

September 30th, 2021

Attn: Rupert Doney, AEMC

RE: EPR0087 Transmission Planning and Investment Review

Dear Rupert,

Fluence is a leading global provider of energy storage products and services and digital applications for renewables and storage, and a joint venture of the U.S.-headquartered AES Corporation and Germany-headquartered Siemens AG. Our solutions are built on the foundation of industry-leading technology platforms that are optimised for different application groupings, and Fluence leads the energy storage industry with over 3,400 MW of grid-scale storage projects deployed or awarded in 29 markets globally.

Fluence is an active supplier of Battery Energy Storage Systems (BESS) in the Australian market with our 30MW / 30 MWh solution installed at AusNet Services' Ballarat transmission station. In addition, Fluence recently acquired AMS – the NEM's leading supplier of algorithmic bidding software for semi-scheduled renewable generators and scheduled BESS, with over 4,500 MW of solar, wind and storage projects currently using Fluence's trading platform to facilitate bidding into the NEM and California's CAISO power market.

Fluence welcomes the opportunity to participate in the AEMC's Transmission Planning and Investment Review. Having participated in the Call for Non-Network option for VNI West, we hope to provide feedback on how regulatory investment tests could adequately capture the benefits of non-network options. If captured correctly, certain qualities, such as highly flexible deployment and optionality of investment, could ultimately reduce system costs.

Fluence would like to acknowledge and appreciate all stakeholders including the AEMC for providing Fluence with an opportunity to contribute to the consultation process.

Kind regards,

Lara Panjkov

Market Applications Manager

[signed]

SUBMISSION TO THE CONSULTATION PAPER-TRANSMISSION PLANNING AND INVESTMENT REVIEW

SUBMITTER DETAILS

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DATE [30 September 2021](#)

PROJECT DETAILS

NAME OF RULE CHANGE: [Transmission Planning and Investment Review](#)

PROJECT CODE: [EPR0087](#)

PROPONENT: [AEMC](#)

SUBMISSION DUE DATE: [30 September 2021](#)

Treatment of non-network options

<p>1. Do you agree that there are barriers for non-network options in economic assessments? If so, do you agree with the barriers identified? Are there any further barriers? How should these barriers be addressed?</p>	<p>While the RIT-T is technology neutral, there are still barriers for non-network options. The barriers identified in the Consultation paper are accurate.</p> <p>As stated, network and non-network options are not like-for-like, which can shape how they are considered by TNSPs. This also means that non-network assets such as battery storage may not be appreciated for all valuable capabilities they can provide. Some qualities may increase market and customer benefits but are not adequately captured in current investment tests. TNSPs may end up opting for a wholly network solution when a non-network or part network, part non-network solution, may have been the most cost effective.</p> <p>One major quality that may not be adequately captured in investment tests is flexible deployment and optionality of non-network options, such as battery storage, compared to network options.</p> <p>Three main factors make battery storage highly flexible:</p> <ol style="list-style-type: none"> 1. Battery storage assets can be built much faster than traditional assets. System services can therefore be supplied much sooner. This reduces the risk that transmission system needs may quickly change by the time a traditional asset is built. 2. Battery storage assets are highly scalable. More power and energy can be added over time to adapt to changing power system needs. This can avoid overspend and underutilisation of assets. Robustly accounting for this optionality in investment test frameworks means that network needs can be assessed over time and upgraded if there is a clear benefit. 3. Unlike traditional assets, battery storage is not limited to delivering the same applications throughout its entire useful life. Assets are digital, highly controllable and can be adapted to new applications via software and firmware updates, along with system expansions as described above. While it's currently challenging for assets owned by networks to participate in both network and market services, this may be more feasible in the future. There also may be new network service needs required over time, such as power oscillation damping and provision of short-circuit current. <p>Investment tests must better evaluate the inherent flexibility of non-network options like battery storage. The pathways to evaluate part network, part non-network solutions must also be clearer as this could ultimately reduce overall system cost.</p> <p>Additionally, battery storage system prices have fallen and will continue to decrease over time. Investment tests must ensure that pricing reference data remains up-to-date to ensure network and non-network options are fairly evaluated.</p>
<p>2. Do you agree that the Review should take forward this issue as a priority issue? If not, why?</p>	<p>Yes, as per the reasons above, this must be a priority issue to take forward.</p>

Relevant experience in Australia

Project name	Ballarat Terminal BESS for AusNet Services
Location	Ballarat Terminal Station, Warrenheip, VIC, Australia
Project description	<p>Fluence’s 13-year history of delivering and operating grid-scale energy storage technology solutions ensured that it was the partner of choice for AusNet Services, the owner and operator of Victoria’s transmission network, leading energy retailer EnergyAustralia, and engineering, procurement and construction company Spotless/Downer in deploying an integrated battery storage solution to address certain issues facing Victoria’s electricity grid. The project was a successful applicant for the Victorian Government’s Energy Storage Initiative as well as grant funding from the Australian Renewable Energy Agency (ARENA).</p> <p>Fluence supplied a 30 MW/30 MWh Advancion BESS that was installed in the Ballarat Terminal Station. The BESS is owned by AusNet Services but is operated by EnergyAustralia, which uses it to provide a number of market and grid benefits, including:</p> <ul style="list-style-type: none"> a) flexible peaking capacity to respond to periods of high load; b) frequency control ancillary services. <p>The layering of these services enables the BESS to deliver maximum value to the benefit of all customers in the region.</p>



Commencement and completion

Commencement of installation: January 2018
Completion and commissioning: December 2018

Partnership organisational structure

The Ballarat Terminal BESS project was delivered by a consortium comprised of Spotless (as EPC contractor), AusNet Services (as owner), EnergyAustralia (as operator) and Fluence (as energy storage technology supplier).
The Ballarat Terminal BESS Project was commissioned by the Victorian Government and was partly funded by the Australian Renewable Energy Agency.