

Your ref:
Our ref:

13 July 2018

Dominic Adams
Australian Energy Market Commission
Reference ERC0222

Dear Dominic

re: ERC0222 Generator Technical Performance Standards Draft Determination

ElectraNet welcomes the opportunity to provide this submission to the National Electricity Amendment (Generator Technical Performance Standards) Rule 2017 draft determination.

ElectraNet is party to a separate submission from Energy Networks Australia, which provides broad industry support for the rule change proposal and addresses a range of specific technical issues.

The purpose of this submission is to provide additional insight into the experience in South Australia generally and specifically with regard to the proposed requirement for facilities to have the capability to operate in multiple reactive power control modes under the Automatic Access Standard for S5.2.5.13.

ElectraNet has extensive experience with the integration of non-thermal generation into the South Australian region over many years, having connected over 1,500 MW of wind generation. The high penetration of renewable generation in particular has been assisted by the technical requirements of the licencing guidelines (the Guidelines) of the Essential Services Commission of South Australia (ESCOSA) which have been in place in various forms since 2005.

ESCOSA has consistently stated that its preference “is to remove any unnecessary local requirements once it is satisfied that the NER deal adequately with power system integrity and reliability issues posed by intermittent generation in this State”¹ ElectraNet supports the view that consistent NEM-wide generator performance obligations are preferable to jurisdictional specific requirements.

It is noted that the AEMC draft determination suggests a principle where Connection Applications should not be required to incur any cost associated with the longer term management of the power

¹ p19 ESCOSA Inquiry into the licensing arrangements for generators in South Australia Final Report August 2017

system². Given the inherent services provided by existing synchronous generation that are being replaced by new generation connections that do not naturally provide these services, ElectraNet considers that some incremental costs to new connections associated with maintaining the security of the power system are justified and consistent with the principle of technology neutrality. While any such costs must be reasonable, this approach is also consistent with achieving consistent regulatory obligations across the NEM.

The 2005 Wind Generation Statement of Principles required that new Wind Farm facilities be capable of operating in either voltage control mode or power factor control mode with the voltage setpoint capable of being assigned either locally or remotely. Amongst other updates, the 2010 Licence Conditions for Wind Generators required new facilities to be able to operate in voltage control mode and either reactive power control mode or power factor control mode. It was further required that all three control modes be able to be set either locally or remotely.

In contrast to the previous ESCOSA licensing requirements that were specific to Wind Generation projects, the 2017 ESCOSA Licensing Arrangements apply to all new generation connections in South Australia. Under the current requirements, the reactive power control capability obligations are broadly consistent with the Rule change described by the AEMC draft determination with respect to the Automatic Access Standard for reactive power control.

In practice, the preferred reactive control mode for a particular facility depends on the location, the connection point voltage of the facility and proximity to other facilities. Transmission Connection Agreements and Operating Protocols established with connecting generators include the right for ElectraNet to change the reactive control mode and applicable setpoint at any time.

The manner in which these changes are applied varies from site to site but is typically either via SCADA systems or a direct request to the generator's operating representative. While some system operating conditions may require occasional adjustment to setpoints or the applied control mode, generally an appropriate control mode and setpoint are determined and setting changes are not routinely made. We note, however, that the capability to apply settings changes is valuable during unusual operating conditions to ensure the secure operation of the power system.

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

Yours sincerely



Hugo Klingenberg
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² AEMC draft determination, p 35.