

2 February 2021

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By online submission: AEMC ERC0294

Dear Ms Collyer

Draft rule determination – Connection to dedicated connection assets (ERC0294)

Thank you for the opportunity to provide a submission to the Australian Energy Market Commission (Commission) Connection to dedicated connection assets, Draft rule determination (Draft Determination).

AEMO is satisfied that the draft rule would resolve the issues identified in its rule change proposal, which was to clarify the application of the National Electricity Rules (NER) where multiple registered participants connect to a Dedicated Connection Asset (DCA). That is, the draft rule requires that a (small) DCA be for the exclusive use of a single registered participant's facility and treats the connection of a facility to a Designated Network Asset (DNA) as any other transmission network connection point. Importantly this means that key NER requirements can be applied to individual connection points on DNAs and DCAs, including metering, settlements, performance standards, registration, and transmission loss factor calculations.

AEMO is concerned that due to proposed grandfathering arrangements the draft rule will not apply to the connection of new facilities on existing DCAs and DNAs and that this will therefore not address the issues raised by AEMO in its rule change request in the near- to medium-term. This submission recommends that the Commission undertakes additional scenario and impact analysis to ensure that its Final Rule includes clear and appropriate grandfathering arrangements.

Also, AEMO is concerned about the proposed obligation on AEMO to calculate boundary point loss factors. These responsibilities would impose significant cost and resource burden on AEMO, both in its implementation and ongoing requirements. The added obligation is outside of AEMO's existing functions as the purpose of AEMO calculating transmission loss factors relates to its dispatch and settlement responsibilities. Further, AEMO questions whether the materiality of the benefits of the mechanism to DNA owners warrant its inclusion.

Finally, the DNA is a radial network design, which is not an optimal transmission network configuration and may bring with it various security and efficiency issues. While the rationale for this requirement is acknowledged, AEMO notes that in the future this aspect of the proposed rule may need to be reviewed once a framework for Renewable Energy Zones (REZs) is finalised

or its outcomes clearer. Further, there is a chance that the proposed rule will incentivise further development of, or on, radial assets which may exacerbate the risks of such configurations. At this point however, it is too early to incorporate Energy Security Board (ESB) REZ elements into this rule change or to otherwise contemplate these changes. The REZ framework will need to consider how it will operate alongside, or converge with, the DNA framework over time; and the DNA framework may need to be reviewed in the future to enable optimised network configurations.

We would welcome the opportunity to discuss the matters raised in this submission further. Should you have any questions, please contact Kevin Ly, Group Manager Regulation at kevin.ly@aemo.com.au

Yours sincerely



Violette Mouchaileh
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ATTACHMENT 1: AEMO Submission to the Draft Determination

ATTACHMENT 1: AEMO SUBMISSION TO THE DRAFT RULE DETERMINATION – CONNECTION TO DEDICATED CONNECTION ASSETS (ERC0294)

While the Commission included a number of elements in its more preferable draft rule that were not in AEMO's proposed rule, the Connection to dedicated connection assets draft rule determination (Draft Determination) proposes a design which should address the risks and clarify the arrangements where more than one proponent seeks connection to a DCA.

At the highest level, the Draft Determination proposes the following elements which will address the issues raised in AEMO's rule change proposal:

- Treat large DCAs¹ as part of the transmission network, meaning that NER arrangements for connection points on the transmission network extend to points connecting a facility to those assets without modification;
- Redefine connection points, such that "connection point" no longer permits inclusion of an 'identified user group'; and
- Redefine large DCAs as 'designated network assets' (DNAs) which replaces the prior concept of a large DCA, and establishes new contestability arrangements, including the requirement for a Transmission Network Service Provider (TNSP) to operate and maintain that asset.

AEMO is satisfied that the overall design of the draft rule should achieve the objectives of its rule change request. There are a number of issues, however, that AEMO recommends should be further considered by the Commission before making its Final Determination.

AEMO's submission addresses:

1. **Grandfathering arrangements** – implications of excluding existing connection assets from the new framework, particularly where a proponent seeks to connect an additional facility to an existing DCA;
2. **Multiple connecting parties on a (small) DCA**² – inconsistency between the draft rule and Draft Determination regarding whether multiple facilities may connect to a (small) DCA;
3. **Boundary point establishment issues** – financial, resource and market system impacts on AEMO functions if required to determine boundary point loss factors;
4. **Performance standards requirements differences** – differences in performance at the facility connection point and the connection of the DNA to the shared transmission network may arise due to degradation between those points;
5. **Removal of Dedicated Connection Asset Service Provider requirements (DCASP)** – implications of removing obligation on DCASP to register assets;
6. **Renewable Energy Zone (REZ) alignment** – alignment with Energy Security Board's (ESB's) REZ work and the potential need for further amendments in the future; and
7. **Timeframes** – the capacity of AEMO to comply with its obligations under the proposed six month transitional period.

¹ Under existing DCA definition

² AEMO notes the new definition for DCA under the proposed rule but will use "(small)" DCA in this submission for the avoidance of doubt.

1. Grandfathering arrangements

The Commission has indicated that the proposed framework would not apply to DCA assets under a Pre-TCAPA³ Connection Agreement should an amendment to that connection agreement be sought by a Transmission Network User⁴. AEMO is concerned that the objectives of the rule change may not be achieved where additional new facilities connect to these existing DCA assets and requests that the Commission further consider the implications.

Application of proposed framework to new connections on existing assets

A significant number of connection assets meeting the proposed definitions for DNAs and DCAs have been established under pre-TCAPA Connection Agreements. To illustrate, 140 Existing DCAs were registered with the AER at the commencement of the TCAPA rule, with 11 of these being Large DCAs.

Potentially, these existing DCAs could have new facilities connected. If this occurred, the issues identified in AEMO's rule change would arise because a single connection point would exist with multiple connecting proponents. In AEMO's view the new arrangements should also address the identified issues on existing connection assets, not just future assets established under the proposed framework.

The Draft Determination provides rationale as to why the proposed framework should not apply to a change of connection agreement to accommodate a network augmentation. For example, if a transmission network user, connected through an 'Existing DCA' with a route length exceeding 30km, sought to upgrade the capacity of the line, application of the proposed rule would impose onerous new obligations for the relevant transmission network user⁵.

AEMO acknowledges this issue, however, the Draft Determination is silent on whether it is appropriate that an amendment to a connection agreement to accommodate the connection of an additional facility to an existing DCA should trigger the application of the proposed rule. Given the issues raised regarding current arrangements and their application to multiple facilities connecting to a DCA, AEMO recommends the Commission give further consideration to this scenario, and explicitly clarify the arrangements that would apply.

Application of proposed framework to DNA established under TCAPA

The Draft Determination noted that there have been no DNAs established under the TCAPA (i.e. large DCAs now meeting the proposed definition of DNA) and therefore transitional arrangements for these assets would not be necessary. In November 2020, one large DCA was registered, hence the Commission will need to address grandfathering arrangements for this.

³ National Electricity Amendment (Transmission Connection and Planning Arrangements) Rule 2017, which commenced operation on 1 July 2018.

⁴ 11.[xxx].3 under Schedule 5 of the Draft National Electricity Amendment (Connection to dedicated connection assets) Rule 2021.

⁵ AEMC, Connection to dedicated connection assets, Draft rule determination, 26 November 2020, p.111.

Further analysis to inform final determination

The implications of this rule are complex and AEMO recommends further analysis is undertaken using scenarios, e.g. to accommodate the connection of an additional facility to an existing DNA. Undertaking scenario analysis to better understand the implications of the various scenarios that could arise, and the appropriateness of the new framework to these scenarios, will be critical to optimising this rule for all participants.

Consideration could be given to the framework under which the connection asset was established; the driver for a change to the service under the connection agreement (e.g. augmentation, additional facility, voluntary treatment of DCA as DNA); and classification as either DNA or (small) DCA. Impacts of the above scenarios in terms of the application of key NER requirements and ability to address issues raised the AEMO; application to existing versus intending facilities; application to various commercial arrangements.

This may assist the Commission to set out a clear position on various scenario combinations. For example, under which scenarios (or combination of scenarios) it is appropriate for grandfathering arrangements to apply; or how the asset should be treated on triggering the cessation of those grandfathering arrangements under the NER savings and transitional rules⁶.

AEMO would be pleased to support the Commission with this scenario and impact analysis.

2. Multiple connecting parties on (small) DCA

There appears to be an inconsistency between the draft determination and draft rule regarding the permissibility of multiple connecting facilities on a (small) DCA. The draft determination indicates that multiple connecting parties⁷ are able to connect to a DCA and the definition of a DCA states that, among other things, these assets “are used for the purpose of connecting a person at a connection point to a transmission network and are used exclusively by that person”⁸.

AEMO assumes that it is intended that the proposed rule would not permit multiple connecting facilities on a (small) DCA. This approach is consistent with rule change objectives and is appropriate as it also allows optionality in terms of the treatment of the asset. That is, if multiple facilities seek to connect to a DCA, the option to voluntarily treat the asset as a DNA is established in the proposed rule. This approach should be clarified in the final determination and the final rule amended for the avoidance of doubt.

However, the Draft Determination appears to argue (in part) that where the facilities are owned and operated by the same or a related entity, they are one “person” (the phrase used in the (small) DCA definition). NER clause 1.7.1 provides guidance on the meaning of “person” in the NER and it doesn’t include a related entity.

If it is intended that multiple facilities, as related parties and/or under a commercial agreement, should be permitted to connect to a (small) DCA, then the final determination should make

⁶ Both 11.6.11 and 11.98.5 establish grandfathered arrangements as well as alternative arrangements should a Transmission Network User request an amendment to that Existing Connection Agreement

⁷ P.66, AEMC, Connection to dedicated connection assets, Draft rule determination, 26 November 2020

⁸ Schedule 4 of the draft rule, [9] Chapter 10 Substituted definition, *dedicated connection asset*

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.

3. Boundary point establishment issues

AEMO does not support the establishment of an obligation on it, through the introduction of new Rule 3.6.2B, to determine boundary point loss factors for each boundary point. AEMO questions the material benefit of the mechanism and is concerned at the cost associated with imposing an obligation on AEMO to calculate boundary point loss factors, which is a function that does not sit within its core dispatch and settlement functions.

AEMO implementation burden

A significant component of AEMO's implementation costs would arise due to the introduction of boundary point metering, which is an intermediate point at which energy is delivered from the DNA to the shared transmission network. The draft rule requires boundary point metering to be installed and maintained by TNSPs, presumably to a similar standard to market metering. However, as the boundary point meters will not be used for settlement purposes, changes to AEMO systems, processes and methodologies would be required to accommodate the boundary point meter and calculate the losses. For example, systems used to support transmission loss factor calculations and market systems would need to be changed and may involve significant costs (depending on the complexity of those changes).

Boundary point loss factors

AEMO queries whether the intra-regional losses accruing on a DNA are sufficiently material to warrant the additional burden of separately calculating loss factors for each boundary point. It is recommended that the Commission undertake further analysis to understand the benefit of this mechanism and to quantify the losses relative to other settlement amounts.

If the Commission considers that the intra-regional losses accruing on a DNA are material and warrant a mechanism to ensure equitable allocation to parties funding the DNA, then AEMO considers that key changes are required to streamline its implementation and ongoing requirements.

The responsibility for determining boundary point losses would most appropriately be performed by the Primary TNSP given that the DNA will be part of its transmission network. Alternatively, this role might be undertaken by the Co-ordinating Network Service Provider (NSP) in a region. This could be an appropriate alternative given that the Coordinating NSP is already tasked with calculating settlement residue and some aggregate annual revenue requirement (AARR) allocations on behalf of TNSPs within a region.

To ensure a consistent and coordinated approach, it is recommended that the rules include some level of prescription for calculating boundary point losses. This will ensure that the

approach is consistent within and across regions, and therefore equitably distributed to DNA investors.

AEMO would welcome the opportunity to discuss these issues further with the Commission in reaching its Final Determination.

Transitional arrangements

AEMO requests that the Commission consider appropriate transitional arrangements to support boundary loss factors under the new rule, and these will depend on the outcomes of the final determination.

If AEMO is not required to calculate boundary point losses, it may be able to comply within the 6-month transitional period. To the extent that there are any consequential changes to the Forward-Looking Transmission Loss Factors (FLLF) methodology required to implement the new rule, AEMO requests a transitional provision that would exempt it from the application of the Rules consultation procedures. Also, depending on when final rule commences operation, AEMO may need a transitional arrangement to incorporate any changes required part way through the transmission loss factors calculation cycle.

If the Commission ultimately considers that AEMO should be responsible for boundary point losses, then more substantial transitional arrangements will be required. AEMO will require at least a year to implement systems changes and will need to consult fully with stakeholders on subsequent changes to the FLLF Methodology in accordance with the Rules consultation procedures.

4. Performance standards requirements differences

TNSPs will negotiate performance standards with facilities at the connection point between the facility and the DNA. This means that performance standards will be adequate at that connection point. However, due to degradation of performance from that facility connection point to the shared transmission network, performance of the shared transmission network may be below that of existing obligations.

AEMO therefore proposes that additional performance standards should apply to TNSPs where the DNA meets the shared transmission network, and that these would be consistent with those applying to generators in respect of S5.2.5.1 (reactive power capability), S5.2.5.2 (harmonic distortion), S5.2.5.5 (reactive current injection) and S5.2.5.13.

5. Removal of DCASP requirements

AEMO should continue to maintain visibility over any parts of the transmission system that comprise DCAs and DNAs. Removal of NER 2.5.1A(b) would mean that there is no longer a mechanism to require the relevant classification information. While the proposed rule provides the Primary TNSP with visibility of material augmentations for network planning purposes, it is appropriate that AEMO should have similar visibility.

AEMO therefore proposes that under NER 2.5.1A(b) a TNSP continue to be required to classify any parts of its transmission system that are DCAs, and extend this to DNAs. Further, so that there is a central register of these assets, under NER 2.5.1A(c) a TNSP should be required to register the assets with the AER (similar to how existing DCAs were registered).

6. Renewable Energy Zone (REZ) implications

There is a relationship between the draft rule and the development of the REZ framework, which is being progressed by the ESB. In its draft determination, for example, the Commission acknowledges that there is the potential for the DNA and REZ framework to converge over time. It is too early in the REZ framework development process to understand exactly what the implications will be. AEMO considers that it is likely that aspects of the DCA framework may need to flex in the future to accommodate the ultimate design of the REZ framework.

In particular, a radial design, as required by the DNA, is not an optimal configuration for the overall transmission network, and brings with it the potential for various security and efficiency issues. There is a chance that the proposed rule will incentivise further development of, or on, radial assets which may exacerbate the risks of such configurations.

While the rationale for a radial design is acknowledged, AEMO notes that in the future this aspect of the proposed rule may need to be reviewed once a framework for REZs is finalised or its outcomes clearer. An eventual risk is that generators on radial DNAs will find they have poor access to the Regional Reference Price, and emergent access needs may become apparent. At this point however, it is too early to incorporate ESB REZ elements into this rule change or to otherwise contemplate these changes, other than where possibly allowing flexibility for these.

7. Timeframes

The proposed commencement of the new rule may not allow AEMO 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.

Based on rule change process timeframes and on the proposal for a 6-month transition period, the new rules could be anticipated to commence in August 2021. During this period, AEMO will be implementing a number of other significant change programs which will impact on its capacity for implementing this rule change, including Five Minute Settlement, Wholesale Demand Response Mechanism, Customer Switching, Electricity and Gas B2B changes, and Measures to Improve Transparency in the Gas Market.

This means that updates to systems, documentation, workflows and training to accommodate the rule change will need to be balanced with the significant regulatory implementation program being rolled out in Q3 and Q4 of 2021⁹.

If, as discussed above, an obligation is placed on AEMO to determine boundary point loss factors, this would require a transitional period of at least a year.

As the rule change proponent, AEMO clearly supports the drivers for a new framework. However, based on the arrangements established by the draft determination AEMO considers that the need for reform will need to be tempered by its capacity, and that of industry, to implement the required changes. AEMO considers that that this will require more than six months.

⁹ The Regulatory Implementation Roadmap can be found at <https://aemo.com.au/initiatives/major-programs/regulatory-implementation-roadmap>.

8. Conclusion

As indicated above, AEMO is comfortable that the more preferable draft rule broadly addresses the objectives of its rule change request, but is concerned that the benefits of this design may be weakened by the proposed transitional arrangements in the near- to medium-term.

AEMO recommends that the Commission undertake further scenario and impact analysis to ensure that the Final Determination takes into consideration the appropriateness of grandfathering arrangements under various scenarios.

AEMO would be pleased to contribute to further discussions with the Commission on the range of issues raised in this submission.