

Energy Policy WA
Department of Energy and Economic Diversification
Attn: Director, Wholesale Markets

Via email: energymarkets@deed.wa.gov.au

Submission from the WA Expert Consumer Panel on Power System Security & Reliability Standards Review Consultation Paper

Thank you for the opportunity for members of the WA Expert Consumer Panel (ECP) to make a submission on the above consultation.

As a panel supported by the State Government's Western Australian Advocacy for Consumers of Energy (WA ACE) program, we are committed to improving consumer outcomes in the energy sector. We represent energy consumers on the Market Advisory Committee (MAC) and its working groups, and in other consultation processes relevant to consumers of energy in WA.

Initial Comments

ECP members broadly support DEED's approach to applying regulatory incentives to encourage the uptake of Grid-forming Inverter (GFM) technologies by both new and existing inverter based facilities, as put forward in this Consultation Paper.

We note the very large penetration of Inverter Based Resources (IBR) deployed to the SWIS already, and that almost all of these are Grid-following Inverter (GFL) technology. This includes large-scale renewable generators and big batteries, alongside an overwhelmingly large number of behind-the-meter (BTM) solar and battery installations primarily located on residential properties. It is important to recognise that the sheer scale of these existing GFL systems already present significant challenges to system strength and that these challenges are likely to escalate as turbine-based generators retire.

It is extremely unlikely that behind-the-meter installations can be incentivised to change from GFL to GFM technologies. There would likely be major technological challenges to overcome, and significant resistance to any attempt to push such changes onto residential solar and battery owners.

Given the stated intent to allocate responsibility for system strength capability to those best placed to provide it, incentivising both new and existing large scale IBR facilities to switch to GFM technologies makes a lot of sense. Existing facilities in particular already pose risks to system strength related to their size and the nature of GFL technologies; so upgrading these facilities effectively both reduces existing risks to, and creates new sources of, system strength. A regulatory incentive scheme which enables such outcomes would turn points of weakness in the SWIS into points of strength.

As such we broadly endorse the review outcomes and proposals in this Consultation Paper, with our primary concerns being to ensure costs to consumers are kept to a minimum and that the deployment of renewable energy technologies is not slowed or negatively impacted by these changes.

In regard to the key areas of input sought, ECP members are of the view that:

- Proposal 1 - Regulatory Incentive Mechanism: *ECP members support the proposal to require select new Electric Storage Resources (ESR) to meet GFM standards for system strength reasons, while avoiding being unnecessarily prescriptive across the board. Targeting GFM requirements at new facilities seeking to connect in areas of low system strength is a sensible approach. ECP members also support the proposed curtailment prioritisation framework, as a method to provide significant financial incentive while avoiding the need to create a new financial incentive scheme, which we view as more likely to result in increased costs to consumers.*
 - Proposal 2 - Technical Requirement for Hybrid Systems: *This proposal achieves the stated aim of providing more explicit and structured treatment of hybrid systems in the Technical Requirements and provides clarity as to how they would be assessed. Assessing for Generator Performance Standard (GPS) on the combined performance of all sub-systems at the Connection Point or Measurement Point seems a reasonable and practical approach. ECP members support the proposal and have no comment to make on suitability of the Relevant Generator Modification process as a framework for assessing retrofit configurations.*
 - Proposal 3 - Requirements for the provision of electromagnetic transient (EMT) models: *Requiring existing generators to provide EMT models upon request from the Network Operator seems reasonable, especially given that new entrants already have to provide these. ECP members acknowledge the point that developing EMT models will involve variable costs from facility-to-facility, and may prove impractical for some older facilities. As such ECP members support the proposal for reasonable costs to be funded by the Network Operator and also support the proposal for facilities which have not provided EMT models to be prioritised for curtailment ahead of facilities which have.*
 - Proposal 4 - Changes to facilities control settings: *ECP members support establishing a framework within the ESM Rules to enable the Network Service Provider to review and require amendment to a facilities control and protection settings, when it is necessary to do so, to maintain or restore power system security. ECP members also support the introduction of new clarifying terms “registered capability” and “operational settings”. We have no comment to make in regard to particular control, protection or performance settings; nor about practical, technical or commercial challenges likely to be associated with any required changes to control settings.*
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Final comments

Thank you for considering this submission and please do not hesitate to contact us to discuss it further.

Sincerely,

WA Expert Consumer Panel members

Anne Hill, Chris Alexander, David Eaton, Kathryn Thorburn, Luke Skinner, Noel Schubert