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Managing the rate of change of frequency (ERC0214) and Managing power system fault levels (ERC0211) Draft Determination and Rules

Energy Networks Australia welcomes the opportunity to make a combined submission to the Australian Energy Market Commission's (AEMC) two draft determinations and draft rules on the South Australian Minister for Mineral Resources and Energy's 'Managing the rate of change of frequency' and 'Managing power system fault levels' rule change proposals.

Energy Networks Australia is the national industry body representing businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to virtually every household and business in Australia.

Energy Networks Australia and its members are generally supportive of the direction and the allocation of responsibilities outlined in in these draft determinations. We are also encouraged by the AEMC's willingness to engage with stakeholders (including our member businesses) in managing what is a very complex and leading edge aspect of the transforming energy sector. At a high level, the AEMC's new plan for power system security, envisages, amongst other things:

- Network Service Providers (NSPs) providing minimum levels of inertia where inertia shortfalls are identified by AEMO.
- Enabling NSPs to contract with suppliers of inertia substitutes like fast frequency response services from emerging technologies, when providing these minimum levels, if AEMO agrees.
- Making NSP's responsible for maintaining a minimum level of system strength for each connected generator at generating system connection points [1] above an agreed minimum level under a defined range of conditions.
- Requiring new connecting generators to pay for remedial action if they cause breaches to minimum system strength for other generators. This "do no harm" concept currently envisages applying the minimum level of system strength being provided to any nearby

[1] The AEMC at p.28 of the Draft Determination on 'Managing power system fault levels' argues this is a similar function to existing obligations to manage the quality of supply to all their network users, including both generators and customers – see National Electricity Rules clause 5.1.3(d).

generating system connection points. The new generator is required to fund the costs associated with the provision of any required system-strength services to address the impact on the affected Short Circuit Ratios (SCR) of other generators. This obligation would only apply at the time the connection is negotiated, and

» Having 'system strength' related work and expenditure treated as a regulated service for TNSPs recovered through Transmission Use of System charges, and at a distribution level as a standard control service and be recovered through Distribution Use of System charges.

Key Points

- In assessing, power system fault levels, and system strength, the use of Short Circuit Ratios is a 'necessary' measure. However, it is not of itself a fulsome proxy or complete measure for, or of, system strength. A full examination of system strength involves assessing how the network physically and functionally operates and responds. This in turn requires assessment of: supply quality, protection systems' performance in clearing faults under different conditions, as well as fault ride through, and whether low 'system strength' outcomes could result in power system stability issues.
- The AEMC must establish appropriate governance, regulatory and competitive protections under the National Electricity Rules for NSPs in addressing new risks that may arise in the procurement of any new system security market and service arrangements.
- Connection process arrangements will need to be considered in establishing supporting frameworks as more parties engage and negotiate with NSPs at both a transmission and distribution level in the transforming energy sector.
- Given the potential lead times in providing solutions and related consultations, the AEMC must adopt adequate transitional arrangements and timeframes. This includes Regulatory Investment Test processes (or preferably expedited economic assessment processes) with a more logical commencement date for the new services of 1 July 2019.
- There may be ways to amend and streamline the Regulatory Investment Test – Transmission (RIT-T) and Regulatory Investment Test – Distribution (RIT-D) to address system strength and inertia/frequency issues. Similarly, a better understanding of the mechanisms to ensure that the new generator 'do no harm" concept can be practically implemented would be welcomed by stakeholders.
- Conducting a tripartite workshop with the Australian Energy Market Operator (AEMO), the AEMC and Network Service Providers would be a useful way to assess the full range of issues on these matters, ahead of the finalisation of these crucial AEMC rule determinations.

The AEMC in assessing these rule change proposals under the National Electricity Objective should:

a. Be consistent (for e.g. application of the Regulatory Test for Investment, application to non-network investment) and as complementary as reasonable possible so that they do not lead to inadvertent and perverse outcomes.
b. Seek an optimal balance between the level of prescription in the Rules and associated guidelines and flexibility in the framework so that it can adapt to changing market developments.
c. Provide clarity on the roles, responsibilities and accountabilities of market institutions and NSPs. (This may also include a clear delineation of such matters e.g. for oversight of potential contracting arrangements and accountabilities in the Victorian jurisdiction).
d. Implement mechanisms and establish criteria with a view to enhancing locational signalling for investment by potential connecting parties.
e. Ensure that the AEMC's imminent Final Determination on AEMO's rule change proposal on the Generating System Model Guidelines, is consistent with the objectives of these rule change proposals in achieving better system security outcomes for the NEM.
f. Address in its Final Determinations that both the entry and exit of generation will require analysis, and
g. Explain that these rule change proposals will affect both generation and (industrial) loads.

Overall, the Rule changes appear overly focused on the long-term framework, without sufficient regard to the immediate practical implementation issues (such as service procurement, contracting, etc.) which are acutely evident in South Australia at present. More consideration may be required to ensure that adequate transitional timeframes and implementation arrangements have been established.

A number of Energy Networks Australia members will also be providing their individual submissions to these rule changes and will be providing additional insights and perspectives.

Energy Networks Australia looks forward to further engagement with interested stakeholders, the wider industry and the AEMC to progress new arrangements that are practical and aligned with the long-term interests of consumers.

Should you have any queries, please contact Norman Jip, Energy Network Australia's Senior Program Manager – Transmission on (02) 6272 1521 or njip@energynetworks.com.au.

Yours sincerely

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