AUSTRALIAN ENERGY REGULATOR

Our Ref: D19/135599
Contact Officer: Mark Wilson
Contact Phone: 08 8213 3419
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Mr John Pierce
Chair - Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

Dear Mr Pierce

Mechanisms to enhance resilience in the power system – review of South Australia Black System Event – Discussion paper

Thank you for the opportunity to comment on the Australian Energy Market Commission's (AEMC) 'Mechanisms to enhance resilience in the power system' Consultation Paper. We welcome the AEMC's work on power system resilience, and agree with the AEMC's assessment framework as set out in the discussion paper.

As noted in our December 2018 South Australia Black System Event Compliance Report (Compliance Report), we consider that feathering of wind turbines due to high wind speeds posed a credible risk to power system security and therefore constituted a contingency event. However, we acknowledge the views of the Australian Energy Market Operator (AEMO) that the National Electricity Rules (the Rules) are not clear on whether this is the case. This is one example which highlights the need to review the approach to system security in a rapidly evolving power system.

AEMO operational flexibility

We consider that the concepts of the "ad hoc protected operation period" and the amended "n – 1 (plus)" operational condition provide AEMO with the flexibility to efficiently respond to an emerging category of "indistinct" risks to the power system, particularly those that may be difficult to predict ahead of time. However, we note that the buffer for uncertainty provided in the "n – 1 (plus)" model is also accounted for to an extent in the headroom for existing network constraints. That is, currently constraints include a "safety margin" to account for inaccuracies in modelling and variability in demand and supply within the 5-minute dispatch timeframe. We therefore consider that this highlights the need for a high level of transparency in both the forecast uncertainty and modelling accuracy. An appropriate level of governance will also be required in order to ensure any lessons learned are fully captured and ensuring the most efficient response to any similar situations which may occur in the future. In this regard, we consider that reviewing actions taken as part of the "ad hoc protected operation period" (through the proposed General Power System Risk Review), and associated transparency requirements on AEMO to publish market notices constitute key mechanisms required for a strong governance framework.

Technical knowledge and standards

We consider that a key aspect of managing system security is ensuring that all network service providers (NSPs) understand the capability of their own plant, along with the characteristics of customer and generator plant connected to their networks. Importantly, this assessment should encompass the settings of the protection and control systems owned by NSPs, including special protection schemes, along with any potential interactions with neighbouring NSPs. The events of 25 August 2018 are an example of the risks inherent in the use of special protection schemes.

Any assessment in this regard should also consider the appropriateness of connected generator plant settings. There are currently an unprecedented number of generator connections taking place. We understand that some delays in connection are occurring as a result of the technical performance standards—in particular with regards to system strength calculations. Clause S5.2.2 of the Rules provides NSPs—and AEMO where appropriate—the ability to re-tune generator control schemes, which provides an avenue to potentially alleviate these and related technical issues.

An assessment of the NSP's own plant and connected plant (including generators) should be undertaken annually and should also ensure that all special protection and control schemes are fit for purpose. AER staff consider that the Annual Planning Report—as produced by the jurisdictional transmission planning bodies—presents a logical medium for reporting on this assessment, its findings, and any actions required or undertaken.

As with our discussion on AEMO's operational flexibility presented above, we consider that a strong level of governance is required to ensure that standards for all plant connected to the network are set in accordance with the National Electricity Objective (NEO). For example, the compliance of customer connected solar PV inverters was a learning from the 25 August event and AEMO has initiated a review of the relevant Australian Standard. This standard, however, falls outside of the NEM framework.

We thank the AEMC for the opportunity to submit on this process and look forward to ongoing involvement in the AEMC's review of the Black System Event work program. If you have any questions about our submission, please feel free to contact Mark Wilson (08 8213 3419).

Yours sincerely,

5/9/19

Mark Feather
General Manager, Policy & Performance
Australian Energy Regulator