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EPWA CONSULTATION: POWER SYSTEM SECURITY AND RELIABILITY (PSSR) STANDARDS REVIEW CONSULTATION PAPER - PROPOSAL 20

Synergy welcomes the opportunity to provide feedback on Energy Policy WA's (**EPWA**'s) *Power System Security and Reliability (PSSR) Standards Review Consultation Paper – Proposal 20* (**PSSR Proposal 20 Paper**) released on 30 September 2025.

Synergy understands that the PSSR Proposal 20 Paper is an extension of EPWA's previous consultation under the *Power System Security and Reliability (PSSR) Standards Review Consultation Paper*¹ (**PSSR Review Paper**) which was issued on 19 June 2025 as part of the Power System Security and Reliability Standards Review (**PSSR Standards Review**) currently being conducted by the Coordinator of Energy (**Coordinator**).

The PSSR Proposal 20 Paper is focused on Proposal 20 of the PSSR Review Paper, which contains proposed amendments to the *Technical Rules for the South West Interconnected Network* (**Technical Rules**) that was put forward by Western Power (**WP**) to the Economic Regulation Authority (**ERA**) in September 2023. Synergy understands that WP proposed these amendments to the Technical Rules to address security and reliability issues within the South West Interconnected System (**SWIS**).

Synergy is cognisant that the amendments proposed within the PSSR Proposal 20 Paper cover only a subset of the WP suggested amendments within WP's September 2023 submission², which included the *Technical Rules Review Submission to the Economic Regulation Authority*³ (WP Supporting Document) and a draft marked-up version of the Technical Rules⁴ (2023 Proposed Technical Rules).

Synergy provides commentary on its overarching concern below, and the attached Annexure 1 provides detailed comments on the amendments referenced in Table 1 of the PSSR Proposal 20 Paper.

¹ Power System Security and Reliability (PSSR) Standards Review Consultation Paper.

² Proposed Amendments – Submitted by Western Power in September 2023 (withdrawn).

³ Technical Rules Review Submission to the Economic Regulation Authority.

⁴ <u>Technical Rules – Draft only</u>.

1 LACK OF CLARITY ON INTENTIONS FOR EXCLUDED WESTERN POWER PROPOSED AMENDMENTS TO THE TECHNICAL RULES

The PSSR Proposal 20 Paper focuses Market Participants solely on a subset of the suggested changes to the Technical Rules submitted by WP to the ERA in September 2023. Synergy (and likely other Market Participants) has undertaken this consultation on the assumption that the Coordinator is only seeking to progress the referenced amendments in Table 1 of the PSSR Proposal 20 Paper.

Synergy considers that the full suite of amendments suggested within WP's September 2023 submission will have wide-ranging implications (such as those discussed in section 1.1 of this letter). Synergy has provided its feedback on the PSSR Proposal 20 Paper on the basis that these excluded changes are not being progressed. However, if the Coordinator wishes to progress and implement the excluded WP proposals, Synergy will need to review and revise its positions in light of the expanded scope of the PSSR Standards Review.

Should the Coordinator intend to further progress WP's proposed amendments that were excluded from the PSSR Proposal 20 Paper, Synergy looks forward to engagement and consultation to ensure any unnecessary consequences and cost to facilities are avoided, and that Market Participants have sufficient time to prepare for any upcoming Technical Rules changes that will impact their facilities.

1.1 PROPOSED REQUIREMENT FOR ONGOING SUITABILITY WITH THE TECHNICAL RULES AND OVERRIDING OF GRANDFATHERING PROTECTION

Synergy notes that the excluded amendments of the 2023 Proposed Technical Rules include amendments to the Technical Rules that would give the Network Service Provider (**NSP**) the authority to require Users to upgrade or modify their equipment to ensure that power system performance standards within the most recent version of the Technical Rules continue to be met⁵. Further, it does not appear to include a requirement for the NSP to consult with Users on the reasoning for requiring modification to their facilities, nor an ability to consult on the timing of when such modifications need to be undertaken⁶.

Synergy is concerned that these proposed changes will result in overriding the current grandfathering protections for existing facilities within the SWIS. This would result in a requirement for Users responsible for these facilities to incur uneconomic costs for upgrades or modifications to their facility equipment, leading to increasing costs of electricity in the Wholesale Electricity Market (**WEM**). This introduces a significant investment risk that would not have been contemplated as part of project viability assessments for existing facilities. Further this will likely deter future investments in the SWIS due to the increased uncertainty and cost impost of this change.

Synergy also notes that there are proposed amendments to allow an NSP to require Users to demonstrate that their equipment is being monitored on an ongoing basis⁷. Synergy is concerned that this will impose additional or duplicated monitoring and reporting obligations for Users, thus, inevitably leading to increased compliance costs for Users.

Synergy strongly advocates that these proposed changes should not be progressed for the reasons stated above.

⁵ Refer to Technical Rules for the South West Interconnected Network, proposed clause 1.9.5(b)(2).

⁶ Refer to <u>Technical Rules for the South West Interconnected Network, proposed clause 1.9.5.(c).</u>

⁷ Refer to <u>Technical Rules for the South West Interconnected Network, proposed clause 1.9.5(b)(1).</u>

2 CONCLUSION

Synergy appreciates the complex nature of the work being undertaken by EPWA under the PSSR Standards Review and encourages further engagement with stakeholders to ensure the development of a consistent, single, end-to-end PSSR Standards and a PSSR Standards framework that are 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

RHIANNON BEDOLA

MANAGER ELECTRICITY MARKETS

ANNEXURE A: DETAILED COMMENTS: 2023 PROPOSED TECHNICAL RULES AMENDMENTS

Synergy's feedback below has been structured without regard to the remaining proposed amendments to the Technical Rules put forward by WP in 2023 which have not been included for consultation in the PSSR Proposal 20 Paper. As there has been no mention of the Coordinator's intentions with regards to these excluded proposed amendments, Synergy has assumed they will not be implemented.

However, Synergy cautions that the excluded proposed amendments could have significant consequences for Market Participants if implemented and accordingly, Synergy reserves the right to amend its position with regards to the feedback provided within this Annexure A should the currently excluded proposed amendments subsequently be adopted into the Electricity System and Market Rules.

Issue 1: Transmission voltage limits (Reference 3.4)

Synergy notes that amendments to the transmission voltage limits may have flow on impacts to Users' facilities. Synergy at this stage does not consider that this would have material impacts, however Users may need to amend some of their operational parameters.

Further, Synergy also seeks clarity on the inclusion of the term "economic efficiencies" in clause 2.2.2.7(c). Synergy considers that clarification should be provided on the parameters by which 'economic efficiencies' will be assessed before a position can be properly formed on this proposed amendment.

Issue 2: Distribution voltage limits (Reference 3.5)

Synergy is concerned that its facilities that receive Station Supply Power at greater than 1kV may be impacted by this proposed change to voltage limits and may not be able to tolerate the amended voltage fluctuation parameters. If this amendment is adopted, Synergy will need to review the protection settings for these impacted assets.

Issue 3: Standard for transient stability (Reference 3.6)

Synergy considers that the proposed amendments to clause 2.2.8 of the Technical Rules introduces a definition of the term 'transient stability' to the Technical Rules but should also be supported by criteria within the Technical Rules for assessing whether, and when, 'transient stability' has been achieved. Synergy also suggests that EPWA consider the definition and criteria for 'transient stability' that has been, or is being, considered for implementation in the National Electricity Rules to ensure alignment.

Additionally, as previously noted in Synergy's response to Proposal 20 within its submission⁸ for the PSSR Review Paper, Synergy is concerned that this proposal appears to only evaluate the network and newer technology connections. For large synchronous generators, if the requirement to achieve transient stability changes such that the unit is compelled to remain connected through a credible contingency event, there is an elevated risk of damage to synchronous generators. Synergy therefore, requests that the proposed amendment to clause 2.2.8 of the Technical Rules also allows for consideration of the operating parameters of synchronous generators.

Page 4 of 8

⁸ Synergy Submission – PSSR Standards Review Consultation Paper.

Issue 4: Standard for oscillations (Reference 3.7)

Synergy is not supportive, particularly with regards to the proposal to introduce guidance requiring the use of statistical methods to assess damping from test results. Synergy considers that the use of statistical methods will result in more onerous monitoring and analysis requirements, along with additional cost for not only the NSP, but also Users who would have to support the NSP in its obligations stemming from this proposal. Synergy suggests that the Technical Rules should instead take a deterministic approach with regards to assessment of damping requirements.

Additionally, Synergy notes that older facilities within the SWIS may not be capable of meeting the damping requirements in this proposal, other than for rotor angle oscillations, due to legacy control system capabilities and requests that suitable consideration be provided for this limitation.

Issue 5: Voltage stability (Reference 3.8)

Synergy notes that amendments to the transmission voltage stability may have flow on impacts to Users' facilities. Synergy at this stage does not consider that this would have material impacts. Synergy's initial thinking is that, should these proposed changes be made applicable to existing thermal synchronous generators, it could result in the requirement for the completion of new modelling, validation and re-registration for these facilities and accordingly, substantial time, effort and cost for affected Users.

Issue 6: Network Service Provider obligations – Stability and modelling (Reference 3.9)

Synergy is supportive of this proposal to establish requirements within the Technical Rules for the NSP to produce generator and load model guidelines, and for stability and modelling obligations for the NSP to be specified.

Synergy considers there should also be the requirement in the Technical Rules for the NSP to negotiate with Users for mutually acceptable review timelines and a suitable review process for existing facility models. Additionally, the criteria that existing facility models must achieve upon revision should be subject to mutual agreement between the NSP and affected Users, particularly as there is no cost recovery mechanism being proposed to compensate for the resources that Users would have to direct towards reviewing and updating facility models.

Issue 7: Network Service Provider obligations - Power system performance (Reference 3.11)

Synergy is generally supportive of this proposal but considers that Users must be provided with adequate prior notice of works being undertaken which would include, but is not limited, to installation of monitoring equipment on Users' facilities, equipment or related infrastructure.

Issue 8: Network Service Provider obligations – System restart (Reference 3.12)

Synergy is generally supportive of this proposal. However, Synergy requests that there also be provisions included in the Technical Rules to ensure that existing system restart supply contracts are not impacted by new technical requirements that may result from WP having the obligation to support development and planning for restart capabilities within the SWIS.

Issue 9: UFLS requirements (Reference 3.13)

At this stage, Synergy considers that it is unable to comment fully on these proposed amendments. Any amendments to the Under-frequency load shedding (**UFLS**) mechanism needs to be considered holistically, taking into account not only the final UFLS scheme requirements, but also the roles and responsibilities of the AEMO and the NSP within the UFLS scheme.

However, prima facie, Synergy is concerned that replacing the prescriptive arrangements in the Technical Rules with a high-level obligation on the NSP will reduce clarity around the anticipated performance of the network during contingent events.

Additionally, Synergy also considers there must be clarity on the size of load reduction that the NSP would require a User to make available for UFLS before proper evaluation of this proposal can be made.

Issue 10: Definition of credible contingency (Reference 4.2)

No comment.

Issue 11: Definition of plant ratings to adopt cyclic or short-term ratings (Reference 4.3)

Synergy requests for clarification if the intention is for this proposal to only apply to WP's plant and equipment, or also to generators. If the intention is for the proposal to also be applicable to generators, Synergy notes that it currently does not provide any incentive for generators to operate at these cyclical or short-term ratings.

In Synergy's view, if a generator were to operate at alternative or short-term ratings, there could be faster degradation of its components. Synergy considers that there should be appropriate compensation for generators that makes themselves available to assist WP with short term emergency incidents.

Issue 12: Duration of protection equipment being taken out of service (Reference 5.3)

Synergy is not supportive of the introduction of a risk-based approach for deciding whether planned protection system outages should be allowed and suggests that the '48 hours every six months' limit should not be removed. Synergy considers that this proposal has not fully considered the impact of protection system outages on Users, such as the inability to participate in the WEM during such outages and the consequence of having to forgo market revenues.

Therefore, Synergy considers that it is important for the duration and frequency bounds for outages to be maintained, while allowing for *limited* exemptions under well-defined and agreed circumstances. If an exemption from the '48 hours every six months' limit is desired, this should only be allowed after:

- A holistic risk-based assessment has been performed which considers the impacts on Users' facilities (inability to participate in WEM and forgone revenues) alongside system needs, and
- 2) Consultation with, and agreement from, impacted Users.

Synergy strongly recommends the Technical Rules should include

- a) the assessment criteria for the holistic risk-based assessment; and
- b) the consultation and engagement process between the NSP and impacted Users under which the User's approval of the outages may be granted.

Issue 13: Definition of equipment for which Critical Fault Clearing Times (CFCTs) apply (Reference 5.4)

Synergy is generally supportive of the use of guidelines to capture guidance on CFCTs and suggests that the agreed, consulted outcomes relating to CFCTs between User Facilities and NSP be documented in the Registered Performance Standard of facilities.

Issue 14: Weak infeed assessments under islanding conditions (Reference 5.5) Responses/Comments

With the proposed changes to clause 2.9.4 of the Technical Rules, Synergy requests clarification on the following:

- 1. Whether embedded generating units will also be subject to the proposed undetected islanding risk requirements under clause 2.9.4(j).
- 2. Further clarification on the circumstances that would define undetected islanded configurations. Of particular interest to Synergy is clarification on whether facilities contracts to operate in islanded networks and for system restart services will be subject to the requirements of amended clauses 2.9.4(j) and 2.9.4(k).
- 3. Clarification on the flow-on implications if the protection schemes of existing facilities are unable to meet the total fault clearance time requirements under amended clauses 2.9.4(j). For example, would it be made mandatory for impacted facilities to have to upgrade their systems to improve response to network faults?

Issue 15: Distinction between transmission and distribution protection operation for critical fault clearance times (Reference 5.6)

No comment.

Issue 16: Review of user control and protection settings. System design and construction standards (Reference 6.2.6, 6.2.7)

Responses/Comments:

6.2.6 Review of user control and protection settings

Synergy does not support the amendment proposed under item 6.2.6 of the WP Supporting Document. Facility control and protection system settings are for the safe operation and protection of facilities, enabling safe and quick disconnection in the event of adverse network conditions. Allowing the NSP to have unilateral rights to require changes to these settings, without opportunity for input from generator operators, may lead to settings which are detrimental to a generator's longevity and reliability.

Synergy considers that any amendments to these settings should only be undertaken after negotiation, and agreement of required outcomes, between the NSP and generator operators. Synergy recommends that the negotiation process be clearly defined in the Technical Rules. Furthermore, criteria under which the NSP may approach generator operators when seeking to negotiate on amendments to facilities' control and protection settings should also be clearly defined.

6.2.7 System design and construction standards

Synergy reserves its position on this proposed amendment and instead requests clarification with regards to the following sentence in item 6.2.7 the WP Supporting Document:

"To ensure the distribution system complies with these technical requirements, Western Power requires that Users facilities must comply with the requirements of the WA Service and Installation Requirements."

Specifically, Synergy seeks to understand if WP requires User facilities downstream from the point of connection to comply with the WA Service and Installation Requirements.

Issue 17: Aligning protection and disturbance ride-through requirements (Reference 6.8.6)

No comment.

Issue 18: Alignment with revisions to network planning criteria and Network Service Provider obligations (Reference 8.3)

Synergy is of the view that the NSP should be obliged to take a holistic view when planning and conducting operational requirements for the SWIS' transmission system. Therefore, Synergy considers that the operational criteria of all primary equipment, not just that of transmission equipment, should be considered by the NSP.

Synergy proposes the following amendments to the Technical Rules:

5.4.1.2 Power system security requirements

- (a) The transmission system shall be operated under prevailing system conditions with no:
 - (1) primary equipment loadings exceeding pre-fault ratings or unacceptable overloading;
- (b) Subject to clause 5.4.1.2(a), the transmission system shall be operated such that for the credible contingency of a fault outage on the transmission system of any of the following:
 - (3) a reactive primary equipment;
 - (7) unacceptable overloading of any transmission primary equipment;

Issue 19: Clarifying arrangement for planning network outages (Reference 8.5) No comment.

Issue 20: Clarifying acceptable timeframes for protection outages (Reference 8.9)

Synergy supports the adoption of option a) as proposed by WP which ensure that availability requirements are considered. However as discussed under Issue 12, Synergy is not supportive of proposed risk-based approach to outages and restates its position that duration and frequency bounds for outages should be maintained.

Issue 21: Wording of voltage control can be improved (Reference 8.10)

No comment.