6 March 2020

Mr Patrick Wu
Networks
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Dear Patrick,

Demand Management Innovation Allowance Mechanism

Thank you for your enquiry seeking information on the type of projects that might form part of the transmission Demand Management Innovation Allowance Mechanism (DMIAM), including possible implementation timeframes and costs.

The term Demand Management (DM) dates from a time when power flow across the network was almost exclusive one-way, from large central generating stations through the transmission network to distribution networks and to consumers premises. The concept of managing consumer demand, either through direct control action such as hot water switching or through incentives created by tariff design such as peak/off peak pricing, was intended to defer or avoid the need for investment in additional network capacity. DM is particularly valuable in addressing short-term peaks in the demand for network capacity to avoid investment in a sizable fixed asset that is only required for a few hours each year, or only under contingency conditions.

Noting these aspects of DM Powerlink sees the DMIAM as a mechanism to explore and trial innovative ways to manage the demand for network capacity as a way to defer or avoid network investments and resultant costs to consumers. Powerlink considers that DM projects are not just about reducing consumer demand but could also involve generator or storage system responses as well – the goal being to extend the normal operating limits of the transmission network while still maintaining a secure operating state for managing contingency events.

As you correctly point out in your request, the nature of high voltage transmission systems mean that even small scale trials of DM projects can require the deployment of complex systems. The nature of many transmission system limitations, being related to power system stability, mean that extremely fast responses are necessary and the responses must be assured through redundant systems. While Powerlink has not developed any firm proposals for consideration at this time, we envisage that projects under the DMIAM are likely to

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leverage off already existing infrastructure, or extend already existing capability, to test responses to actual system events Examples could include

- Extending an existing System Integrity Protection Scheme (SIPS) to trigger a response such as a mode change on a Battery Energy Storage System(BESS), and
- Testing the co-ordination of a fast response from a BESS with a slower (though still rapid) response from within a consumer facility, such as starting up backup generation

Powerlink can also see advantages in the DMIAM being structured so that multiple NSPs can collaborate and pool funding to progress projects the cross network ownership boundaries Ideally this would include both TNSP/TNSP collaboration and TNSP/DNSP collaboration

If you have any queries in relation to this matter, please contact me

Yours sincerely

Jennifer Harris
General Manager Network Regulation

Enquiries
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