AusNet

Planning Report – Traralgon (TGN) Zone Substation

AMS 20-263-2 – Electricity Distribution Network

Friday, 31 January 2025

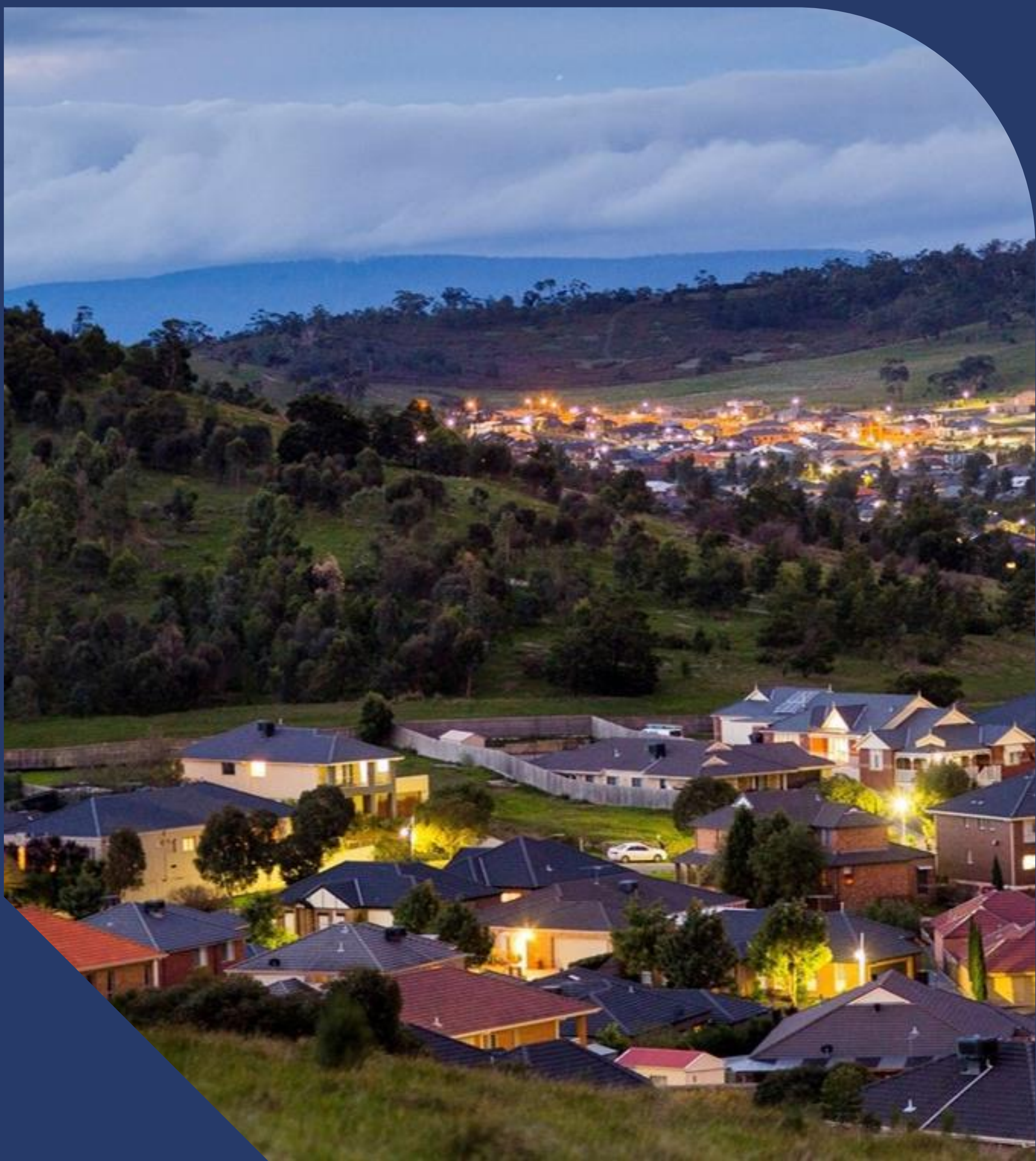

Table of contents

1. Executive summary

AusNet is a regulated Victorian Distribution Network Service Provider (DNSP) that supplies electrical distribution services to more than 800,500 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 that we operate under, AusNet aims to maintain service levels at the lowest possible cost to our customers. To achieve this, 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).

This report presents our forward looking investment plans to manage the existing and emerging service level constraints in the Traralgon (TGN) Zone Substation supply area to ensure that we maintain service levels to our customers over the short and long term. The report outlines how we quantify service risk, identifies and assesses the costs and benefits of potential options to mitigate the identified risks, and provides forward looking plans outlining the optimal service risk mitigation solutions, and timing of those solutions, to maintain service levels.

During the 2021-2026 EDPR period, work was undertaken to replace the 66kV circuit breakers and the No.2 and No. 3 transformers. Part of the submission identified the need to also replace the 22kV switchgear and aging transformers. This document re-evaluates the second stage of the TGN rebuild to determine if the work is still economically feasible in the 2026-31 regulatory period.

1.1. Identified Need

Traralgon Zone Substation (TGN) commenced operation as a 66/22kV transformation station in 1969. There will be two 20/33 MVA transformers, one of which will replace the current two 10/13.5 MVA units in 2026, and one 20/33 MVA transformer, manufactured in 2012.

The 22kV switchyard consists of one indoor switchboard with four feeders installed in 2013, and three outdoor 22kV busses with four feeder circuit breakers (CBs) installed in 1969.

The 66kV switchyard has had some modifications since the site was established, and now consists of two 66kV lines to MWTS and one line to Maffra (MFA) one Substation.

Two of the 66kV circuit breakers were installed in 1977 are being replaced in 2026, while the other two were installed in 2013 when the new 20/33 MVA transformer was installed. A 66kV ring bus is also being commissioned at TGN and will be completed by September 2026

The physical and electrical condition of some assets has deteriorated and they now present an increased failure risk.

The key service constraints at TGN are:

- Security of supply risks presented by increasing likelihood of asset failure due to the deteriorating condition of the assets;
- Health and safety risks presented by a possible explosive failure of bushings on a number of the assets;
- Plant collateral damage risks presented by a possible explosive failure of a number of the assets;
- Environmental risks associated with insulating oil spill or fire;
- Reactive asset replacement risks presented by the increasing likelihood of asset failure due to the deteriorating condition of the assets;
- Health and safety risks presented by exposed live terminals at the rear of the secondary panels in the control room; and
- Health and safety risks presented by asbestos containing cement sheets or electrical switch boards in the control building, store room and toilet.

1.2. Proposed Preferred Option

Analysis identifies that the preferred option, being the one that maximises the net economic benefit to all those that produce, consume and transport electricity in the NEM, is to:

- Replace 22kV switchgear by 2029, at an estimated capital cost of [CIC] million (Real $2024).

Applying a discount rate of 5.56% per annum, this proposed preferred option has a net economic benefit of [CIC] million, relative to the Do Nothing Different option, over the forty-five-year assessment period.

While the optimal timing of the proposed preferred option is by 2026, to allow sufficient time to complete the regulatory investment test for distribution (RIT-D), and to smooth the overall network capital expenditure, AusNet plans to begin implementing the proposed preferred option by 2028.

1.3. Next Steps

This planning report outlines the service level risk mitigation investment that AusNet has assessed as prudent, efficient and providing the optimal balance of supply reliability and cost.

While this report outlines AusNet' plans for maintaining service levels, and serves to support AusNet' revenue request for the 2026-31 regulatory period, the proposed investment is subject to the regulatory investment test for distribution (RIT-D).

As such, the proposed investment will be confirmed via the formal RIT-D process, which includes publication of three reports at the various RIT-D stages, and includes a formal consultation process where interested parties can make submissions that help identify the optimal solution.

2. Introduction

2.1. Purpose

This planning report outlines asset condition, asset failure risks and network development plans relevant to TGN for the period from 2026 to 2031. It provides an analysis of viable options to address the identified risks and maintain the efficient delivery of electrical energy from TGN consistent with the National Electricity Rules (NER) and stakeholder's requirements. It also summarizes the scope, delivery schedule and expenditures associated with the most economical solution to emerging constraints.

2.2. Scope

The scope of this planning report is limited to the equipment within Traralgon (TGN) Zone Substation. It excludes sub-transmission and distribution feeders entering and exiting the zone substation.

2.3. Asset Management Objectives

The high-level asset management objectives are outlined in AMS 01-01 Asset Management System Overview.

The electricity distribution network objectives are stated in AMS 20-01 Electricity Distribution Network Asset Management Strategy.

3. Background

3.1. Substation Description

Traralgon (TGN) is located approximately 170km east of Melbourne (VicRoads map reference 343 M-7) and is the main source of supply for Traralgon, Glengarry, Calilgnee, Gormandale, Rosedale and surrounding areas. TGN is located at an elevation of 60m above sea level. TGN has a summer average maximum temperature of 26°C and a winter average minimum temperature of 4.1°C. Extreme temperatures reach 46.3°C in summer and -4.8°C in winter. The mean rain fall varies from 37.2mm to 60.1mm per month within a year.

TGN supplies approximately 18,815 customers. The load at TGN includes town and rural based residential, with some town based commercial, industrial and farming.

The location of TGN within the AusNet distribution network is shown in Figure 1.

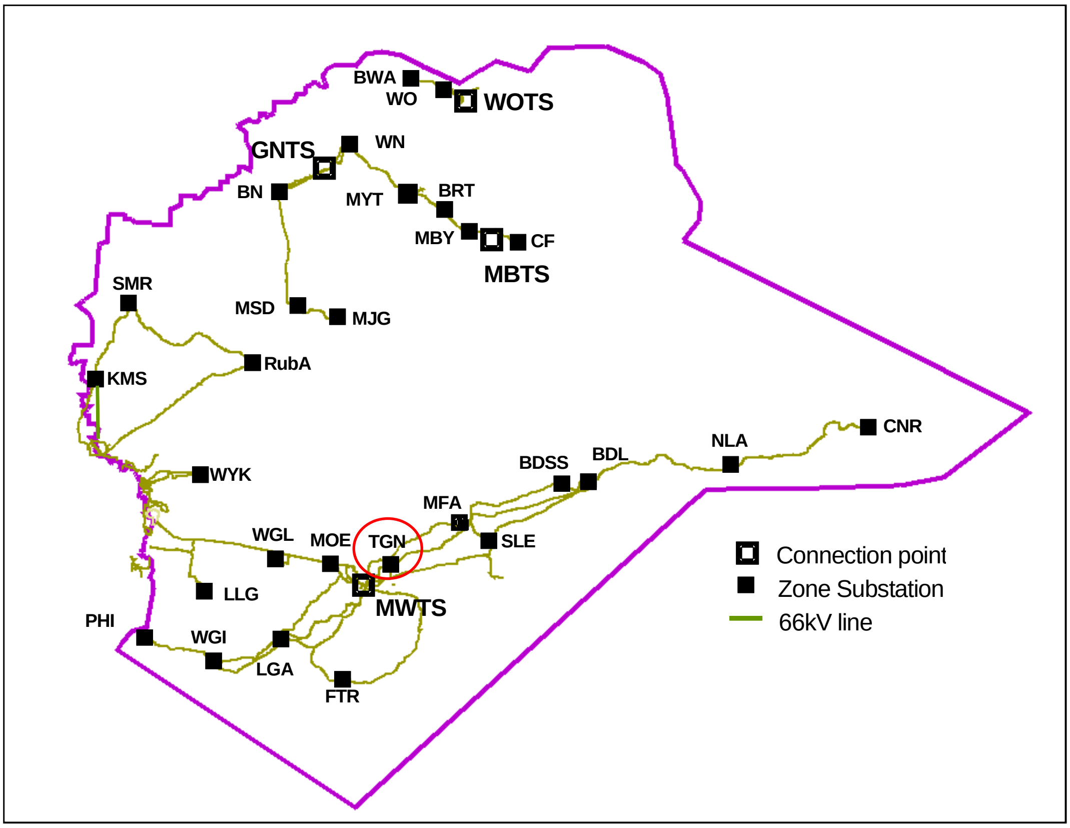

Figure 1: TGN location within AusNet network

TGN is supplied via three 66kV circuits, two of which come from Morwell Terminal Station (MWTS) and the third from Maffra (MFA) zone substation.

The configuration of primary electrical circuits within TGN is as shown in the following single line diagram Figure 2.

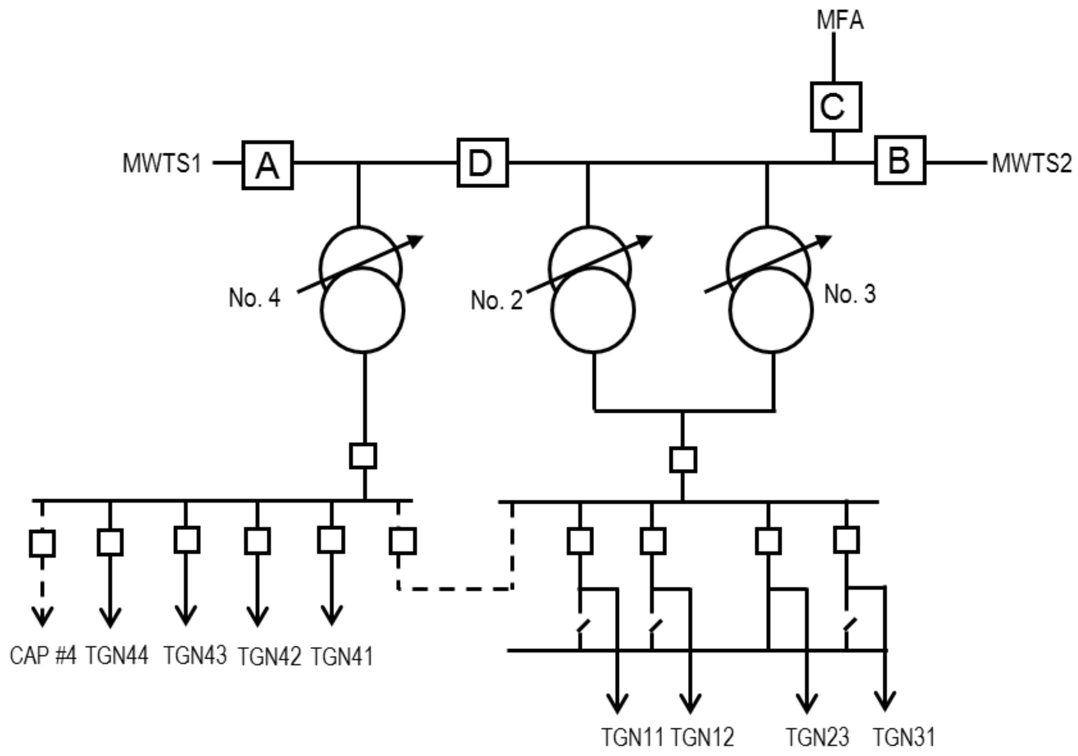

Figure 2: Single Line Diagram of TGN

3.2. Customer Composition

TGN has eight 22kV feeders supplying AusNet' customers. One of the feeders has a 10MW power station connected to it that has previously been used for network support, however the contract has now expired.

Table 1 provides detail of the 22kV supply feeders.

Table 1: TGN feeder information

Feeder	Feeder Length (km)	Feeder description	Number of Customers	Type of Customers
TGN11	54	Summer peaking, short rural feeder	4,130	95% residential 2% commercial 1% industrial 2% farming.
TGN12	5	Summer peaking, urban feeder	502	50% residential 47% commercial 3% industrial.
TGN23	176	Summer peaking, short rural feeder	2,497	86% residential 4% commercial 1% industrial 9% farming
TGN31	346	Summer peaking, long rural feeder	2,231	62% residential 8% commercial 1% industrial 29% farming
TGN41	337	Summer peaking, long rural feeder	1,917	57% residential 16% commercial 3% industrial 24% farming
TGN42	6	Summer peaking, urban feeder	650	35% residential 64% commercial 1% industrial
TGN43	24	Summer peaking, short rural feeder	3,976	97% residential 3% commercial

Feeder	Feeder Length (km)	Feeder description	Number of Customers	Type of Customers
TGN44	32	Summer peaking, short rural feeder	2,912	96% residential 3% commercial 1% industrial and farming combined

The 22kV feeders interconnect with 22kV feeders from Morwell and Maffra zone substations. Approximately 9.7MVA of load is able to be transferred away from TGN to these stations via 22kV feeders, predominantly to Morwell.

3.3. Zone Substation Equipment

3.3.1. Primary Equipment

TGN includes an air insulated 66kV switchyard with four circuit breakers. It is currently being augmented to include a 66kV ring bus with a three circuit breaker ring bus configuration and in addition including . There are three air insulated outdoor 22kV busbars and a transfer bus supplying four 22kV feeders and one 9 MVAr capacitor bank.

There are four 22kV outdoor feeder circuit breakers manufactured between 1967 and 1969, one 22kV outdoor circuit breaker manufactured in 1983, two outdoor 22kV transformer circuit breakers installed in 2013 and the remaining indoor 22kV circuit breakers are part of an integrated 22kV switchboard installed in 2013.

Transformation comprises two 10/13.5 MVA 66/22kV transformers (No.2 and No.3),which are currently being replaced with single 20/33 MVA 66/22kV transformers

The No.2 and No.3 transformers were manufactured in 1949 and 1979 respectively. No.1 transformer was manufactured and installed in 2013.

3.3.2. Secondary Equipment

The 66kV line circuit breakers have circuit breaker failure and auto reclose schemes using group relays.

The 22kV feeder circuit breakers have overcurrent, earth fault and sensitive earth fault using modern numerical relays.

The 22kV capacitor bank protection has neutral balance and capacitor control device functions using modern numerical relays.

The transformers have differential protection, voltage regulating and restrictive earth fault protection using old electronic relays.

The bus protection has overcurrent and distance protection using old electronic relays.

3.4. Asset Condition

AusNet maintains a risk management system designed in accordance with AS ISO 31000 Risk Management – Guidelines to ensure risks are effectively managed to provide greater certainty for the owners, employees, customers, suppliers, and the communities in which we operate.

The risk of each asset is calculated as the multiplication of probably of failure (PoF) of the asset and the consequence of failure (CoF). The risk is then extrapolated into the future accounting for forecast changes in PoF and CoF.

In the distribution network, AusNet aims to maintain risk. Risk treatments required to achieve this over time include replacement, refurbishment, and maintenance activities, and are developed based on current risk and extrapolated risk.

The overall approach to quantified asset risk management is detailed in AMS -01-09. However, Table 2 of this document show the AMS documents describing the considerations and methodologies to determine PoF, Cof, and risk treatments that are unique to assets driving ZSS rebuilds.

Table 2: Asset AMS reference

Asset Class	AMS Document
Transformers	AMS 20-71
Circuit Breakers	AMS 20-54
Instrument Transformers	AMS 20-63

The PoF ranges of key assets at TT is listed in Table 3

Table 3: Station Assets PoF

Asset	0-0.5%	0.5-2%	2-5%	5%+
Transformers	2			
66kV Circuit Breakers	5			
22kV Circuit breakers	7	4	4	1
66kV Voltage Transformers				6
22kV Voltage Transformers	4		1	
66kV Current Transformers	9			
22kV Current Transformers	15			5

3.5. Zone Substation Supply Capacity

TGN is a summer peaking station and the peak electrical demand reached 47MVA in the summer of 2023/24. The recorded peak demand during the winter of 2023 was 40MVA.

The demand at TGN is forecast to grow at approximately 1% per annum.

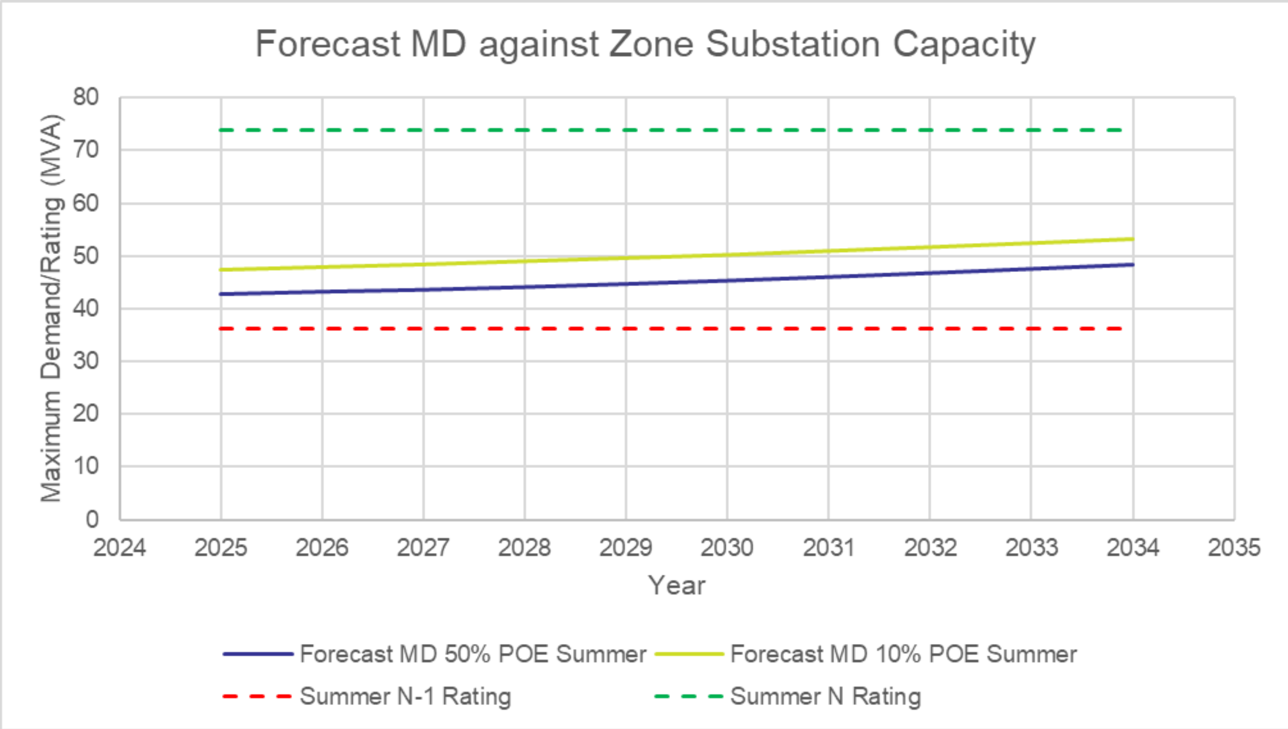

Figure 3: TGN Forecast Maximum Demand against Zone Substation Capacity

3.6. Load Duration Curves

The zone substation load duration curves that feed into the risk-cost assessment model are derived from historical actual demands between:

- 1 October 2023 and 31 March 2024 for the summer 50% probability of exceedance (POE) curves;
- 1 April 2023 and 30 September 2024 for the winter 50% POE curves;
- 1 October 2023 and 31 March 2024 for the summer 10% POE curves; and
- 1 April 2023 and 30 September 2024 for the winter 10% POE curves.

The historical hourly demands are separated by season and unitised based on the recorded maximum demand within that season (summer and winter) and time period, which allows the load duration curve to be scaled according to the seasonal forecast maximum demand for each year of the assessment period.

The 50% POE unitised load duration for TGN zone substation is presented in

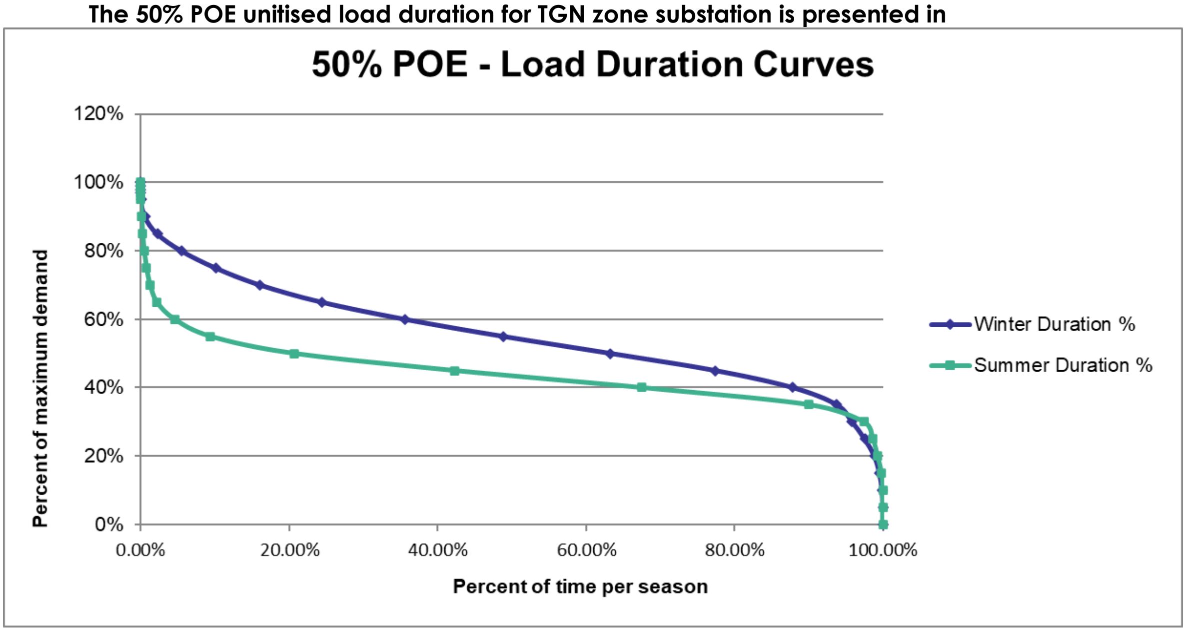

Figure 4, and the 10% POE unitised load duration for TGN zone substation is presented in Figure 5.

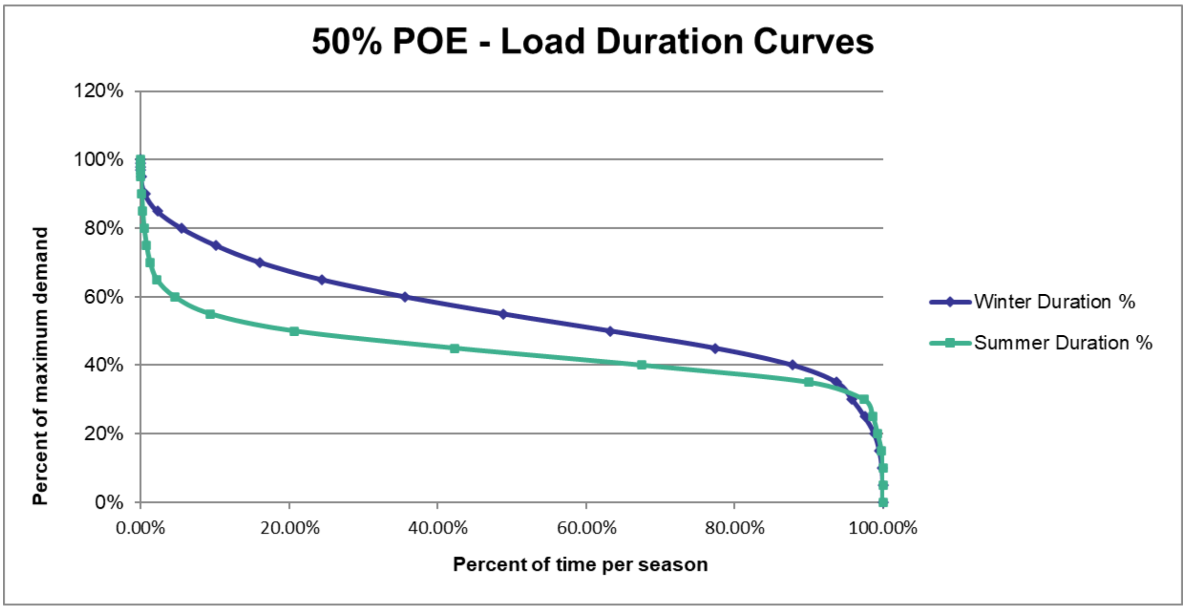

Figure 4: TGN 50% Load Duration Curves

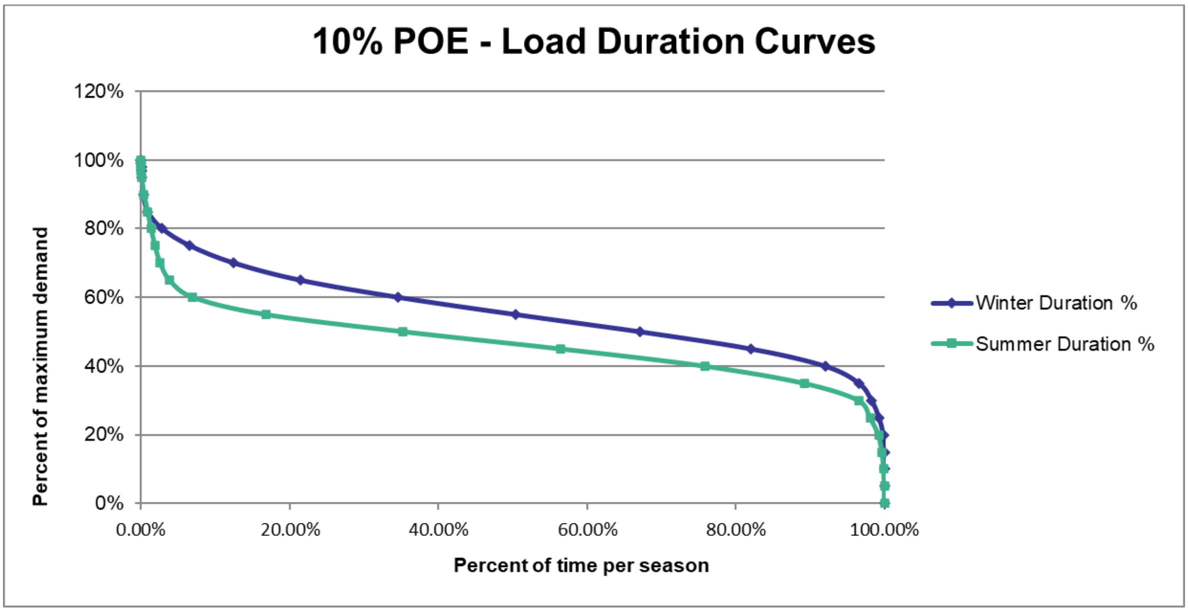

Figure 5: TGN 10% POE Load Duration Curves

3.7. Feeder Circuit Supply Capacity

There is currently no requirement for additional feeders at TGN due to the low load growth in the area.

3.8. Load Transfer Capability

The Distribution Annual Planning Report (DAPR) provides the load transfer capability (in MW) of the feeder interconnections between NLA and its neighbouring zone substations.

This is then forecast forward in line with the forecast demand growth to give the forecast load transfer capability in Table 4.

Table 4: NLA Load Transfer Capability

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Load Transfer Capability (MW)	9.7	9.6	9.5	9.4	9.3	9.2	9.1	9.0	8.9	8.8

4. Other Issues

4.1. Regulatory Obligations

This planning report acknowledges AusNet obligations as a Distribution Network Service Provider under the National Electricity Rules with particular emphasis on:

Clause 6.5.7 of the National Electricity Rules requires AusNet to only propose capital expenditure required in order 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.

Section 98(a) of the Electricity Safety Act requires AusNet to:

1. 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.

Clause 3.1 of the Electricity Distribution Code requires AusNet to:

2. (b) develop and implement plans for the acquisition, creation, maintenance, operation, refurbishment, repair and disposal of its distribution system assets and plans for the establishment and augmentation of transmission connections:

(i) to comply with the laws and other performance obligations which apply to the provision of distribution services including those contained in this Code;

(ii) to minimise the risks associated with the failure or reduced performance of assets; and

(iii) in a way which minimises costs to customers taking into account distribution losses.

4.2. Station Configuration Risk

Failure of some 66kV and 22kV equipment will result in supply outages to customers as backup circuit breakers operate to isolate the failed equipment.

This would be for an estimated duration of two hours, which is the typical time it takes operators to travel to site and manually re-configure circuits to isolate the failed equipment and sequentially restore supply to as many customers as possible.

Error! Not a valid bookmark self-reference. lists the estimated bus outage consequence factors for each major type of equipment based on the substation layout.

Table 5: TT Bus Outage Consequence Factors

Failed Equipment	Estimated Bus Outage Consequence
Transformer	0%
22kV circuit breaker	54%
66kV circuit breaker	25%
22kV current transformer	54%
66kV current transformer	25%
22kV voltage transformer	56%
66kV voltage transformer	0%

5. Identified Need

Traralgon Zone Substation (TGN) commenced operation as a 66/22kV transformation station in 1969. There are two 10/13.5 MVA transformers which were manufactured in 1949 and 1979. There is one 20/33 MVA transformer that was manufactured in 2012. The 1949 and 1979 units are currently being replaced with two 20/33 MVA units.

The 22kV switchyard consists of one indoor switchboard with four feeders installed in 2013, and three outdoor 22kV busses with four feeder CBs installed in 1969. The 66kV switchyard has had some modifications since the site was established, and now consists of two lines to MWTS and one line to Maffra (MFA) zone substation.

Two of the 66kV circuit breakers were installed in 1977 while the other two were installed in 2013 when the new 20/33 MVA transformer was installed. TGN is currently undergoing the installation of a ring bus comprising of three new CBs and replacement of the two 1977 uniits.

The physical and electrical condition of these 22kV assets has deteriorated and they are now presenting an increasing failure risk.

The key service constraints at TGN are:

- Security of supply risks presented by increasing likelihood of asset failure due to the deteriorating condition of the assets;
- Health and safety risks presented by a possible explosive failure of bushings on a number of the assets;
- Plant collateral damage risks presented by a possible explosive failure of a number of the assets;
- Environmental risks associated with insulating oil spill or fire;
- Reactive asset replacement risks presented by the increasing likelihood of asset failure due to the deteriorating condition of the assets;
- Health and safety risks presented by exposed live terminals at the rear of the secondary panels in the control room; and
- Health and safety risks presented by asbestos containing cement sheets or electrical switch boards in the control building, store room and toilet.

6. Risk and Options Analysis

6.1. Risk-Cost Model Overview

AusNet's risk-cost model quantifies the benefits of potential investment options by comparing the service level risk of the Do Nothing (Counterfactual) option with the reduced service level risk assuming the credible option is place.

The investment cost to implement the credible option is then subtracted from the monetised benefit to compare credible options and identify the option that maximises the net economic benefit (the proposed preferred option).

The areas of service level risk costs, and risk cost reduction benefits, that AusNet considers include:

- Supply risk;
- Safety risk;
- Collateral damage risk;
- Reactive replacement risk;
- Environment risk;
- Operations and maintenance costs; and
- Losses.

Further details on the model can be found in AusNet's Risk-Cost Assessment Model Methodology paper.

6.2. Risk Mitigation Options Considered

This section outlines the potential options that have been considered to address the identified service level risk and need to invest, and summarises the key works and costs associated with implementing these options.

It presents both the credible and non-credible options considered, and, where relevant, outlines why particular option are considered non-credible.

The following options have been identified to address the risk at TGN:

(1) Do Nothing Different (counterfactual)

(2) Retire one transformer

(3) Retire one transformer and sure up supply capacity via network support

(4) Network support to defer retirement and replacement

(5) Replace 22kV switchgear with new switchboard

6.2.1. Option 1: Do Nothing Different

The Do Nothing Different (counterfactual) option assumes that AusNet would not undertake any investment, outside of the normal operational and maintenance processes.

Under this option, increasing supply risk would be managed by increased levels of involuntary load reduction.

Increased non-supply risks, such as those associated with safety, collateral damage, reactive replacement and environmental impacts, would be accepted as unmanaged rising risk costs.

The Do Nothing Different (counterfactual) option establishes the base level of risk, and provides a basis for comparing potential options.

Since this option assumes no investment outside of the normal operational and maintenance processes, this is a zero investment cost option.

6.2.2. Option 2: Retire one transformer

This options tests whether the current installed capacity of the substation is still required to meet customer demand and whether equipment could be retired rather than replaced.

The capital cost for this option is [CIC], for associated decommissioning works.

6.2.3. Option 3: Retire one transformer and sure up supply capacity via network support

This option tests whether the current installed capacity of the substation is still required to meet customer demand and whether equipment could be retired and network support used rather than replacing poor condition assets.

The capital cost for this option is [CIC], for associated decommissioning works and setup of a 10MW network support agreement.

In addition to the capital cost, there is ongoing operational costs associated with this option that represent the network support availability and activation costs, and which vary year-by-year based on the network support expected under this option, as outlined in **Error! Reference source not found.**.

Table 6: Network support services annualised costs ($ million)

2025	2026	2027	2028	2029
[CIC]				

6.2.4. Option 4: Use network support to defer retirement and replacement

This options tests whether network support can be used to defer the replacement of poor condition assets. This option addresses the supply risks associated with poor condition assets, but does not address the safety, environmental or collateral damage risks as the assets remain in service.

The capital cost of this option is [CIC], for setup of a 10MW network support agreement.

In addition to the capital cost, there is ongoing operational costs associated with this option that represent the network support availability and activation costs, and which vary year-by-year based on the network support expected under this option, as outlined in **Error! Not a valid bookmark self-reference.**.

Table 7: Network support services annualised costs ($ million)

2025	2026	2027	2028	2029
[CIC]				

6.2.5. Option 5: Replace outdoor 22kV switchgear with new switchboard

Under this option only the 22kV outdoor switchgear will be replaced with a new 22kV indoor switchboard.

The capital cost of this option is [CIC] million.

6.3. Risk-Cost Model Results

6.3.1. Existing service level risk

Figure 6 shows the existing service level risk. The risk costs are dominated by supply risk and non- supply risks (safety, environment, collateral damage and reactive replacement). The escalation in the risk costs over time is driven by deterioration in the condition of the assets.

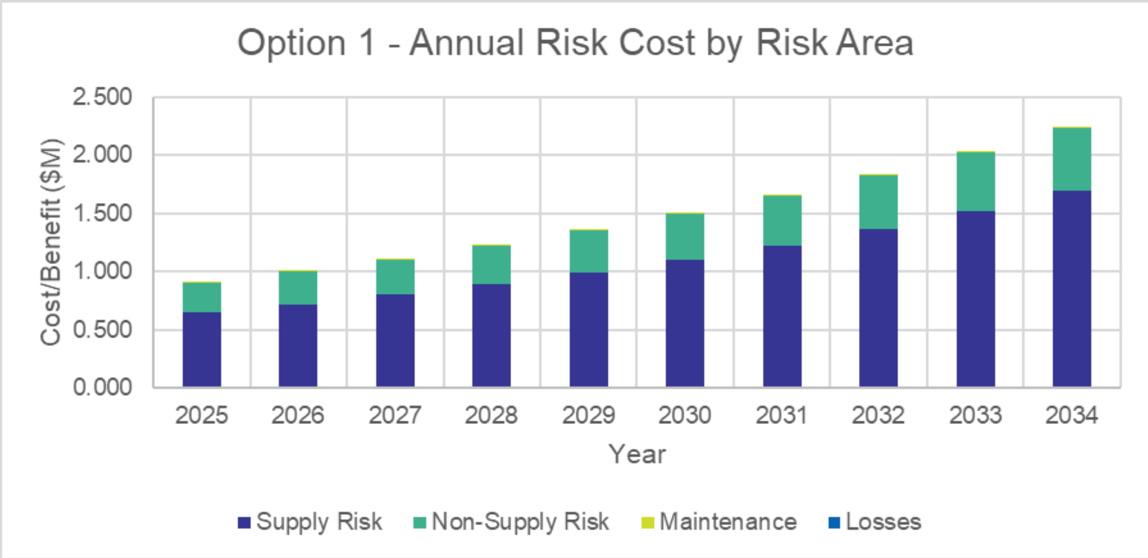

Figure 6: Do Nothing Different – Service Level Risk Cost

6.3.2. Economic Cost Benefit analysis

The economic analysis allows comparison of the economic cost and benefits of each option to rank the options and to determine the economic timing of the preferred option.

It quantifies the capital, operation and maintenance costs along with service level risk reduction benefits for each option.

Table 8**Error! Reference source not found.** lists the annualised net economic benefit of each option for each year, with the option that maximises this benefit highlighted.

Negative NPV values in Table 8 are shown as zero.

Table 8: Annualised net economic benefit ($M)

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Option 1	[CIC]									
Option 2										
Option 3										
Option 4										
Option 5										

This indicates that Option 5 is the most economic option.

6.3.3. Sensitivity Analysis

Table 9 presents the net present value of net economic benefits under a variety of sensitivities. The net economic benefit assessment takes account of each option's total capital, operating and maintenance costs, compared to the reduction in service level risk cost that option is expected to deliver.

The robustness of the economic assessment is tested for the following sensitivities:

- Asset failure rates, varied at ±50% of the base failure rate;
- Maximum demand forecasts, varied to ±5% of the base forecast;
- Value of customer reliability (VCR), varied to ±25% of the base VCR;
- Proposed option costs, varied to ±15% of the base option cost;
- Discount rate of 5.56%, varied to ±2% per annum of the base discount rate.

The preferred option under each sensitivity is highlighted, and the option that maximises net benefits under the majority of sensitivities is considered the proposed preferred option.

Table 9: NPV of Net Economic Benefit Analysis

	Option 1	Option 2	Option 3	Option 4	Option 5
High asset failure	[CIC]				
Low asset failure					
High demand					
Low demand					
High option cost					
Low option cost					
High discount rate					
Low discount rate					
High VCR					
Low VCR					

The sensitivity analysis indicates the preferred option is Option 5, as it has the highest net benefit under all of the sensitivities tested.

6.3.4. Economic timing of preferred option

The annual benefit of implementing a credible alternative option to the Do Nothing Different (counterfactual) is the difference between total service level risk cost with a credible option in place, and the total service level risk cost of the Do Nothing Different option.

The optimal economic timing of the proposed option is the point in time when the annual benefit of implementing the proposed option outweighs the annualised cost to implement that option.

The optimal economic timing to implement the proposed preferred option is by 2026, as presented in Figure 7.

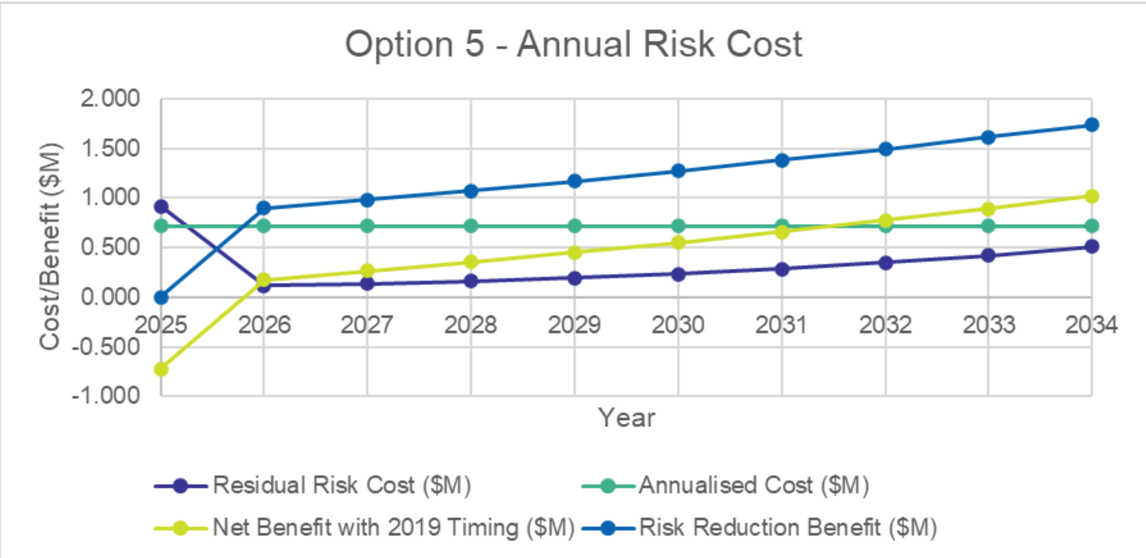

Figure 7: Economic timing of the proposed preferred option

7. Conclusion and Next Steps

The assessment outlined in this report shows that the service level risk to customers supplied from Traralgon (TGN) Zone Substation is forecast to grow to unacceptable levels within the 2026-31 regulatory period.

The forecast increase in service level risk is driven by increasing supply and non-supply (safety, environmental, collateral damage and reactive replacement) risk driven by deterioration in the condition of the assets resulting in an increasing likelihood of asset failure.

7.1. Proposed Preferred Option

The options analysis identifies that the preferred option, being the one that maximises the net economic benefit to all those that produce, consume and transport electricity in the NEM, is to:

- Replace 22kV switchgear by 2029, at an estimated capital cost of [CIC] million (Real $2024).

Applying a discount rate of 5.56% per annum, this proposed preferred option has a net economic benefit of [CIC] million, relative to the Do Nothing Different option, over the forty-five-year assessment period.

While the optimal timing of the proposed preferred option is by 2026, to manage the deliverability, allow sufficient time to complete the required regulatory investment test for distribution (RIT-D), and to spread the capital expenditure throughout the 2026-31 EDPR, AusNet plans to begin implementing the proposed preferred option by 2027.

7.2. Next steps

This planning report outlines the service level risk mitigation investment that AusNet has assessed as prudent, efficient and providing the optimal balance of supply reliability and cost.

While this report outlines AusNet' plans for maintaining service levels and serves to support AusNet' revenue request for the 2026-31 regulatory period, the proposed investment is subject to the regulatory investment test for distribution (RIT-D).

As such, the proposed investment will be confirmed via the formal RIT-D process, which includes publication of three reports at the various RIT-D stages and includes a formal consultation process where interested parties can make submissions that help identify the optimal solution.

A. Appendix

A.1. Preferred Option Details

The high level scope of work for the preferred solution – Integrated Replacement (Option 7) - includes:

- Retire the existing No.2 and No.3 10/13.5MVA 66/22kV transformers and replace them with one new 20/33MVA 22/66kV unit;
- Install a new indoor modular 22kV switch room, and retire the existing outdoor 22kV switchyard;
- New capacitor bank; and

A.2. Project Cost Summary

Traralgon Stage 2			
	Unit Rate	Qty	Total
Install 1 new modular 22kV switch room including the removal of the existing switchgear (Using the Rev B KMS estimate and comments as a base cost) Includes: AusNet internal Engineering/PM costs + external design Civil work and extend earth grid Re-route and reconnect three 22KV feeders Security Upgrade - Station fencing, CCTV, lighting etc Surfaces, drainage, trench improvements	[CIC]	1	[CIC]
Install 1additioanl new modular 22kV switch room		1	
Civil work and extend earth grid		1	
Re-route and reconnect additional 5 x 22KV feeders		1	
		TOTAL DIRECT COSTS	**[CIC]**

AusNet Services

Level 31
2 Southbank Boulevard
Southbank VIC 3006
T +613 9695 6000
F +613 9695 6666
Locked Bag 14051 Melbourne City Mail Centre Melbourne VIC 8001
www.AusNetservices.com.au

Follow us on

@AusNetServices
@AusNetServices
@AusNet.Services.Energy

AusNet