

Energy Policy WA (EPWA)
(via email to energymarkets@deed.wa.gov.au)
September 29, 2026

Re: PSSR Standards Review, September 2026

This letter presents L & K Engineering's submission to the latest consultation round of the PSSR review. As with our previous submissions, we have focussed predominantly on the technical aspects of the review documents.

Exposure Draft and Information Paper

Based on the changes incorporated into the draft amending rules and information paper, it is evident the review panel has engaged positively with the review process, for which they should be commended. We have identified some outstanding issues which we think should still be addressed, as described below.

A12.9A.3. Withstand short circuit ratio

We note that a single withstand SCR for both GFL and GFM technologies is a good change, however, we think a mechanism to negotiate a higher minimum withstand SCR should be possible, where warranted.

As an example, a wind farm project where the actual and forecast (ie 10 yr) SCR is above 7 and can meet the ESM rules (GPS) requirements without additional reactive support (eg a STATCOM). However additional equipment would be required to meet the withstand SCR requirements in A12.9A due to long MV feeders within the wind farm. Considering that the actual fault level at the facility will not be as low as 3, connection of this additional equipment becomes a significant additional cost without affecting the facility's actual performance. As a further example, a small facility connecting to a strong part of the network may never within its lifetime get close to a SCR of 3.

A compromise would be for a withstand SCR of 3 to be demonstrated at the GPS stage, however installation of the equipment should be able to be deferred until a trigger event is reached (ie. the facility SCR is projected to fall below 5, within a 5 year planning horizon). We believe this would reduce unnecessary costs of installing equipment which will sit idle.

Withstand SCR using same settings

Based on the proposed wording, compliance of the generating system performance with the ESM rules must be demonstrated at an SCR of 3, i.e., the performance should be registered with the same settings as those implemented on site. We believe that this approach will result in all projects, regardless of their connection point data, being treated as a weak grid facility. Namely, this would mean that parameter settings will be tuned to suit a weak

grid and will result in reduced performance under normal operation. In practice, we would expect majority (if not all) of the projects to be unable to comply with many of the Automatic standard requirements while operating at the withstand SCR. This would apply to the Voltage control speed of response; magnitude and Rise/Settling time requirements for reactive current injection during faults; and, active power recovery following a fault (especially for wind farms). Without a requirement to be tuned at the onset for the withstand SCR, these projects would have otherwise been able to comply with the Automatic standard in normal operation.

We would suggest that it should be possible for the withstand SCR to be demonstrated with different settings than those used under normal operation. This is also consistent with the proposal that there be a mechanism to request retuning of a facility when required.

We also note that there is a discrepancy between the explanatory note, and the draft clause, where the explanatory note states:

New Part A12.9A.3 introduces a Minimum Access Standard requiring an Asynchronous Generating System to remain Adequately Controlled and in Continuous Uninterrupted Operation at a Withstand Short Circuit Ratio of 3 or less;

whereas Clause A12.9A.3.1, states (emphasis added)

Subject to clause A12.9A.1.2, an Asynchronous Generating System must have Equipment capability sufficient to be Adequately Controlled and maintain Continuous Uninterrupted Operation **while meeting all other Technical Requirements** at a Short Circuit Ratio of 3 or less.

This is a significantly higher burden than the explanatory text suggests.

Consultation Paper

The comments below relate to the consultation paper.

System strength incentives framework

Curtailment to manage system strength conditions

With regards to curtailment to manage system strength, we are not sure how this will be achieved in practice – system strength is consumed by the connected IBR, independent of its dispatched MW output. Within the SWIS oscillations have already occurred where ESR facilities are connected, but idle. It is assumed the current management of stability (frequency) is through ‘constraining on’ facilities (ie. synchronous machines), with any curtailment resulting from the WEMDE solution to the other constraint equations.

Potentially, ‘constraining on’ system strength providing generators during periods of (local) low system strength would achieve a similar outcome, subject to the availability of a sys-

tem strength provider in the local area. However, this would require a dynamic assessment (or measurement) of local system strength, identifying the (dynamic) shortfall, and being able to quantify the system strength contribution of an individual facility. Barring this, there would be no 'frequency of curtailment' signal to the market. It is understood that this is not currently practical.

With non-dynamic treatment of the system strength, curtailment becomes a static limit on the connected facility size.

It is also noted that as GFM facilities are low consumers of system strength, it is proposed they be excluded from curtailment. However, it should be taken into consideration that a GFM facility will be tuned to meet a targetted minimum fault level. The minimum fault level will be dependent on the overload capability, inertial constant and other technology specific control systems. Hence, it is not expected that all GFM facilities will have the same impact on the available system strength.

Minimum baseline SCR to avoid curtailment

We believe a base minimum withstand SCR requirement (for which 1.2 would be reasonable) should be included in the system strength management/curtailment processes. Where a facility demonstrates a withstand SCR below this base value, they would be exempt from curtailment due to low system strength. In this manner, a facility can meet this SCR, whether a GFM or GFL technology, by installing additional supporting equipment. This gives certainty to proponents that with up front investment they are able to avoid unknown costs due to curtailment under the proposed scheme. This approach will be close to the NEM requirement though instead of system strength charges, curtailment of the facility is proposed.

Framework for control settings changes

We support the principle that control setting changes may be beneficial throughout the life of a facility as the network changes. However, we think that the mechanism to achieve this requires more careful thought.

Separating the fundamental technical capability from operational settings will be difficult as these are generally not independent. We also think that ensuring a facility remains compliant with its registered GPS after settings changes would be challenging without a full re-assessment.

We would suggest the requirement for re-tuning parameters should be limited to the voltage control system(s) within the plant level controller and should exclude changes to the generating units themselves. Any changes to generating unit settings are likely to have a significant cost impact on the facility.

Further to this, we think that there should be defined frequency for requesting these changes (ie. once per 5 years), linked to the relevant planning report(s).

Once again, L & K Engineering thanks the PSSR team for the opportunity to provide further feedback on the proposed changes to the WEM ESR rules. We hope that changes above can be incorporated into final rules that are adopted, and allow quick uptake of grid-forming technology in the SWIS. As a postscript, we have included some additional (minor) changes that should be corrected in the Exposure draft of the amending rules.

Yours Sincerely,



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Corrections to amending rules

We have identified the following errors in the draft amending rules, as follows:

A12.7.2.1	'except where' seems to be missing (... maintain CUO, except where ...)
A12.7.3.1	'except where' seems to be missing (... maintain CUO, except where ...)
A12.8.2.1	'except where' seems to be missing (... maintain CUO, except where ...)
A12.8.3.1	'except where' seems to be missing (... maintain CUO, except where ...)
A12.8.3.4	This clause appears to be misplaced, and likely belongs in section A12.9
A12.9.3.5-(a)-i.	'and' should be 'except where' prior to the further sub-clauses
A12.9B.3.2	this clause refers to a 'current response' in A12.9B.3.1, however no clause in A12.9B refers to a current response, this clause also appears to be misplaced.

As this is a thorough review, we would also like to highlight a historical change in definition of 'Rise Time', which was made in 2021. In the February 2021 version of the WEM Rules, the definition of Rise Time, was:

Rise Time: In relation to a control system, means the time taken for an output quantity to rise from 10% to 90% of the maximum change induced in that quantity by a step change of an input quantity.

However, the in the November edition of the same year this became (with not rationale provided):

Rise Time: In relation to a control system, means the time taken for an output quantity to rise from its initial value to 90% of the final value induced by a step change of an input quantity, including in response to a disturbance as required under section A12.9.

This change mixes together the speed of the control system (rise time) with the commencement time. As commencement time is now a separate term, the original definition of rise time should be adopted. This would also make the definition consistent with the definition in the NEM/NER, which is:

rise time: In relation to a control system, the time taken for an output quantity to rise from 10% to 90% of the mean sustained change induced in that quantity by a step change of an input quantity, disregarding longer-term dynamics and influences external to the generating system following the step change.