*5 February 2026*

Energy Policy WA (EPWA)
Level 1, 66 St Georges Terrace
PERTH WA 6000

*Via Email:* energymarkets@deed.wa.gov.au

**RE: POWER SYSTEM SECURITY AND RELIABILITY STANDARDS REVIEW – PROPOSALS 6 TO 11**

Mint Renewables (Mint) appreciates the opportunity to provide feedback on the Power System Security and Reliability Standards Review – Proposals 6 to 11 consultation paper.

Mint is a developer, owner and operator of renewable energy and storage projects based in Australia. We aim to be a leading player in a rapid and sustainable transition to renewable energy. Mint have built a strategic portfolio of wind, solar and storage projects across Australia, including a number of early and mid-stage renewable generation and storage projects within Western Australia.

Our feedback on the proposals is as follows:

**Proposal 6 – Withstand Short Circuit Ratio (SCR)**

- Provision for a separate set of settings:

  Mint strongly recommends incorporating provisions that allow alternative setting configurations for demonstrating stable plant operation at the nominated minimum withstand SCR. This recommendation is driven by the tuning challenges associated with operating across a wide SCR range, which may otherwise lead to sub-optimal or non-desirable performance in other GPS clauses.

  For instance, where a new connection is established in close proximity to existing gas- or coal-fired generation, the surrounding network is typically considered strong with a very high Short Circuit Ratio (SCR) (e.g. >20). Under such conditions, the optimal plant settings—governing the speed of response to setpoint changes, fault behaviour, and the aggressiveness of voltage support during disturbances—can differ materially from those required to demonstrate compliance with the nominated minimum withstand SCR (e.g. SCR <2). A good example is the area near the Collie and Bluewaters Power Stations—where the network is strong with a high SCR—tuning for a new connection should be done so that the new plant can operate effectively under high SCR conditions with appropriate responses to network disturbances. The tuned setting unfortunately is likely inappropriate, or overly aggressive, for demonstrating stable operation at the nominated minimum withstand SCR (e.g. SCR below 2), which represents a very weak network.

  Mint therefore proposes adopting an approach consistent with the latest National Electricity Rules (NER) used in the National Electricity Market (NEM).

- Consideration for Power Transfer Limit:

  We support incorporating consideration of power-transfer limits when assessing minimum-withstand SCR, particularly for bi-directional resources operating in charging mode. To ensure consistency and transparency, we would welcome clear guidance from Western Power on the applicable assessment cap, informed by the characteristics of the point of connection (e.g., SCR, X/R ratio). We also seek clarification as to whether Table 1 of AEMO's "System Strength Impact Assessment Guidelines – Withstand SCR Methodology Review" Technical Note is intended to apply within the Western Power network.

- Proposed minimum-withstand SCR value for GFL technologies:

  The current proposal defines a narrow range for the minimum withstand SCR. We recommend revising this clause to allow greater flexibility in the minimum-withstand SCR requirements, particularly in recognition of the inherent limitations of some technologies like wind generation (e.g., long transmission line, long reticulation network, type 3 wind turbines). For example, the rule could allow a new connection to have a minimum withstand SCR slightly higher than 3 under limited circumstances in which it does not affect system security. The presently proposed range appears overly restrictive, and a broader allowance would better reflect the operational characteristics and tuning sensitivities of wind-based grid-following (GFL) systems.

**Proposal 7 – Voltage phase angle jump**

- Withstanding a 60-degree phase-angle jump as a future requirement:

  Mint considers a 60-degree phase-angle jump withstand requirement to be excessive unless there is a clear and demonstrable need for it. The consultation paper notes that future developments may require generators to withstand a 60-degree jump; however, Mint strongly believe that such requirement needs to be considered carefully to ensure its appropriateness and effectiveness.

**Proposal 8 – Reactive Current rise time during contingencies**

- Rise time assessment methodology

  We support capturing grid-forming technologies' performance in the GPS using metrics originally developed for grid-following technology. However, we strongly recommend adopting the updated rise-time definition in the NER, which is based on the mean sustained change, and that the rise-time assessment for WEM projects be aligned with this updated NER definition. The latest NER definition of rise time enables a more precise calculation of rise time by excluding undesired portions of the signal occurring during the transient time windows, and by introducing the concept of "mean sustained change." This improves clarity and consistency for the general assessment of rise time under this clause.

- Allowance for negotiations

  Under the current structure of the proposal, it appears that only a predefined numerical range can be specified in the GPS, particularly for grid-following (GFL) plant. We recommend introducing greater flexibility in the rise-time assessment, consistent with the wording of the NER, which allows for longer rise-time values where agreed with the Network Service Provider and AEMO. Accordingly, under certain circumstances where network conditions and technology characteristics result in a prolonged rise time exceeding the current proposal, there is scope to agree on an alternative value.

**Proposal 8 – Negative Sequence Control during contingencies**

We do not support the introduction of negative-sequence requirements for grid-forming (GFM) technologies. A true GFM implementation—designed to emulate synchronous-generator fault behaviour—does not rely on k-factor-type controls or GFL-style negative-sequence control philosophies (such as prioritisation between negative- and positive-sequence reactive-current injection). Introducing such requirements would be inconsistent with the fundamental operating principles of GFM technology.

**Proposal 8 – Reactive current sustainment time during contingencies**

Grid-forming inverters operating with voltage-source behaviour—unlike grid-following inverters, which maintain full control of current injection during disturbances—may face challenges in meeting prescribed

reactive-current sustainment time requirements. Depending on the specific grid-forming control implementation, particularly those intend to emulate synchronous-generator behaviour, the reactive current response during a contingency may naturally exhibit a decaying profile, making strict sustainment thresholds difficult to satisfy.

Mint supports moving away from overly prescriptive requirements for reactive-current behaviour during disturbances for GFM technologies. We strongly recommend removing fixed numerical thresholds defining deviations from a reactive-current reference. However, if the term 'substantially maintain' is to be retained in the GPS for GFM inverters, it is essential that the definition allows for, and explicitly recognises, the potential for a decaying reactive-current response inherent to legitimate GFM control strategies.

**Proposal 9 – Disturbance ride through for multiple disturbances**

- Mint is supportive of this proposal with no further comments.

**Proposal 10 – Damping of power system oscillations**

- We are supportive of the oscillation-neutral behaviour as a requirement for grid forming technology.

**Proposal 11 – Partial load rejection**

- Mint is supportive of this proposal with no further comments.

**New Proposal – Instability detection mechanism for GFL**

Mint wishes to highlight lessons learned from the application of this requirement in the NEM. While the underlying intent of the clause is well understood, it is important to recognise the current limitations of commercially available technology. A key challenge associated with this requirement is the risk of false detection or false alarms leading to unintended plant disconnections.

Industry experience indicates that developing a mature and reliable oscillation-detection capability—one that can accurately distinguish between oscillations originating from the monitored plant and those caused by nearby generators—remains an active area of research, development and validation.

If Western Power proceeds with implementing trip functionality triggered by oscillation detection, the monitoring device would need to be reclassified from a SCADA/supervisory device to a protection device. This reclassification introduces significant implications for redundancy, certification, and compliance requirements. Given the limited number of manufacturers currently offering such technology, these obligations would present considerable challenges for developers.

Should you need further information or clarification on any aspect of our submission, please contact Dr. Pouya Jamborsalamati via Pouya.jamborsalamati@mintrenewables.com, or the undersigned.

Regards,

[redacted]

Dr. Hieu Nguyen
Head of Grid and Power Systems
[redacted]