

25 January 2017

Mr Adam Wilson  
Chief Executive Officer  
Essential Services Commission of SA  
GPO Box 2605  
Adelaide SA 5001

Dear Adam

**Inquiry into licensing arrangements under the Electricity Act 1996 for inverter-connected generators**

I refer to the Essential Services Commission of South Australia (the Commission) Issues Paper on the above Inquiry and provide the following submission on matters raised in that Paper.

SA Power Networks agrees with the Australian Energy Market Operator's (AEMO) initial/preliminary advice to the Commission that:

- "AEMO has not identified a case to remove the existing licence conditions at this time, although some amendments may be considered.
- There may be value in including additional requirements relating to:
  - Frequency control;
  - Rate of change of frequency; and
  - System strength.
- There may also be a case for extending the licence conditions to other technologies such as photovoltaic panels, battery storage and synchronous generation."

SA Power Networks provides the following responses to the questions raised in the Commission's Issues Paper.

***Q1 Should the Commission continue to require the existing special conditions?***

To help to ensure a safe and secure electricity system, the existing provisions for wind farms should continue, and consideration should be given to expanding those conditions to other forms of inverter connected generation (see comments above).

***Q2 Should those licence conditions be varied?***

As highlighted by AEMO there may be value in including additional requirements relating to:

- Frequency control;
- Rate of change of frequency; and
- System strength.

However, any additional conditions need to be cognisant of AS4777:2015 which mandates how inverter connected generators should behave.

In addition, consideration needs to be given to varying the conditions on generators when there is a concentration of inverter connected generators which individually do not pose a risk, but which may collectively pose a risk to the stability of the State's power system. Any new conditions imposed on inverter connected generators should be subject to a public consultation process.

***Q3 Should licence conditions be made to apply both to prospective and existing licensees?***

Normally, any change to licence conditions are not retrospective. However, consideration should be given to imposing amended conditions on existing generators where it is not cost prohibitive to comply with those conditions for existing inverter connected generators. The Commission could impose the new conditions on all existing and new inverter connected generators but should have a process to grant existing generators an exemption from all or some of the amended conditions.

The Commission could implement the amended conditions on existing generators, under NER Clause 4.15. This clause requires generators to submit a Generator Compliance Program which obligates generators to ensure ongoing conformity with the performance standards. The typical periodic testing time is three years. This could provide generators with a three year period to become fully compliant unless granted an exemption by the Commission.

***Q4 Should generation licence holders be required to upgrade or refurbish plant and equipment to meet the licence conditions of the day?***

See response to question 3.

***Q5 Do you have any comments or views on AEMO's preliminary report?***

We agree with the initial findings of AEMO's preliminary report.

***Q6 Are there any other matters relevant to the Inquiry that the Commission should consider?***

The Commission should consider whether generator aggregators should also be required to be licensed by the Commission as they have the potential to control many MWs of generation and/or storage (even though individually each generator could be less than 100kW and exempt from licensing), which may impact on the performance of both the distribution and transmission networks within South Australia.

Both Network Service Providers (NSPs) and Market Operators such as AEMO require visibility of the assets these aggregators control, and their operation, in order to manage the network and market efficiently and within operational limits. The ability of these aggregators in the future to control many MW of either load (eg through curtailment, battery discharging or battery charging) or generation (eg battery discharge) in response to wholesale market incentives by switching on or off, has the potential to significantly increase volatility of the supply/demand balance and the complexity of the operation and management of the network.

If you have any queries or questions relating to SA Power Networks' submission, please contact Mr Grant Cox by email: [grant.cox@sapowernetworks.com.au](mailto:grant.cox@sapowernetworks.com.au) or by telephone 08 8404 5012.

Yours sincerely



Wayne Lissner

Acting General Manager Corporate Strategy

