

18 February 2022

Review of Electricity Licensing in South Australia

ATTENTION: Rebecca Knights

Department for Energy and Mining,
Energy and Technical Regulation Division
GPO Box 320
Adelaide SA 5001

Via email: dem.consultation@sa.gov.au

Dear Rebecca

Re: Electricity Licensing Framework in South Australia

ElectraNet welcomes the opportunity to provide this submission on the electricity licensing framework in South Australia. ElectraNet is the principal transmission service provider (TNSP) for South Australia. It has held both a transmission licence and a system control licence since that time.

Since 2000 the South Australian transmission system has seen the progressive closure of conventional generation, the emergence of 2,836 MW of transmission connected renewable generation and 1,787 MW of distribution connected generation, largely uncontrolled distributed photovoltaics (DPV).¹

Changes to National Electricity Rules

A number of changes to the National Electricity Rules (Rules) have come into effect in the last two years which introduce concepts and definitions which are not contemplated by the jurisdictional licensing regime.

The Integrating Energy Storage Systems into the NEM (IES) rule change of December 2021² has introduced registration categories which are hybrids of the conventional Generator and Customer (Load). The Integrated Resource Provider category can include both generation and load as components of bidirectional resources. How the new registration categories map to jurisdictional licensing requirements and legislation is unclear and may cause disputes if not addressed.

The licensing review should ensure that generators are able to be properly identified for licensing purposes notwithstanding the Rules changes.

The Connection to Dedicated Connection Assets rule change of July 2021³ has clarified the arrangements for connection to the transmission network and has introduced a new category of shared network assets, Designated Network Assets (DNA). These may be built and owned contestably by the Primary TNSP or by third parties. Multiple parties may connect to the DNA through time with commercial access being governed by the DNA owner's approved DNA Access Policy and physical access controlled by the primary TNSP (ElectraNet in SA).

¹ Includes committed generators as at February 2022

² <https://www.aemc.gov.au/rule-changes/integrating-energy-storage-systems-nem>

³ <https://www.aemc.gov.au/rule-changes/connection-dedicated-connection-assets>

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As the operator of these DNAs we understand that DNA assets would fall under our Transmission licence and that we would be required to ensure compliance with the ElectraNet Safety, Reliability, Maintenance and Technical Management Plan (SRMTMP) and most aspects of the Electricity Transmission Code, notably restoration and reliability standards. Under the Rule some aspects, notably augmentation of the DNA, are the exclusive right of the DNA owner. These should not sit with ElectraNet.

Further, under the Rule these assets must be built to the system standards of the Rules, and must be operated, maintained, and controlled by ElectraNet. It is our expectation that these assets should be of the same standard as the regulated network.

ElectraNet recommends that our licence and the ETC are reviewed in light of the rule change to ensure that the DNAs we operate, maintain and control are clearly referenced and the expectations for compliance with the ETC are clear.

Low demands associated with high DPV

Low minimum demands due to high DPV, coupled with the uncertain response of these resources to system events is a concern. Specifically, there is a risk that a system event will cause large amounts of DPV to disconnecting from the system, in turn exacerbating the event.

This risk is principally mitigated by dispatch of conventional plant to provide a “safety net” and by delaying critical system maintenance outages. This risk is expected to reduce with the commissioning of Project EnergyConnect in late 2023.

A related issue is the increasing incidence of reverse flows from the distribution network into the transmission system. This risks overload of connection transformers if not managed by the DNSP via run back schemes on larger generators and curtailment of DPV where necessary.

Absent a requirement in the Rules or jurisdictional instruments such as the regulations or the Electricity Transmission Code (ETC) there is no regulatory provision for ElectraNet to augment distribution connection transformers to evacuate the excess energy from the distribution network.

Periods of reverse flow typically coincide with extremely low marginal cost of generation, so solutions are likely to be more cost effective at the distribution than the transmission level.

Initiatives such as SA Power Networks Flexible Exports requirements for DPV, future export tariffs and time of use tariffs will go some way to mitigating the issue over time. However, consideration should be given to granting powers to DNSP licensees to limit reverse flows into the transmission network where that is an efficient solution.

Transmission network Special Protection Schemes

Currently ElectraNet maintains a System Integrity Protection Scheme (SIPS) together with associated Under Frequency Load Shedding (UFLS) and Over Frequency Generation Shedding (OFGS) protection schemes. These schemes act to ensure the system stays intact in response to credible and non-credible contingencies. The increasing level of DPV and non-scheduled distribution connected generation is reducing the utility of these schemes particularly as DPV reduces load available to trip and distribution connected generation is not required to participate in the schemes. In considering licensing obligations it would be beneficial to include requirements for all generation to participate in the SIPS where it is cost effective for them to do so.

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Should you have any questions regarding this submission please contact Bill Jackson on (08) 8404 7969 in the first instance.

Regards



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