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Consultation on regulatory changes for smarter homes in South Australia

Proposed New Low Voltage Ride-Through Requirements for Smart Inverters in South Australia

10th July 2020

South Australia Department for Energy and Mining,

Sonnen Australia sonnen is one of the global market leaders in smart solar energy storage with more than 50,000 residential sonnenBatterie systems installed worldwide. sonnen is driving forward the move towards decentralized and digitalized electricity supply through the sonnenCommunity – a pioneering energy sharing platform which enables sonnenBatterie owners to achieve 100% independence from the grid.

The sonnenBatterie is an intelligent energy storage system which allows its owners to use solar electricity day and night, whilst also enabling users to change the way that they manage and control their energy. It saves money by storing the surplus energy generated by solar panels when not needed and makes it available at times when it is needed.

At sonnen Australia, we believe in clean, affordable energy for everyone. We are passionate and driven to have a positive impact on our environment, and on the people within it. We are customer focused, inventive, audacious, inclusive, clear thinkers who make learning a habit and always maintain a winning attitude.

Sonnen Australia welcomes the opportunity to provide feedback on the Government of South Australia (SA) Department for Energy and Mining consultation on the proposed new low voltage ride-through requirements for smart inverters in SA.

It is widely accepted that more storage is required in the Australian market to support the higher penetrations of variable renewable energy (VRE) seen across the NEM. The 2020 AEMO Integrated System Plan (ISP) estimates significant penetration of distributed storage needed for the optimal national energy market (NEM) generation mix. The ISP Central Scenario assumes 1.1GW of behind the meter batteries – participating in a VPP or as a stand-alone asset by 2030. The High DER scenario assumes >15GW VPP and stand-alone BESS assets operating by 2030. This will only be possible if installs are not physically prohibited or subject to major cost-increases for installation.

Although in principle sonnen Australia supports the intent of the AEMO proposal for a new Test Procedure for short duration under voltage ride through, we are very concerned that by forcing a premature commencement date for the new requirement the SA Government threatens to undermine the good work being undertaken by AEMO and its collaboration with industry.

Most importantly the September 2020 timetable suggested by the SA Department for Energy and Mining appears to not recognize or factor in the practical process and scheduling limitations of the very small number of test laboratories globally that will be able to undertake the testing required. We strongly urge the SA Government to delay the mandatory commencement date until early 2021 if it chooses to stick with any hard commencement date.

A superior approach to setting any hard commencement date would be for the SA Government to monitor the number of inverters that already are able to **demonstrate compliance with AEMO's new Testing Procedure and commence**

mandatory requirements when the number of compliant inverters meets an industry supported minimum threshold. This approach would enable commencement as soon as is practicable without the government having to predict availability and progress of the supporting test labs.

If the SA Government insists on an impractical commencement date for the new inverter requirements it will cause significant disruption to the industry. The move will impact jobs to local SA installation, retail business plus manufacturing by companies such as sonnen who have invested heavily in resources as well as manpower which will be lost as a direct result plus numerous indirect job to manufacturing. We strongly urge the Department for Energy and Mining to consider whether it is worth putting the livelihoods of South Australians at risk by insisting on an impractical timetable for reforms that if implemented more considerately would otherwise have the support of industry.

We would be happy to discuss these issues which relate to the impact on jobs in further detail with representatives of the SA Government.

The most significant risk from the proposal comes from the unreasonable demand that all inverters must be retested by September to continue connecting to the SA Power Networks grid. This is simply impractical. September is less than eight weeks away. AEMO had originally proposed a November timeline for compliance with the new disturbance ride-through requirements. Even the November timeframe would be very challenging for industry to meet. In general, the timeframes for testing through a local JAS-ANZ facility and listing with the CEC is a minimum of 6 months. This includes internal approvals, testing and work with the CEC to check off on all documentation.

September 2020 is unrealistic. Early 2021 would be a more achievable implementation date. Alternatively, the SA Government could monitor the number of inverters **that demonstrate compliance with AEMO's new Testing Procedure** and commence mandatory requirements when the number of compliant inverters meets an agreed threshold.

- AEMO has not yet published the final version of its proposed new Testing Procedure. Questions regarding the details of the proposed Test Procedure have arisen in consultation with industry. Testing cannot commence until AEMO finalises its new testing requirements.
- AEMO has not yet published a list of all the test labs from which it is willing to accept test certificates. It has published a partial list only.
- **AEMO has not yet confirmed whether it will require certification of a 'family' of inverters or if every model and power rating will need to be tested separately.**
- AEMO has not confirmed whether or not **it expects the CEC to act as a de facto 'third party certifier'** for testing by any test lab accredited to AS/NZS 4777.2 under an International Laboratories Accreditation Cooperation (ILAC) Mutual Recognition Agreement with National Association of Testing Authorities (NATA), including overseas test labs.
- **AEMO has stated, "Manufacturers will need to undertake testing of their inverters by a testing laboratory that has already been certified against AS/NZS 4777.2 through the JAS-ANZ accredited certifying bodies or from state electrical regulators." There are only two test labs in Australia accredited to AS/NZS 4777.2. They are Austest and TUV Rheinland. However, the Australian test lab for TUV Rheinland is not able to provide the testing service at this stage due to a malfunction of its grid simulator and delays to the repairs being made in**



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a US factory due to COVID-19. According to TUV Rheinland the equipment in its Australian test lab might be operational again by August or September 2020.

- Austest have performed a trial run and has confirmed their equipment can perform the test. They already had a waiting list of two months before the SA Government announced its September deadline but until tested many manufactures do not themselves know whether or not current products will pass given that these requirements are outside the scope of AS/NZS 4777.2 to which all products have been tested to and functionally have been designed to meet. Although the requirement should not require significant development effort it will however require time and scheduling to test and implement which has not been considered at all in this proposal.

Remote firmware updates can and should be utilized where possible to address issues with the installed fleet and to enable manufacturers who do not meet the new testing requirements to continue installation provided there is demonstrated capability and commitment to upgrade their fleet to the new undervoltage ride through requirements within a time frame that is acceptable to SAPN.

The proposed new undervoltage ride through requirements are outside of the current requirements for AS/NZS 4777.2 and many products will require redesign or firmware upgrades. This will require time and money. AEMO has also indicated that where firmware upgrades are required, inverters will need to be fully retested to AS/NZS 4777.2, which will create additional delays and expenses.

AEMO's proposal for the new inverter requirements were only published in June 2020. Insisting on mandatory implementation by September will exclude many suppliers from the SA market and this will very likely lead to job losses. Considering that SA has high and rising unemployment and went out of its way to attract battery manufacturing to the state, it is hard to understand why government officials would be so cavalier with the livelihoods of South Australians employed in the renewable energy industry.

If you have any further questions or seek any further clarification please contact me via j.sturcht@sonnen.com.au.

Yours faithfully,

A handwritten signature in black ink, appearing to read "J. Sturch", is written over a light blue rectangular background.

James Sturch
Technical Director APAC
Sonnen Australia Pty Ltd