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AEMO Review of technical requirements for connections – Draft Recommendations Update report (part 1), Schedule 5.2 and 5.3a

Dear Andrea

Energy Networks Australia (ENA) appreciates the opportunity to comment on the Australian Energy Market Operator (AEMO) Review of technical requirements for connections, Draft Recommendations Update report (part 1), Schedule 5.2 and 5.3a.

ENA is the national industry body representing Australia's electricity transmission and distribution and gas distribution networks. Our members provide more than 16 million electricity and gas connections to almost every home and business across Australia.

Caution a fast-tracked approach

ENA is supportive of improving the access standards, so they are fit for purpose for a future power system at the earliest opportunity. ENA is also supportive of AEMO's efforts to involve stakeholders throughout this process. However, we have reservations about progressing the rules drafting as a fast-tracked process given the extensive nature of the review. The measure of what could be fast tracked and what may need to go through normal consultation processes is currently unclear.

Caution an overly prescriptive approach to the specification of technical requirements

ENA recommends that AEMO avoids an overly prescriptive approach to ensure technical requirements for connection remain appropriate throughout the energy system's transition. Some of AEMO's proposed changes include guidance for engineering judgements and may be inappropriate in the National Electricity Rules (the Rules). An adaptive approach where market participants, Network Service Providers (NSPs) and AEMO are able to apply engineering knowledge and make judgements to reflect a connecting plant's specific circumstances and attributes better supports a balance of process efficiency and customer outcomes.

Need greater clarity on what is or isn't an AEMO advisory matter

What is included in the definition of an AEMO advisory matter is being altered in the schedules and the list of clauses that are advisory will be updated later. This lacks clarity of what is an AEMO advisory matter and what needs to be considered by the NSPs as part of

the connection process. This has the potential to transfer work to networks regarding the Performance Standards and compliance.

The 30MW threshold level for AEMO advisory matters lacks justification

AEMO is proposing that the AEMO advisory matters exclude connections below 30MW or 30MVA in relation to Schedule 5.2 (Connections for generation, integrated resources and synchronous condensers) and Schedule 5.3 Connection of Loads.

ENA has a number of concerns with this approach:

- » There is no justification on why or how AEMO arrived at this decision. What analysis was undertaken that resulted in the decision to take this approach?
- » AEMO is primarily responsible for the security of the power system and would be losing visibility in the 5MW-30MW category, yet is also seeking increased visibility and standards in the 30kW - 5MW connections progressed under Chapter 5A. These requirements are inconsistent and appear to conflict with each other.
- » ENA is also concerned that these matters might be considered differently by different networks in the connection process and may create issues down the track. There are already issues being seen on the power system which are created by small connections, these smaller connections in aggregate have the ability to create larger power system issues at both transmission and distribution level, including across the interconnectors creating issues for other states.
- » This also doesn't seem consistent with past amendments where AEMO has required batteries above 5MW to be registered because of 10MW swings in load. We will see more price responsive load (virtual currency miners, data centers, H2 production, large bi-directional electric vehicle chargers etc) or generation creating power system issues and increased system services cost and we urge AEMO to reconsider their position.
- » This also impacts connection alterations where the NSP and the Schedule 2 participant need to advise AEMO of connection alterations for agreements that include AEMO advisory matters, rule 5.3.9 (h). The changes both to the threshold and to the list of matters included as AEMO advisory matters make it unclear whether the notification will relate to existing connection agreement/advisory matters or the matters under the new rule. This is also marked a tier 2 penalty clause.

Transfer of contingency study responsibilities to NSPs is not supported

A fundamental principle of the current access standards and rules made by the AEMC is that proponents need to meet the automatic access standard or prove why a minimum or negotiated access standard is more reasonable. Given the power system is transitioning to lower emissions, there will be far more connections generating larger swings between minimum and maximum operational demand and delivery and commissioning of new network infrastructure.

NSPs should have flexibility to request for additional studies for multiple fault ride through if deemed necessary, as per the negotiation framework, without requiring 'reasonable grounds'.

As such ENA does not support the inclusion of S5.2.5.5 r3) and suggest it is removed. The clause, including the provisions for “reasonable grounds” is likely to be problematic and create subsequent issues.

The concept of a typical apparent system impedance for the purposes of specifying a performance standard (5.2.5.13 (m) is not supported and should be reconsidered.

It is not clear that the proposed concept of apparent system impedance will provide any benefit over the established method of using three-phase fault levels. The introduction of a new concept should be treated with caution, especially when it becomes a required performance standard and significantly deviates from the standard methodology carried out by both NSPs and proponents. AEMO has not provided clear and sufficient evidence to the industry that these changes to S5.2.5.13 are going to meet the objectives of the NEO or provide a material improvement to the process of tuning plant control systems.

Given its late introduction in the consultation process, proposed changes to S5.1.4 and 5.7.2 require further review and consultation.

Appendix A2, S5.1.4 (a1) includes new obligations on NSPs regarding network design to ensure switching of network elements does not cause connected plant to experience slow front transient overvoltage above a certain level. Clauses S5.1.4 and S5.1a.4 are applicable to power frequency voltages and hence it is not appropriate to include transient overvoltage requirements under S5.1.4. It is also worth noting that the proposed requirement to manage switching surges that cause overvoltages outside of the system standard at the connected plant, relies on the switching surge and the resulting transient overvoltage at the connected plant being directly related, which is not the case. The transient overvoltage at the connected plant is highly dependent on the design of the connected plant, and in particular, surge arrester specification and placement at the connected plant.

It is also worth noting that this issue is already handled by the existing rules and relevant international standards to which both network elements and connected plant must be designed to.

ENA would welcome the opportunity to meet with AEMO to discuss the issues outlined in this response in greater detail. ENA note that the changes proposed are extensive and time has not permitted a more detailed review at this time.

Should you have any queries on this response please feel free to contact Verity Watson, vwatson@energynetworks.com.au.

Yours sincerely,



Dominique van den Berg
Chief Executive Officer