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Australian Energy Market Commission
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Submitted electronically via submissions@aemc.gov.au

Re: Electricity Network Regulation Review Package 1: Consultation Paper (EPR0106)

Introduction

Antora Energy (Antora) welcomes the opportunity to submit these comments on Package 1 of the Australian Energy Market Commission's Electricity Network Regulation Review (ENRR, EPR0106). Antora manufactures and deploys electric thermal energy storage (eTES) systems that provide on-demand industrial process heat by converting intermittent, low-carbon electricity from the grid or directly from renewable generators into stored thermal energy discharged continuously to industrial processes. eTES systems are inherently highly flexible loads: they charge exclusively during low-price, high-renewable generation periods, avoid system peaks, and are capable of instantaneous full curtailment at the network operator's request.

Deployed at scale, eTES delivers three categories of benefit that align directly with the ENRR's objectives. First, **network benefits**: as a fully dispatchable load that charges during periods of surplus renewable generation and avoids system peaks, eTES improves utilisation of existing network assets, reduces the need for augmentation driven by peak demand growth, and provides Network Service Providers (NSPs) with a dispatchable demand-side resource that can be curtailed within a single dispatch interval. Second, **renewable generator benefits**: eTES's rapid flexibility allows it to absorb midday solar and overnight wind output that would otherwise be curtailed, supporting the economics of variable renewable generation and reducing the volume of firming capacity the system must procure. Third, **decarbonisation and energy security benefits**: eTES replaces gas-fired process heat with stored low-to-zero carbon electricity, extending the reach of the grid into industrial heat, a sector responsible for a material share of Australia's industrial emissions and domestic gas demand.

Scope of this submission

This submission responds to Package 1 of the ENRR and focuses specifically on the service classification framework (Question 2), the connection and facility access arrangements (Question 4), the cost allocation and shared asset arrangements (Question 5), and the proposed assessment criteria (Question 12). We recognise that the broader questions of NSP incentive design, tariff structures, and revenue-setting fall within Package 2 of the ENRR (EPR0201) and build on the Commission's recently completed Pricing Review (EPR0097), to which Antora made a joint submission with Rondo Energy in February 2026. We intend to engage substantively with Package 2 when its consultation opens later this year. Appendix A of this submission provides a short summary of the broader tariff design and NSP incentive context, for the Commission's reference and to establish the analytical foundation for our Package 2 submission.

Summary of Recommendations

- **Recommendation 1 (responds to Consultation Question 2):** Amend NER Chapters 6 and 6A to define a Flexible Connection Service (FCS) as a classified service category, with the AER directed to develop Highly Flexible Load qualifying criteria and classification guidelines within 12 months of the Package 1 final report.
- **Recommendation 2 (responds to Consultation Question 4):** Amend the connection framework under NER Chapter 5 to require that standard NSP connection offers accommodate curtailability commitments; that the connection inquiry process recognises flexible load as a distinct category assessed by reference to declared operating profile rather than nameplate capacity alone; and that the negotiate-arbitrate framework is strengthened for qualifying flexible loads.
- **Recommendation 3 (responds to Consultation Question 5):** Clarify in Package 1 cost allocation guidance that augmentation costs at shared network assets should be allocated by reference to a connected load's demonstrated coincident peak demand contribution, not its nameplate or contract capacity, where the load holds an FCS classification and has a verified record of zero consumption during the peak demand events driving the augmentation requirement.

SECTION 1: SERVICE CLASSIFICATION ARRANGEMENTS (QUESTION 2)

Question 2.1: What, if any, changes do you think should be made to the service classification arrangements (including the timing of when service classification decisions are made) to ensure they remain fit for purpose into the future and sufficiently flexible to accommodate the changes underway?

Question 2.4: Are there any other issues with the current service classification arrangements that you think we should consider in this Review?

The NER's current service classification framework (direct control services, negotiated services, and unclassified services) does not adequately accommodate a category of connection arrangement that is becoming increasingly important as industrial electrification proceeds: the structured flexibility-for-terms arrangement, in which a large industrial customer contractually commits to curtailability, peak avoidance, and off-peak charging concentration in exchange for connection terms that reflect its materially lower network cost profile.

At present, such arrangements can only be pursued as negotiated services, which creates three specific failures for large flexible industrial loads:

- **Regulatory uncertainty.** Each agreement is site-specific, without AER-endorsed standards for qualifying criteria, connection terms, or curtailment obligations. An operator considering eTES deployment across multiple sites in multiple jurisdictions cannot reliably model project economics without knowing what treatment a qualifying flexible load is entitled to receive.
- **NSP discretion.** There is no AER-enforceable obligation for an NSP to offer terms reflecting a load's demonstrated flexibility. Each outcome depends on bilateral negotiation.
- **Scale limitation.** Bilateral negotiation precludes the standardised, scalable framework needed to deploy eTES across a fleet of industrial facilities. Australia's substantial pipeline of

viable eTES candidate sites cannot be unlocked project-by-project through negotiation with multiple NSPs across multiple jurisdictions.

1.1 Proposed reform: Flexible Connection Service classification

We propose the AEMC amend NER Chapters 6 and 6A to define a **Flexible Connection Service (FCS)** as a classified service category, with the AER responsible for developing qualifying criteria and classification guidelines through its existing Framework and Approach process. An FCS would be:

- Defined in the NER with standardised qualifying criteria (set out in Appendix B), developed and published by the AER in a Highly Flexible Load (HFL) Guideline within 12 months of the ENRR final report;
- Accompanied by an AER-enforceable entitlement: any load meeting the published qualifying criteria and committing to the corresponding curtailability obligations would be entitled, as a matter of right, to connection under FCS terms;
- Consistent with the negotiate-arbitrate framework's fallback: bilateral negotiation between flexible loads and NSPs could continue to be pursued for further arrangement-specific structuring on a project-by-project basis.

This approach builds on existing NER architecture. The NER's service classification framework already distinguishes between service types and provides AER discretion to specify additional categories where market conditions warrant. The FCS classification applies this existing mechanism to large, curtailable, off-peak industrial flexible loads that the original NER framework did not contemplate.

The FCS proposal is directly responsive to the Commission's concern (Consultation Paper paragraph 23) that the service classification arrangements need to remain sufficiently flexible to accommodate new energy services and delivery models emerging from the energy transition. Industrial flexible load is one such category, and it is not adequately served by the existing classifications.

International precedent supports this approach. Germany's §14a "AgNeS" mechanism, operationalised in 2025, delivered approximately €1.4 billion in grid fee reductions for flexible industrial loads by defining qualifying "controllable facility" criteria and mandating that network operators offer corresponding connection terms. While the German regulatory framework differs from the NER in material respects, the underlying design principle, defined qualifying criteria plus an enforceable entitlement to compliant connection terms, is transferable to the Australian context.

Question 2.3(a): Is additional guidance required in the NER on how the boundaries between regulated and contestable (unregulated) services should be drawn?

We support the Commission's proposition that additional NER guidance would improve regulatory clarity, particularly for emerging service categories. The FCS proposal above is one example of where such guidance is warranted: the current framework does not provide sufficient direction on how large flexible loads with structured curtailment commitments should be classified, leaving the outcome to case-by-case negotiation with individual NSPs.

SECTION 2: CONNECTION AND FACILITY ACCESS ARRANGEMENTS (QUESTION 4)

Question 4.1: Do you think the current connection and/or facility access arrangements are acting as a barrier to entry into contestable markets? If so, how?

Question 4.2: Do you think changes are needed to the regulatory framework for negotiating connections and/or facility access arrangements? If so, what changes are required?

Yes. The current connection framework acts as a material barrier to the deployment of large flexible industrial loads in Australia. Antora has a number of active Australian projects at various stages of development that are directly encountering the barriers described in the Consultation Paper at paragraphs 28–29. The specific issues we and our industrial customers are experiencing include:

- **Non-standardised connection terms for flexible loads.** Every connection agreement must be negotiated bilaterally. There is no standard product an NSP is obliged to offer to a load that demonstrates curtailability and system peak avoidance, and no reference framework against which a proposed connection offer can be assessed for reasonableness.
- **Assessment on nameplate capacity.** The connection framework does not prescribe the basis for network impact assessment for flexible loads. As a result, eTES systems are assessed on flat-nameplate assumptions: a 20 MW eTES is treated as a 20 MW continuous, firm load, even though it draws zero power during system peaks, strategically charges during select hours, and concentrates its consumption in surplus renewable hours. Network impact depends not only on how much new load connects, but on when and how that load uses the system: a connection framework that ignores the "when and how" dimension does not reliably produce cost-reflective outcomes for flexible loads.
- **Timelines and complexity.** Connection processes for large, flexible industrial loads are treated with the same procedural weight as inflexible firm baseload connections, despite imposing materially different network impacts. This adds cost and delay to flexible projects that can deliver immediate grid relief, help integrate renewables, and whose commercial case is already sensitive to network charges.
- **Limited transparency on suitable connection points.** Prospective flexible load connectors have no standardised means of identifying network locations across the NEM where a curtailable, off-peak load would be genuinely welcome from a network planning perspective.
- **Ineffective negotiate-arbitrate framework.** The Consultation Paper notes at paragraph 30 that "some stakeholders have told us during our early consultation that it is challenging to negotiate with NSPs" and questions "the effectiveness of the negotiate-arbitrate framework in constraining the exercise of market power by NSPs." We echo that assessment.

The consequence is that connection arrangements do not reliably produce outcomes that reflect the actual network cost profile of large flexible loads. This is a genuine barrier to entry, not into a contestable retail or aggregation market, but into the industrial customer base whose electrification the NER framework is intended to enable.

2.1 Proposed reforms

We propose three connection-framework reforms consistent with the Package 1 scope:

- **Standardised curtailability terms in connection templates.** NSP standard connection offer and agreement templates should include defined terms for curtailability commitments, including response-time requirements, curtailment depth, notification mechanisms, and annual compliance verification. These terms should be referenced in the NER and in AER connection-related guidelines rather than left to bilateral drafting on a project-by-project basis.
- **Flexible load as a recognised connection category.** The connection inquiry process and AER connection guidance should recognise flexible load as a distinct category, with network impact assessed by reference to the applicant's declared and verifiable operating profile rather than nameplate capacity alone.

- **Strengthen the negotiate-arbitrate framework for large flexible load connections.** The Commission should consider mechanisms to make the dispute resolution mechanism more accessible and less commercially risky for prospective connectors. Options include AER-published guidance on what constitutes a reasonable offer for an HFL connection, expedited dispute resolution for connection disputes involving qualifying flexible loads, and confidentiality protections that reduce the reputational cost to a connecting party of triggering the mechanism.

Question 4.3: Are there any other service regulation related issues with the connection and/or facility access arrangements that you think we should consider in the review?

We note that the Consultation Paper's connection and facility access discussion focuses predominantly on kerbside Electric Vehicle Charging Infrastructure (EVCI), community batteries, and Consumer Energy Resources (CER). Large flexible industrial loads are a distinct category with different technical and commercial characteristics, and warrant explicit consideration in the Commission's analysis of connection framework reform. The barriers described above apply irrespective of whether the connection is at the distribution or transmission level. This is not a minor qualification: some of Antora's planned Australian installations may connect at the transmission level, and a connection framework focused primarily on distribution-connected CER would leave the most capital-intensive category of flexible load without a regulatory home.

SECTION 3: COST ALLOCATION AND SHARED ASSET ARRANGEMENTS (QUESTION 5)

Question 5.1: Do you think that changes should be made to the cost allocation and/or shared asset arrangements? If so, what changes are required?

Question 5.3: Do you think that the allocation of costs for shared assets should be revisited over time?

Yes. We raise a specific cost allocation issue arising at shared connection points, distinct from the multi-service asset question the Consultation Paper focuses on but reflecting the same underlying concern that the current allocation approach is not fit for the more dynamic patterns of network use emerging from the energy transition.

When a flexible load connects at a shared network asset alongside other loads, augmentation costs driven by peak demand growth are typically allocated by reference to nameplate or contracted maximum demand, without adjustment for the actual peak demand contribution of individual connected loads. For a flexible load that commits to and demonstrates zero consumption during peak demand events, this allocation does not reflect cost causation. A load that never draws power during the peak events driving augmentation makes no contribution to that augmentation requirement, and allocating augmentation costs to it on a nameplate basis over-allocates cost to a load whose operating profile does not cause it.

3.1 Proposed reform: peak-contribution-based augmentation cost allocation

We propose the Commission clarify, in its Package 1 cost allocation guidance, that where a load (a) holds an FCS classification and (b) has a verified record of zero consumption during the peak demand events driving an augmentation requirement at a shared network asset, augmentation costs should be allocated by reference to the load's demonstrated coincident peak demand contribution rather than its nameplate or contracted capacity.

This reform does not require a change to the general cost allocation framework. It applies the existing principle of cost causation to the specific circumstances of a verified flexible load. It is

complementary to, and does not depend on, the tariff design reforms Antora intends to raise in Package 2. It is a one-off cost allocation decision at the time of augmentation, not an ongoing tariff-setting question.

SECTION 4: ASSESSMENT CRITERIA (QUESTION 12)

We support the five proposed assessment criteria and consider them appropriate for both the Review and the associated rule change requests. In particular, we welcome the explicit inclusion of **emissions reduction** as an assessment criterion, which we consider essential given the direct impact that service classification and connection framework decisions have on the pace and cost of industrial electrification.

We suggest one refinement: the **principles of market efficiency** criterion should explicitly consider dynamic efficiency in the *use* of electricity network assets, not only in their provision. A framework that enables higher utilisation of existing network assets by dispatchable flexible loads delivers efficiency benefits that are currently not captured in criteria focused primarily on the provision of services by NSPs.

Conclusion

Package 1 of the ENRR is the right vehicle to address the service classification, connection framework, and cost allocation gaps that currently prevent large flexible industrial loads from accessing terms reflecting their demonstrated flexibility. The three reforms we propose are modest, NER-grounded reforms that operate within the existing architecture and would materially reduce the regulatory barriers to industrial electrification.

We recognise that the broader questions of tariff design and NSP incentives are equally important to unlocking eTES at industrial scale, and will be addressed in Package 2 of the ENRR. Appendix A summarises early considerations for Package 2. We look forward to engaging with the Commission substantively when that consultation opens.

We welcome the opportunity to discuss this submission in further detail and are available to participate in any Stakeholder Reference Group established for the Review.

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APPENDIX

SECTION A: BROADER CONTEXT: TARIFF DESIGN AND NSP INCENTIVES (FOR PACKAGE 2 CONSIDERATION)

The Flexible Connection Service classification proposed in the main submission addresses the connection framework barrier to large flexible load deployment. However, connection classification alone is not sufficient to produce cost-reflective outcomes for HFL-qualifying loads. Two further reforms are required, both of which sit within Package 2's scope and on which Antora intends to submit substantively when EPR0201 opens.

A.1 Tariff design

Under current tariff structures, an eTES system that flexibly charges at a rate of 20 MW and avoids system peaks pays the same aggregate network charges as an inflexible 20 MW load that consumes continuously through system peaks. This is a disproportionate allocation of system costs. Antora has modelled that current network tariff charges represent approximately 25–40% of total electricity costs for industrial flexible eTES systems across the NEM. Addressing this requires tariff structures that:

- apply demand charges based on coincident demand during designated system peak windows only, rather than non-coincident maximum demand or a contract maximum demand value;
- apply energy and volumetric charges that reflect the materially lower network cost of off-peak, curtailment-absorbing consumption.

We note that NER clause 6.18.5(g)(3) already requires DNSP tariffs to minimise distortions to network tariff price signals for efficient usage, and that clauses 6A.23.4(e)–(f) provide analogous principles at the transmission level. In our view, the existing NER principles should already produce cost-reflective tariff structures for HFL-qualifying loads; the gap is in their operationalisation. Package 2 is the appropriate venue to address this.

A.2 NSP incentive alignment

The ex-ante incentive-based regulatory framework remunerates NSPs through an AER-approved allowed revenue determination based on forecast efficient capex and opex. Under this structure, an NSP offering an HFL connection at terms reflecting its lower network cost profile foregoes revenue within the current regulatory period, while the network investment savings that the flexible load enables only flow through to allowed revenue at the following determination. This timing mismatch produces a within-period incentive gap that discourages NSPs from actively offering flexible connection products.

We consider that a **Demand Flexibility Performance Incentive**, designed analogously to the CESS and EBSS as a within-period sharing mechanism, and calibrated using the AER's existing methodology for pricing avoided augmentation costs in the non-network options context, would appropriately address this incentive gap without duplicating the capex-avoidance benefit that already flows through to consumers at the next determination.

Both reforms are complementary to, and not substitutes for, federal mechanisms supporting industrial electrification (including the Capacity Investment Scheme and the CER Roadmap). Network tariff and NSP incentive reform addresses barriers that federal capital or operating support mechanisms are not designed to resolve.

SECTION B: HIGHLY FLEXIBLE LOAD QUALIFYING CRITERIA (FOR AER GUIDELINE DEVELOPMENT)

For the Commission's reference, we set out below a concrete starting point for the qualifying criteria that the AER's HFL Guideline could specify. These criteria are carried forward from our February 2026 EPR0097 submission and adapted for the ENRR's service classification implementation pathway.

- **Curtailability.** Demonstrated technical capability for load curtailment to zero within a single 5-minute NEM dispatch interval, in automated response to market signals and under direction from the relevant DNSP, TNSP, or AEMO. Curtailability must be contractually committed under the Flexible Connection Service agreement.
- **System peak avoidance.** Demonstrated commitment to reduce consumption to zero during designated system peak windows (as defined by the relevant NSP's peak notification methodology, or as specified in the AER HFL Guideline). Compliance assessed annually against interval metering data.
- **Charging concentration.** Consumption concentrated in the lowest-price third of seasonal dispatch intervals, measured against the AEMO-published Regional Reference Price for the relevant NEM region, assessed annually.
- **Monitoring and compliance.** Interval metering with data accessible to the relevant NSP and to the AER for annual compliance assessment. Where a flexible load shares a meter point with other site load, sub-metering is sufficient, subject to existing data consent frameworks.
- **Non-compliance consequences.** Where compliance assessments demonstrate that an HFL customer has materially breached its curtailability, peak avoidance, or charging concentration commitments, the AER HFL Guideline should specify retrospective retariffing to the applicable standard tariff for the non-compliance period, together with a materiality threshold below which minor operational variances do not trigger reclassification. Repeated or sustained non-compliance should result in loss of HFL classification and reversion to standard connection terms.