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22 November 2024

Daniel Westerman
Chief Executive Officer
Australian Energy Market Operator

Submitted electronically via ISP@aemo.com.au

Subject: Review of Integrated System Plan (ISP) Methodology

Dear Mr Westerman,

Essential Energy welcomes the opportunity to provide feedback on the matters raised in the Australian Energy Market Operator's (AEMO) Integrated System Plan (ISP) Methodology Issues Paper. Essential Energy operates over 183,000 km of powerlines that cover 95 per cent of New South Wales NSW and parts of southern Queensland, serving more than 890,000 customers across regional, rural and remote communities.

As a key stakeholder in the National Electricity Market (NEM), Essential Energy appreciates AEMO's crucial work to develop integrated planning to ensure that the infrastructure of the energy system meets needs of the market and its users now and through the energy transition. Essential Energy's feedback on the review of the ISP methodology focusses on distribution network capabilities and opportunities in relation to CER and utilisation of hosting capacity within distribution networks.

Distribution Network Capabilities and Opportunities for CER other distributed resources

AEMO's 2024 ISP underscores the critical role of Consumer Energy Resources (CER) in achieving Australia's net zero objectives and maintaining system stability of the NEM. Essential Energy supports the ISP in 2026 moving beyond viewing CER as an input with further analysis and detail of DNSPs' ability to host CER and other distributed resources, to improve visibility of network constraints and opportunities, investment decision making by DNSPs, policy decision making, and ultimately lower costs for customers.

Approximately a third of Essential Energy's connections have CER in some form, largely solar photovoltaic systems. Whilst much of the public discourse has been around how solar exports need to be curtailed or limited, distribution networks are working on how to manage, not just control, household solar to provide benefits to the power system and value to its customers.

By way of example, Essential Energy is investing in Dynamic Operating Envelopes (DOEs), which provide flexible export limits based on real-time network capacity. This initiative is designed to optimise the utilisation of CER by adjusting export capacities dynamically, thus preventing overvoltage issues, improving overall network stability, and supporting measures to mitigate the risk of minimum system load. Essential Energy's approach in implementing DOEs is expected to offer customers equitable access to the network and support the efficient integration of solar and other distributed generation sources including front of meter storage.

Moreover, by leveraging its detailed understanding of current and future network needs, Essential Energy can strategically deploy front of meter battery storage such as community batteries in locations where they will provide the greatest benefit to the network. This distribution-led approach ensures that these batteries are positioned to alleviate constraints and enhance network reliability, while also taking advantage of synergies with existing and planned distribution assets. Such efficient coordination

maximises locational value and drives down costs, ultimately benefiting customers through downward pressure on pricing.

Essential Energy looks forward to AEMO's planned engagement on existing and future distribution network capabilities for incorporating CER and DER.

Leveraging Distribution Level Hosting Capacity

Essential Energy is interested to work with AEMO on how underutilised hosting capacity within distribution networks can be leveraged to support the energy transition through connection of renewable generation to the NEM. By the nature of its network, Essential Energy is uniquely positioned to integrate into the energy system medium-sized generation projects and household CER, reducing reliance on large-scale, centralised generation.

Utility-scale generation projects connected to distribution networks can provide substantial consumer benefits by reducing the need for extensive greenfield transmission investments. Essential Energy has identified substantial latent hosting capacity where targeted and coordinated upgrades can support new large scale renewable generation connections. Capacity can be unlocked efficiently by upgrading switching stations, lines, and other electrical assets in a manner that maximises available capacity. Currently, upgrades are conducted on a project-by-project basis, leading to higher costs through fragmented network planning, whereas integration of distribution level hosting capacity into the ISP would allow for more effective coordination and planning.

Overall, Essential Energy supports the other proposed ISP modelling enhancements to ensure it remains current and fit-for-purpose. The inclusion of more detailed information of both the demand and supply side will provide a more holistic view of the system, and lead to improved investment decisions and ultimately to better outcomes for customers.

If you have any questions in relation to this submission, please contact me on 0419 818 115 or via email at hilary.priest@essentialenergy.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Hilary Priest".

Hilary Priest
Head of Regulatory Affairs