AUGMENTATION

METRO FEEDER THERMAL AUGMENTATION PROGRAM

PAL BUS 3.05 – PUBLIC

2026–31 REGULATORY PROPOSAL

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1. Overview

Western metropolitan Melbourne is expanding quickly. New housing developments, industrial estates and a growing residential, commercial and industrial customer base is forecast to result in rapid load growth in the 2026–31 regulatory period.

The identified need is to ensure our network can sustain load growth will maintaining a reliable supply of electricity to customers. In response, this business case assesses options to increase the thermal capacity of two feeders across Mount Cottrell and Melton that are at risk of, or already exceed, their thermal capacity rating today.

To mitigate resulting energy at risk and ensure reliability of supply for customers in the area, this business case considers options to augment the following feeders:

- MLN021 from the Melton (MLN) zone substation
- MTC011 from the Mount Cottrell (MTC) zone substation

Expenditure to deliver the preferred option for each feeder is summarised in table 1 below.

TABLE 1 PREFERRED OPTIONS EXPENDITURE ($M, 2026)

FEEDER	FY27	FY28	FY29	FY30	FY31	TOTAL
MLN021 – connect a new feeder from MTC to MLN	0.6	-	-	-	-	0.6
MTC011 – new feeder from MTC to WBE	-	-	-	1.9	1.9	3.9

Each of these proposed investments is supported by our attached detailed economic modelling .[1]

[1] See PAL MOD 3.07 - Melton new feeder - Jan2025 – Public and PAL MOD 3.06 – Mount Cottrell new feeder - Jan2025 - Public

2. MLN021 feeder

Our MLN021 feeder provides electricity to the suburbs and townships to the south-east of Melton. It is a high-capacity feeder with a thermal capacity of 14.0MVA and is supplied from Melton zone substation (MLN).

2.1 Identified need

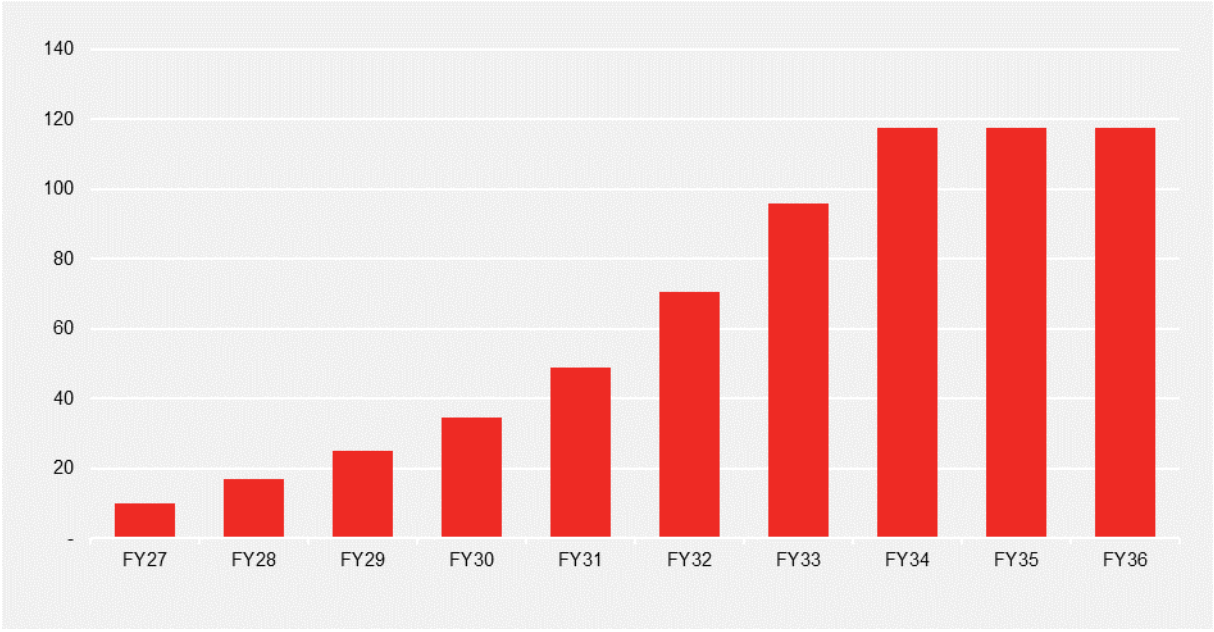
MLN021 has experienced 22 percent growth in the number of customers it supplies in the last 18 months and is in breach of its thermal capacity rating today. This will continue as the feeder experiences additional growth in demand from housing growth areas in the southwestern suburbs of Melton, in addition to estates and townships between Melton and Deer Park.

Additional large industrial load has been approved for 8 MVA of demand capacity, with 5 MVA already connected and a further 3 MVA agreed and awaiting connection. The introduction of industrial load on the MLN021 network has introduced a significant step change in the maximum demand of the feeder.

This exceedance of the thermal capacity rating of MLN021 will continue to result in deteriorating reliability of supply.

The corresponding total value of energy at risk supplied by MLN021 is shown in figure 1 below.

FIGURE 1 VALUE OF EXPECTED UNSERVED ENERGY ($M, 2026)



2.2 Assessment of credible options

Several credible options were considered to meet the identified need. A summary of the cost and net benefit of each credible option are described in Table 2 below. Further detail is provided in our attached cost-benefit modelling.

TABLE 2 OPTIONS CONSIDERED AND BENEFIT SUMMARY ($M, 2026)

DESCRIPTION OF WORKS	ASSESSMENT	PV COST	NET BENEFIT
Option one (base case): no capital investment or change to existing practices	The forecast loads on feeder MLN021 will result in maximum demand on the feeder exceeding its thermal rating in the 2026–31 regulatory period. This option fails to address the identified need to maintain reliability of supply to customers	-	-
Option two: connect a new feeder from MTC to MLN	Option two establishes a new feeder, connected to the MTC zone substation that will be commissioned in 2025. The new feeder will maintain sufficient capacity to offload demand from MLN021 and share load across the feeders. This will create sufficient capacity to mitigate energy at risk and maintain a reliable supply of electricity to customers	-0.2	1,358.9
Option three: extend MLN012 into Rockbank and offload MLN021	Option three will extend a new feeder into the Rockbank region to offload load on MLN021 to the new feeder. This will create sufficient capacity to mitigate energy at risk and maintain a reliable supply of electricity to customers	-0.4	1,297.1

2.3 Preferred option

The preferred option to address the identified need is option two. It provides sufficient capacity to manage growing demand and results in the highest net economic benefit for customers.

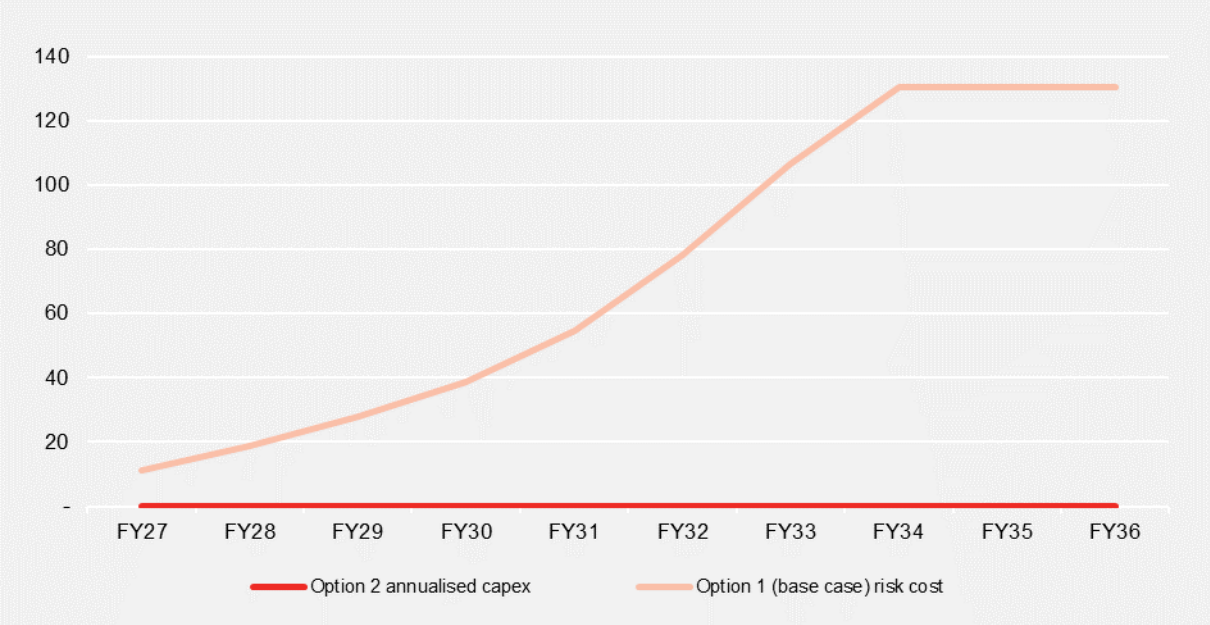
The forecast expenditure for option two is shown in table 3.

TABLE 3 EXPENDITURE FORECASTS FOR PREFERRED OPTION ($M, 2026)

PROJECT	FY27	FY28	FY29	FY30	FY31	TOTAL
Connect a new feeder from MTC to MLN	0.6	-	-	-	-	0.6

Assessment of optimum timing found the economic benefits of option three are maximised if it is commissioned no later than FY27, when the value of energy at risk exceeds the annualised project cost. This assessment is shown in figure 2.

FIGURE 2 TIMING OF PREFERRED OPTION ($M, 2026)



2.4 Sensitivity analysis

Sensitivity analysis was undertaken to understand the impact of increasing and decreasing both the cost and the value of energy at risk mitigated on the net economic benefits of each option in different scenarios. Option two provides the highest net economic benefit under all scenarios and remains the preferred option. Further information on our sensitivity analysis can be found in our attached cost benefit modelling.

3. MTC011 feeder

MTC011 is a new feeder to be developed with the establishment of our new Mount Cottrell zone substation (MTC). When established, MTC011 is expected to supply approximately 6,000 customers. The area serviced by MTC011 is expected to support approximately 1,100 new customers in the 2026–31 regulatory period. It a high-capacity feeder with a thermal capacity of 17.0MVA.

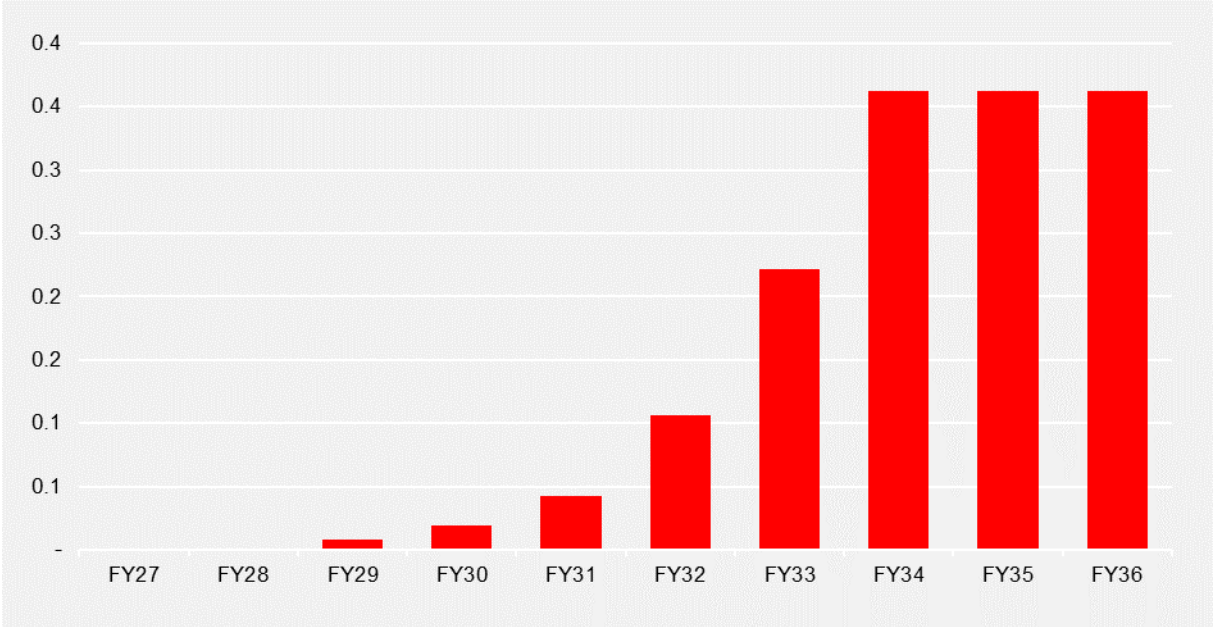
3.1 Identified need

Growth in industrial, commercial and residential load from customers in the south western Melbourne suburbs that MTC011 supplies is forecast to result in the feeder breaching its thermal rating within the 2026–31 period.

This exceedance of the thermal capacity rating of MTC011 will lead to result in deteriorating reliability of supply.

The corresponding total value of energy at risk supplied by MTC011 is shown in figure 3 below.

FIGURE 3 VALUE OF EXPECTED UNSERVED ENERGY ($M, 2026)



3.2 Assessment of credible options

Several credible options were considered to meet the identified need. A summary of the cost and net benefit of each credible option are described in table 4 below. Further detail is provided in our attached cost-benefit modelling.

TABLE 4 OPTIONS CONSIDERED AND BENEFIT SUMMARY ($M, 2026)

DESCRIPTION OF WORKS	ASSESSMENT	PV COST	NET BENEFIT
Option one (base case): no capital investment or change to existing practices	The forecast loads on feeder MTC011 will result in maximum demand on the feeder exceeding its thermal rating in the 2026–31 regulatory period. Option one fails to address the identified need to maintain reliability of supply to customers	-	-
Option two: new feeder from MTC to WBE	Establish a new feeder to provide an additional 18.5MVA in capacity to facilitate load transfer from MTC011. This option will create sufficient capacity to mitigate energy at risk and maintain a reliable supply to customers	-1.9	2.3
Option three: new Point Cook Zone Substation	Establish a new 66/11kV zone substation at Point Cook, which will facilitate load transfer from MTC011 via adjacent feeders. This option will create sufficient capacity to mitigate energy at risk and maintain a reliable supply to customers	-32.1	-28.0

3.3 Preferred option

The preferred option to address the identified need is option two. It provides sufficient capacity to manage growing demand, and it delivers the same net economic benefit for customers as option three, at a lower cost.

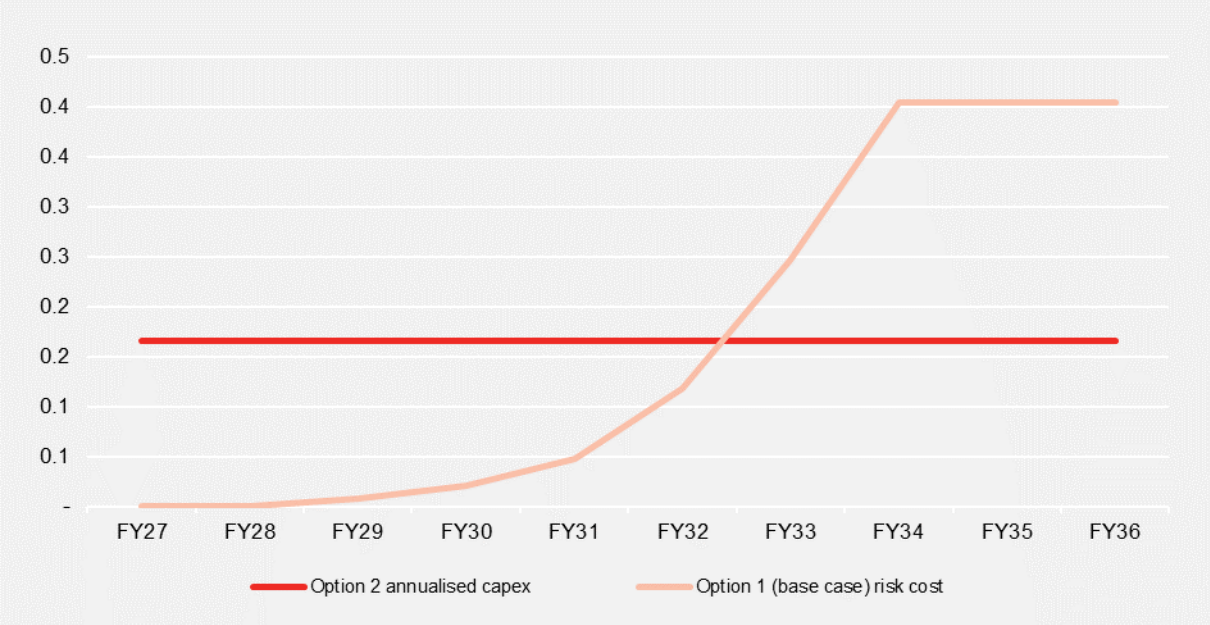
The forecast expenditure for option two is shown in table 5.

TABLE 5 EXPENDITURE FORECASTS FOR PREFERRED OPTION ($M, 2026)

PROJECT	FY27	FY28	FY29	FY30	FY31	TOTAL
New feeder from MTC to WBE	-	-	-	1.9	1.9	3.9

Assessment of optimal timing found the economic benefits of option two are maximised if it is commissioned by FY32, when the value of energy at risk exceeds the annualised project cost. This assessment is shown in figure 4.

FIGURE 4 TIMING OF PREFERRED OPTION ($M, 2026)



3.4 Sensitivity analysis

Sensitivity analysis was undertaken to understand the impact of increasing and decreasing both the cost and the value of energy at risk mitigated on the net economic benefits of each option in different scenarios. Option two provides the highest net economic benefit under all scenarios and remains the preferred option. Further information on our sensitivity analysis can be found in our attached cost benefit modelling.

For further information visit:

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