



SMA Australia Pty. Ltd.
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Feedback on the Consultation Paper on application of the PSSR standards to the system strength regulatory incentives framework and technical standards for hybrid systems

SMA-Australia welcomes the opportunity to provide feedback to the Energy Policy WA (EPWA) Consultation Paper on the application of the Power System Security and Reliability (PSSR) standards to the proposed system strength regulatory incentives framework and technical standards for hybrid systems.

SMA is a leading global specialist in photovoltaic (PV) systems and battery energy storage system (BESS) power conversion and control technology. With more than 156 GW of installed inverter capacity across over 190 countries, including more than 10 GW in Australia, SMA plays a significant role in enabling the global energy transition. Headquartered in Germany, SMA manufactures its large-scale inverter portfolio entirely in Germany, ensuring high standards of quality, cybersecurity, and supply chain transparency in line with European regulatory frameworks.

We are one of the world's leading manufacturers of grid forming (GFM) inverters.

Australia is one of SMA's top three global markets, alongside the European Union (EU) and the United States (US). SMA Australia Pty Ltd plays a key role in supporting the development of utility-scale solar and battery storage projects across the country. Following a recent strategic realignment, the Australian business is now fully focused on the large-scale segment, supplying these German-manufactured, cyber-secure inverter solutions to the Australian market. This focus reflects the increasing importance of system stability, cybersecurity, and advanced grid-support capabilities in Australia's evolving energy system.

SMA Solar Technology AG, the Group's parent company, is publicly listed on the Frankfurt Stock Exchange (Prime Standard) and is part of the SDAX index. Ownership and governance are subject to German and EU regulatory frameworks, ensuring strong oversight, transparency, and risk management. These are further



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supported by robust corporate governance practices, including supplier due diligence, sanctions screening, and risk-based supplier assessments.

We look forward to working with EPWA on the development of the framework within which the PSSR standards will operate.



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Summary of our response to the Consultation Paper

SMA supports:

- the proposal to mandate GFM inverters for new electric storage resources (ESR) in network locations identified as experiencing existing or forecast system strength shortfalls,
- the proposed prioritization framework as a mechanism to manage system strength conditions where existing ESR have not remediated their impacts,
- assessment of system behaviour of hybrid systems at the Connection Point,
- the proposal to require electromagnetic transient (EMT) models from existing facilities with an accompanying cost compensation mechanism,
- the proposal to require EMT models more broadly, provided it is supported by appropriate protection for the intellectual property (IP) of inverter original equipment manufacturers (OEMs), and
- the use of curtailment in accordance with the curtailment prioritization framework.

SMA requests further consultation and co-design of a system that will enable sharing of EMT models while protecting OEMs' IP.



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Detailed responses to the questions raised in the Consultation Paper

1(a) If stakeholders do not support mandating GFM inverters for new ESR in network locations identified as experiencing existing or forecast system strength shortfalls:

- What are the reasons for this position?
- What evidence or analysis supports the position?

SMA supports the proposal to mandate GFM inverters for new ESR in network locations identified as experiencing existing or forecast system strength shortfalls.

1(b) If stakeholders do not support the proposed prioritization framework as a mechanism to manage system strength conditions where existing ESR have not remediated their impacts:

- What are the reasons for this position?
- What evidence or analysis supports the position?

SMA supports the proposed prioritization framework as a mechanism to manage system strength conditions where existing ESR have not remediated their impacts.

2(a) If stakeholders do not support the proposed approach to assess hybrid systems at the Connection Point or, where applicable, the Measurement Point, supported by structured sub-system capability assessment, an operating mode matrix and GPS structuring:

- What are the reasons for this position?
- What evidence or analysis supports the position?

SMA supports assessment of system behaviour at the Connection Point noting that there will be flexibility for separate facilities (with the Measurement Point as the applicable compliance reference point) and that, in certain circumstances, a



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more complex registration framework may be necessary to appropriately reflect operational and compliance arrangements.

2(b) Do stakeholders consider that the Relevant Generator Modification process set out in Chapter 3A of the ESM Rules provides a sufficient framework for assessing retrofit configurations to existing facilities?

SMA supports the proposed approach in principle, noting that this is a complex and evolving area and a wide range of hybrid system configurations are possible. Case-by-case assessment might be required, however, as the Network Operator gains experience with retrofits, moving from a case-by-case approach to more extensive use of standard guidelines and procedures would be preferable.

3(a) If stakeholders do not support requiring EMT models from existing facilities based on system strength risks and broader power system security considerations:

- What are the reasons for not supporting the proposal?
- What evidence, analysis or practical experience justifies this position?

The proposal to require EMT models from existing facilities is reasonable, given that there will be an accompanying cost compensation mechanism.

SMA understands that Western Power, as grid operator, requires access to EMT models and we are willing to support the provision of models provided that we are not required to compromise our standards for protection of IP and cyber security. For SMA, this means:

- There should be no requirement to share unencrypted models of inverters to any organisation except for Western Power in its role as System Operator.



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- Encrypted PSCAD models should only be made available to Western Power in its role as system operator. They are not required and therefore not made available to Western Power as network service provider (NSP), the NSP's consultants, customers or customers' consultants.
- System operators should be required to handle the sensitive IP contained in encrypted PSCAD models under a prescribed set of conditions. For example, retaining all PSCAD models on a single laptop, allowing access to no more than two consultants and recording all instances of staff or consultants accessing the critical IP.
- There should be a register of all people with access to the relevant IP, and the register should be accessible by the owner (e.g. SMA) who is required to share its IP.
- When models are shared (whether encrypted or unencrypted) there must be a non-disclosure agreement (NDA) directly between the owner of the IP and the person receiving the IP.
- The owner of the IP should have legal recourse if a person to whom IP was provided makes unauthorised use of it.

The issue of IP protection is becoming more urgent with the increasing power and accessibility of artificial intelligence (AI) tools that can be used to reverse engineer the models. Our primary concern is to protect the security of source code and block diagrams of SMA's inverters. Access to the source code and block diagrams of SMA's inverters could enable competitors to replicate SMA's products, resulting in the loss of intellectual property of very substantial value. Malicious actors can also use source code and block diagrams to undermine operation of critical infrastructure by changing critical operational parameters.

We would appreciate the opportunity to meet with EPWA and/or Western Power staff to understand the details of the proposal to require provision of EMT models. Some key issues for SMA include whether Western Power would seek access to



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PCSCAD models, PowerFactory Loadflow modelling or TSAT modelling, and whether this would be required in unencrypted, encrypted or encrypted and 'black boxed' formats.

3(b) If stakeholders do not support the proposed approach to introduce a cost compensation mechanism for EMT model development for existing facilities:

- What are the reasons for not supporting the proposal?
- What evidence, analysis or practical experience justifies this position?

A cost compensation mechanism is reasonable in the circumstances.

3(c) If stakeholders do not support the use of curtailment, where practical, in accordance with the curtailment prioritization framework (refer to Proposal 1.4), where a Market Participant is non-compliant with EMT model submission requirements:

- What are the reasons for not supporting the proposal?
- What evidence, analysis or practical experience justifies this position?

SMA supports the use of curtailment in accordance with the curtailment prioritization framework where a Market Participant is non-compliant with EMT model submission requirements.

4(a) If stakeholders do not support the proposed approach to enable changes to control settings to support system strength:

- What are the reasons for this position?
- What evidence, analysis or practical experience justifies this position?



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SMA supports the proposed approach in principle. We recommend a separate policy co-design co-design process to consider costs and practical details of implementation and how costs would be allocated.

4(b) Are there particular control, protection and performance settings that should be included or excluded from the scope of the proposal?

Further work is needed to understand the practical implementation issues, the costs of implementation, how costs would be allocated and how this proposal would interact with the proposed EMT model reforms.

4(c) Do stakeholders consider there are any practical, technical, or commercial challenges associated with requiring changes to control settings under the GPS framework?

Further work is needed to enable more informed understanding of the practical, technical, or commercial challenges that would arise from the proposal. It is not clear how this proposal would be implemented or how it would interact with the proposed EMT model reforms.

Revenue will be lost if existing facilities are required to be offline while control settings are changed. The incentive for a timely process would be better aligned if costs are allocated to Western Power as the organization responsible for revisions and delays to decisions.



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