Our Ref: #37857007
Enquiries: Rhiannon Bedola
Email: [redacted]

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

By email to: energymarkets@deed.wa.gov.au

EPWA AND WESTERN POWER: POWER SYSTEM SECURITY AND RELIABILITY STANDARDS REVIEW – PROPOSALS 6 TO 11

Synergy welcomes the opportunity to provide feedback on Western Power's consultation paper entitled *Power System Security and Reliability Standards Review – Proposals 6 to 11* (**PSSR Proposals 6-11 Paper**). Western Power released the PSSR Proposals 6-11 Paper on 22 December 2025 as part of the Coordinator of Energy's Power System Security and Reliability Standards Review (**PSSR Standards Review**).

Synergy understands that the PSSR Proposals 6-11 Paper has been prepared by Western Power, in collaboration with Energy Policy WA (**EPWA**) and the Australian Energy Market Operator (**AEMO**). The PSSR Proposals 6-11 Paper has also been informed by feedback to EPWA's *Power System Security and Reliability (PSSR) Standards Review Consultation Paper*[1] (**PSSR Standards Paper**) which was issued on 19 June 2025, as well as a range of other resources[2].

The PSSR Proposals 6-11 Paper specifically revisits proposals 6 to 11 of the PSSR Standards Paper and provides suggested refinements on these proposals. The PSSR Proposals 6-11 Paper focuses on the technical requirements and access standards for grid following (**GFL**) inverter-based resources (**IBR**s), proposed interim technical requirements and access standards for grid forming (**GFM**) IBRs, and updates to key disturbance-response and system-strength related requirements.

Synergy provides commentary on its overarching concerns below, and the attached Annexure A provides detailed comments on selected proposed technical requirements in the PSSR Proposals 6-11 Paper.

1 INCENTIVE AND COMPENSATION FOR GFM TECHNOLOGY

Synergy notes that, as outlined in Table 3.2 of the PSSR Proposals 6-11 Paper[3], for several of the technical requirements the Minimum Access Standards (**MAS**) for GFM technologies are proposed to be set at a higher threshold than the proposed MAS for GFL technologies.

[1] Power System Security and Reliability (PSSR) Standards Review Consultation Paper.
[2] Appendix 12 Technical Requirements in the ESM Rules, the National Electricity Rules amendments that commenced on 21 August 2025, AEMO's GFM Access Standards Technical Requirements Review in the National Energy Market and analysis by Etik Energy.
[3] PSSR Proposals 6-11 Paper, pages 11 to 15.

Additionally, the PSSR Proposals 6-11 Paper states that the proposed MAS "…*are intended to represent "no-regrets" capabilities, or baseline requirements that are unlikely to be relaxed in future reforms – with any AAS and higher-end GFM functions intentionally deferred to later phases…"* [4]. This statement signals that GFM IBRs will have additional obligations to those of GFL IBRs to support secure and reliable operations within the South West Interconnected System (**SWIS**). Moreover, Synergy is also of the understanding that the capital costs involved in the development of a GFM IBR are generally higher than the capital costs for GFL IBRs.

Synergy acknowledges that the GFM IBRs are expected be capable of providing higher levels of support for power system security, however noting the higher capital costs for GFM IBRs alongside stricter performance requirements and obligations, this may delay investments in GFM IBRs until Market Participants are able to be fairly compensated for the additional reliability that the GFM IBRs will provide to the SWIS. As traditional synchronous generators exit the system, there will be increasing need for other technologies, such as GFM IBRs, to provide additional support that enables the SWIS to meet and maintain power system security and reliability requirements. Therefore, Synergy reiterates it call for investigation into potential financial incentives for GFM technology[5]. Synergy also notes that AEMO has likewise expressed expectation that appropriate incentives and obligations for GFM IBRs will be developed[6].

2 CLARIFICATION ON ORDER OF PRECEDENCE

Section 5 of the PSSR Proposals 6-11 Paper[7] outlines the proposed transitional arrangements for facilities with executed Electricity Transfer Access Contracts (**ETAC**s) or agreed Access Offers prior to the implementation of the proposed standards. Synergy is of the understanding that the proposed transitional approach is such that for each of these facilities, the proposed new standards will only be applicable at the time that a Relevant Generator Modification (**RGM**) (as described within the Electricity System and Market Rules) is undertaken for a facility. Synergy is supportive of this transitional approach, which is in line with current approach for Generator Performance Standards and outlined within Chapter 3A of the Electricity and System Market Rules (**ESM Rules**).

Synergy notes that the PSSR Proposals 6-11 Paper does not currently provide clarity on the intended order of precedence between the ESM Rules and the Western Power published Technical Rules 2016[8] (**Technical Rules**) for any inconsistencies that may exist between these documents. Synergy understands that the current approach is that the ESM Rules prevail if there are inconsistencies between the ESM Rules and the Technical Rules (refer clause 3A.1.2 of the ESM Rules), and suggests the same approach is also applied for the proposed technical requirements and transitional approach for GFL and GFM IBRs as outlined within the PSSR Proposals 6-11 Paper.

3 CLARIFICATION ON APPLICABILITY TO AGGREGATED DISTRIBUTED ENERGY RESOURCES (DER) AND THE THIRD PARTY AGGREGATOR FRAMEWORK

The PSSR Standards Paper published on 19 June 2025, proposed to introduce a revised facility categorisation into the ESM Rules and defined Medium User Facilities to include energy producing systems sized at less than or equal to 10MVA (refer Proposal 2)[9]. Additionally, the

[4] PSSR Proposals 6-11 Paper, page 2, *Introduce an interim GFM package*.
[5] Synergy Submission – PSSR Standards Review Consultation Paper, page 5, *Section 1.5.1 Grid-forming inverter-based resources.*
[6] AEMO Submission – PSSR Standards Review Consultation Paper, page 8, *Section 3.3 – Suitability of Technical Requirements (connection standards) for new technologies*.
[7] PSSR Proposals 6-11 Paper, page 34*, Section 5. Transitional arrangements*.
[8] Technical Rules dated 1 December 2016.
[9] PSSR Standards Paper, pages 29 to 31. *User categorisation framework*

PSSR Standards Paper sought stakeholders' considerations on the appropriateness of applying Proposal 6 through to Proposal 11 to Medium User Facilities[10].

Synergy's submission to the PSSR Standards Paper consultation[11] requested clarity on the user facility category that would apply for aggregations of DER and how the standards would be applied to the facility. Synergy reiterates this request for further clarity. Synergy also seeks to understand if the proposals outlined within the PSSR Proposals 6-11 Paper will be applied to DER aggregations. If this is the intent, careful consideration is needed to ensure these proposals do not create unintentional barriers that may impact the delivery of Project Jupiter outcomes (enabling DER participation in the market). Additionally, consideration is also required as to how the outcomes of the PSSR Proposals 6-11 Paper may impact the Third Party Aggregator Framework.

4 CONCLUSION

Synergy appreciates the complex nature of the work being undertaken by EPWA under the PSSR Standards Review and looks forward to further engagement with stakeholders to ensure the development of a consistent, single, end-to-end PSSR Standards and a PSSR Standards framework that is consistent with the State Electricity Objective.

Synergy thanks EPWA for its work to date on the WEM reform program and looks forward to EPWA's continued consultation on market reform matters.

Your sincerely

[redacted]

RHIANNON BEDOLA
MANAGER ELECTRICITY MARKETS

[10] PSSR Standards Paper, pages 40 to 55. *Section 3.3.2 Proposals*

[11] Synergy Submission – PSSR Standards Review Consultation Paper, pages 11 to 17, *Detailed Comments on the proposals outlined in the PSSR Standards Paper*.

ANNEXURE A: DETAILED COMMENTS ON SELECTED PROPOSED TECHNICAL REQUIREMENTS WITHIN THE PSSR PROPOSALS 6-11 PAPER

Withstand SCR

Synergy is supportive of the MAS and AAS values being proposed for GFL and GFM IBRs to meet the "Withstand SRC" technical requirement. However, Synergy reiterates the need for appropriate incentivises to support the entry of GFM IBRs into the WEM and fairly compensate Market Participants noting the additional costs, more onerous performance requirements and obligations proposed to be applied to GFM IBRs.

Settings used for demonstrating withstand SCR

Synergy is of the understanding that it would not be practical for IBRs to concurrently comply with all GPS requirements while operating at the proposed Withstand SCR MAS or AAS values.

Therefore, Synergy proposes that a guideline setting out allowable Withstand SCR tolerance limits (i.e., allowable differences between Withstand SCR MAS or AAS values and actual SCR achieved at site) be developed. The guideline should also provide direction on how compliance with GPS requirements can be verified while assessing for compliance with the Withstand SCR requirements.

Synergy submits that the System Strength Impact Assessment Guidelines[12] developed under clause 4.6.6 of the National Electricity Rules would be a suitable basis upon which to model the Withstand SCR guideline discussed above.

Negative sequence control during contingencies

Synergy generally supports this proposal for the SWIS technical requirements for negative-sequence control be aligned with the IEEE 2800 approach for GFL IBRs but recommends that feedback on this proposed alignment be sought from Original Equipment Manufacturers (**OEM**s) prior to implementation.

Additionally, although no technical requirements for negative-sequence control during contingencies are being proposed for GFM IBRs at this stage, Synergy agrees with the with the stance expressed in the PSSR Proposals 6-11 Paper that future development of GFM negative sequence behaviour requirements must be undertaken with care[13].

Frequency of current injection during contingencies

Synergy does not support this proposed technical requirement.

During and after a fault, the internal voltage source frequency of a GFM IBR can differ from terminal voltage frequency due to the inherent control behaviour of the GFM IBR. Additionally, although a GFL IBR's topology operates as a current-controlled source, injected current can deviate from the fundamental frequency of the terminal voltage and therefore, Synergy considers that further technical validation is required before there can be confidence in the ability of GFL IBRs to consistently comply with this proposed requirement.

Lastly, before this proposed technical requirement can be properly evaluated, Synergy considers that further clarification must be provided. For e.g., the basis for determining the proposed frequency deviation range of 47-52 Hz[14], how quickly the internal frequency reference of a GFM is expected to track to grid frequency and whether there is a permissible frequency deadband, etc.

[12] System Strength Impact Assessment Guidelines V2.2

[13] PSSR Proposals 6-11 Paper, page 24, *Section 4.5 Negative-sequence control during contingencies.*

[14] PSSR Proposals 6-11 Paper, page 26, *Section 4.7 Frequency of current injection during contingencies.*

Fast opposition of voltage magnitude changes
Synergy does not support this proposed technical requirement as it considers that this proposal does not contribute any additional performance requirement beyond those already proposed in relation to voltage phase angle jump.

Instability detection mechanism
Synergy reserves its position on the matter of an explicit instability-detection mechanism for GFL IBRs within the SWIS and considers that further clarification should be provided regarding this mechanism for Market Participants' consideration, i.e., the mechanism's expected characteristics, technical requirements, performance obligations, how this mechanism will be fund, etc. Synergy also suggests that a clear and detailed guideline on the mechanism should be made available to support Market Participants' evaluation of this proposal. Synergy would also appreciate clarification on whether there is intention for this mechanism to be applicable to all energy producing systems that would be captured under the user facility categories[15] that were proposed in the PSSR Standards Paper and aggregated DERs. Should there be intention for this to apply as such, Synergy urges for appropriate consultation with industry to ensure that the instability detection mechanism that is implemented is fit for purpose, not only for GFL IBRs, but all energy producing systems that would fall into the proposed user facility categories, as well as aggregated DER.

[15] PSSR Review Paper, page 30, *Table 6: Proposed user facility standards categorisation.*