

Our Ref: 15587831  
Contact Officer: Arista Kontos  
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5 September 2023

Mr Dominic Adams  
General Manager, Networks  
Energy Networks Australia

By email: [REDACTED]

Cc: [REDACTED]; [REDACTED];  
[REDACTED]; [REDACTED];  
[REDACTED]

Dear Mr Adams,

**Re: Departure from clause 6A.23.5(j) of the National Electricity Rules for the purpose of calculating System Strength Quantity**

I am writing to Energy Networks Australia (**ENA**) as the industry association for electricity networks to advise you of the AER's views on a revised methodology for the calculation of System Strength Quantity (**SSQ**) under the National Electricity Rules (**NER**). I ask that ENA please convey the AER's views herein to its relevant electricity transmission and distribution members.

On 11 May 2023, the Australian Energy Market Operator (**AEMO**) published a guidance paper proposing a new methodology for calculating SSQ for the purpose of calculating system strength charges to connecting parties under the NER.<sup>1</sup> The new methodology departs from the SSQ formula that System Strength Service Providers (**SSSPs**) are required to follow under clause 6A.23.5(j) of the NER.<sup>2</sup> Both AEMO and SSSPs have sought comfort from the Australian Energy Regulator (**AER**) that it will not take action in relation to SSSPs' non-compliance with clause 6A.23.5(j) should they adopt the new SSQ methodology published in AEMO's guidance paper.

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<sup>1</sup> AEMO, Calculating system strength quantities in the NEM, May 2023: [https://aemo.com.au/-/media/files/stakeholder\\_consultation/consultations/nem-consultations/2022/ssrmiag/amendment/guidance--calculating-system-strength-quantities-in-the-nem.pdf?la=en&hash=A1F4FC5DFEE143B2C94C9AC5DE0785BA](https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2022/ssrmiag/amendment/guidance--calculating-system-strength-quantities-in-the-nem.pdf?la=en&hash=A1F4FC5DFEE143B2C94C9AC5DE0785BA)

<sup>2</sup> Although clause 6A.23.5(j) applies explicitly to Transmission NSPs, all connecting NSPs have an obligation to include in their enquiry responses, indicative system strength quantities, which is defined in reference to 6A.23.5(j) under clause 5.3.3(b5) and S5.4B(3) of the NER.

## Background

If a new connection to the electricity network is assessed as having a negative impact on fault level, the connecting generator or load can elect to remediate that impact by paying a system strength charge (clause 5.3.4B). This option was introduced by the Australian Energy Market Commission's (AEMC) *National Electricity Amendment (Efficient management of system strength on the power system) Rule 2021 (Rule Change)* as part of a broader centralised framework for procuring an efficient level of system strength for the overall system. A component of the system strength charge calculation is the SSQ, which an SSSP is required to calculate in accordance with the formula in clause 6A.23.5(j) of the NER.

AEMO is of the view that applying the SSQ formula in the NER, without adjustment, could significantly overstate the quantity of system strength required to support each connection.<sup>3</sup> In its May guidance, AEMO noted that the definition of the SSQ for a connection point indicates that the Short Circuit Ratio (SCR) is the minimum SCR at which the relevant plant can operate stably and remain connected (the Withstand SCR). I understand this interpretation of clause 6A.23.5(j) has been discussed by AEMO and the AEMC.

To appropriately recognise system limitations, AEMO considers the SSQ calculation should be adjusted by applying a fixed value stability coefficient of 1.2. This is an approximate value representing minimum technical factors such as power transfer and voltage stability limits. This adjustment yields the following formula for calculating SSQ, which departs from the formula in clause 6A.23.5(j):

$$\text{SSQ} = (\text{SCR}_{\text{withstand}} - 1.2) \times P_{\text{rated}}$$

AEMO has advised the AER that the need to account for the plant's impact on the stability of the wider system, and the limitations of the SSQ definition in the NER on the ability to do so, were not recognised until AEMO conducted detailed technical implementation studies, which unfortunately only occurred after the Rule Change was made.

## Rationale for the new methodology

In AEMO's view, its new methodology better aligns with the intended outcomes of the Rule Change, which was for the value of the SSQ to represent the estimated system strength a generating unit or load would consume at the connection point.<sup>4</sup> We understand this view is shared by SSSPs.

The AER notes that adjustments to the SSQ calculation are likely to have material impacts on consumers. This is because impacting the system strength charges to parties connecting to the network will, in turn, impact the amount of residual costs that are passed on to consumers for the centralised procurement of system strength services. It is the role of the AEMC to assess the competing costs and benefits to consumers that would stem from the proposed change, in order to determine an SSQ formula that promotes the long-term interests of consumers. To that end, I note that AEMO is urgently developing a rule change request to allow its new methodology to be reflected by the NER. I understand the AEMC intends to prioritise this rule change request once received.

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<sup>3</sup> AEMO, Calculating system strength quantities in the NEM, May 2023: [https://aemo.com.au/-/media/files/stakeholder\\_consultation/consultations/nem-consultations/2022/ssrmiag/amendment/guidance---calculating-system-strength-quantities-in-the-nem.pdf?la=en&hash=A1F4FC5DFEE143B2C94C9AC5DE0785BA](https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2022/ssrmiag/amendment/guidance---calculating-system-strength-quantities-in-the-nem.pdf?la=en&hash=A1F4FC5DFEE143B2C94C9AC5DE0785BA)

<sup>4</sup> Ibid.

In the interim to a rule change determination by the AEMC, we seek to enable pragmatic implementation of the system strength framework where it is expected to result in increased benefits to consumers. AEMO has noted that if system strength charges are overstated, connecting parties will opt to self-remediate rather than source centralised system strength services if they deem self-remediation to be more cost effective. This would lead to:

- under-utilisation of centrally sourced system strength services, which will be paid for by consumers, and
- inefficient provision of system strength.

Where connecting parties choose to self-remediate, the costs of doing so would be expected to be passed on to consumers through wholesale electricity prices.

### **AER Response**

Following consultation with AEMO and the AEMC, the AER has formed the view that, should an SSSP adopt AEMO's new methodology for calculating SSQ when calculating system strength charges, we do not intend to take any action in relation to the resultant non-compliance with clause 6A.23.5(j) of the NER.

The AER has formed this view and taken the steps to issue this letter based on our understanding that:

- AEMO and SSSPs' agree that the new SSQ methodology is a more pragmatic approach that better promotes the policy intent of the Rule Change;
- benefits to consumers are expected to arise from SSSPs adopting the new methodology, by incentivising connecting parties to opt into the central system strength framework; and
- a rule change request from AEMO is being developed and will be progressed by the AEMC as a priority.

The AER will re-assess this position once the AEMC has reached a final determination on the impending rule change. At that stage, we will reconsider our views on what is a compliant approach to calculating SSQ looking forward in accordance with the NER.

If you have any questions in relation to this letter, please contact Arista Kontos at [REDACTED] or on [REDACTED].

Yours sincerely



Rowena Park  
General Manager  
Compliance and Enforcement Branch  
Australian Energy Regulator

Sent by email on: 05.09.2023