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POWER SYSTEM SECURITY AND RELIABILITY STANDARDS REVIEW

Alinta Energy appreciates the opportunity to provide feedback on the Power System Security and Reliability Standards Review consultation paper

Feedback on the proposals

1. The proposed changes to the facility categorisation framework should avoid changes for existing Facilities captured by the current GPS framework and consider the example of the GPS framework which commenced in 2021. Implementing this framework has been far more onerous and cumbersome than initially envisaged with most Facilities still not achieving registration almost five years later. This was despite the intent to grandfather existing requirements and minimise the imposition of new requirements. We question the extent to which the desired performance improvements have been realised relative to the effort invested.

2. Noting the slow and costly roll-out of the GPS framework, we urge careful consideration of whether the burden on AEMO, Western Power and participants (and the resulting costs to customers) of extending technical requirements to Energy Producing Systems less than or equal to 10MVA "Medium Technical Standards" and to Small Users, will be worth the benefit. We recommend that there is further analysis of the forecast value of the changes to customers and whether they will better achieve the SEO, relative to the implementation and ongoing operational costs.

3. We question whether the Market Participant for medium or smaller energy producing systems should be the responsible entity and culpable for these Facilities performance under the ESM Rules where they are not the owner and operator of the equipment. We envisage that the Market Participant may be removed from unregistered Energy Producing Systems and their performance and the obligations may be more efficiently and effectively managed through the connection agreement, per the status quo for unregistered systems, which would more consistently apply directly to the operator of the system.

4. It is not appropriate for Western Power's proposed changes to the Technical Rules to bypass the Technical Rule Change process which requires oversight and advice from the Technical Rules Committee and the approval of the ERA. ERA did not progress these changes noting the potential for duplication with the Energy Transformation Strategy. These concerns have not been addressed, and many aspects of the Technical Rules already overlap with the GPS (noting superseded parts were never removed), creating an unnecessary, complicated and unwieldy burden on participants. The consultation paper does not include the advice of the Technical Rules Committee nor does it set out the ERA's position in relation to the proposed changes. Further, combining the Technical Rules change proposals with the already substantial proposals in the paper makes it very difficult for stakeholders to apply the appropriate consideration to each matter, especially given their technical nature and the limited scope for technical experts to shift their focus from operational responsibilities. At this stage we have not been able to complete our review of the proposed Technical Rules

changes. If the Technical Rule Change process is not applied, we request more time to review.

5. The phase angle jump SCR withstand requirements, and the response times in Proposals 6 and 7 are too onerous, do not recognise that performance in these areas is contingent on the strength of the relevant area of network and contrast with the approach adopted in the NEM, per the Voluntary Specification for Grid-forming Inverters. We recommend that this specification be adopted in the WEM, otherwise Facilities will be penalised for implementing gid-forming technology, especially in weak areas of the grid where this capability may be more crucial to PSSR.

6. Rather than mandate higher performance based on a Facility's technology type, where possible, there should be incentives for Facilities that meet higher standards, including grid-forming technology and primary frequency response, reflecting the value of these capabilities.

7. Regarding proposal 8, we recommend that the requirements for behaviour when operating above maximum continuous current should be practical and not overly restrictive, allowing for technology-specific responses. Further, the new values for speed of response (as yet undefined) should be appropriate and not impose an unreasonable compliance burden.

8. Regarding Active Current Response During and After Contingencies, the meaning of "after the end of the disturbance" requires clarification.

9. We caution that proposed approach to applying standards to hybrid projects based on the point of connection may penalise projects that seek efficiencies and benefits by co-locating their assets. We suggest a better approach may be to consider performance at the metering point or generator. We note that CIS results in the NEM indicate the likelihood that hybrid projects will be increasingly prevalent given their advantages and should not face unnecessary barriers.

10. If the PSSR Standards are to be included in the ESM Rules we consider that the governance framework continue to provide for oversight from the MAC and avoid establishing a parallel governance framework bypassing the MAC and reporting to the Coordinator.

11. The timeline for gazetting these rules appears excessively aggressive (1 October 2025), particularly considering the need to resolve the issues outlined above.

Recommendations on other PSSR standards in the ESM Rules

Rate of Change of Frequency Requirements (A12.7)

The current technical requirements for Rate of Change of Frequency (RoCoF) are set very tightly:

- *Ideal Generator Performance Standard* (A12.7.2.2): Requires continuous uninterrupted operation for RoCoF up to 4 Hz/s over 250 ms, or 3 Hz/s over 1 second.

- *Minimum Generator Performance Standard* (A12.7.3.2): Requires continuous uninterrupted operation for RoCoF up to 2 Hz/s over 250 ms, or 1 Hz/s over 1 second.

In practice, most thermal units cannot achieve the ideal performance level of 4 Hz/s, and some are only just able to meet the minimum performance level of 2 Hz/s. This creates a significant compliance risk and may unfairly penalise otherwise reliable generators.

There is also a lack of clear explanation and standardised, practical procedures for how to test thermal units against the RoCoF requirements. This ambiguity, and misalignment with AEMO's requirements for assessing RoCoF ride-through for cost recovery purposes makes it difficult for operators to demonstrate compliance and for assessors to apply the rules consistently and efficiently.

It is important to note that the current RoCoF safe limit for the SWIS is 0.5 Hz/s, which is significantly lower than the performance requirements set out in the rules. This discrepancy should be addressed to ensure that technical requirements are both realistic and aligned with actual system needs. While we understand that the RoCoF safe limit is the minimum required in the network and may be revisited as network conditions evolve, the physical limits of thermal units should be taken into account when setting compliance thresholds.

Inertia and Frequency Control – Rate of Frequency Response (A12.6):

For asynchronous generating systems, the rules specify that for any frequency disturbance causing a change in active power of at least 5% of rated maximum, the generating unit must achieve at least 90% of the required frequency response within 2 seconds for ideal performance, or 15 seconds for minimum performance.

However, the rules do not specify the required response speed for when the frequency recovers within the normal operating frequency band (NOFB) and the generating system returns to its pre-disturbance output. In practice, thermal units return to normal output using their normal ramping rate, while inverter-based units often return much more rapidly.

This lack of clarity is not addressed in the Generator Performance Standards Guidelines published by Western Power (see Section 3.6.2.8).

This rapid return to pre-disturbance output by inverter-based resources could potentially cause oscillations in the network especially if a large proportion of the fleet responds in the same way. Following a frequency event, most units provide Primary Frequency Response (PFR) within the first 10 seconds, after which Secondary Frequency Response (SFR) via AGC adjusts units to recover frequency. The interaction between AGC and inverter-based generators is not clearly defined, and it is unclear whether this could lead to additional oscillations or instability.

Thank you for considering our submission.

Yours sincerely,

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