

New Energy Storage Devices Waiver Application

This application is for DNSPs who wish to apply for a waiver of its obligation under clauses 3.1, 4.2.1 and 4.2.2 of the Electricity Distribution Ring-fencing Guideline in respect of a New Energy Storage Device and believe they meet the criteria for a streamlined waiver as set out in Explanatory Statement to the guideline (Version 3). If applying for a waiver of obligations other than clause 3.1, 4.2.1, or 4.2.2, a full waiver assessment process will be needed.

Please attach any relevant documents.

Applicant Information

1	Name(s)	AusNet Electricity Services Pty Ltd / ABN 91 064 651 118
2	Project description	<p>This project will deploy pole-top network-owned batteries with priority network use, including for maintaining reliability, improving export hosting capacity and emissions reduction, as well as trial the value of leasing the remaining capacity to a third party to extract other customer value streams, including for example trialling innovating battery capacity sharing schemes among customers.</p> <p>The project is co-funded by the Victorian Government through its Neighbourhood Battery Initiative program, which supports a range of neighbourhood battery models in Victoria, from feasibility to implementation.</p> <p>The project includes pole-top batteries at ten locations, which have selected based on highest network benefits opportunities, based on criteria described below:</p> <ul style="list-style-type: none"> • high solar penetration and high reverse flow, including high number of customer solar constraints • load capacity constraint (substations of $\geq 300\text{kVA}$ with a consistent history of overloads over the last five years). • number of customers supplied per LV network (>100). <p>The batteries will be installed in:</p> <ul style="list-style-type: none"> • Heathmont • Coldstream • Diamond Creek • Wantima • Wantima south • Knoxfield

- Traralgon
- Ferntree gully
- Lysterfield
- Smith's Beach

The batteries are 40kVA/85kWh LV pole-mounted lithium iron phosphate (LFP) with a combined power rating of 400kVA and a storage capacity of 850kWh. Please see the specification table below.

SPECIFICATION	VALUE
Apparent Power Rating	40 kVA
Energy Rating	85 kWh
Real Power Rating	-40 kW to 40 kW
Reactive Power Rating	-40 kVAr to 40 kVAr
Ambient Temperature	-10°C to 50°C
Battery type	Lithium-ion LFP

The operation of the battery will be shared between AusNet and the third party leasing the battery, with priority given to network services. The network services, and anticipated third party commercial services, are listed in the table below.

Network (AusNet)	Market partner [REDACTED]
<ul style="list-style-type: none"> • Manage maximum and minimum demand. • Provide voltage regulation. • Manage existing zero export limits and enable future solar connections 	<ul style="list-style-type: none"> • Wholesale market arbitrage • Frequency control ancillary services (FCAS) market • Storage service for customers

We are offering up to 90% of the energy capacity (1 cycle per day) for 97% of the time per year to our market partner. AusNet will have full control for ~10 days per year to manage minimum and maximum demand. While the use of the battery by the network may be less frequent, the primary use of the battery is for network services and that is the largest quantified benefit, as explained in the cost allocation section. In addition, we set passive battery settings such that they provide passive voltage support at all times, which will

3	Reason for waiver	enable greater exports. This is not included in the calculation of the shared capacity of the battery.		
		<table><tr><th>Network</th><th>Market partner</th></tr><tr><td><p>When the network takes control, we are likely to</p><ul style="list-style-type: none">fully charge the battery prior to a maximum demand and discharge it during peak demand.fully discharge the battery and charge during minimum demand.<p>Voltage regulation is passive and will be on 24/7, largely achieved through injecting and absorbing reactive power, it will result in a reduction in active power output.</p></td><td><p>The kWh utilisation of the batteries will be up to the retailer and will depend on how they want to charge the battery to solar soak, discharge it during evening peak and participate in FCAS. Our battery tariffs will incentivise the retailer to relieve some constraints on the network allowing for more energy to flow.</p></td></tr></table>	Network	Market partner
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4	Period of the waiver	<p>The project is trialling the value customers can receive from sharing of a network-owned battery with a third party contestable service provider. Without the waiver, we would not be able to unlock the full value stream from the ten batteries. The full list of benefits anticipated under this project are outlined in section 7.</p> <p>2024 – 2035</p> <p>We propose that the waiver commences immediately upon commissioning of each BESS (expected later 2024/ early 2025) and expires by 31st December 2035, which aligns with the operational lifespan of the BESS and expected expiration of our contract to lease capacity to the third party.</p>		
5	Clauses to be waived	Clause 3.1, 4.2.1, 4.2.2		

Supporting information for waiver application

This section is to provide information that will assist the AER's assessment of whether the benefits outweigh the costs for the battery project.

6	Costs if waiver not granted	<p>If Ausnet owned and operated the batteries without the waiver, customers will not be able to extract the full value stack from the battery. The battery could be used for network services, but it will not be possible to extract further benefits. Therefore, this would not be the most efficient use of the battery, and there is opportunity costs avoided from the higher utilisation of the battery and value</p>
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7 **Benefits if waiver granted**

streams that can be unlocked through participation in contestable markets.

A longer term potential costs if the waiver is not granted is a slower development of the pole-top battery market, which may result in higher long term costs to customers. As part of the energy transition, significant storage is needed to manage growing renewable generation, including rooftop solar. By limiting the value that can be extracted from batteries, the battery market will likely take longer to develop in Australia.

Granting the waiver will allow us to explore ways to value stack and utilise network batteries to deliver better outcomes for customers. By granting the waiver, the project can deliver the following benefits for customers:

- **Efficient provision of network services, including improved reliability, managing solar export capacity and emissions reduction**—the ten sites were selected based on analysis of LV network areas where pole-top batteries are likely to extract most value, with regard to managing peak load, voltage performance and unlocking more export capacity. The outcomes of the analysis are attached in Attachment 1.
- **Understand how additional values can be created through commercial arrangement with market partners and identify optimal business model for network batteries to maximise customer and network benefits**—batteries are currently still relatively expensive as an investment in a single use (e.g., network services only), so there remains a need to value stack in order to get the economic value from the investment. This project allows us to test the value that is likely to be extracted from a network-owned battery that is leased for contestable services. The project will be one of different business models tested by the Victorian Government through their NBI program, where they will compare the different business models.
- **Provide an evidence base to support various battery uses in the future**—this project will provide evidence of the value stack that can be unlocked through this type of batteries and business model, which will inform the future use of batteries, potentially as a viable alternative option to alleviate network constraints while delivering greater value to customers through other value streams. This project will be one of many considered as evidence by the Victorian Government NBI program, and Federal Government's Community Batteries for Household Solar program.

These benefits contribute to achievement of the National Electricity Objective with respect to delivering reliability benefits

and achievement of emissions reduction targets. The benefit of the trial contributes to achievement of the price objective by delivering value to customers and the market through various streams, including avoided network augmentation, unlocking more value from exports and by leasing the batteries to a market partner, aims to realise the full value stack of battery and validate different use cases.

The table below summarises the quantified benefit and value of the ten pole-top batteries. The total quantified value of the ten batteries is presented as the value of network benefits and the lease value from a contestable services provider. As the table shows, network value is [REDACTED] of the total value of the ten batteries.

Table 1: Quantified value of the ten batteries

Deferred network augmentation - Deferred installation of new pole-mounted transformers and re-configuration of LV network.	[REDACTED]
Reliability improvement - Improved network performance, measured by reduced energy at risk due to thermal overloads.	[REDACTED]
Customer export curtailment - Remove existing export limits and improve solar hosting capacity for future solar connections. Measured by using the AER's Customer Export Curtailment Value (CECV).	[REDACTED]
Emissions reduction through reduced line losses and solar generation enablement. Measured using the AER's recent Value of Emissions Reduction (VER).	[REDACTED]
Total value of network benefits	[REDACTED]
Lease value	[REDACTED]
Total value of the ten batteries	[REDACTED]

The quantified value is used in the determination of the cost allocation of the battery project, as described in the sections below. Please see Attachment 2 for details behind the quantified benefits modelling.

Evidence demonstrating that the risk of cross subsidisation is sufficiently addressed or does not arise

Applications that sufficiently address risk of cross subsidisation or where the risk does not arise could be eligible for the streamlined waiver process.¹

8 Cost Allocation²

We are proposing a cost allocation that is consistent with the AER's Guidance note for DNSP-led projects funded under the Australian Government's Community Batteries for Household Solar Program (guidance note).³ We consider this cost allocation methodology delivers value to customers consistent with similar projects under the class AER class waiver for community batteries for household solar program.

As per the guidance note, our cost allocation looks at the share of network benefits of the total value and determines the cost to AusNet customers based on that share, adjusted for government funding. AusNet is also using the Demand Management Innovation Allowance (DMIA) funding for a portion of the cost of battery, due to the innovative nature of the project.

The share of the network benefit of the total value, as per table 1, is [REDACTED] which is disproportionately higher than the share of total use of the battery by the network compared to the use of the battery by the third party leasing the battery. This is because the highest benefit is extracted through operation of the battery at highest risk periods – e.g., highest peak demand days or lowest minimum demand days – which only occur a few times a year. The value is also extracted from the passive operation of the battery, which is not included in the battery capacity sharing analysis. Finally, the value placed on the battery for contestable services is provided by the market through the market testing process we undertook (see details below). That is a key input into the total value of the battery, and the determinant of the network/market share of the value.

¹ AER, *Electricity Distribution Ring-fencing Guideline – Explanatory Statement (Version 3)*, p 29-31.

² For information on cost allocation methods, see AER, *Electricity Distribution Ring-fencing Guideline – Explanatory Statement (Version 3)*, p 35-36.

³ AER, Guidance note, Distribution ring-fencing class waiver for DNSP-led projects funded under the Australian Government's Community Batteries for Household Solar Program, February 2023.

Table 2 summarises the total cost of the project and table 3 summarises the cost allocation, based on the AER’s guidance note.

Table 2: Project cost breakdown

* Note: the leasing revenue is based on the estimated cost provided at EOI stage. This will be finalised and updated over the next couple of months before contract signed. We are not expected to change materially and we will communicate the final value with the AER.

Table 3: Cost allocation

Allocation	Cost	% total
RAB		
DMIA		
Thid party lease		
Government funding		

As table 3 shows, the total RAB allocation and DMIA funding as a share of total cost are less than the share of network benefits as a proportion of the total value of the project. We have allocated 100% of the government funding to cover the network cost of the project. This is to ensure AusNet customers benefit from the Victorian government funding support for the project. As a result, the value of the asset which will roll in to the RAB represents a proportion equal to the value of benefit to network customers (excluding the grant funding). We have addressed the risk of cross subsidisation as our customers are not paying for more than the value they are receiving from the assets. This is aligned with the cost allocation method

		<p>outlined in AER's guideline for class ring-fencing waiver for Batteries funded under the Commonwealth Government's Community Batteries for Household Solar Program.</p> <p>We ran a competitive tender process to engage a third party market partner, which is described below</p> <p>The tender was run through our Non-network opportunities site⁴ and email notifications to relevant parties (mainly energy retailers and active parties in the demand management space). We received 4 expressions of interest, and selected the preferred suppliers based on the following criteria:</p> <ul style="list-style-type: none"> • value of lease proposed • scope of products and service they can offer • experience in similar initiatives • ability to deliver within expected timeframes. <p>Our chosen partner, [REDACTED] met our expectations on the above criteria.</p> <p>Process to procure batteries</p> <p>A market search was conducted, followed by consultations with internal stakeholders and other Distribution Network Service Providers (DNSPs), [REDACTED] chosen to be the battery supplier. The chosen Australian designed and made battery is a mature technology and has been deployed by distributors in NSW and Queensland. .</p>
9	Process to engage third party suppliers of network services⁵	<p>We did not test the market for network services as part of this project, as the project was initiated for the purposes of testing network-owned and operated batteries, under the Victorian Government NBI grant funding.</p>
10	Any other information	<p>As in similar ring-fencing waivers, we will adhere to the outlined conditions to ex-post public sharing of information about the battery uses and trial learnings, independent assessment in our annual ring-fencing compliance assessment, and provide the AER with information on our contractual relationship with our retail partner.</p>

⁴ [Non-network opportunities - Ausnet \(ausnetservices.com.au\)](https://www.ausnet.com.au/non-network-opportunities) Past Opportunities LV Pole mounted battery project

⁵ AER, *Electricity Distribution Ring-fencing Guideline – Explanatory Statement (Version 3)*, p 34-37.