHOLDERS

In response to the draft rule determination, stakeholders requested clarity on several other issues arising under the new DNA framework. These include:

- converting DNAs to the 'shared' network
- DNA to DNA connections (i.e. 'growing' DNAs)
- interaction between DNAs and the existing transmission planning framework, and
- interaction between DNAs and Renewable Energy Zones (REZs).

F.1 Converting DNAs to the shared network

BOX 22: CHANGES BETWEEN THE DRAFT AND FINAL RULE

There were no changes between the draft and final rule. The final rule does not prescribe a mechanism for converting DNAs to the 'shared' network.

F.1.1 Draft rule

The draft rule did not directly address whether DNAs can convert to become part of the 'shared' network, i.e. the part of a Primary TNSP's network that is paid for by customers through prescribed TUOS charges. Conversely, the draft rule did not prevent such a conversion from occurring.

F.1.2 Stakeholder views

Stakeholders mentioned that such a conversion may be likely where future transmission network development could more efficiently meet future consumer needs by integrating DNAs with the 'shared' transmission network rather than continuing the DNA as a radial network asset.

Network and generation businesses requested more clarity about:[566]

- whether DNAs could convert to the 'shared' network, and if so
- how this conversion would occur.

ENA was concerned the draft rule did not provide enough guidance for converting DNAs to the 'shared' network and considered it likely that in some cases such a reclassification would provide the most efficient option for meeting demand for prescribed transmission services.[567] ENA recommended clarifying the conversion process, including the responsibilities and obligations of each party involved in this process. Furthermore, ENA considered that the final rule should ensure that where a DNA converts to the shared network, the price paid by the Primary TNSP for the DNA should be 'fair and reasonable.'[568]

566 Stakeholders included ENA, ERM Power, Origin Energy and Tilt Renewables.

567 ENA submission to the draft determination, p. 16.

Generation businesses raised the prospect of radial assets eventually joining other transmission infrastructure, which could lead to a looped or meshed configuration.

For example, ERM summarised its concerns as follows:[569]

> "It is unclear what would happen if a future proponent (or TNSP) wanted to connect a DNA to a second boundary point with the shared transmission network (or a second DNA that had a different boundary point) such that it formed a network loop or mesh. It is possible to envisage a scenario where doing so could be physically beneficial for the broader system but result in an economic disbenefit to the party(s) that funded the DNA. This eventuality may bring a range of regulatory challenges if it is not considered as part of this rule change process. The AEMC should ensure that the NER:
>
> - provide a mechanism for a DNA to be subsumed into a network mesh or loop (without economically disadvantaging the DNA owners) if this is to the advantage of the broader system, and
> - protect the rights (and/or provide for economic compensation) of DNA owners if a primary TNSP chose to subsume a DNA into a network mesh or loop (e.g. if the ISP identifies this action along its optimal path).
>
> In considering the level of economic compensation payable, the rules should require the Primary TNSP to procure the DNA on "just terms" to reflect the loss of economic property right as opposed to the construction (market) costs only of the DNA. Ensuring this outcome in the rules would remove a significant barrier to private funding of transmission assets."

Origin Energy was similarly unclear if the draft rule would allow for future extensions of a radial line into a looped, or meshed, network. It asked the Commission to address how would the:

- Regulatory Investment Test for Transmission (RIT-T) account for the existing asset?
- DNA be integrated into the shared network?
- DNA owner be compensated?[570]

Origin Energy further recommended the Commission consider how to capture the potential system benefits from converting DNAs to the shared network.[571]

Similarly, Tilt Renewables asked that any mechanism for converting DNAs to shared network fully protect the rights of DNA owners and connected parties.[572]

F.1.3 Final rule

As stakeholders highlighted, it is possible to envisage future scenarios where the interests of consumers would be better served by integrating existing DNAs with the broader 'shared'

568 ENA submission to the draft determination, p. 17.
569 ERM Power submission to the draft determination, p. 2.
570 Origin Energy submission to the draft determination, p. 1.
571 Origin Energy submission to the draft determination, p. 1.
572 Tilt Renewables submission to the draft determination, p. 2.

network. For example, future transmission network investment near the existing DNA could eventually mean consumer needs are more efficiently met by the radial DNA being integrated into the meshed network.

The Commission confirms that nothing under the final rule prevents a DNA from converting to become part of the Primary TNSP's 'shared' network, i.e. the part of its network that is paid for by customers through prescribed TUOS charges. However, the Commission continues to consider that the process for this conversion needs to be determined on a case by case basis, with the consent of all relevant stakeholders. Relevant stakeholders will likely include the Primary TNSP, the DNA owner, connected parties, and the AER.

Reasons for converting assets on case-by-case basis

There are three main reasons DNAs converting to the 'shared' network should be assessed on a case-by-case basis without the Rules prescribing a specific process for conversion are:

- **Recognising property rights**: Any conversion would need to be supported by all relevant stakeholders. These include the DNA owner, the Primary TNSP, and any connected parties. This recognises the property rights accruing to the DNA owner, in particular, when making the initial investment. The Commission acknowledges network business concerns about the level of compensation that may be required to obtain a DNA owner's agreement to converting the asset to the 'shared' network. However, it considers the requirement to obtain this agreement a necessary trade-off against investment certainty objectives. That is, if the new framework does not provide investors with enough certainty about their ability to earn risk-commensurate returns, the asset may not even be built in the first place. Conversely, by recognising the property rights of DNA owners the new framework ensures investors will be able to negotiate compensation where the Primary TNSP seeks to integrate a DNA into the 'shared' network - the conversion would only occur with the asset owner's agreement.
- **Special access rights**: If an existing DNA converts to the 'shared' network, connected parties would need to forego special access arrangements agreed with the DNA owner.[573] This is because, under the DNA framework, connected parties will have negotiated special access rights with the DNA owner under the new framework's bespoke access arrangements.[574] The connected party will have paid for this access.[575] However, once a transmission asset converts to the shared network the prevailing open access regime will apply, regardless of any payments the connected may have previously made to the DNA owner when negotiating its access to the asset.
- **Maximising future innovation**: Retaining flexibility in the new framework will allow for a wide range of potential solutions to asset conversion problems. In this way, the Commission is providing sophisticated market participants and investors with scope to develop bespoke arrangements that best suit individual project needs and interests. If the final rule had instead prescribed the process for converting, the Commission would risk

573 Clause 5.1A.2(a) under Schedule 2 of the Amending Rule.
574 Clause 5.2A.2(b)(7) under Schedule 2 of the Amending Rule.
575 Schedule 5.12under Schedule 2 of the Amending Rule.

inadvertently precluding innovative arrangements or commercial structures leading to better outcomes for consumers and market participants.

As stated above, all parties, including the Primary TNSP, would need to agree any conversion from the DNA framework to the shared network. The Primary TNSP would need to be satisfied, amongst other things, that the asset can seamlessly integrate with its broader shared network. However, such agreement from the Primary TNSP may be facilitated by several features of the new DNA framework. These include the new DNA framework already requiring assets to be built according to network standards under Chapter 5 of the Rules, and the Primary TNSP already providing operating and maintenance services under the new DNA framework.[576]

As described below, there is also historical precedent suggesting such a case-by-case conversion can occur under the existing Rules.

Historical precedent for converting unregulated assets to the 'shared' network on a case-by-case basis

The Commission understands that the AER has discretion to approve existing transmission assets being converted to the shared network under existing NER provisions.

In discussions with the Commission, the AER has conveyed its understanding that existing clause S6A.2.1(f)(8) of the Rules gives it sufficient discretion to approve converting assets, including DNAs. Accordingly, the existing NER framework would not prevent DNAs converting to the 'shared' network.

There is historical precedent for the AER approving unregulated transmission network assets converting to the shared network.[577] In such instances the AER's asset valuation has relied on, amongst other things, the amount of capital expenditure the owner had already recovered at conversion. The AER valued the transferring assets using the objectives and criteria in Chapter 6A of the Rules, on the basis the assets would provide prescribed transmission services upon conversion.

The existing Rules do not provide an assessment framework to determine the need and process for conversion and valuation of privately funded assets. Consistent with this approach, the final rule does not specify a:

- trigger that would require such a conversion (beyond the requirement that a DNA must be a radial asset, i.e. can only be connected to the 'shared' network at one boundary point), or
- mechanism for how such a conversion would need to occur.

576 Clauses 5.2.7(b)(1) and 5.2A.2(b)(5) under Schedule 2 of the Amending Rule.

577 For example, converting economically unregulated transmission assets into TransGrid's RAB in its 2013-2023 revenue determination (https://www.aer.gov.au/system/files/D16-11901%20AER%20-%20Final%20decision%20-%20TransGrid%20transmission%20determination%20-%20May%202018%202.pdf).

F.2 DNA to DNA connections

BOX 23: CHANGES BETWEEN THE DRAFT AND FINAL RULE

Based on allocating the responsibility for administering third party access to a DNA to the DNA owner, the final rule facilitates DNA to DNA connections. Accordingly, the final rule:

- Allows for more than one DNA behind each boundary point
- Introduces a new concept of 'DNA boundary point' to define the interface between two DNAs
- Requires connecting parties to negotiate access with all DNA owners necessary on the 'daisy chain' to access the 'shared' network, and
- Provides the respective DNA owner with the exclusive right to undertake cut-in works on its DNA in order to facilitate another DNA connecting to it.

F.2.1 Draft rule

The draft rule allowed for the 'expansion' of an existing DNA, including where the party seeking to connect was located more than 30km away from the existing DNA. The Commission considered this position a necessary consequence of requiring assets with power lines longer than 30km to be classified as DNAs rather than DCAs.

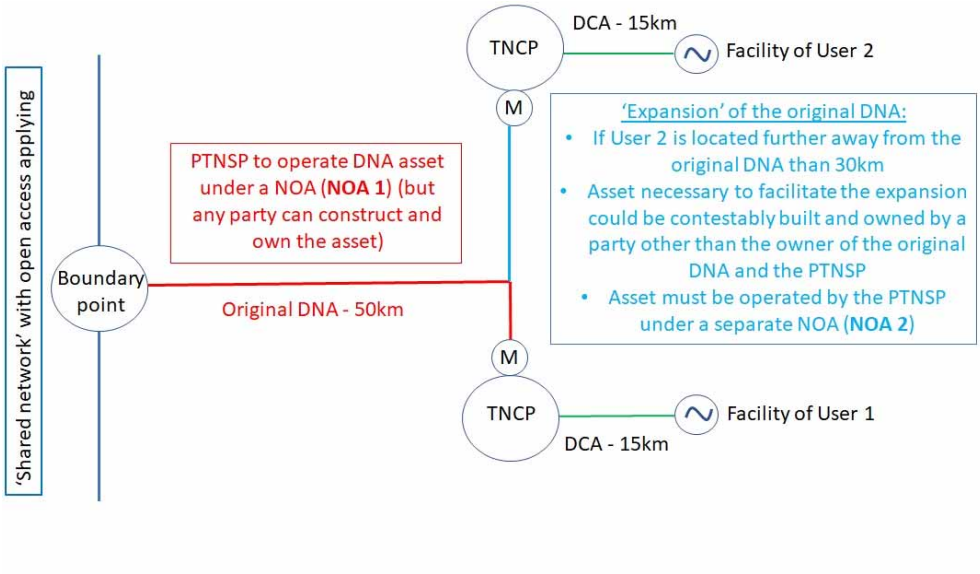
Under the draft rule there could only ever be *one* DNA behind a boundary point. This draft rule position was based on the fact that the Primary TNSP would administer access (and publish one access policy) to a DNA and a connecting party would have no contractual relationship (under the rules) with the DNA owner. An access seeker to a DNA would only negotiate access/a connection agreement with the Primary TNSP.

Although there would have only been one DNA, the draft rule still allowed for there to be multiple asset owners, so that the DNA could develop over time and contestability would have been facilitated at each stage of the development. The Commission envisaged that the original asset owner would already have a NOA with the Primary TNSP (i.e. NOA 1). If the assets forming the expansion were owned by a different party, the owner of those assets would also be required to enter a NOA with the Primary TNSP (i.e. NOA 2). This would have allowed the DNA to develop over time, with the draft rule's contestability arrangements applying to each stage of the development.[578] By allowing Primary TNSPs to operate a DNA under one or multiple NOA(s), the Commission's intention was not to determine or prevent any specific configurations of DNAs.

Figure F.1 illustrates the framework for a DNA 'expansion' under the draft rule.

578 See Chapter 7 of the draft determination.

Figure F.1: Expansion owned by a different party than the original owner



Source: AEMC.

F.2.2 Stakeholder views

The CEC asked the Commission to clarify what would happen in the event of the extension of a DNA, with two separate asset owners owning each DNA. CEC raised this concern on the understanding the Primary TNSP would be controlling access to the entire DNA. In particular, the CEC asked the Commission to clarify:[579]

- What arrangements would be in place for the access policy and cost sharing arrangements in this instance?
- How would the access policy treat the DNAs separately for the purposes of access charges and settlement residue distribution when the DNA will be treated as the same DNA?

F.2.3 Final rule

The final rule allows multiple DNAs behind a boundary point.[580] The main reasons for allowing daisy chain DNAs under the new framework are:

- **DNA owner to control access to its DNA:** By shifting responsibility for DNA access administration to the asset owner, each DNA owner behind the boundary point controls access to its DNA. This requires separate DNAs, with separate DNA access policies.[581] This

579 CEC submission to the draft determination, p. 5.
580 Clause 5.2A.2(b)(4) under Schedule 2 of the Amending Rule.
581 Clause 5.2.A.2(b)(4) under Schedule 2 of the Amending Rule.

may help create investment certainty by allowing the DNA owner to set the terms and conditions, including price, for third party access.[582]

- **More efficient use of transmission infrastructure:** Daisy chaining enables the connection of a facility to an existing DNA where the respective facility is located more than 30km from an existing DNA. Allowing for DNA to DNA connections thereby ensures the prospective connecting party does not need to duplicate the already existing DNA in order to access the 'shared' network, but can connect to the existing DNA through an extension of the existing DNA.

The Commission also notes that nothing in the final rule limits the 'length' of a DNA 'daisy chain', i.e. there could be an indefinite number of DNAs connected to each other with separate asset owners.

Below, the Commission explains:

- how the new DNA framework will apply to DNA daisy chains
- the new concept of 'DNA boundary point', and
- the roles and responsibilities at the interface between two DNAs, including:
  - boundary point loss factors and allocation of settlements residue
  - metering at a DNA boundary point
  - contestability and contractual arrangements, and
  - access arrangements.

How will the new DNA framework apply to DNA daisy chains?

The Commission considers the broader DNA framework can largely apply to 'daisy chained' DNAs, i.e. DNA 2, in the same way it applies to singular DNAs, i.e. DNA 1.[583] This means that the vast majority of new provisions under the final rule will apply equally to DNA 2 forming part of a DNA daisy chain behind the boundary point where DNA 1 joins the shared network. The point where ownership between DNAs changes, i.e. the 'interface' between two DNAs, is defined as a 'DNA boundary point' under the final rule.[584]

New concept of 'DNA boundary point'

To further facilitate DNA to DNA connections, the final rule introduces the concept of a 'DNA boundary point'.[585] The DNA boundary point largely mirrors the existing definition for 'boundary point' under the new DNA framework. That is, the DNA boundary point delineates between:

- different DNA owners' property rights[586]

582 Clause 5.2A.8 under Schedule 2 of the Amending Rule.

583 For the rest of this Appendix 'DNA 2' is used to refer to any DNA behind DNA 1, i.e. DNA 3, DNA 4, etc. In other words, the arrangements described here that apply to DNA 2 would likewise apply to DNA 3, etc.

584 See definition of 'DNA boundary point' under Schedule 4 of the Amending Rule.

585 See definition of 'DNA boundary point' under Schedule 4 of the Amending Rule.

586 See definition of 'DNA boundary point' under Schedule 4 of the Amending Rule.

- access policies established by different DNA owners,[587] and
- power flows on the individual DNAs for the purpose of estimating transmission losses and allocating any residue payments to the respective DNA owners.[588]

Roles and responsibilities at the interface between two DNAs

Under the final rule, different stakeholders have a number of responsibilities at the interface between two DNAs with respect to:

- DNA boundary point related arrangements
- contestability and contractual arrangements, and
- access arrangements.

Where relevant, the description below in Table F.1 identifies what activity will be required from DNA owners, connecting parties, the Primary TNSP, and AEMO in the context of DNA to DNA connections.

Table F.1: **Roles and responsibilities of stakeholders at DNA to DNA interface**

ISSUE	PRIMARY TNSP	DNA OWNER 1	DNA OWNER 2	CONNECTING PARTY	AEMO
Determine a DNA boundary point loss factor					x
Allocate settlement residue accruing on DNA 2	x				
Voluntarily pay to install meter at a DNA boundary point			x		
Provide functional specification for DNA 2	x				
Contract/tend			x		

587 Clause 5.2A.2(b)(4) under Schedule 2 of the Amending Rule.

588 Clause 3.6.2B(a) under Schedule 1 of the Amending Rule

ISSUE	PRIMARY TNSP	DNA OWN-ER 1	DNA OWN-ER 2	CONNECT-ING PARTY	AEMO
er out detailed design and construction of DNA 2					
Cut-in works into DNA 1 (exclusive right) to connect DNA 2		x			
O&M of DNA 2	x				
Negotiate access to DNA 2				x	
Negotiate access to DNA 1				x	
Confirm with PTNSP that access to DNA 2 has been granted			x		
Confirm with PTNSP that access to DNA 1 has been granted		x			
Submit access policy for DNA 2 to AER for approval			x		
Publish information about utilisation of DNA 2 on website			x		

Source: AEMC.

Boundary point loss factors and allocation of settlements residue

Under the final rule, AEMO is responsible for determining a transmission loss factor at a DNA boundary point.[589] This is consistent with AEMO's responsibility for determining a transmission loss factor at a boundary point between a DNA and the shared network under the final rule.[590] AEMO has communicated to the Commission that it will base its determination of boundary point loss factors on estimates of generation and load power flows, which can likewise be done for determining a DNA boundary point loss factor.

AEMO determining a DNA boundary point loss factor subsequently allows the Primary TNSP to calculate any settlements residue (or impose payment obligations for negative residue) owed to each DNA owner in the 'daisy chain'.[591] This is consistent with the Commission's reason for allocating settlement residue to DNA owners, given that consumers within each region have not funded the DNA. Accordingly, in DNA daisy chains, each DNA owner will be allocated its proportion of any residue accruing over the entire radial asset under its respective NOA with the Primary TNSP.[592]

Metering at a DNA boundary point

The owner of DNA 2 may choose to install a meter at the DNA boundary point, which would require the DNA owner to bear the costs for the metering installation. This approach is consistent with the broader framework allowing for DNA owner 1 to install a meter at the boundary point where the DNA joins the 'shared' network. Such an installation of a meter at the DNA boundary point may allow the Primary TNSP to obtain more accurate data to calculate settlements residue accruing on its asset.

Contestability and contractual arrangements

Consistent with the arrangements for DNA 1, the Primary TNSP is responsible for providing the services of functional specification, operation and maintenance for DNA 2 as a negotiated service.[593] Based on the Primary TNSP's functional specification DNA owner 2 can procure detailed design and construction services from any service provider, including the Primary TNSP.[594]

The Commission's main reason for retaining the Primary TNSP's role in providing functional specification and O&M services to DNA 2 is to ensure power system security and the application of 'shared' network standards to such material extensions of the network, consistent with the underlying objective of the broader rule change.

However, the Commission considers the contestability arrangements for cut-in works on DNA 1 to facilitate the connection of DNA 2 need to differ. Under the final rule, the owner of DNA 1 has the exclusive right to provide cut-in works into its DNA in order to connect DNA 2.[595]

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589 Clause 3.6.2B(c) under Schedule 1 of the Amending Rule.
590 Clause 3.6.2B(c) under Schedule 1 of the Amending Rule.
591 Clause 3.6.2B(f) under Schedule 1 of the Amending Rule.
592 Clause 3.6.2B(f) under Schedule 1 of the Amending Rule.
593 Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.
594 See Clause 5.2A.4(a)(1) under Schedule 2 of the Amending Rule.
595 Clause 5.2A.4(a)(2) under Schedule 2 of the Amending Rule.

apply to DNAs. This sought to address the free-rider issue above, and therefore, distinguished DNAs from funded augmentations.

G.3 Stakeholder views

ENA suggested it is inappropriate to classify funded augmentations under funded network assets because funded augmentations are not necessarily contestable. ENA further requested that the Commission amend the definition of funded augmentations to exclude funded network assets. ENA considered this is necessary because the current definition inadvertently captures DNAs and would therefore require rule 5.18 to be applied, which ENA believes is not the intention of the draft rule.[632]

G.4 Final rule

G.4.1 Funded augmentations, DNAs and IUSAs

The Commission considers it important for the Rules to enable parties to easily identify between assets, especially when different assets are subject to significantly different regulatory arrangements.

Funded augmentations, IUSAs and DNAs are all third party funded assets which are controlled, operated and maintained by a TNSP. However, there are also differences between them.

The following Table G.1 outlines a comparison of funded augmentations, IUSAs and DNAs.

Table G.1: Comparison of funded augmentations, IUSAs and DNAs

	FUNDED AUGMENTATIONS	IUSAS	DNAS
Nature of the asset	Form part of the shared network	Form part of the shared network	Are radial assets separable from the rest of the shared network
Contestability	Not contestable	Contestable ownership, design and construction Functional specification, control, operation and maintenance is non-contestable	Contestable ownership, design and construction Functional specification, control, operation and maintenance is non-contestable
Access arrangements	Open access	Open access	Special access regime

632 ENA submission to the draft determination: p. 7.

Nonetheless, the Commission agrees with ENA that the current definition of funded augmentations may inadvertently capture DNAs. It is not the Commission's intention for rule 5.18 to apply to DNAs as the final rule introduces a specific framework for DNAs.

Therefore, the final rule amends the definition in the NER of 'funded augmentation' to specifically exclude IUSAs and DNAs.[633] ENA's submission was made in response to the draft rule under the assumption that the Commission would continue to use the term 'funded network asset'. However, the final rule does not introduce 'funded network asset' as and umbrella term and continues to refer to IUSAs and DNAs separately.

G.4.2 Funded network assets

Under the draft rule, the Commission attempted to align the regulatory arrangements for DNAs and IUSAs to the greatest extent possible, and it was therefore beneficial to use a term to refer to them collectively. However, subsequent changes made in the final rule have expanded the differences between DNAs and IUSAs. Therefore, there is less value in referring to them collectively.

The monetary limb of the contestability threshold is reinstated for IUSAs under the final rule, but does not apply to DNAs. Consequently, under the final rule different contestability arrangements will apply to DNAs and IUSAs based on the value of an IUSA.[634]

There were several changes between the draft and final rule relating to the aspect of contractual arrangements. Consequently, the scope of TNSPs' rights and obligations under a NOA will be narrower for DNAs than for IUSAs.[635]

Therefore, the final rule does not introduce the term 'funded network assets' under Chapter 10 of the NER. This is because changes since the draft rule mean that there is little overlap between IUSAs and DNAs which has reduced the benefit in grouping these assets under a single term.

633 See definition of 'funded augmentation' in Chapter 10 of the NER.
634 See box 16 under section C.1 of the Appendix.
635 See box 19 under section C.5 of the Appendix.

H SUMMARY OF OUTSTANDING ISSUES RAISED BY STAKEHOLDERS

This appendix discusses any outstanding issues raised in stakeholder submissions to the draft rule determination that is not discussed in the preceding chapters and appendices. Table H.1 outlines the outstanding issues and the Commission's responses to these issues.

Table H.1: **Responses to outstanding issues raised by stakeholders**

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
DNA's exemption from STPIS.	RES Group requested the AEMC consider excluding DNA's from the Service Target Performance Incentive Scheme (STPIS) to avoid incentives for the Primary TNSP to gold plate the functional specifications for DNAs.	RES Group, submission to the draft determination: pp. 3-4.	The same standards and technical requirements that apply to other parts of the Primary TNSP's network apply to DNAs under the final rule. The Primary TNSP therefore cannot require over specification of DNAs. Furthermore, the Commission considers STPIS should apply to DNAs. STPIS provides incentives for TNSPs to maintain and operate the transmission network to efficient levels over time. As part of the transmission network, it is important that these incentives apply to DNAs.

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
			This is especially important because it is the market impact component of the STPIS that provides incentives for TNSPs to minimise the impact of transmission outages on generators and therefore efficient service standards on DNAs to connected generators.
Appropriateness of the marginal loss factor (MLF) methodology	The MLF methodology creates a risk to investment in renewables due to the volatility of MLFs and the increasing difficulty of forecasting revenue for generators	The Clean Energy Investor Group (CEIG), submission to the draft determination: pp. 6-7.	The Commission understands CEIG's concerns regarding the impact of volatile MLFs on investment in renewables. However, a marginal loss factorthe MLF methodology remains the most efficient way of accounting for physical transmission losses in the national electricity market (NEM). It is important to note that the recent volatility in TLFstransmission loss factors (TLFs) reflects the reality of the underlying network flows occurring in the system given the wide market transition that is underway. It is fundamental

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
			to the efficient operation of the wholesale market, that prices and financial incentives are linked as closely as reasonably practicable to the physical operation of the network. Maintaining clear signals for efficient dispatch and future investment in the market, even in times of change, will safeguard consumers from having to shoulder such uncertainties when they have no ability to manage or offset them. Further, changes to the current MLF methodology used to calculate TLFs at TNCPs are not within the scope of this rule change.
	The MLF approach applied to DNAs may incentivise developers to opt for small DCAs in place of DNAs due to perceptions that "average" losses over a DCA are more economic for generators compared to "marginal" losses over a DNA. As a result, this may disincentivise the efficient co-	RES Group, submission to the draft determination: p. 4.	Given that under the proposed framework DNAs will be part of the network, the marginal methodology to calculate losses will apply to TNCPs located on a DNA. This is consistent with the approach applied to the calculation of

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
	location of energy storage with wind and solar generators.		TLFs for the rest of the NEM. With regard to DCAs, a single MLF will apply at the TNCP where a DCA connects to an IUSA. Further, the distinction between DNAs and DCA is based on the 30km length threshold. Investors will therefore not have a choice regarding whether to build DCAs or DNAs based on differences in loss calculations, as the distinction between DNAs and DCAs is based on length.
Multi-circuit DNAs	According to ERM Power "it is important that 'radial configurations' allow for multi-circuit transmission assets" under the new DNA framework.	ERM Power submission to the draft determination: p. 2.	The Commission's final rule does not prevent multi-circuit transmission assets from being classified as DNAs under the new framework. Appendix I.5 provides further clarification in this regard.
	Tilt Renewables requested the Commission to clarify "that 'radial' configurations for the purposes of this rule change would include multi-circuit transmission assets."	Tilt Renewables submission to the draft determination: p. 2.	
Further consultation	"TLT requests there be further	Tilt Renewables submission to the	The Commission held an

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
	consultation and then detail clarified into the rules regarding the structure and requirements for the access policy which will apply to a DNA, particularly how the rights of the existing user(s) and the owner of a DNA will be protected over time."	draft determination: p. 1.	informal stakeholder roundtable on the revised access framework. The Commission further engaged in bilateral discussions with stakeholders regarding any non-access related issues stakeholders wanted to discuss.
	Powerlink believed that the draft rule lacks clarity and detail on the significant obligations it imposes on Primary TNSPs and other critical elements of the framework. Powerlink therefore strongly encouraged the Commission to introduce a further formal round of public consultation to enable networks and other stakeholders to review, consider and respond to the specifics it believes is absent in the Draft Rule.	Powerlink submission to the draft rule: p. 1.	
	ENA found that the proposed framework is unworkable and therefore the AEMC should pause the DCA Rule change and include an additional formal step in its consultation process before issuing its final Rule. The ENA believed that	ENA submission to the draft determination: p. 3.	

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
	additional consultation is essential, given the importance of the Rule change, to ensure that the Rule is fit for purpose and does not lead to unintended consequences or unworkable arrangements.		
Multiple parties connecting to a DCA	AEMO requested that if the final rule does permit multiple connecting parties to a DCA, the final determination should make it clear that AEMO will deal with only one FRMP, and that any NER requirements are shared and subject to an off-market, commercial agreement between parties. AEMO will not consider dual sets of NER requirements or their impacts on individual connecting facilities. Further, the definition of DCA should be reviewed to ensure clarity in giving effect to this intent.	AEMO submission to the draft determination: pp. 5-6.	The final rule does not preclude multiple facilities owned by one connecting party behind a TNCP. However, under the final rule, there is a single FRMP at the TNCP, where the DCA connects to the network. The definition of a DCA has been amended to define a DCA as being for the exclusive use of a connecting party.
Removal of DCASP category	AEMO disagreed with the Commission's draft decision to remove clause 2.5.1A(b) which it believes allowed AEMO to maintain visibility over any parts of the transmission system that comprise	AEMO submission to the draft determination: pp. 7.	Under the TCAPA rule, DCAs were defined as 'transmission systems' for registration purposes. This led to the creation of the registered participant category DCASP.

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
	DCAs and/or DNAs. AEMO noted that while the draft rule provides the Primary TNSP with visibility for network planning purposes, AEMO should have similar visibility. AEMO therefore, proposed that under NER clause 2.5.1A(b) a TNSP continue to be required to classify any parts of its transmission system that are DCAs, and extend this obligation to DNAs. Further, so that there is a central register of these assets, under NER clause 2.5.1A(c) a TNSP should be required to register the assets with the AER (similar to how 'Existing DCAs' were registered).		Consistent with the draft rule, the final rule removes this requirement for registration. Firstly, AEMO has oversight of DNAs as they form part of the network and individual TNCPs are located at the facility end of a DNA, providing AEMO with sufficient visibility of these assets. Secondly, as a DNA forms part of a Primary TNSP's network, and the Primary TNSP is currently not required to classify any other parts of its transmission network with AEMO, the Commission considers this should not be any different for DNAs. However, the final rule puts an obligation on the AER to publish on its website (and update as relevant) a register of DNAs for the purpose of assisting access seekers in finding the relevant information for establishing access to a

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
			DNA. Concerning DCAs, as these are no longer defined as 'transmission systems' for registration purposes, and are considered to be part of the connecting party's facility,there is no longer a requirement for registration or classification in relation to DCAs.
Interaction with COGATI	The CEC noted that the draft determination makes several references to the Coordination of Generation and Transmission Investment (COGATI) work program as a potential solution for the broader access reform work that will need to be undertaken to modify the DNA framework to allow for non-radial DNAs. Given that this work is deferred, the CEC suggested that the Commission provide stakeholders with further information on how this deferral impacts the DNA framework and if non-radial DNAs will not be possible	CEC submission to the draft determination: p. 5.	This final determination sets out that it is only possible to apply the new DNA framework to radial assets. The DNA special access framework cannot apply on meshed transmission networks due to the nature of power flows across such networks. Given these physical realities, it is only through a system of financial access rights — such as that proposed in the Commission's COGATI reforms

ISSUE	STAKEHOLDER COMMENTS	STAKEHOLDER	AEMC RESPONSE
	until the COGATI project is resumed.		— that an access framework to facilitate DNAs on meshed sections of the transmission network can apply. The Commission notes that while this limits the DNA framework provided in the final determination to radial assets, this will still provide a significant benefit through efficient investment and use of radial extensions to the 'shared network'. The Commission will also continue to work through the Energy Security Board to progress the broader transmission access reform package to allow for such benefits to be provided on the whole transmission system.
	Based on the reference to COGATI in the draft determination, ERM stated that it did not support access reforms the Commission proposed as part of its COGATI consultation.	ERM Power submission to the draft determination: p. 5.	
	Tilt Renewables believed that the COGATI framework continues to act as a significant distraction from necessary market reforms and given fundamental flaws, a lack of justifications and opposition from industry participants, should not be assumed in other rule changes as a necessary or certain future reform.	Tilt Renewables submission to the draft determination: p. 2.	

I KEY CONCEPTS

This Appendix provides an overview of the key concepts and their interaction as they are established by the final rule.

I.1 Dedicated Connection Asset

Consistent with the draft rule, under the new framework for designated network assets (DNAs) established by the final rule, those assets that would currently be classified as 'large dedicated connection assets (DCAs)' are instead classified as 'designated network assets', i.e. assets including power lines with a total route length of 30 km or more. Only those assets that would currently be classified as 'small DCAs' continue to be DCAs, i.e. assets including power lines with a total route length of less than 30 km.

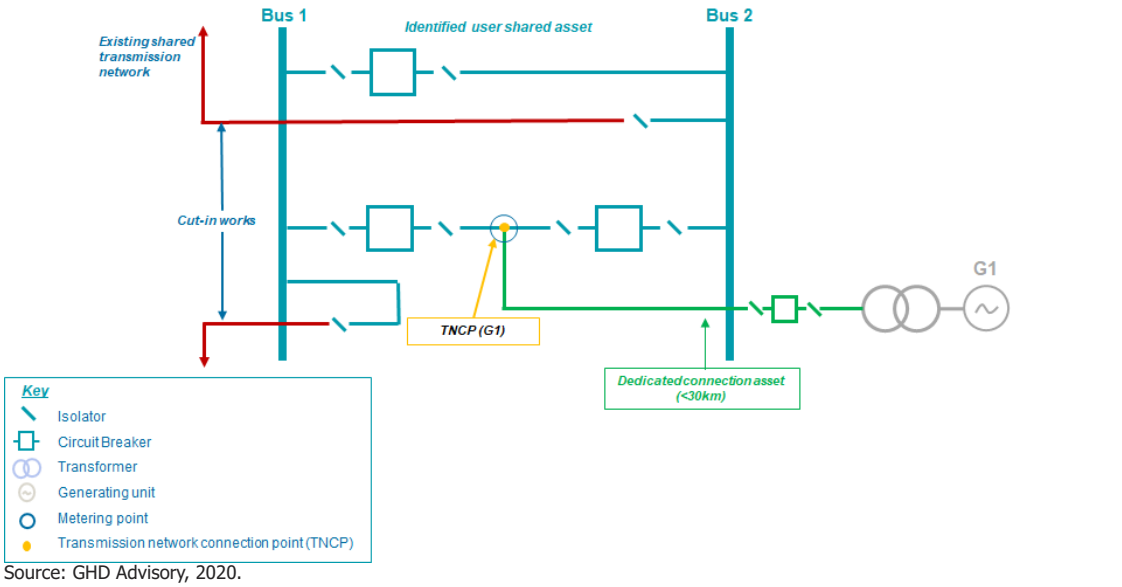
A DCA continues to facilitate the connection of a party (i.e. generator) at a transmission network connection point (TNCP), which can either be located:

- At an identified user shared asset (IUSA), or
- On a DNA.

As is the case under the current arrangements, a DCA would only be used for the purpose of forming a connection to a transmission network at a single TNCP. That is, a DCA cannot connect to another DCA.

Figure I.1 illustrates a connection configuration where a DCA facilitates the connection of a facility to a TNCP at an IUSA.

Figure I.1: DCA connection configuration



Source: GHD Advisory, 2020.
Note: Diagram is illustrative only and intended to distinguish responsibilities not technical design.

In line with the existing NER arrangements, one financially responsible market participant (FRMP) exists at the TNCP where a person connects via a DCA. However, this does not preclude multiple facilities being owned and operated by the same person or a related entity behind the single TNCP. However, the NER does not regulate such scenarios, and instead, this would require the respective parties to put in place contractual arrangements outside of the NER.

DCAs continue to be electrically isolatable from the transmission network at the TNCP, in a way that does not affect the provision of shared transmission services to other persons.

The concept of a Dedicated Connection Asset Service Provider (DCASP) is removed. The person that owns and operates a DCA could be the registered party at the TNCP, i.e. a generator or market customer, or it could be a third party. In any case, the registered participant at the TNCP will be responsible for the performance of its assets at the TNCP, and therefore, takes on the risk for performance of the DCA (and any party that owns or operates it on its behalf).

I.2 Designated Network Asset

Consistent with the draft rule, under the final rule the concept of a DNA replaces that of large DCAs and is intended to capture 'material additions' to the transmission system in terms of the length and size (i.e. connected generation capacity) of such additions. As such, tthe concept of a DNA refers to transmission assets including power lines with a total route length of 30 km or more by building on the existing threshold that differentiates between small and large DCAs. The key difference between large DCAs and the newly introduced DNAs is that the former is a connection asset, whereas the latter is part of the transmission network.

A DNA refers to a specific part of the Primary TNSP’s network that conveys electricity for an identified user group. This part of the Primary TNSP's network will have been funded by market participants rather than by consumers through prescribed TUOS charges.

One or more generators or large load customers can be connected to a DNA. To reflect this, the concept of an identified user group is linked to the concept of a DNA.

DNAs are subject to contestable design, construction and ownership. These services can be provided by any party (including the Primary TNSP) on an unregulated basis where they meet the contestability criteria.

However, as these assets form part of the Primary TNSP's network, the Primary TNSP must provide services for control, operation and maintenance of and setting of the functional specification for these assets as a negotiated transmission service. Accordingly, the existing contestability arrangements for IUSAs will apply, with minor modifications, in the context of DNAs.

If the Primary TNSP does not own a DNA, the Primary TNSP must control, operate and maintain a DNA as part of its transmission network under a network operating agreement (NOA). If different DNAs are located behind a boundary point and these DNAs are owned by different persons, the Primary TNSP will have different NOAs with the respective owners of the different DNAs.

To facilitate the application of a special access regime, DNAs are limited to radial assets, i.e. cannot form part of a network loop. A boundary point (see for further detail I.4 on 'boundary point') demarcates between a DNA and an IUSA in terms of the application of different access regimes, i.e. a special third party access regime on the designated network asset as opposed to open access at the IUSA. If there are multiple DNAs located behind a boundary point, a DNA boundary point (see for further detail I.5 on 'DNA boundary point') demarcates between different DNAs to which different access policies apply.

A person seeking to connect to a part of the transmission network that is a DNA will be subject to the connections and access regime under Chapter 5 of the NER and the relevant access policy. The DNA owner is responsible for administering access to its DNA. This requires the DNA owner to develop an access policy for its DNA, based on a number of negotiating principles specified in Schedule 5.12 and the relevant access policy provisions under clause 5.2A.8 of the NER, as amended by the more preferable final rule.

I.3 Identified User Shared Asset

An IUSA forms part of the Primary TNSP's transmission network and is used for the purposes of:

- Connecting a person (through a DCA) to the transmission network, or
- Facilitating the integration of a DNA into the transmission network.

Accordingly, an IUSA is located at:

- The interface between a DCA and the 'shared' transmission network (this does not include where the interface is between a DCA with a DNA), and
- The boundary point between a DNA and part of a transmission network that is not a DNA. There is no IUSA at the interface between a DNA and another DNA.

In contrast to a DNA, to which a special access regime applies, open access continues to apply to IUSAs. As such, an IUSA is subject to the connections and access regime under Chapter 5 of the NER.

Regarding the contestability arrangements that will apply, the existing contestability arrangements for IUSAs continue to apply with the following modification: removing the existing ownership restriction. Similarly, if an IUSA is owned by a party other than the Primary TNSP, the Primary TNSP must control, operate and maintain the IUSA under a NOA.

I.4 Boundary Point

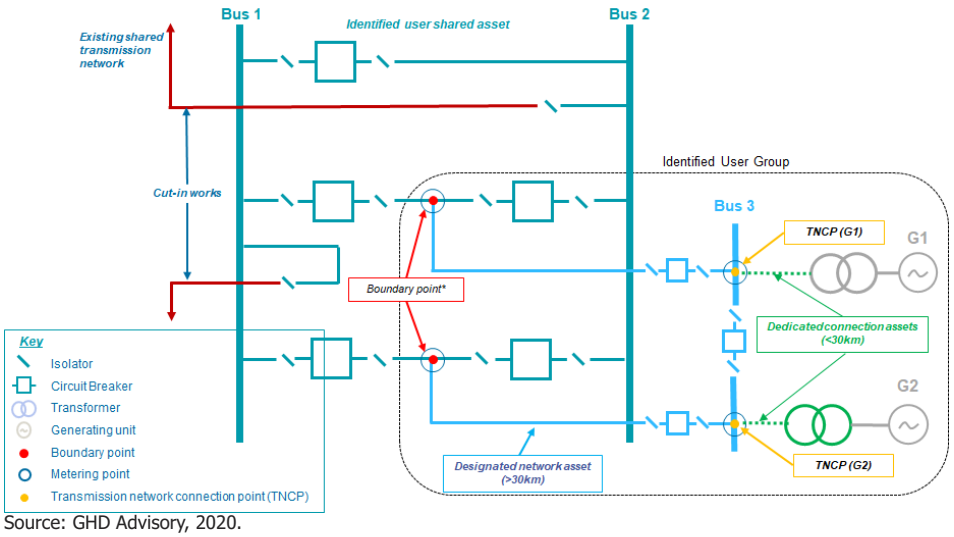
Consistent with the draft rule, the final rule introduces a new concept of the boundary point, which refers to the point of delineation between a DNA and an IUSA. Like a connection point, there could be one or more physical boundary points between the assets (for example, where a DNA comprised of a double circuit line is integrated with an IUSA). If there are multiple physical points, the involved parties can select a single point that is designated as the functional boundary point in the NOA and relevant access policy for that DNA.

The boundary point concept is illustrated in Figure I.2. It shows a DNA that consists of a double circuit and there are two physical interface points between the DNA and the IUSA. For these two physical points to be considered to be a single boundary point, the points will necessarily have the following characteristics:

- There is negligible impedance between the physical points (i.e. they are within a single substation), and
- There is no part of the shared transmission network that is not part of the IUSA to which the DNA is connected between the two physical points at any time regardless of the configuration of the designated network asset.

The second condition intends to ensure the physical boundary points are not located within two proximate, but separate substations that could be considered to have negligible impedance between them.

Figure I.2: Double-circuit designated network asset



Source: GHD Advisory, 2020.
Note: Diagram is illustrative only and intended to distinguish responsibilities not technical design.

One identified user group (which could consist of one or multiple persons) is located behind the boundary point.

Different DNAs that are located behind the boundary point could be owned by different parties and each owner must have a separate NOA with the Primary TNSP for the DNA it owns. The subsequent addition of DNAs behind the boundary point with different owners would not change the boundary point because it describes the point of delineation between the initial DNA and the IUSA.

I.5 DNA Boundary Point

As discussed in appendix F.2, the final rule allows for DNA to DNA connections in a so-called DNA 'daisy chain', with a potentially infinite number of asset owners. To facilitate DNA to DNA

connections, the final rule introduces the concept of a 'DNA boundary point'. The DNA boundary point is the point of delineation between DNAs that sit behind a single boundary point with the shared network.

Largely mirroring the existing definition of 'boundary point', in the context of DNA to DNA connections the DNA boundary point delineates between:

- different DNA owners' property rights
- access policies established by different DNA owners, and
- power flows on the individual DNAs for the purpose of estimating transmission losses and allocating any residue payments to the respective DNA owners.