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**PUBLIC VERSION**

Martina McCowan  
Adviser

Australian Energy Market Commission

Lodged online: <https://www.aemc.gov.au/contact-us/lodge-submission>

Dear Ms McCowan

### **Connection to dedicated connection assets rule change consultation paper**

InterGen Australia (InterGen) welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) consultation paper on the Australian Energy Market Operator's (AEMO) connection to dedicated connection assets rule change request.

By way of background, InterGen Australia (InterGen) is owned by InterGen N.V. and the China HuaNeng Group (CHG). InterGen and CHG are leading developers and operators of electricity generation facilities worldwide. In Australia, InterGen is the operator and majority owner of the 851 MW Millmerran Power Station and a 50% owner of the 810 MW Callide C Power Station, both located in Queensland.

As explained in Appendix A, InterGen has experience in issues related to dedicated connection assets (DCAs) in relation to the Millmerran Power Station. InterGen requests that Appendix A be treated as confidential and not published by the AEMC as it contains confidential information. Confidential information (the contents of Appendix A) has been removed from this public version of our submission in accordance with section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 48 of the National Electricity Law.

### **Access to DCAs**

#### ***An alternative "no third party access" model***

InterGen agrees with AEMO's rule change request and the AEMC's consultation paper that numerous complex issues would need to be resolved if multiple generating systems connect to one DCA.

Given the complexity of these issues, a simpler solution may be a "no third party access" model, as suggested as alternative option 2 in section 4.2 of AEMO's rule change request. If such a model was adopted:

- The rules should still permit multiple generating systems (or other facilities) that are owned and operated by the same party or by a related person to connect to a DCA. In these circumstances, the parties can resolve many of the issues themselves and allocate the resulting risks.
- The rules should be amended to remove the existing access arrangements for large DCAs and clarify that the DCA service provider (DCASP) is not permitted to provide access to a third party, or alternatively provide that the DCASP is not permitted to provide access without the prior agreement of all existing connected parties.

### ***Access to small DCAs***

In its rule change request, AEMO suggests that it may be appropriate to revisit the distinction between small and large DCAs, including whether the differences in the approach to access are still appropriate. AEMO appears to be suggesting that the large DCA access regime should be extended to small DCAs.

It would not be in the long term interests of consumers to extend the large DCA access regime to small DCAs. Mandated third party access should only apply to significant natural monopoly assets. Small DCAs are not a natural monopoly and can be readily duplicated by connecting parties. Small DCAs are generally sized for the requirements of the connecting generator and do not have significant “spare capacity” that can be utilised by other access seekers. This is unlike most natural monopoly assets where regulated third party access regimes exist such as the shared transmission network, ports, rail or telecommunications.

A small DCA is very different to the types of large infrastructure assets that are subject to other third party access regimes such as under Part IIIA of the Competition and Consumer Act or state and territory access regimes, as indeed are most large DCAs. Small DCAs (and almost all large DCAs) would fail to meet most of the declaration criteria under Part IIIA. Indeed, many small DCAs are so small that third party access would be impossible in practice so extending the access regime to small DCAs would impose additional costs for no practical benefit.

The AEMC’s proposed assessment framework for this rule change includes “efficient provision of electricity services”, which InterGen supports as a relevant criterion. In relation to this criterion, the AEMC’s consultation paper focusses on whether the proposed rule would “reduce inefficient processes and transmission system investment, by allowing competition and a better utilisation of DCAs.” However, this criterion should also acknowledge that mandating third party access is far from costless and can hinder efficient transmission and generation investment by increasing the costs of connections (which would flow through to consumers through higher generation costs and/or less generation investment) and deterring investment by generators in DCAs due to the risk that future connections will adversely affect the original connecting party who funded the DCA.

Accordingly, the suggestion that the DCA access regime should be extended to small DCAs would not promote the national electricity objective (NEO) and should be rejected. If the distinction between large and small DCAs was to be removed, the appropriate approach would be to remove third party access for large DCAs.

The AEMC should also use this rule change process to amend the rules to clarify that there is no third party access to small DCAs, or as a minimum require that third party access to a small DCA is only permitted with the prior agreement of all existing connected parties.

It is clear that the intention of the 2017 transmission connection and planning arrangements rule change that introduced the DCA concept (TCAPA rule change) was to not introduce third party access to small DCAs. However, while the TCAPA rules do not contain any access arrangements for small DCAs, they also do not expressly prohibit the DCASP from granting third party access or require the prior agreement of existing connected parties. As a result, there is a lack of clarity as to whether third party access to small DCAs is permitted and, if so, on what terms would that access be granted and how the rights of existing connected parties are protected.

In the absence of a regulated third party access regime with regulated cost/risk-sharing arrangements and protections for existing users, it is the original generator who fully funded the DCA that should make decisions as to whether to allow voluntary third party access, not the DCASP. For new DCAs, connecting generators could address this issue contractually and prevent the DCASP connecting another person to the DCA without consent, but this is not possible for DCAs that were constructed prior to the TCAPA rule change and the introduction of the DCA concept and the prospect of third party access to connection assets.

**If third party access to large DCAs is retained, InterGen supports addressing the issues raised by AEMO, with some changes**

If the AEMC maintains an access regime for large DCAs, InterGen agrees with AEMO that the current rules are unworkable where multiple generating systems are connected to a single DCA and the issues raised by AEMO need to be resolved.

InterGen supports AEMO's statement of the issues with the current rules and the problems that will arise for AEMO, DCASPs and connected parties. Changes to the rules are needed to address these issues to avoid imposing inappropriate risks on connected parties that they cannot efficiently manage or allocate.

In particular, failing to resolve the following issues raised by AEMO would have significant adverse impacts on the efficient operation of, and investment in, generation and transmission if multiple unrelated parties continue to be allowed to connect to a DCA under the current rules:

- **Registration:** having one connection point and one financially responsible market participant (FRMP) but multiple generating systems owned and operated by unrelated parties leads to uncertainty as to who should be the FRMP and an inability for the FRMP to manage its risks
- **GPS:** it is unclear how generator performance standards (GPS) would operate and it is unrealistic to expect unrelated generators to negotiate one shared GPS covering all generating systems. Generators would also be exposed to risks that all connected generators could be disconnected if another generator fails to comply with its GPS
- **Metering:** it is unclear how metering would operate, and requiring one meter for multiple unrelated generators is unworkable
- **Settlement:** as for metering, requiring single settlement of multiple unrelated generators would lead to major problems
- **Loss factors:** the current approach to loss factors leads to inefficiencies when applied to DCAs.

As noted above, the "efficient provision of electricity services" aspect of the AEMC's assessment framework currently focusses on better utilisation of DCAs, but should be expanded to consider the impacts on transmission and generation investment more broadly. Retaining a third party access regime for large DCAs without addressing these problems with the current rules risks deterring efficient generation and transmission investment as generators will be concerned that even if they fully fund a new DCA to enable the connection of their single generating system, another generator may seek to connect to it in the future and expose them to the above risks.

Although InterGen broadly supports AEMO's proposals, there are several areas where greater clarity or alternative solutions are required, as discussed below.

## Greater clarity is required on the treatment of multiple connection points and related issues

AEMO proposes that each connected facility would have its own transmission network connection point, creating multiple connection points on one DCA. AEMO also appears to contemplate that there would be another connection point between the DCA and the shared transmission network. However, neither AEMO's rule change request nor the AEMC's consultation paper provide a clear explanation of how these different connection points would be treated and this needs to be clarified by the AEMC.

InterGen's view is that the best way to manage these connection point issues is an arrangement where:

- There is a connection point between the DCA and each connected generating system or other facility (DCA to generator connection point). Each such connection point would:
  - be subject to a connection agreement between the generator and the DCASP
  - have its own GPS
  - be metered.
- There is also one connection point between the DCA and the shared transmission network (DCA to shared network connection point). This connection point could be thought of as similar to a transmission to distribution network connection point, or a distribution network to embedded network connection point. This connection point would:
  - be subject to a connection agreement between the TNSP and the DCASP<sup>1</sup>
  - have its own GPS
  - be metered.

Arrangements will be required to avoid any inconsistency between the GPS at each connection point and other relevant matters. These arrangements could be based on the recommendations recently made by the AEMC in its final report on Updating the regulatory frameworks for embedded networks.<sup>2</sup> That report set out a recommended framework for registered generators connecting to an embedded network (which is in turn connected to a Distribution Network Service Provider's (DNSP's) distribution network) and how connection agreements and GPS issues would be managed, including requiring that:

- Each generator would enter into a connection agreement with the embedded network service provider (ENSP – who performs a role similar to the DCASP for DCAs). This connection agreement would include GPS and an assessment of system strength requirements.

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<sup>1</sup> The AEMC should consider whether a connection agreement is required where the TNSP and the DCASP are the same person, or whether another mechanism can be used in those circumstances to record matters such as the location of the connection point and GPS requirements. In its final report on Updating the regulatory frameworks for embedded networks, the AEMC recommended dealing with a similar situation in the context of embedded networks by requiring there to be a statement of technical terms and conditions of the connection instead of a connection agreement where the parties are the same – see p197.

<sup>2</sup> See <https://www.aemc.gov.au/sites/default/files/2019-06/Updating%20the%20regulatory%20frameworks%20for%20embedded%20networks%20-%20FINAL%20REPORT.PDF>

- The ENSP would enter into a connection agreement with the DNSP. This connection agreement could contain arrangements to ensure that any connection agreements between the ENSP and generators are consistent with the requirements of the ENSP-DNSP connection agreement.
- To assist this arrangement, the DNSP would be required to be consulted on any new connections to the ENSP's network or changes to existing connections, and DNSPs would have rights in relation to matters such as testing of equipment.

This model would require the DCASP to be treated as a network service provider for relevant parts of the connection process in chapter 5 of the rules.

The rules should provide that if one generator breaches its GPS, the DCASP can disconnect that generator at its connection point, but neither the DCASP nor the TNSP can disconnect the entire DCA and therefore other generators connected to it. This is consistent with the AEMC's assessment criterion on "clear, singular accountability".

InterGen agrees with the AEMC's comment in the consultation paper that system strength issues will also need to be addressed. The existing system strength "do no harm" rules will need to be clarified to explain how they apply to a DCA. They should require that any new party connecting to a DCA does no harm to the level of system strength for existing parties connected to the DCA or to the system strength of the shared transmission network. The DCASP and TNSP are likely to need to cooperate to undertake system strength assessments if they are different parties. To achieve the criterion of "clear, singular accountability" it is likely to be preferable to place system strength obligations on the DCASP but require the TNSP to provide reasonable assistance.

#### **An alternative solution is needed to address loss factors**

In its rule change request, AEMO notes that under the current rules it cannot accurately determine marginal loss factors (MLFs) for individual generators connected to a DCA. AEMO's proposed connection point changes would theoretically enable AEMO to calculate MLFs at each connection point on the DCA and therefore for each connected generator.

However, the AEMC's consultation paper notes that allocating MLFs to each generator on a DCA could result in inefficient outcomes. In particular, the use of MLFs (as opposed to average loss factors) to estimate transmission losses generally results in positive intra-regional settlement residues that are distributed to users through reduced transmission use of system charges. For losses on the shared network, that model means the residues are returned to those who funded the network. However, as the AEMC notes, that is not the case for DCAs, which are funded by the connecting generators who do not receive the benefit of intra-regional settlement residues.

InterGen considers that applying the current MLFs and residue arrangements to DCAs will result in inefficient outcomes, penalising generators and delivering windfall gains to other users.

One solution to this issue would be to reallocate the part of the settlement residue that arises from losses on DCAs to the generators connected to the DCA. However, that solution is likely to be complex to implement, with the costs likely to exceed the benefits given the low level of losses on most DCAs.

A preferable alternative would be the proposal discussed in AEMO's rule change request and the AEMC's consultation paper to calculate a DCA loss factor that is averaged like distribution loss factors. However, as AEMO and the AEMC note, this alternative would also have some implementation costs.

InterGen considers that given the likely implementation costs of either of the above approaches, the best solution is likely to be to use a DCA MLF that is simply set to 1.0. The short length of almost all DCAs means that losses on the DCA are likely to be reasonably low and the costs of accurately calculating losses on DCAs is unlikely to exceed the benefits.

### **Expanded transitional rules are needed to address the application of any new rules to existing DCAs**

In its rule change request, AEMO proposed that the rule should:

- allow existing DCASPs and DCAs to remain unchanged
- retain the existing transitional provisions that were introduced as part of the TCAPA rule
- add further transitional provisions in order to not affect existing connection agreements and allow for a voluntary transition to the new rules by those covered by the transitional provisions.

InterGen broadly supports these concepts, but considers that they need to be expanded and clarified, noting that neither AEMO nor the AEMC have provided proposed drafting for these transitional provisions.

InterGen proposes that transitional provisions should apply to any DCAs that exist prior to the commencement of any new rules (an existing DCA).<sup>3</sup> These transitional provisions should provide that the new rules do not apply to an existing DCA, unless a new person seeks to connect to the DCA after the commencement date and the DCASP and all existing connected parties agree to “opt-in” to the new rules.

This provision would give effect to the “voluntary transition” proposed by AEMO. It would avoid any new rules imposing inefficient costs on parties connected to existing DCAs, for example costs to move or add metering and renegotiate connection agreements and GPSs to comply with the new rules. In the absence of transitionals, these costs would be unnecessarily incurred in relation to every existing DCA, but would be wasted unless multiple parties connected to the DCA in the future, which may never occur for most DCAs.

A voluntary transition is likely to be more efficient than simply providing that the new rules do not apply to all existing DCAs. A voluntary transition would enable the efficient use of DCAs for future connections where the generating systems are all owned by the same person or related parties, or other scenarios where the parties are able to commercially agree on all of the issues arising from future connections.

The rules should also clarify that if a new person seeks to connect to an existing DCA, the prior agreement of all existing connected parties is required. This clarification recognises that the current rules are unworkable if multiple unrelated parties connect to an existing DCA and therefore future connections to an existing DCA should not be permitted unless all affected parties have consented (and agreed how to allocate costs, amend agreements and GPSs, etc) and agreed to voluntarily transition to the new rules. This clarification also remedies the uncertainty and problems arising from the TCAPA rule transitionals regarding access to existing DCAs. For future DCAs, these issues could potentially be addressed contractually at the time of construction of the DCA and entry into the connection agreement, but that is not possible for DCAs constructed prior to the TCAPA rule and the introduction of the DCA concept and the prospect of third party access to connection assets.

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<sup>3</sup> Note that these transitional provisions would cover all DCAs that exist as at the commencement date of the new rules, not just pre-1 July 2018 “Existing DCAs” as defined in the TCAPA rule.

InterGen would welcome the opportunity to discuss this submission if you would find that helpful. If you have any questions on the issues raised on this submission, please contact Robert Pane on 07 3001 7124 or at [rpane@intergen.com](mailto:rpane@intergen.com).

Yours sincerely

A handwritten signature in black ink, appearing to read 'S. Bristow', written in a cursive style.

**Sam Bristow**  
**General Manager, Trading & Development**  
**InterGen (Australia) Pty Ltd**

**CONFIDENTIAL APPENDIX A**

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[Confidential information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 48 of the National Electricity Law]

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