Buller Electricity Ltd (BEL)

Submission on Common Quality and Wholesale Market Arrangements for BESSs and BESS-Hybrid Stations

Executive Summary

Buller Electricity Ltd supports regulatory arrangements that enable efficient deployment of battery energy storage systems (BESS) and BESS-hybrid stations while maintaining system security and technology neutrality. The Authority should favour station-level obligations, minimise unnecessary compliance costs, align obligations with physical system impacts, and avoid creating barriers to investment in storage and hybrid generation. Given the expected role of BESS in supporting renewable integration, flexibility and security of supply, regulatory settings should remain practical, scalable and adaptable.

Q3.1 Do you support the proposed 5-level structure for generating asset definitions?

Yes. The proposed structure reflects the reality of modern inverter-based resources and hybrid configurations. It provides a logical hierarchy for assigning technical, operational and market obligations while remaining sufficiently flexible for future technologies.

Q3.2 Do you foresee any implementation issues or unintended consequences associated with the 5-level structure for generating asset definitions?

Implementation should ensure obligations are clearly allocated to a single level to avoid duplication, compliance ambiguity and overlapping accountability. Existing systems, telemetry and registration processes may require updating.

Q3.3 Do you have any feedback on the System Operator's recommendations in its Hybrid Plant Integration report?

BEL generally supports the recommendations, particularly greater definitional clarity, station-level treatment of hybrid facilities, and maintaining flexibility while operational experience develops.

Q4.1 Do you agree with how the Authority has defined the 'idle' operating state of a BESS and a BESS-hybrid station?

Yes. The proposed definition is practical, observable and suitable for compliance purposes.

Q4.2 Do you consider that frequency management obligations should apply to an idle BESS and an idle BESS-hybrid station?

No. Frequency obligations should apply when assets are actively participating in system operation or ancillary services. Applying such obligations while idle imposes costs without a corresponding revenue mechanism.

Q4.3 Do you consider that voltage support obligations should apply to an idle BESS and an idle BESS-hybrid station?

Yes, where technically feasible. Voltage support can often be provided while connected at relatively low incremental cost and provides ongoing system benefits.

Q4.4 Do you foresee any implementation issues or unintended consequences that we have not discussed?

Clear telemetry and operating-state identification standards will be required to avoid disputes regarding idle, charging and discharging states.

Q4.5 What are the key benefits and costs associated with applying AOPOs to idle assets?

The principal benefit is increased system support capability. The principal cost is increased operational burden and investment risk. BEL supports a balanced approach whereby voltage support applies but frequency obligations do not.

Q5.1 Which option for applying frequency AOPOs to BESS-hybrid stations do you support?

BEL supports Option 2A – station-level frequency obligations.

Q5.2 Are there preferable alternatives?

No. Station-level assessment best reflects actual system outcomes and allows operators flexibility to optimise plant operation.

Q5.3 Additional implementation issues?

Compliance frameworks should ensure sufficient visibility while avoiding excessive monitoring requirements.

Q5.4 Key benefits and costs of frequency AOPO options?

Station-level obligations reduce compliance complexity, minimise unnecessary cycling of storage assets and better support efficient hybrid design.

Q5.5 Which option for voltage support AOPOs do you support?

BEL supports Option 3A – station-level voltage support obligations.

Q5.6 Are there preferable alternatives?

No. Voltage impacts occur at the connection point and obligations should align with where system impacts are experienced.

Q5.7 Additional implementation issues?

Appropriate information disclosure may be required to ensure component capability remains visible to planners and operators.

Q5.8 Key benefits and costs of voltage support options?

Station-level obligations reduce unnecessary capital expenditure and compliance costs while maintaining effective system support.

Q5.9 Should clause 8.23 move the point of compliance to the transmission connection point?

Yes. This approach better reflects modern generation technologies and aligns obligations with actual network impacts.

Q5.10 Is there a preferable alternative to ±39.5% or ±33% requirements?

BEL supports a practical, technology-neutral approach and would support flexibility where justified by network characteristics and voltage level.

Q5.11 Additional implementation issues?

Transition arrangements must be carefully managed to avoid creating unintended compliance obligations for existing plant.

Q5.12 Benefits and costs of moving the point of compliance?

Benefits include improved alignment with modern assets, reduced complexity and more efficient investment outcomes. Transition costs are likely manageable.

Q5.13 Are legacy arrangements needed?

Yes. Existing investments were made under different regulatory expectations and should not face disproportionate retrofit costs.

Q6.1 Do you support technology-component offering?

Yes. BEL supports the Authority's preferred option of technology-component offering, while retaining flexibility for station-level treatment where justified.

Q6.2 Do you agree with the Authority's assessment of benefits and costs?

Generally yes. The preferred approach balances operational flexibility, transparency and market efficiency.

Q6.3 Should station dispatch arrangements be extended?

Yes. This would provide valuable flexibility for hybrid plant operators. State-of-charge forecasting and dispatch compliance requirements should be refined as experience develops.

Q6.4 How should the System Operator manage inverter-limited injection?

BEL supports Option 6A using market node constraints. This approach is transparent, relatively simple to implement and preserves efficient market signals.

Q6.5 Do you support the preferred constrained-cost approach?

Yes. Component-level constrained-cost calculations are appropriate. Metering arrangements should provide sufficient granularity to distinguish generation and storage contributions, particularly for DC-coupled facilities.