



29 January 2020

Ms Merryn York
Acting Chair
Australian Energy Market Commission

Lodged via the AEMC website

Dear Ms York,

PROJECT ERC0294: CONNECTION TO DEDICATED CONNECTION ASSETS

Established in the 1980's within the UK's Sir Robert McAlpine engineering and construction group, today, RES (Renewable Energy Systems) is the world's largest independent renewable energy company, with the expertise to develop, construct and operate projects around the globe. At the forefront of the industry for over 38 years, RES has delivered more than 19GW of renewable energy projects across the globe and support an operational asset portfolio exceeding 7GW worldwide for a diversified client base. Understanding the unique needs of corporate clients, RES has secured over 1.5GW of Power Purchase Agreements (PPAs) enabling affordable access to zero carbon energy. RES employs more than 3,000 people and is active in 10 countries.

In Australia, RES is an industry leading renewable energy developer specialising in wind, solar and battery storage development and asset management in the NEM. With a talented and experienced team, we have 1.3GW of wind and solar assets under operational management. RES Australia has a development pipeline of 2.5GW across several states.

RES Australia welcomes the opportunity to provide input to the Australian Energy Market Commission (AEMC's) draft determination on the connection to dedicated connection assets rule change submitted by the Australian Energy Market Operator (AEMO). RES Australia supports the establishment of Dedicated Network Assets (DNAs) because it will help resolve issues associated with multiple generating systems connecting to a Dedicated Connection Asset (DCA). In our view, this rule change is an essential reform that is required to facilitate the delivery of complex renewable generation projects as follows:

1. **Staged projects.** For commercial reasons, it is preferable to stage the connection of large projects. Staging requires separate Transmission Network Connection Points (TNCPs), metering arrangements, Generator Performance Standards (GPSs), loss factors and connection agreements so that each stage can be financed and owned by separate commercial entities. Under the existing rules, efficient staging is not achievable for projects connecting via a DCA.
2. **Projects with multiple technology types.** These projects require separate TNCPs, metering arrangements, GPS, loss factors and connection agreements so that each generating system

can be separately constructed by a suitable contractor experienced with the relevant technology type. Under the existing rules, efficient outcomes are limited because there is a very shallow pool of contractors that can satisfactorily wrap the delivery of multiple technology types such as wind and battery energy storage.

3. **Separate projects with shared connection assets.** There are several opportunities in the NEM to reduce overall system costs by sharing connection assets between separate projects. These projects require separate TNCPs, metering arrangements, GPS, loss factors and connection so that each stage can be financed and owned by separate commercial entities. Under the existing rules, efficient asset sharing is not achievable for projects connecting via a DCA.

For simple projects with a single stage, single technology type, single owner but with dedicated connection assets greater than 30km in length, the proposed rule unnecessarily limits the ownership, control, maintenance and operation of the DNA to the Primary Transmission Network Service Provider (TNSP). The AEMC has proposed to retain small DCAs but we request that large DCAs are also retained so that projects with long connections that are otherwise simple can benefit from the existing DCA contestability framework.

The AEMC has proposed that the Primary TNSP will be responsible for setting the functional specifications for DNAs. RES Australia understands the rationale behind this position; however, we are concerned that TNSPs are likely to set functional requirements that may impart significant additional costs that generators ultimately passed through to energy consumers. It is important to note that DNAs are unlikely to require the same functional specifications as Identified User Shared Assets (IUSAs). We request that the AEMC consider including explicit guidance in the final determination to make it clear that TNSPs will have sufficient flexibility to set functional requirements for DNAs that are commensurate with the security and reliability needs of the parties that are funding the DNAs.

RES Australia suggests that further detail is needed within the final determination to provide clarity on how DNAs will be implemented. Specifically, the access framework and the contractual arrangements between parties require further detail and worked examples to ensure that the DNA framework is can be implemented as intended. The draft rule has the potential to affect positive changes that will facilitate the efficient delivery of projects and in our view, help facilitate the introduction more energy storage into the NEM. The remainder of our submission provides our feedback against some of the key sections of the AEMC's draft determination.

4.1 Overview of the draft rule

RES Australia agrees with the AEMC that more robust arrangements are required to manage complex assets that are shared between generating systems. However, we do not agree that the 30km length threshold is appropriate because it will limit the contestability rights of simple projects with single generating systems that happen to have a connection greater than 30km in length. Our concerns regarding the contestability arrangements are outlined in section 7.2 below. Our preferred approach for the final rule is as follows:

- Small DCAs are retained for connections involving single generating systems with connections less than 30km in length
- Large DCAs are retained for connections involving single generating systems with connections greater than 30km in length
- DNAs are established for connections involving multiple generating systems (connecting parties)

Alternatively, the AEMC could seek to address our concerns regarding the contestability arrangements outlined in section 7.2.

4.2 Framework for DNAs

RES Australia supports the AEMC's objectives of minimising additional complexity, providing access protections and maintaining contestability to the greatest extent possible. We agree with the proposal to utilise TNCPs for connection to DNAs and support the amended TUOS arrangements to avoid double charging for load customers connected to DNAs. This is important because energy storage and new industrial loads are increasingly likely to be co-located with renewable generation projects.

5.2 Arrangements for TNCPs

RES Australia supports the AEMC's position that GPS should apply at the TNCP and follow the existing negotiation process with the Primary TNSP. We support the notion that the negotiation of performance standards does not include the contestable owner of the DNA because the existing tripartite is complex and the addition of a fourth party would lead to extra complexity and subsequent delays.

In principle, RES Australia supports the AEMC's position that the S5.1a system standards should apply to DNAs because it would not be appropriate to apply lower system standards due to the radial nature of the assets because it is consistent with the simplicity objective. However, we are concerned that Primary TNSPs will interpret the requirements of S5.1a conservatively and apply their own policies and standards when developing DNA functional specifications. For example, a Primary TNSP may interpret that it is necessary for DNA switching stations to be specified with a breaker-and-a-half arrangement as per their internal network standards for IUSAs. This arrangement would significantly increase costs without a direct linkage to the requirements of

S5.1a. Our preference is for the AEMC to introduce some controls to ensure that the Primary TNSP collaborates with funding parties to ensure that the system standards can be met at lowest possible cost without strict adherence to network standards. We also encourage the AEMC to consider excluding DNAs from the Service Target Performance Incentive Scheme (STPIS) to avoid incentivising the Primary TNSP to gold plate the functional specifications for DNAs.

The AEMC is currently investigating the merits of improving the system strength framework in the NEM. We note that the system strength arrangements for DNAs will need to be considered as part of the broader system strength reform. In our view, the definition of DNAs should be expanded in the final rule to include equipment related to the provision of system strength so that solutions can be optimised across an identified use group, rather than for individual generating systems.

RES Australia support the AEMC's position that the existing metering arrangements would be applied in the context of the DNA without modification, specifically each connecting party acting as the Financially Responsible Metering Person (FRMP) at the TNCP. We have not yet anticipated any issues associated with the Primary TNSP providing a metering installation at the DNA boundary point to allow for the calculation of losses; however, our discussions with TNSPs have indicated that further consultation may be required to prevent practical issues in implementation.

It is understood that the inclusion of DNAs in the existing process for Marginal Loss Factors (MLFs) is consistent with the AEMC's simplicity objective but we note that this approach 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-location of energy storage with wind and solar generators. We request the AEMC to consider this point in more detail to ensure that these disincentives are not inadvertently included in the final rule.

The Network Operating Agreement (NOA) will contain requirements for the flow of MLF residues that will accrue across the DNA to be distributed to the DNA owner via the Primary TNSP. It is unclear if there is a requirement for the connecting party to receive this residue as part of their agreement with the DNA owner. In our view, the final rule should make it clear that the funding generators or customers must be the ultimate recipient for the MLF residues accrued across the DNA.

6.2 Access regime

RES Australia supports the establishment of a principle-based approach to protect the access of funding parties when third parties apply for access to a DNA. We have reviewed the negotiation principles proposed by the AEMC and identified one significant gap where third parties could cause financial harm to funding parties: MLFs. In our view, the sixth negotiating principle should be extended to include MLFs. In practice, this will require the third party to compensate the funding parties for the reduction in MLF caused by the subsequent increase in power flow across the radial DNA. Increases in losses across the shared transmission network will need to be excluded from this mechanism.

With regards to the fifth negotiating principle, we note that generators have a complicated suite of contractual obligations with landowners, planning permits, lenders and offtakers via Power Purchase Agreements (PPAs). PPAs typically place obligations on generators for seasonal minimum generation levels. RES Australia sees benefit in the introduction of a mechanism to ensure future connecting parties do not negatively impact the ability of the funding party to meet its contractual obligations beyond those only obligations contained in the agreements with the Primary TNSP.

The standard access policies of Primary TNSPs must include a transparent cost allocation methodology so that developers can accurately determine the financial viability of projects connecting to DNAs at the earliest possible stage in the development cycle. The methodology must accurately specify how costs are allocated based on power transfer capability, energy throughput, length of line or any other relevant metrics. We support the AEMC’s approach of requiring DNA access to be administered by the Primary TNSP because it will improve the accessibility of DNAs for subsequent generators; however, we note that further clarification is required in the final determination to clarify the role of the DNA owner in the administration of access.

7.2 Contestability

RES Australia understands that the AEMC is proposing to allocate responsibilities of DNAs as follows:

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| • Functional specification | TNSP negotiated service |
| • Detailed design | Contestable |
| • Construction | Contestable |
| • Interfacing the DNA with the existing network | TNSP negotiated service |
| • Operations | TNSP negotiated service |
| • Maintenance | TNSP negotiated service |
| • Ownership | Unrestricted |

The above is consistent with the contestability framework for IUSAs. We are not aware of any generation projects that have successfully implemented a contestable structure for IUSAs. In our view, the IUSA contestability framework has not been adopted by proponents due to some of the following challenges:

- The connection agreements can allow the Primary TNSP to unilaterally vary functional specifications during the design and construction phases, passing untenable risks of cost increases and delays on to proponents.
- By opening the IUSA to third party ownership, the Primary TNSP has less skin in the game and proponents lose bargaining power when negotiating connection agreements or GPS.
- The Primary TNSP requires warranties to be given in the Network Operating Agreement (NOA) that cannot be provided by the parties designing, constructing and owning the IUSA.
- High costs associated with the Primary TNSP operating and maintaining assets that are designed, constructed and owned by a third party.
- Complexity faced by developers in closing the contractual gap risks between their Engineering Procurement Construction (EPC) Contractor, IUSA contractor and Primary TNSP.

The above challenges have limited the implementation of the contestability framework for IUSAs and we are concerned that the same challenges will apply to DNAs. We are therefore concerned that these challenges, coupled with the removal of the large DCA category, will introduce a significant barrier to third party ownership of new transmission greater than 30km in length. As a result, we prefer that DNAs are defined based on multiple connecting parties, rather than length. To address the first point above, we request the AEMC to consider the introduction of a provision in the final rule restricting the rights of the Primary TNSP to revise the functional specifications for DNAs after agreements have been executed.

The AEMC has proposed that the Primary TNSP will be responsible for setting the functional specifications for DNAs to facilitate compliance with the system standards S5.1a. RES Australia understands the rationale behind this position; however, we are concerned that TNSPs are likely to set functional requirements that may impart significant additional costs that generators ultimately passed through to energy consumers. It is important to note that DNAs are unlikely to require the same functional specifications as Identified User Shared Assets (IUSAs). We request that the AEMC consider including explicit guidance in the final determination to make it clear that TNSPs will have sufficient flexibility to set functional requirements for DNAs that are commensurate with the security and reliability needs of the parties that are funding the DNAs. Our position on functional specifications is also outlined in section 5.2.

RES Australia supports the proposed removal of the \$10m barrier for the contestability of IUSA and DNA asset categories. However, the discussion in the draft determination does not adequately clarify whether the cost of the contestable elements of DNAs can be allocated to subsequent connecting parties. In our view, it would not be fair for subsequent connecting parties to free ride on the contestable elements, only paying for their share of the negotiated portions of the DNA. The final rule should ensure that the commercial interests of the funding parties of the DNA are protected from the connection of subsequent connections.

RES Australia also supports the proposed removal of ownership restrictions for IUSAs and DNAs so that connecting parties can own these assets. This will help address the fifth point in our list of challenges with the IUSA contestability framework by allowing proponents to wrap the design and construction of the IUSA or DNA within the contract for design and construction of the generating system - thereby significantly reducing the contractual gap risks.

8.1 Implementation

Section 8.1 of the draft determination states that the framework for DNAs will not be implemented in Victoria. The DNA framework would facilitate the effective development of projects with multiple stages, projects with multiple technology types or sharing of costs between proponents. RES Australia are concerned the exclusion of implementation in Victoria may significantly inhibit the entry of new technologies to the market, particularly energy storage. We request the AEMC to explain how the types of projects outlined in our introduction can be successfully developed in Victoria.

We also note that there are a significant number of in train projects across the NEM that are set to benefit from the introduction of the DNA framework, but we understand that 6 months is a reasonable timeframe to allow for the implementation of the items outlined in the draft determination. We therefore request the AEMC make the final determination promptly and engage with all relevant stakeholders to develop an implementation plan that is deliverable within 6 months of the final rule commencement date. This will help ensure that a more optimum generation mix enters the NEM to the benefit of consumers because a delayed implementation may lead developers with no choice but to utilise the existing DCA framework and drop the co-location of energy storage systems from their project.

Conclusion

Thank you for the opportunity to provide feedback on the draft determination. For further discussion on the feedback provided in our submission, please reach out to me at martin.hemphill@res-group.com.

Yours sincerely,



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