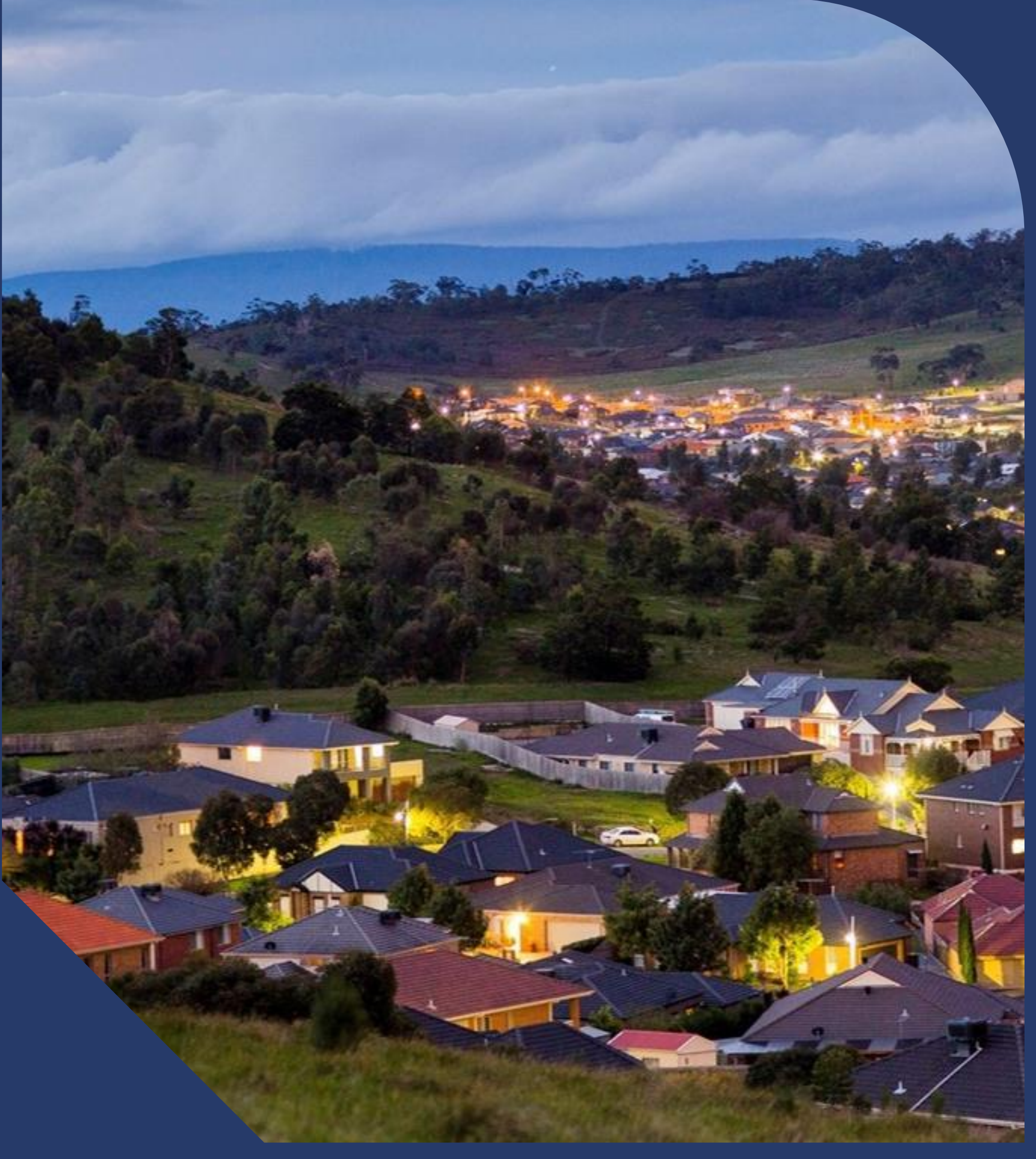
AusNet

REFCL Bairnsdale (BDL) augmentation project

Regulatory Investment Test for Distribution

Notice of Determination under clause 5.17.4(d) of the National Electricity Rules

Friday, 3 October 2025



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1. Introduction

AusNet is a regulated Victorian Distribution Network Service Provider (DNSP) that supplies electrical distribution services to more than 809,000 electricity customers. Our electricity distribution network covers eastern rural Victoria and the fringe of the northern and eastern Melbourne metropolitan area.

As expected by our customers and required by the various regulatory instruments that we operate under, AusNet aims to maintain service levels at the lowest possible cost to our customers. To achieve this outcome, we develop forward looking plans that aim to maximise the present value of economic benefit to all those who produce, consume and transport electricity in the National Electricity Market (NEM).

Our approach is to consider network and non-network options on their merits, so that we meet our customers' needs and our compliance obligations at the lowest total cost. Where applicable, we also prepare, publish, and consult on a regulatory investment test for distribution (RIT-D), which further helps ensure all credible options are identified and considered, and the best option is selected.

The Rapid Earth Fault Current Limiter (REFCL) reduces the risk of powerlines starting bushfires by rapidly limiting the current that is released in a phase to earth fault. The installation of REFCLs is driven by the Electricity Safety (Bushfire Mitigation) Regulations 2023 (the Regulations), which require us to meet the "required capacity" at zone substations that are listed in Schedule 1, which includes Bairnsdale zone substation (BDL). At present, REFCLs are the only technology available that is capable of achieving the "required capacity", as defined by the Regulations.

In April 2021, AusNet achieved compliance with the Regulations at BDL through the installation of two REFCLs. However, subsequent network growth at BDL means that action must be taken to maintain compliance. The nature of the compliance obligations and the particular circumstances at BDL have led us to conclude that there are no credible non-network or Standalone Power System (SAPS) options capable of addressing this identified need.

In accordance with clause 5.17.4(d) of the National Electricity Rules (NER), therefore, this document is the notification of our determination that there are no credible non-network or SAPS options. Consequently, AusNet will not publish an Options Screening Report as part of the RIT-D for the REFCL BDL augmentation project.

This notice provides background information which explains the identified need and outlines the reasons for AusNet making its determination, along with the methodologies and assumptions that underpin this determination.[1] The next stage of the RIT-D process will be the publication of the Draft Project Assessment Report (DPAR), which AusNet intends to publish in October 2025.

1 In accordance with clause 5.17.4(d) of the National Electricity Rules.

2. Project background

2.1. Current circumstances at BDL

The installation and application of REFCL technology at 22 AusNet zone substations was mandated the Victorian Government through the enactment of the Electricity Safety (Bushfire Mitigation) Amendment Regulations in 2016. BDL is one of the 22 zone substations in AusNet's service area where the Regulations and the following requirements apply:

- each polyphase electric line originating from a listed zone substation must have the "required capacity" specified in the Bushfire Mitigation Regulations;
- testing for the "required capacity" must be undertaken before the specified bushfire risk period each year and a report detailing the results of testing submitted to Energy Safe Victoria (ESV); and
- each new or replaced line with a nominal voltage from 1 kV to 22 kV inclusive must be covered or undergrounded in prescribed electric line construction areas.

The "required capacity" for a polyphase line originating from a selected zone substation is defined by the legislation as follows:

> …in the event of a phase-to-ground fault on a polyphase electric line, the ability—
>
> (a) to reduce the voltage on the faulted conductor in relation to the station earth when measured at the corresponding zone substation for high impedance fault to 250 volts within 2 seconds; and
>
> (b) to reduce the voltage on the faulted conductor in relation to the station earth when measured at the corresponding zone substation for low impedance faults to—
>
> (i) 1900 volts within 85 milliseconds; and
>
> (ii) 750 volts within 500 milliseconds; and
>
> (iii) 250 volts within 2 seconds; and
>
> (c) during diagnostic tests for high impedance faults, to limit—
>
> (i) fault current to 0.5 amps or less; and
>
> (ii) the thermal energy on the electric line to a maximum I2t value of 0.10 units.

To comply with the Regulations, AusNet completed its REFCL installation program in three tranches. The required works at BDL were completed in April 2021 as part of Tranche 2. These works included the installation of two REFCLs that have a combined capacitive current limit of 225A.

Subsequently, customer growth in the service area served by BDL means that capacitance exceeds the existing 225A limit, with the latest measured capacitive current being 273A and forecast to increase further. Compliance with the Regulations is currently achieved by manually adjusting the set point below the acceptable minimum of 11 volts. This value represents the lowest setting AusNet will operate REFCLs to ensure reliability on Total Fire Ban days. Operating below this setting requires active and dynamic monitoring of the station by a dedicated resource on Total Fire Ban days. If not addressed, additional network growth, particularly with underground cables, will mean the existing REFCL performance at BDL will become non-compliant and will be unable to reduce bushfire risk as intended.

2.2. Identified need

The area served by BDL has experienced significant network growth, which is expected to continue. This growth, which includes additional underground networks, means that the combined capacity current limit of 225A provided by the existing REFCLs is no longer adequate. As a consequence, future compliance with the Regulations cannot be maintained at BDL in the absence of remedial action. The identified need, therefore, is to maintain compliance with the Regulations at BDL so that bushfire risk is reduced in the affected communities in accordance with the purpose of the Regulations.

As the identified need is driven by a compliance obligation, it is a 'reliability corrective action', which is defined in the NER as follows:

> "means investment by a *Transmission Network Service Provider* or a *Distribution Network Service Provider* in respect of its *transmission network* or *distribution network* for the purpose of meeting the service standards

> linked to the technical requirements of schedule 5.1 or in *applicable regulatory instruments* or *SAPS performance and supply standards* and which may consist of *network options* or *non-network options*."

The Regulations fall within the definition of an *applicable regulatory instrument* and, therefore, the identified need is for reliability corrective action.

2.3. Assumptions and methodology

The principal assumptions underpinning the identified need are:

- the Regulations will continue to apply at BDL. We regard this assumption as reasonable, given the continuing importance of mitigating bushfire risk; and
- the projected increase in network growth requires remedial action in order to maintain compliance with the Regulations. We regard this assumption as reasonable, as the existing capacitance exceeds the 225A limit and network growth, including through new connections, is expected to continue in the area served by BDL.

In conducting the cost benefit analysis, our methodology will consider:

- the available options to maintain compliance at BDL; and
- the costs of each option.

AusNet notes that as the identified need is for reliability corrective action, the preferred option does not need to provide a positive net market benefit in order to satisfy the RIT-D. Our cost-benefit analysis will be presented in the DPAR, which is the next stage of the RIT-D.

3. Regulatory obligations

In addressing the identified need, we must satisfy our regulatory obligations, which we summarise below.

Clause 6.5.7 of the NER requires AusNet to only propose capital expenditure required to achieve each of the following:

(1) meet or manage the expected demand for standard control services over that period;

(2) comply with all applicable regulatory obligations or requirements associated with the provision of standard control services;

(3) to the extent that there is no applicable regulatory obligation or requirement in relation to:

(i) quality, reliability or security of supply of standard control services; or

(ii) the reliability or security of the distribution system through the supply of standard control services

to the relevant extent:

(iii) maintain the quality, reliability and security of supply of standard control services, and

(iv) maintain the reliability and security of the distribution system through the supply of standard control services; and

(4) *maintain the safety of the distribution system through the supply of standard control services*

(5) contribute to achieving emissions reduction targets through the supply of standard control services.

Section 98(a) of the Electricity Safety Act requires AusNet to design, construct, operate, maintain and decommission its supply network to minimise as far as practicable:

(a) the hazards and risks to the safety of any person arising from the supply network; and

(b) the hazards and risks of damage to the property of any person arising from the supply network; and

(c) the bushfire danger arising from the supply network.

The Electricity Safety act defines 'practicable' to mean having regard to –

(a) severity of the hazard or risk in question; and

(b) state of knowledge about the hazard or risk and any ways of removing or mitigating the hazard or risk; and

(c) availability and suitability of ways to remove or mitigate the hazard or risk; and

(d) cost of removing or mitigating the hazard or risk.

As already noted, the Bushfire Mitigation Regulations impose technical obligations on AusNet, which includes a requirement that each polyphase electric line originating from BDL must have the "required capacity" described in Section 2 of this document.

4. Screening for Non-network Options

As detailed in section 2, the identified need in relation to REFCL BDL augmentation project exposes AusNet to the risk of non-compliance with the Regulations, with a consequential impact in relation to increased bushfire risk. AusNet has concluded that the identified need cannot be addressed by a non-network or SAPS option. In particular, as the risk of non-compliance has been caused by network growth in the area served by BDL since 2021, it would not be feasible to reduce the impact of this growth, and future projected growth, to maintain compliance with the Regulations. While SAPS will play an increasingly important role in AusNet's network investment decisions, a SAPS solution will not be able to address the capacitance issues at BDL to achieve compliance with the Regulations.

Accordingly, we have concluded that there are no credible non-network or SAPS options to address the identified need in relation to the REFCL BDL augmentation project. In accordance with the NER requirements, our conclusion reflects our assessment of that compliance with the Regulations at BDL cannot be maintained in the absence of taking remedial action in the form of network augmentation.

5. Next steps

For the reasons set out in Section 4, AusNet has determined that there will not be a non-network option or a SAPS option that is a potential credible option, or that forms a significant part of a potential credible option, to address the identified need in relation to the REFCL BDL augmentation project. In accordance with clause 5.17.4(c) of the NER, therefore, AusNet will not be publishing an Options Screening Report as part of the RIT-D for the REFCL BDL augmentation project.

Any questions on the matters discussed in this determination notice should be submitted by email to ritdconsultations@ausnetservices.com.au

The next stage of the RIT-D process will be the publication of the DPAR, which is required to provide the information set out in clause 5.17.4(j) of the NER, including:

- A description of the identified need for investment.
- The assumptions used in identifying the need for investment, including the reasons why AusNet considers the subject of this RIT-D requires reliability corrective action.
- A description of each credible option assessed, and their costs, that AusNet considers could potentially address the identified need.
- The results of our net present value analysis and accompanying explanatory statements regarding the results.
- Identification of the proposed preferred option that meets the identified need and the RIT-D requirements.
- The contact details for a suitably qualified staff member to whom queries on the draft report may be directed.

AusNet intends to publish the DPAR in relation to the REFCL BDL augmentation project in October 2025.

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