Draft decision

Powercor electricity distribution determination

1 July 2026 – 30 June 2031

Attachment 2 – Capital expenditure

September 2025

AUSTRALIAN ENERGY REGULATOR

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Capital expenditure (capex) refers to the money required to build, maintain or improve the physical assets needed to provide standard control services (SCS).[1] Generally, these assets have long lives, and a distributor will recover capex from customers over several regulatory control periods. A distributor's capex forecast contributes to the return of and return on capital building blocks that form part of its total revenue requirement.

Under the regulatory framework, a distributor must include a total forecast capex that it considers is required to meet or manage expected demand, comply with all applicable regulatory obligations, to maintain the safety, reliability, quality, and security of its network and contribute to achieving targets for reducing Australia's greenhouse gas emissions (the capex objectives).[2]

We must decide whether or not we are satisfied that this forecast reasonably reflects prudent and efficient costs and a realistic expectation of future demand, cost inputs, and other relevant inputs (the capex criteria).[3] We must make our decision in a manner that will, or is likely to, deliver efficient outcomes in terms of the price, quality, safety, reliability and security of supply, and contribute to achieving targets for reducing Australia's greenhouse gas emissions, for the benefit of consumers in the long term, as required under the National Electricity Objective (NEO).[4]

The *AER's capital expenditure assessment outline* explains our and distributors' obligations regarding capex under the National Electricity Law and Rules (NEL and NER) in more detail.[5] It also describes the techniques we use to assess a distributor's capex proposal against the capex criteria and objectives. Where relevant we also assess capex associated with emissions reduction proposals taking into account our Guidance on amended *National Electricity Objectives*.[6]

Total capex framework

We analyse and assess capex drivers, programs, and projects to inform our view on a total capex forecast. However, we do not determine forecasts for individual capex drivers or determine which programs or projects a distributor should or should not undertake. This is consistent with our ex-ante incentive-based regulatory framework.

Once the ex-ante capex forecast is established, there is an incentive for distributors to provide services at the lowest possible cost, because the actual costs of providing services will determine their returns in the short term. If distributors reduce their costs, the savings are shared with consumers in future regulatory control periods. This incentive-based framework

1 These are services that form the basic charge for use of the distribution system.

2 NER, cl. 6.5.7(a).

3 NER, cl. 6.5.7(c).

4 NEL, ss. 7, 16(1)(a).

5 AER, *Capex assessment outline for electricity distribution determinations*, February 2020.

6 AER, *Guidance on amended National Electricity Objectives*, September 2023.

provides distributors with the flexibility to prioritise their capex program given their circumstances and due to changes in information and technology.

Distributors may need to undertake programs or projects that they did not anticipate during the revenue determination. Distributors also may not need to complete some of the programs or projects proposed if circumstances change, these are decisions for the distributor to make. We consider a prudent and efficient distributor would consider the changing environment throughout the regulatory control period and make decisions accordingly.

Importantly, our decision on total capex does not limit a distributor's actual spending. We set the forecast at a level where the distributor has a reasonable opportunity to recover its efficient costs.

Assessment approach

We provide guidance on our assessment approach in several documents, including the following which are of relevance to this decision:

- Expenditure Forecast Assessment Guidelines.[7]
- Regulatory Investment Test for Distribution and Transmission (RIT-D and RIT-T) Guidelines.[8]
- Asset Replacement Industry Note.[9]
- Information and communication technology (ICT) Guidance Note.[10]
- Better Resets Handbook – Towards consumer centric proposals.[11]
- Guidance note on network resilience.[12]
- Interim guidance note on the Value of Emissions Reduction.[13]

Our draft decision has been based on the information before us at this time, which includes:

- the distribution network service provider's (DNSP's) regulatory proposal and accompanying documents and models
- the DNSP's responses to our information requests
- stakeholder comments in response to our Issues Paper
- technical review and advice from our consultants' reports. In January 2025, we engaged Energy Market Consulting associates (EMCa) to assist us in reviewing certain aspects of Powercor's capex proposals; and Baringa for demand forecasting advice.

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7 AER, *Expenditure Forecast Assessment Guideline for Distribution*, August 2022. The legal requirements of the AER under the NEL and the NER in assessing capex are outlined in section 2.1.

8 AER, *RIT-T and RIT-D application guidelines (minor amendments) 2017,* September 2017.

9 AER, *Industry practice application note for asset replacement planning,* January 2019.

10 AER, *AER publishes guidance on non-network ICT capital expenditure assessment approach*, November 2019.

11 AER, *Better Resets Handbook – Towards consumer-centric network proposals*, December 2021.

12 AER, *Network resilience: A note on key issues*, April 2022.

13 AER, *Guidance note on emissions reduction: Interim Guidance Note*, 16 June 2025.

2.1 Draft decision

Our draft decision is to not accept Powercor's proposed total forecast capex of $3,644.9 million ($2025–26) for the 2026–31 period. This is because we are not satisfied that it reasonably reflects the prudent and efficient costs to maintain the safety, reliability and security of the network.

Our substitute forecast is $2,696.9 million, which is 26.0% below Powercor's forecast. We consider this forecast will provide for a prudent and efficient service provider in Powercor's circumstances to meet the capex objectives.

We encourage Powercor to respond to the issues we have raised in our draft decision and welcome further supporting information in its revised regulatory proposal.

Powercor's proposed forecast capex and our substitute estimate is set out in Table 2.1.

Table 2.1 AER's draft decision on Powercor's total net capex forecast for 2026–31 ($2025–26, million)

	2026–27	2027–28	2028–29	2029–30	2030–31	Total
Powercor's proposal	750.3	784.1	700.4	721.7	688.4	3,644.9
AER's draft decision	588.4	605.9	522.7	508.5	471.4	2,696.9
Difference ($)	**-161.9**	**-178.1**	**-177.7**	**-213.2**	**-217.0**	**-947.9**
Difference (%)	**-21.6%**	**-22.7%**	**-25.4%**	**-29.5%**	**-31.5%**	**-26.0%**

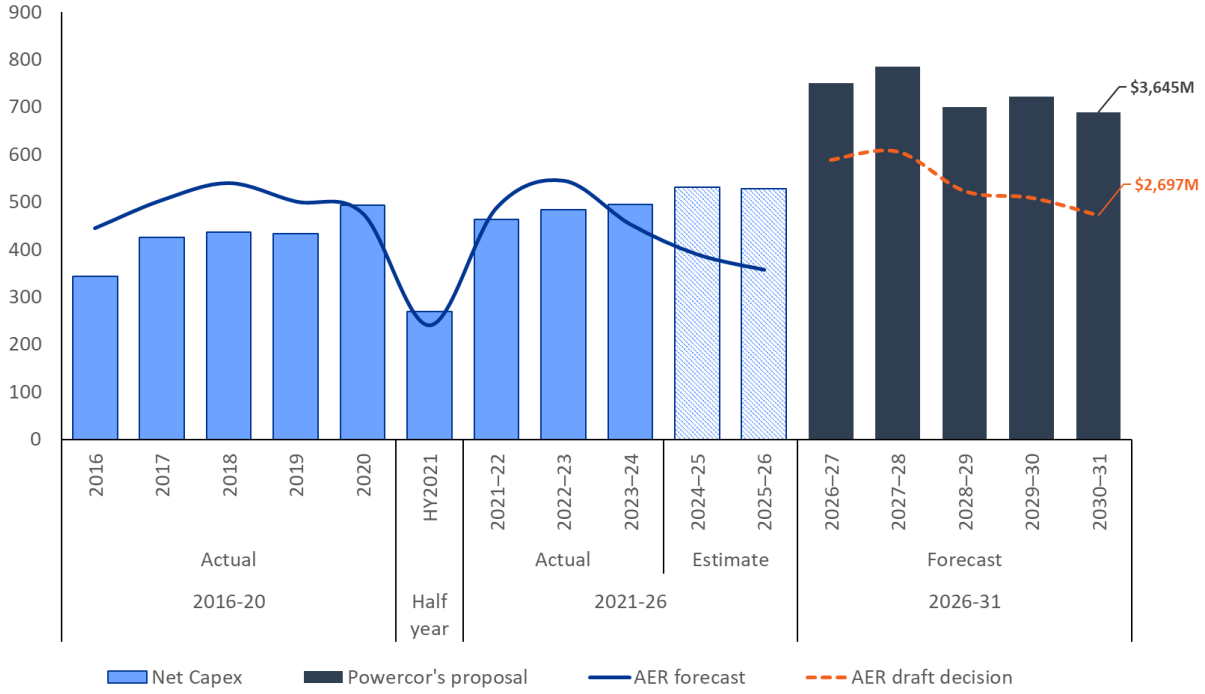
Source: Powercor proposal, AER analysis. Numbers may not sum due to rounding.

2.2 Overview of Powercor's proposal

Powercor's forecast includes $3,644.9 million ($2025–26) capex over the 2026–31 period.

Figure 2.1 outlines Powercor's historical capex trend, its proposed forecast for the 2026–31 period, and our draft decision. Consistent with our usual practice, the chart presents a time-series of Powercor's net capex.

Figure 2.1 Powercor's historical and forecast capex ($2025–26, million)



Source: Powercor's regulatory proposal and AER analysis.
Note: Capex is net of disposals and capital contributions.

As can be seen in Figure 2.1, Powercor is forecasting a material step up (45.7%) in the forecast period relative to current period actual/estimates. It is also expecting to overspend in the current period. This may trigger an ex-post review in the 2031–36 regulatory determination. However, Powercor incurred total capex is below its regulatory forecast for the current ex-post review period (2020 to 2023–24 regulatory years) and on this basis, the overspending requirement for an efficiency review of past capex is not satisfied.

Figure 2.1 also shows that that while our draft decision is reduction to Powercor's forecast, it is also a step up from Powercor's current period actual/estimates. We note that some of this step up is because:

- For connections, there was a temporary decrease in volumes in the current period due to COVID. The forecast reflects volumes which are consistent with expected economic activity and pre-COVID levels.
- For information communications technology (ICT) capex, we have accepted most of the step up. As part of this, we have considered EMCa's findings and agree that Powercor has demonstrated reasonableness of the forecast for its largest ICT project (the ERP & billing systems project).
- There is the addition of resilience expenditure as a new category of capex in the forecast period.

Table 2.2 provides a breakdown of Powercor's capex proposal. In the forecast period, Powercor proposes a step up in total capex of 45.7% relative to current period actuals/estimates. Powercor proposes a step up in the forecast for almost all capex categories; the main drivers of the step up in replacement expenditure (repex), augmentation expenditure (augex), resilience, connections, and ICT.

Table 2.2 Powercor's capex forecast by category compared with actual/estimated capex in 2021–26 ($2025–26, million)

Capex category	Powercor's 2021–26 capex	Powercor's 2026–31 forecast	Change from 2021–26	Contribution to increase in net capex	Proportion of total forecast capex
Replacement	1,058.3	1,408.1	33.0%	30.6%	38.6%
Resilience	N/A	96.0	N/A	N/A	2.6%
Innovation	N/A	12.6	N/A	N/A	0.3%
Augmentation	304.9	543.9	78.4%	20.9%	14.9%
Connections	446.6	607.7	36.1%	14.1%	16.7%
ICT	185.1	277.8	50.0%	8.1%	7.6%
Property	143.5	137.8	-4.0%	-0.5%	3.8%
Fleet	107.3	105.9	-1.3%	-0.1%	2.9%
CER integration	43.1	27.4	N/A	N/A	0.8%
Cyber security	N/A	13.0	N/A	N/A	0.4%
Non-network capex - other	25.5	28.9	13.3%	0.3%	0.8%
Capitalised overheads	328.8	392.3	19.3%	5.6%	10.8%
Total capex (less capital contributions)	**2,643.3**	**3,651.4**	**38.1%**		
less Disposals	-141.5	-6.6	-95.3%		
Net capex	**2,501.8**	**3,644.9**	**45.7%**		

Source: Powercor's regulatory proposal and AER analysis. Powercor's 2021–26 actual/estimate in this table differs from its RIN data as per its response to IR009.

Notes: Numbers may not sum due to rounding. Powercor's 2021–26 actual/estimate may include cyber security capex in other categories that is not identifiable in the Category Analysis RIN. Powercor's regulatory proposal shows forecast capex for each category and project in $real 2025–26 un-escalated dollars. In this paper, we present all forecast capex for the 2026–31 period in $real 2025–26 escalated dollars. We re-categorised Powercor's 2026–31 forecast to align with how we assessed each category. We re-categorised $77.1 million of repex, $14.6 million of augex, $3.3 million of ICT, and $1.1 million of fleet to resilience. We re-categorised $13.0 million of ICT to cyber security. We also re-categorised $6.3 million of repex and $6.2 million of augex to innovation.

2.3 Reasons for draft decision

We reviewed Powercor's capex drivers, programs and projects to inform our view on a total capex forecast that reasonably reflects the capex criteria. We conducted top-down analysis such as examining trends and forecast costs compared with historical capex, and inter-

relationships between cost categories. To complement this, we conducted a bottom-up analysis of Powercor's major programs and projects.

Our capex assessment focused primarily on the material capex categories that either represented a significant uplift in expenditure, had stakeholder interest, or are new and evolving areas such as data centre connections, CER and resilience. Capex that was relatively small and forecast using established modelling approaches and inputs in line with our expectations, meant that we did not need to undertake a more detailed analysis of the individual programs and projects. Our draft decision is reflective of this approach.

Further, in considering the scope of our review we had regard to how Powercor has performed against the Better Resets Handbook expectations for capex.[14] Our assessment against each expectation is set out in Table 2.3. We consider that Powercor has satisfied the capex expectations related to genuine consumer engagement on its capex proposal and has partly satisfied the remaining expectations. We have therefore undertaken a bottom-up review in most capex categories.

Table 2.3 Powercor's performance against the capex expectations

Capex expectations	AER position
1. Top-down testing of the total capex forecast and at the category level	Powercor has not satisfied this expectation because: • Its proposed total capex forecast is materially above (45.7%) current period actual/estimates. • It is proposing a step up in the forecast for almost all capex categories, with a material step up in the largest components of capex. • The repex modelling results indicate that Powercor has higher unit rates and shorter replacement lives compared to the other 13 NEM DNSPs. As Powercor's modelled repex is 68% of its total repex, the repex model results indicates that a closer review of CitiPower's repex forecast is required. • There is a decreasing trend in SAIFI from 2015 to 2024, suggesting that reliability of its network is generally improving overtime.
2. Evidence of prudent and efficient decision-making on key projects and programs	Powercor partly satisfied this expectation. While it provides quantitative evidence of prudent and efficient decision-making such as cost benefit analysis for some projects and programs, it has not done so for several parts of its forecast. Further, in some cases where it has provided quantitative evidence, we found overestimated costs and/or benefits such that we are not satisfied that its preferred option will result in the greatest net benefit to consumers. There is also a lack of quantitative portfolio prioritisation and optimisation given the proposed increase in capex.

[14] AER, *Better Resets Handbook – Towards Consumer Centric Network*, December 2021, pp 19–23.

Capex expectations	AER position
3. Evidence of alignment with asset and risk management standards	Powercor has partly satisfied this expectation. While there is evidence of good asset management, we found a lack of risk monetisation in certain key areas of capex which is not in line with good industry practice.
4. Genuine consumer engagement on capex proposals	Overall, Powercor has satisfied this expectation. We acknowledge the significant engagement undertaken by Powercor with its Customer Advisory Panel (CAP).[15] The Consumer Challenge Panel (CCP32) noted the engagement for Powercor was part of an engagement program for the CPU businesses. The CCP32 submits that Powercor used responses to the Draft Plan well and incorporated feedback into the final proposal with a significant range of 'Test and Validate' discussions and events.[16]

Overall, we found the majority of Powercor's forecast of $3,644.9 million would be required to maintain the safety, reliability and security of electricity supply of its network.

We are satisfied that our alternative forecast of total capex of $2,696.9 million is reasonable and sufficient for Powercor to maintain its network. In particular, based on the information before us, we have reviewed Powercor's total capex forecast from a top-down and bottom-up perspective.

Given Powercor's performance against our top-down findings, we have undertaken a bottom-up review on most capex categories.

We have accepted Powercor's forecast where it has provided sufficient evidence to support prudency and efficiency of its forecast. This is the case for its forecast for property, fleet, cyber security and other non-network.

We have not accepted Powercor's forecast in full (reducing it by 26.0%) because we found that it did not provide sufficient quantitative evidence to support the material step up in the forecast. For instance, we acknowledge the need for resilience-related expenditure especially for a regional and rural network like Powercor that can be impacted by extreme weather events. However, we have not accepted Powercor's forecast in full. While we found that most of its network investments are prudent, we were not provided with sufficient evidence that its proposed solution was efficient and therefore would result in achieving the greatest net benefit to consumers.

This is also the case with our draft decision on programs relating to regional reliability. We acknowledge the engagement Powercor has undertaken with its rural stakeholders in developing its regional and rural reliability and worst served feeder augex projects. Although these projects were broadly supported by Powercor's stakeholders, community support is not the sole factor in determining whether a project is prudent and efficient. The driver of these

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15 Customer Advisory Panel, *Customer Advisory Panel report on CitiPower's Regulatory Proposal 2026–31*, April 2025.

16 CCP32, *CCP32 Advice to the Australian Energy Regulator on the 2026–31 Regulatory Proposal for Powercor Electricity Distribution Network*, May 2025, pp 10–11.

projects is to improve reliability. However, in the absence of a regulatory obligation, we must assess these the cost and benefits of these projects. In many cases Powercor has overestimated the benefits of these projects which results in negative net benefits for these projects. We note that where the net present value (NPV) of these projects are marginally positive after accounting for the overestimated benefits, we have included that capex in our alternative estimate where ordinarily in the absence of community support, would not be considered prudent and efficient. It is open to Powercor to come back to us with updated modelling in its revised proposal to address these concerns.

We also found high unit costs driving Powercor's forecasts for some of its large repex programs, specifically its poles and pole top structure programs. Our analysis of unit rates aligns with EMCa's findings that Powercor's unit rates for poles and pole top structures are higher compared to the other Victorian DNSPs and to DNSPs across the NEM. Powercor refers to inflationary pressures for the increase in unit rates in the current 2021–26 period, which were used to derive unit rates for the forecast period. These inflationary pressures are common to all Victorian DNSPs and therefore does not explain Powercor's materially higher unit rates. Being a regional/rural network, we would expect Powercor to have comparable unit rates to DNSPs such as Ausnet and Jemena. However, Powercor's unit rates have been converging on (and in some cases surpassing) CitiPower's urban/CBD network.

For its poles, pole top structure programs and some other repex programs, we found that Powercor did not provide cost benefit analysis to demonstrate that its preferred higher cost option is prudent and efficient. In other cases, such as for regional and rural supply and the worst served customer augex projects, we found overestimated costs and/or benefits in its economic analysis. We also found its preferred investments did not have positive net benefit once more reasonable assumptions are applied.

We acknowledge that there is uncertainty when forecasting large capex investments. We also understand that the option of proposing a contingent project gives businesses the assurance of the inclusion of capex into the regulatory period if certain triggers are satisfied. Our draft decision is to not accept Powercor's proposed contingent project. This is because we consider the proposed contingent project is sufficiently certain and should be included as part of forecast capex. We encourage Powercor to engage with us on its revised contingent project proposal.

Our draft decision sets out reasons for our position, including information gaps and/or lack of supporting information. We invite Powercor to address these issues in its revised proposal. We acknowledge the extensive customer engagement that Powercor has undertaken on its capex proposal. We encourage Powercor to engage with its customers to continue to ensure that its customers' preferences are considered in its revised proposal.

Bottom-up review

Our bottom-up review found that Powercor provided sufficient evidence to support the forecast for some capex categories; namely in property, fleet, cyber security and other non-network. However, Powercor did not demonstrate that its forecast was prudent and efficient for the other areas of capex.

Table 2.4 sets out our draft decision for Powercor by capex category.

Table 2.4 Powercor's capex forecast and our draft decision by category ($2025–26, million)

Capex category	Powercor's proposal	AER's draft decision	Difference ($)	Difference (%)
Replacement	1,408.1	1,038.1	-370.0	-26.3%
Resilience	96.0	25.8	-70.2	-73.1%
Innovation	12.6	2.3	-10.3	-82.0%
Augmentation	543.9	314.5	-229.4	-42.2%
Connections	607.7	527.1	-80.7	-13.3%
ICT	277.8	251.8	-26.0	-9.3%
Property	137.8	137.8	0.0	0.0%
Fleet	105.9	105.9	0.0	0.0%
CER integration	27.4	22.8	-4.6	-16.9%
Cyber security	13.0	13.0	0.0	0.0%
Non-network capex - other	28.9	28.9	0.0	0.0%
Capitalised overheads	392.3	353.7	-38.6	-9.8%
Total capex (less capital contribution)	**3,651.4**	**2,821.7**	**-829.8**	**-22.7%**
less Disposals	-6.6	-6.6	0.0	0.0%
Modelling adjustments		-118.1		
Net capex	**3,644.9**	**2,696.9**	**-947.9**	**-26.0%**

Source: Powercor's regulatory proposal and AER analysis.
Notes: Numbers may not sum due to rounding. For Powercor's proposal, we re-categorised capex to align with how we assessed each category. We re-categorised $77.1 million of repex, $14.6 million of augex, $3.3 million of ICT, and $1.1 million of fleet to resilience. We re-categorised $13.0 million of ICT to cyber security. We also re-categorised $6.3 million of repex and $6.2 million of augex to innovation.

Table 2.5 summaries our reasons for accepting parts of Powercor's forecast by capex driver. For capex drivers that we do not accept, our reasons are set out in Appendix A.

Our findings on each capex driver are part of our broader analysis and should not be considered in isolation. We do not approve an amount of forecast expenditure for each individual capex driver or project/program. However, we use our findings on the different capex drivers to assess a regulated business' proposal as a whole and arrive at an alternative estimate for total capex where necessary. Our decision on total capex does not limit a regulated business' actual spending.

Table 2.5 Summary of our findings and reasons, by capex driver

Driver	AER's findings and reasons
Replacement	Our draft decision does not include Powercor's repex forecast of $1,408.1 million as part of our total capex forecast. Instead, we have included a substitute estimate of $1,038.1 million, which is $307.0 million (26.3%) lower than Powercor's forecast. Our bottom-up review confirmed concerns we found at the top-down level. Our reductions are mainly driven by a reduction to Powercor's unit rates for poles and pole top structures. We have made reductions to most of Powercor's asset groups except for service lines, SCADA and other replacement. We have concerns with some of Powercor's unit rates and the reasonableness of inputs and assumptions in its economic analyses. We also did not have confidence in some of Powercor's volume forecasts due to material data discrepancies. This is further discussed at Appendix A.1.
Resilience	Our draft decision does not include Powercor's resilience forecast of $98.4 million ($91.6 million capex, $6.8 million opex) as part of our total expenditure forecast. Instead, we have included a substitute estimate of $25.8 million ($25.8 million capex, $0 opex), which is $72.6 million (73.8%) lower than Powercor's forecast. Our bottom-up review of Powercor's resilience proposal found that while it demonstrated the prudency of investment, we were not provided with sufficient evidence that its proposed solution was efficient. We therefore did not have confidence that its preferred option would achieve the greatest net benefit to consumers. In particular, we consider the businesses often overestimated the benefits associated with the programs and therefore the capex to achieve these benefits. Our alternative forecast has substituted in more cost-efficient solutions. This is further discussed at Appendix A.5.
Innovation	Our draft decision does not include Powercor's innovation forecast of $21.0 million ($12.6 million capex, $8.4 million opex) as part of our total expenditure forecast. Instead, we have included a substitute estimate of $4.1 million ($2.3 million in capex, $1.8 million in opex) million, which is $16.9 million (80.5%) lower than Powercor's forecast. Our bottom-up review found several of Powercor's proposed projects to not be innovative or expenditure that we would otherwise expect to be a business-as-usual activity. We also have not excluded Powercor's innovation program from CESS. CitiPower, Powercor and United Energy have each proposed similar innovation expenditure proposals. They submitted very similar information in their business cases and other supporting evidence for these projects. As such, we have assessed the innovation expenditure forecast proposed by the 3 businesses at the aggregate level and make specific business observations where relevant.

Driver	AER's findings and reasons
	This is further discussed in Appendix A.6 in Attachment 2 (capital expenditure) of our draft decision on CitiPower's regulatory proposal.[17]
Augmentation	Our draft decision does not include Powercor's augex forecast of $543.9 million as part of our total capex forecast. Instead, we have included a substitute estimate of $314.5 million, which is $229.4 million (42.2%) lower than Powercor's forecast. Our bottom-up review found that some of Powercor's forecast at the project level is not prudent and efficient. While we have not made changes to the demand forecast, we found issues in Powercor's cost benefit analysis including issues with optimal timing, high costs, and incorrect use of value of customer reliability (VCR). We have reduced Powercor's customer driven electrification ($100.6 million) by $88.7 million due to a range of issues. This includes incorrect use of VCR and unsubstantiated increases in forecast complaints numbers. We found that the regional and rural supply program ($65.4 million) and the worst served customer program ($15.1 million) are overestimated and have made a reduction of $59.0 million and $8.3 million. Both programs were proposed on economic grounds but we found that benefits were overestimated. Use of bushfire category area loading, worst served customer values and VCR to value low voltage overestimated the benefits of these projects. We have reduced Powercor's bushfire mitigation programs ($143.1 million) by $59.2 million. This reduction is due to Powercor not being able to justify its non-mandated rapid earth fault current limiter (REFCL) and minimising bushfire risk programs. These programs were not required to meet a compliance obligation and provided no economic benefit. For REFCL compliance, we have reduced the forecast by $13.9 million due to the deferral of the Bendigo portion of the project. We also reduced the power quality program ($20.9 million) by $7.9 million. This is due to Powercor not being able to justify its Harmonics management program. This is further discussed at Appendix A.3.
Connections	Our draft decision does not include Powercor's connections forecast of $607.7 million as part of our total capex forecast. Instead, we have included a substitute estimate of $527.1 million, which is $80.6 million (13.3%) lower than Powercor's forecast. We have identified issues with Powercor's unit rates methodology and largely speculative data centre connections. For "business as usual" connections, we have updated the unit rate calculation for the forecast period based on an averaging period spanning the current period (i.e., 2021–24). For data centres, we have rejected Powercor's proposal in full due to the lack of evidence of any committed data centres.

[17] AER, *Attachment 5 - Capital expenditure - Draft decision - CitiPower distribution determination 2026–31*, September 2025.

Driver	AER's findings and reasons
	This is further discussed at Appendix A.2.
ICT	Our draft decision does not include Powercor's ICT total expenditure forecast of $312.7 million ($277.8 million capex, $34.9 million opex) as part of our total expenditure forecast. Instead, we have included a substitute estimate of $283.9 million ($251.9 million capex, $32.0 million opex), which is $28.8 million (9.2%) lower than Powercor's forecast. Our assessment concurs with EMCa's technical assessment and findings which found CitiPower, Powercor and United Energy did not provide sufficient evidence to demonstrate its aggregate ICT forecast is prudent and efficient. This is further discussed at Appendix A.4 in Attachment 2 (capital expenditure) of our draft decision on CitiPower's regulatory proposal.[18]
Property	Our draft decision includes Powercor's property forecast of $137.8 million as part of our total capex forecast. We assessed Powercor's forecast at the top-down and bottom-up level and are satisfied its forecast is prudent and efficient.
Fleet	Our draft decision includes Powercor's fleet forecast of $106.9 million as part of our total capex forecast. This forecast is 0.4% less than its actual/estimate expenditure for the 2021–26 period. We undertook a top-down assessment and bottom-up review of Powercor's fleet capex and are satisfied with Powercor's methodology of replacing vehicles at end of life. We also note the forecast unit rates have increased, but this is partially offset by a decrease in volumes and a reduced amount of vehicle sharing with CitiPower.
CER integration	Our draft decision does not include Powercor's forecast of $56.1 million in totex ($27.4 million capex, $28.7 million opex) for CER integration as part of our total expenditure forecast. Instead, we have included a substitute estimate of $44.8 million in totex ($22.8 million capex, $22.0 million opex), which is $11.3 million (20.1%) lower than Powercor's forecast. CitiPower, Powercor and United Energy have adopted a common strategy for addressing CER. For CER ICT, these are also enterprise-wide investments for which expenditure is allocated between the 3 businesses. Due to their commonality, we have assessed CitiPower, Powercor and United Energy's strategy and forecast programs collectively. We have considered EMCa's findings and agree that while the proposed expenditure to introduce flexible services is prudent and efficient, CitiPower, Powercor and United Energy did not provide sufficient information to demonstrate prudency and efficiency of its remaining 2 projects.

[18] AER, *Draft decision: CitiPower electricity distribution determination 1 July 2026 – 30 June 2031*, *Attachment 2 – Capital expenditure*, September 2025.

Driver	AER's findings and reasons
	This is further discussed at Appendix A.5 in Attachment 2 (capital expenditure) of our draft decision on CitiPower's regulatory proposal.[19]
Cyber security	Our draft decision includes Powercor's cyber security total expenditure forecast of $26.2 million ($13.0 million capex, $13.2 million opex) as part of our total expenditure forecast. CPU's cyber security total expenditure forecast is $75.6 million. Our assessment concurs with EMCa's findings that CPU has provided sufficient evidence of increased cyber threat risk and therefore that its shift from SP-1+ to SP-2 is reasonable. CPU has also provided evidence of how its proposed activities will address the gap between SP-1+ and its move to SP-2. They have also provided an options analysis to demonstrate that its preferred investments are efficient.[20]
Non-network capex – other	Our draft decision includes Powercor's forecast of $28.9 million for other non-network (i.e., tools and equipment) as part of our total capex forecast. Powercor demonstrated to us that its forecast is based on historical expenditure. We are satisfied that Powercor's forecast method is reasonable and its forecast for other non-network is reflective of the efficient costs of a prudent operator.
Capitalised overheads	We have accepted Powercor's method for calculating capitalised overheads, which is consistent with the AER's standard approach. We have made reductions to Powercor's forecast of $392.3 million for capitalised overheads to account for reductions to the wider capex forecast as well as other modelling adjustments. We have included a substitute estimate of $353.7 million, which is $38.6 million (9.8%) lower than Powercor's forecast.
Disposals	We have included Powercor's disposals forecast in its total capex forecast.
Modelling adjustments	Our draft decision includes standard modelling adjustments for updated inputs to inflation and labour real cost escalation. We also included adjustments to internal and contract labour. Powercor submitted that most of its labour is outsourced and that its forecast does not include any direct network internal labour.[21] Therefore, our draft decision capex model re-classifies any internal labour as contract labour for all direct network capex. Given we do not apply real cost escalation to contract labour, we also applied zero real cost escalation for this cost component.

19 AER, *Draft decision: CitiPower electricity distribution determination 1 July 2026 – 30 June 2031*, *Attachment 2 – Capital expenditure*, September 2025.

20 Energy Market Consulting associates, *CitiPower, Powercor and United Energy ('CPU') 2026–31 Regulatory Proposals: Review of Proposed Expenditure on Cyber Security*, report for the AER, EMCa, 2025.

21 Powercor, *Response to information request 042*, July 2025, p 38.

Driver	AER's findings and reasons
	Adjustments for internal and contract labour reduces out alternate forecast by $105.0 million. Updates to inflation and labour real cost escalation reduces our alternate forecast by a further $13.1 million. In its capex model, Powercor's base year for its capex inputs were in end year $2025–26, which is the beginning of its forecast regulatory period. It is unclear of the methods and inputs that Powercor used to escalate its costs to end year $2025–26 given this is a forecast year. In its revised proposal, we encourage Powercor to explain how it escalated its base year costs and apply a non-forecast base year to its capex model.
Ex-post review	We are required to provide a statement on whether the roll forward of the regulatory asset base (RAB) from the previous period contributes to the achievement of the capex incentive objective.[22] The capex incentive objective is to ensure that, where the RAB is subject to adjustment in accordance with the NER, only expenditure that reasonably reflects the capex criteria is included in any increase in value of the RAB.[23] Where, during the review period,[24] a distributor's capex exceeds its allowance (and therefore the overspending requirement is satisfied),[25] we may reduce the RAB by the amount of capex that we are satisfied does not reasonably reflect the capex criteria.[26] We have reviewed Powercor's capex performance for the 2020 to 2023–24 regulatory years. Powercor incurred total capex below its regulatory forecast for the ex-post review period. On this basis, the overspending requirement for an efficiency review of past capex is not satisfied.

22 NER, cl. 6.12.2(b).

23 NER, cl. 6.4A(a).

24 NER, cl. S6.2.2A(a1).

25 NER, cl. S6.2.2A(b).

26 AER, Capital Expenditure Incentive Guideline, November 2013, p. 17; and NER, cl. S6.2.2A(f)

A Reasons for decision on key capex categories

This appendix sets out our assessment of key capex categories and programs/projects within Powercor's total capex forecast. It also sets out the reasons for our decision. This appendix includes:

- Repex (A.1)
- Connections (A.2)
- Augex (A.3)
- Resilience (A.4).

We note that CitiPower, Powercor and United Energy submitted information that is very similar in content to support its forecast for the same or similar list of projects for specific capex categories. Given these similarities, our assessment of the proposals for ICT, CER integration, and innovation is based on the aggregate total expenditure forecast presented by these 3 businesses. We set out our findings and determination (including on Powercor's proposed forecasts) for these capex categories in our draft decision capital expenditure attachment for CitiPower.[27]

A.1 Repex

We do not accept that Powercor's repex forecast of $1,408.1 million would form part of a total capex forecast that reasonably reflects the prudent and efficient costs to maintain the safety, reliability and security of the network. Our draft decision includes $1,038.1 million in repex, which is $370.0 million (or 26.3%) lower than Powercor's proposal.

A.1.1 Powercor's proposal

Powercor overspent by 49.6% in the current period which it submits '…reflects rising input costs, noting the impacts of the pandemic and ongoing global supply chain pressures have limited the ability for contract management to mitigate these uplifts.'[28]

Powercor's forecast is also a material step up (33.0%) relative to its current period spend.[29] It proposes increases in replacement for most repex asset categories. It notes that the step up reflects increasing defect and failures rates for conductors and underground cables and increasing risk of its substation switchgear and transformer assets.[30] We also identified material increases in all other programs except for service lines and other replacement.

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27 AER, *Draft decision: CitiPower electricity distribution determination 1 July 2026 – 30 June 2031*, *Attachment 2 – Capital expenditure*, September 2025.

28 Powercor, *Regulatory proposal 2026–31, Part B: explanatory statement, Revenue and expenditure forecasts,* 31 January 2025, p 47.

29 Rather than using RIN data for this comparison, we relied on Powercor's response to information request IR009.

30 Powercor, *Regulatory proposal 2026–31*, p 47.

Table A1.1 sets out Powercor's forecasts for its repex programs compared to its current period spend.

Table A1.1 Powercor's repex forecast by program compared with actual/estimated capex in 2021–26 ($2025–26, million)

Program	Powercor's 2021–26 actual/est	Powercor's 2026–31 forecast	Change from 2021–26 (%)	% of total repex
Poles	475.0	548.4	15.5%	38.9%
Pole top structure	208.3	265.7	27.5%	18.9%
Overhead conductor	20.7	101.9	391.4%	7.2%
Underground cables	23.7	49.8	110.4%	3.5%
Service lines	59.9	64.1	7.1%	4.6%
Distribution transformers	72.6	105.8	45.6%	7.5%
Distribution switchgears	128.5	146.4	14.0%	10.4%
Substation transformers	6.8	38.9	475.3%	2.8%
Substation switchgears	4.1	37.1	804.1%	2.6%
SCADA	6.9	30.6	340.6%	2.2%
Other	48.4	19.5	-59.8%	1.4%
Total repex	**1,054.8**	**1,408.1**	**33.5%**	

Source: Powercor's regulatory proposal and AER analysis. The 2026–31 forecast repex uses Powercor's capex model and the 2021–26 actuals/estimated repex uses its RIN data.
Note: Does not include resilience and innovation programs. We have shifted the overlap in poles from the BAU pole program to the bushfire and flood resilience programs. Total repex for 2021–26 actual/estimated does not reconcile with Table 2.2 ($1,058.3 million) due to errors with Powercor's RIN data.

To derive its forecasts, Powercor used several forecasting methods including historical trend, condition-based risk model (CBRM), and economic analysis.

A.1.2 Reasons for our decision

We have reviewed the information Powercor provided in support of its repex forecast. We engaged EMCa to review aspects of Powercor's proposed repex. Where required, we have sought further information from Powercor through information requests.

We undertook a top-down assessment which informed our bottom-up assessment of Powercor's proposed repex. Our draft decision at a program level is set out in Table A1.2.

Table A1.2 Powercor's repex forecast and AER draft decision by program ($2025–26, million)

Program	Powercor's 2021–26 actual/est	Powercor's 2026–31 forecast	AER's draft decision	% change (forecast vs draft decision)
Poles	475.0	548.4	441.0	-19.6%
Pole top structure	208.3	265.7	156.5	-41.1%
Overhead conductor	20.7	101.9	75.9	-25.5%
Underground cables	23.7	49.8	20.2	-59.5%
Service lines	59.9	64.1	59.9	-6.5%
Distribution transformers	72.6	105.8	84.4	-20.2%
Distribution switchgears	128.5	146.4	113.9	-22.2%
Substation transformers	6.8	38.9	17.4	-55.3%
Substation switchgears	4.1	37.1	23.9	-35.5%
SCADA	6.9	30.6	25.5	-16.8%
Other	48.4	19.5	19.5	0.0%
Total repex	**1,054.8**	**1,408.1**	**1,038.1**	**-26.3%**

Source: Powercor's regulatory proposal and AER analysis. The 2026–31 forecast repex uses Powercor's capex model and the 2021–26 actuals/estimated repex uses its RIN data.

Note: Does not include resilience and innovation programs. We have shifted the overlap in poles from the BAU pole program to the bushfire and flood resilience programs. Total repex for 2021–26 actual/estimated does not reconcile with Table 2.2 ($1,058.3 million) due to errors with Powercor's RIN data.

A.1.2.1 Top-down assessment

Our top-down assessment revealed that Powercor's proposed step up in repex of 33.0% in the forecast period relative to current period spend requires a closer review.[31] In particular, our top-down assessment found:

- Powercor is proposing an increase in repex relative to the current period across almost all its programs
- Powercor is expecting to overspend by 49.6% in the current period and its forecast for 2026–31 is materially higher
- Powercor does not perform well against the AER's repex model – the repex modelling results indicate that Powercor has higher unit rates and shorter replacement lives compared to the other 13 DNSPs in the NEM. As Powercor's modelled repex is 68.0% of

[31] Rather than using RIN data for this comparison, we relied on Powercor's response to information request IR009.

its total repex, the repex model results indicates that a closer review of Powercor's forecast is required

- Powercor's SAIFI results indicate improvement in performance over time – We observe a decreasing trend in Powercor's SAIFI from 2015 to 2024, suggesting that reliability of its network is improving over time
- No clear increase in asset failures – There are no clear increasing failure trends in any of Powercor's asset groups over the last 10 years. Pole top structures, conductors and service lines all have decreasing failure rates. All other asset groups appear to have flat failure rates. Where there is a step up in expenditure for particular assets, we expect a prudent network service provider to provide robust evidence of the risk the assets pose to maintaining the safety and reliability of its network.

A.1.2.2 Bottom-up assessment

Our bottom-up review found that the majority of Powercor's forecast at the program level is not prudent and efficient. We make some following overall observations:

- *For poles and pole top structures, Powercor's unit rates are not reflective of efficient costs*

  Our analysis of unit rates aligns with EMCa's findings that Powercor's unit rates for poles and pole top structures are high when compared to the other Victorian DNSPs as well as DNSPs across the NEM. Powercor refers to inflationary pressures for the increase in unit rates in the current 2021–26 period, which were used to derive unit rates for the forecast period. These inflationary pressures are common to all Victorian DNSPs and therefore does not explain Powercor's materially higher unit rates. Being a regional/rural network, we would expect Powercor to have comparable unit rates to DNSPs such as Ausnet and Jemena. However, Powercor's unit rates have been converging on (and in some cases surpassing) CitiPower's urban/CBD network.

- *In some cases, we did not have confidence that Powercor's forecasting approach to volumes would result in prudent and efficient outcomes*

  Powercor uses its CBRM to forecast volumes for some of its programs. We do not have confidence that this approach results in the most efficient outcome. Powercor uses the CBRM to predict the probability of failure (PoF), probability of consequence (PoC), and a health index (ranging from zero to 10), where it intervenes when the health index exceeds a certain number. Typically, the results of the CBRM is subsequently used in a cost benefit analysis (in the PoF and PoC) to determine the optimal investment that would result in net benefits to consumers. We found that Powercor did not undertake the critical end step of a cost benefit analysis, instead assuming that its deterministic outcome from the CBRM is prudent and efficient.

- *Like CitiPower and United Energy, Powercor did not provide cost benefit analysis to support most of its forecast*

  As set out in our asset replacement guidance note, we expect businesses to undertake economic analysis to demonstrate prudency and efficiency of its preferred investment.[32]

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[32] AER, *Industry practice application note for asset replacement planning,* January 2019.

We consider a cost benefit analysis to be critical evidence especially where Powercor is forecasting a material step up in forecast volumes and/or unit rates. This is because the option that results in the greatest net benefit may change with material forecasted changes in volumes and/or unit rates. This is the case for Powercor's forecast for its poles and pole top structure programs.

- *Economic analysis/risks models were mainly provided for some high value, low volume assets – e.g. for its substation switchgear and transformer programs*

  We found the risk framework to be reasonable, but we have concerns with the reasonableness of the inputs. When we adjusted for more reasonable assumptions, we found that the optimal investment was lower compared to Powercor's forecast.

- *Lack of confidence in the volume forecasts given material data discrepancies*

  For some projects (for example, defective fuses, and underground cables), we found a material step up in the volume forecasts even though Powercor indicates that its forecast is based on a historical average. More generally, we found many issues with its historical data. Given our lack of confidence with its volume forecast, our alternative forecast applies the best historical average data that we could source.

We discuss each of our findings on Powercor's forecast for each of its repex programs below.

Poles

Powercor proposes $548.4 million for its pole intervention program in 2026–31. Table A1.3 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $441.0 million which is 19.6% lower than Powercor's forecast.

Table A1.3 Powercor's pole forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Pole replacement	Replacements based on extrapolation of existing ESV minimum interventions, historical fault-based replacements, and historical concrete pole replacements.	505.8	421.6
Pole reinforcement (staking)	Staking of wooden poles based on existing ESV staking ratio (replace vs stake) of 40%.	42.6	19.4
Total repex		**548.4**	**441.0**

Source: Powercor's regulatory proposal and AER analysis.
Note: For Powercor's forecast and our draft decision, we shifted pole overlap expenditure from the pole replacement program to the bushfire and flood resilience programs.

The basis of Powercor's pole intervention forecast is Energy Safe Victoria's (ESV) minimum intervention requirements that Powercor is undertaking in the current 2021–26 period. In August 2022, we accepted Powercor's cost pass through application of $130.3 million (real, 2025–26) for Powercor to intervene on additional wooden poles to what our 2021–26

revenue determination included. These additional pole interventions related to a requirement from the ESV to update its bushfire management plan to intervene on a minimum of 34,650 between 1 January 2022 and 31 December 2026.[33] The ESV set this requirement to address a deterioration in Powercor's pole failure rates. Our determination found this requirement qualified as a regulatory obligation for Powercor.

At this draft decision stage, we accept Powercor's proposed volume of pole interventions (replacements and reinforcements), subject to these volumes being included in Powercor's Bushfire Mitigation Plan that takes effect from 1 January 2027. We have considered EMCa's findings and agree that addressing a decline in pole performance typically spans 2 regulatory periods, noting the existing pole intervention requirements began in the current 2021–26 period.

However, like EMCa, we found that Powercor's pole replacement and reinforcement unit rates appear inefficient. Powercor submitted it used the most recent year of RIN data to derive its volume weighted unit rates.[34] Using RIN data from 2023–24, we compared Powercor's unit rates against other comparable DNSPs across the NEM. We found that Powercor's unit rates are much higher than its peers and comparable to CitiPower's urban/CBD network. Our draft decision applies lower unit rates in line with comparable Victorian DNSPs that have sufficient unit rate data. In its revised proposal, we encourage Powercor to explain why its unit rates are higher than other comparable DNSPs.

Pole top structures

Powercor proposes $256.7 million for its pole top structures program in 2026–31. Table A1.4 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $156.5 million which is 41.1% lower than Powercor's forecast.

Table A1.4 Powercor's pole top structure forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Faults/corrective (pole top structure replacement)	Replacement volume based on historical average of faults and defects.	240.5	135.4
Risk-based bushfire program (pole top structure replacement)	Proactive replacements based on cost benefit analysis.	25.2	21.1
Total repex		**265.7**	**156.5**

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following EMCa findings:

33 AER, *Determination - Increase to minimum wood pole interventions cost pass through – Powercor*, August 2022.

34 Powercor, *Response to information request 004*, March 2025, p. 15.

- Faults/corrective program – Powercor's forecast volumes appear to be overestimated. Based on a declining failure and defect trend we would be expected that Powercor make downward adjustment to its pole top structure program. There is also no evidence that Powercor has factored in the recent increase in pole replacements, which would have included a high number of opportunistic pole top structure replacements. Our assessment concurs with EMCa's findings and we applied a 10% reduction to Powercor's proposed volumes for this program.

  Like poles, we have considered EMCa's findings and agree that Powercor's pole top structure unit rates are much higher than its peers. There are inconsistencies in unit rates across different data sources provided.[35] Using RIN data from 2023–24, we compared Powercor's unit rates against other comparable DNSPs across the NEM and found it benchmarked much higher, which Powercor has not explained. Our draft decision applies a lower unit rate that uses the average of Jemena and United Energy's unit rates for both HV and LV pole top structures.[36]

- Risk-based bushfire program – We have considered EMCa's findings and agree that Powercor's forecast volume for its risk-based bushfire program is reasonable. However, we found the same issues with its unit rates as per the faults/corrective program. Our draft decision applies the same lower unit rate for HV pole top structures as we applied to HV pole top structures in the faults/corrective program.

In its revised proposal, we encourage Powercor to provide clarity on how it derived its unit rates for both programs and why its rates are higher than other comparable DNSPs.

Overhead conductor

Powercor proposes $101.9 million for its overhead conductor program in 2026–31. Table A1.5 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $75.9 million which is 25.5% lower than Powercor's forecast.

Table A1.5 Powercor's overhead conductor forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Faults/corrective (conductor replacement)	Replacement volume based on historical average.	54.2	36.6
Non-compliant clearances (mix of solutions)	Rectifications based on non-compliant conductor clearances.	17.8	17.8
Risk-based 66kV (conductor replacement)	Cost benefit analysis.	16.8	8.4
Risk-based 22kV (conductor replacement)	Replacement volume based on historical average.	2.1	2.1

35 For example, IR004 and IR013 appear to have inverted unit rates for HV and LV.

36 The lower unit rate is applied to the faults/corrective program volume after the 10% reduction.

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Risk-based 22kV bushfire program (conductor replacement)	Cost benefit analysis.	10.9	10.9
Total repex		**101.9**	**75.9**

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following EMCa findings:

- Faults/corrective program – Powercor's forecast volume appears to be overestimated. Powercor relied on historical data up to 2022 to derive its historical average used to forecast its volume. When using more recent actual replacement volume data, which is materially lower, the forecast volume reduces from 737km to 498km. There is also no clear upward trend in conductor failure rates. The more recent 5-year actual data is more reflective of Powercor's current replacement volume and is more likely to reflect its network performance. Our assessment concurs with EMCa's findings and using more recent volume data results in a 32% reduction in Powercor's forecast for this program.
- Non-compliant clearance program – Powercor's forecast for its conductor clearance rectification program is prudent and efficient. Powercor used LiDAR technology to identify non-compliant conductor clearances across its network. Powercor's approach to identifying rectification sites is reasonable and the solutions chosen are appropriate.
- Risk-based 66kV program – Powercor's forecast for its risk-based 66kV conductor program is high. The forecast methodology has inherent flaws that would likely overestimate the health risk rating and probability of failure. Powercor has not measured its method against other techniques nor calibrated the outcomes of the model to observed experience. As with other repex programs, the modelling contains hard coded values that are unable to be verified such as energy at risk and VCRs. There is uncertainty with Powercor's modelling such that when corrected for, would likely result in a significant reduction in forecast volume. Our assessment concurs with EMCa's findings and our draft decision applies a 50% reduction to this program.
- Risk-based 22kV programs – Powercor's forecast for both risk-based 22kV programs are prudent and efficient. Powercor submits these programs are required to mitigate reliability and bushfire risk.[37] Powercor's forecast methods and costs are reasonable for both programs.

Underground cable

Powercor proposes $49.8 million for its underground cable program in 2026–31. Table A1.6 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $20.2 million which is 59.5% lower than Powercor's forecast.

[37] Powercor, *ASSET CLASS OVERVIEW: OVERHEAD CONDUCTORS*, January 2025, p 13, 25.

Table A1.6 Powercor's underground cable forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Faults/corrective HV (cable replacement)	Replacement volume based on historical average, defects and faults.	14.0	9.7
Risk-based HV (cable replacement)	Cost benefit analysis.	17.6	-
Faults/corrective LV (cable replacement)	Replacement volume based on historical average, defects and faults.	7.4	7.4
Faults/corrective (Pits and pillars)	Replacement volume based on historical average.	3.1	3.1
Defective SWER isolation	Replacement volume based on historical average.	7.8	-
Total repex		**49.8**	**20.2**

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following findings:

- Faults/corrective program HV – We found Powercor's forecast volumes to be high. Powercor states that the condition of its HV cables is based on its CBRM, yet its forecast is based on simple historical averages.[38] We are unable to derive its forecast based on its historical average expenditure, so it is unclear what forecast method was used. Further, Powercor is forecasting a material increase in HV cable expenditure in the last 2 years of the current 2021–26 period despite no increase in defect and failure rates.[39] Powercor has not explained this increase. Our draft decision includes capex in line with its historical expenditure for HV cables from 2019 to 2024.[40]
- Risk-based program HV – We found Powercor has not justified its risk-based HV cable replacement program. As pointed out above, there has been a significant increase in forecast HV cable replacement in the last 2 years of the current 2021–26 period. Powercor stated its risk-based program will only start in 2026–27, so it is unclear the reason for the uplift in the last 2 years given there is no increase in defects nor failures.[41] Key inputs and calculations in its cost benefits analysis were hardcoded so we can't objectively verify how the costs/benefits have been derived. Powercor also hasn't explained if there is overlap between this program and its faults/corrective program. Given Powercor has not justified an uplift in its faults/corrective program and its cost-benefit analysis cannot be reviewed, our draft decision is to not accept this program.

38 Powercor, *ASSET CLASS OVERVIEW: UNDERGROUND CABLES*, January 2025, p 8, 11.

39 Powercor, *ASSET CLASS OVERVIEW: UNDERGROUND CABLES*, pp 8–9.

40 As per Powercor's response to IR042 historical expenditure and volume.

41 Powercor, *Response to information request 042*, July 2025, p 31.

- Faults/corrective program LV – We found Powercor's forecast for its LV faults/corrective program reasonable. Powercor states that its LV cable forecast is based on historical averages. This is a reasonable approach and we could verify its forecast using its historical data. On this basis our draft decision is to accept this program.
- Faults/corrective program pits and pillars – We found Powercor's forecast volumes for its faults/corrective pits and pillars program to be reasonable. Powercor submits there has been an increase in failures and defects for these assets in recent years and an increase in expenditure reflects that.[42] On this basis we consider it is reasonable to maintain this level of expenditure into the forecast period.
- Defective SWER isolation– We found Powercor's has not justified its defective single wire earth return (SWER) isolation program. Powercor submits that this program relates to the replacement of defective SWER isolation substations and capacitive balancing unit earthing systems.[43] It also submits that this program is forecast based on historical volume.[44] We are unable to reconcile Powercor's submitted historical expenditure and volume for this program with its RIN data. It is also unclear whether this work is underground in nature and if it belongs in capex or opex. We do not consider Powercor has submitted sufficient detail to justify the need for this work and we are unable to verify how it derived its forecast. Our draft decision is to not accept this program and we invite Powercor to provide a business case in its revised proposal along with a reconciliation of its historical and forecast expenditure.

Service lines

Powercor proposes $64.1 million for its service lines program in 2026–31. Powercor's forecast is based on historical average faults and defects, which is reasonable. Its small increase in forecast compared to the current 2021–26 period is justified given there is an increase in defects. Its overall service line replacement rate is reasonable based on the age profile of its assets.

Powercor submitted that it made an error in its forecast volume for 2028–29.[45] We corrected for this using Powercor's average unit rate across the forecast period, which results in a $4.1 million reduction to its forecast. Our draft decision therefore includes $59.9 million for service lines.

Distribution transformers

Powercor proposes $105.8 million for its distribution transformer program in 2026–31. This is a 45.6% increase from its current period actual/estimated spend. Table A1.7 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $84.4 million which is 20.2% lower than Powercor's forecast.

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42 Powercor, *ASSET CLASS OVERVIEW: UNDERGROUND CABLES*, p 7.

43 Powercor, *Response to information request 042: distribution plant volume forecast model*, July 2025, p 30.

44 Powercor, *Response to information request 042*: *distribution plant volume forecast model*, July 2025, p 30.

45 Powercor, *Response to information request 042*, p 35.

Table A1.7 Powercor's distribution transformer forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Faults/corrective (transformer replacement)	Replacement volume based on historical average of faults and defects.	87.9	73.5
Risk-based (transformer replacement)	Proactive replacements based on cost benefit analysis.	8.2	4.1
Other distribution works	Forecast based on historical expenditure.	9.6	6.8
Total repex		**105.8**	**84.4**

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following findings:

- Faults/corrective program – We found Powercor's forecast expenditure for its faults/corrective transformer program to be high. Powercor's forecast includes replacements for pole mounted, kiosk, ground, and indoor mounted transformers. Although its forecast volume is in line with historical volume, it is proposing to replace lower cost pole mounted transformers with higher cost types (i.e. from single to multiple phase units and from small to larger capacity units). This is a key driver of the increase in expenditure for this program. Powercor has not provided information to support the move to higher cost units. Our draft decision accepts Powercor's forecast for all distribution transformer types except for pole mounted. For pole mounted, we accept Powercor's forecast volume but include expenditure to match its historical replacement types.
- Risk-based program – We found that Powercor has overestimated its forecast for its risk-based environmental transformer program. We have the same fundamental concerns with its oil-related risk methodology as we found in its substation environmental transformer program (see page 28). Our concerns mainly relate to how Powercor quantifies its risk costs for oil leaks. These are key inputs into its cost benefit analysis. In addition, Powercor proposes to replace a large volume (50%) of its extrapolated lower priority defects (i.e. P3) next period on the assumption that these defects will transition to higher priority defects. However, it did not provide supporting information on the expected transition rate. Our draft decision applies the same 50% reduction to this program as its substation environmental program. Our alternative estimate is 115% higher than the identified lower priority defects replaced so far this period. In its revised proposal, we encourage Powercor to address our concerns with its risk methodology as documented in EMCa's report to the AER and provide further information on the nature

of its lower priority defects.[46]

- Other distribution works – We found that Powercor has overestimated its forecast for its other distribution works program. Like Powercor's defective SWER ISO program, it has not provided sufficient information for us to determine the prudency and efficiency of its forecast. Powercor has not provided information about the scope of work and interaction with other programs (including with opex). Further, we found data discrepancies with Powercor's historical data. As Powercor's volume forecast is based on a historical average, we did not have confidence in its forecast. As this type of work typically supports its faults/corrective and risk-based program, our draft decision includes $6.8 million, which is based on our percentage reduction to those programs.

Distribution switchgear

Powercor proposes $146.4 million for its distribution switchgear program in 2026–31. Table A1.8 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $113.9 million which is 22.2% lower than Powercor's forecast.

Table A1.8 Powercor's distribution switchgear forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Faults/corrective (switch replacement)	Replacement volume based on condition model and historical averages.	40.1	40.1
Faults/corrective (fuse replacement)	Replacement volume based on historical average of faults and defects.	59.4	47.5
Risk-based (RMU replacement)	Cost benefit analysis.	20.6	-
Risk-based (ABS replacement)	Cost benefit analysis.	26.4	26.4
Total repex		**146.4**	**113.9**

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following findings:

- Faults/corrective program – We found Powercor's forecast for its faults/corrective switch program to be reasonable as it is in line with historical volume. However, we found its faults/corrective fuse program to be too high. Powercor submits that these volumes are based on historical averages. Powercor provided a historical reconciliation of its historical and forecast data for its fuse replacements.[47] However, there are

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46 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report to the AER, EMCa, 2025, pp 60–62.

47 Powercor, *Response to information request 042: forecast reconciliation and historical expenditure and volume model*, July 2025.

inconsistencies with its historical expenditure and volume, and we were unable to reconcile Powercor's forecast data with its reset RIN. We do not have confidence in Powercor's historical expenditure data for this asset. Therefore, we compared its forecast volume with its historical volume. We found its forecast to be 20% higher than its historical average. Our draft decision for faults/corrective fuses is based on reducing Powercor's forecast volume to its historical 5-year average.[48]

- Risk-based RMU program – We found Powercor has not justified its inoperable RMU replacement program. Powercor states that existing inoperable RMU switches in its network increase reliability risk as the next switch up/downstream needs to be operated to address outages (affecting more customers). We consider Powercor has overestimated its unserved energy and safety risk in its cost-benefit analysis. Once adjusting for more reasonable assumptions, all replacement options become uneconomic. We consider there may be specific circumstances where the replacement of inoperable RMU switches may be economically justified and encourage Powercor to investigate this in its revised proposal.
- Risk-based ABS program - We found Powercor's forecast for its inoperable ABS replacement program is reasonable. While this program is comparable to the inoperable RMU program, adjusting for more reasonable assumptions results in a marginally economic case. Given its unit rates are reasonable, and this program is a continuation of an existing program that we accepted in our 2021–26 determination, we are satisfied that Powercor has provided sufficient justification for this program.

Substation transformers

Powercor proposes $38.9 million for its substation transformer program in 2026–31. Table 1.9 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $17.4 million which is 55.3% lower than Powercor's forecast.

Table A1.9 Powercor's substation transformer forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Transformer replacement	Cost benefit analysis.	25.1	8.3
Transformer refurbishment	Cost benefit analysis.	9.3	4.7
Minor station works	Forecast based on historical expenditure	4.4	4.4
Total repex		**38.9**	**17.4**

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following EMCa findings:

[48] We included the expulsion drop-out fuse program in this decision. There was no information provided on this program, so we assumed it is part of the general fuse program.

- Transformer replacement – Powercor's forecast for its transformer replacement program is overestimated. Powercor relied on its cost benefit analysis for its proposed transformer replacements at 3 separate sites. There were issues with Powercor's modelling such as outdated VCR values, overestimated environmental risk, and present value of costs/benefits reviewed over different time periods. Its cost estimates also appear higher than other comparable DNSPs. Once the modelling is adjusted for more reasonable assumptions, this leads to 2 of the 3 sites being deferred beyond the 2026–31 period. Our assessment concurs with EMCa's findings and our draft decision includes capex for one of the 3 sites.
- Transformer refurbishment – Powercor's forecast for its transformer environmental refurbishment program is overestimated. Powercor proposed transformer environmental refurbishment program is intended to address identified oil leaks. It submits a model in support of the cost associated with this program. EMCa identified several concerns with the forecast which included incorrect quantification of the risk cost, and poor quantification of consequence costs. EMCa also observes that a targeted smaller program in 2026–31 to address high-risk sites would be prudent in line with Powercor's existing refurbishment program in the current period. We found similar issues with Powercor's oil-related risk methodology in its distribution transformers environmental program (see page 25). Our assessment concurs with EMCa's findings and our draft decision applies a 50% reduction to this program which is in line with what Powercor is proposing to undertake for the remainder of the current 2021–26 period. In its revised proposal, we encourage Powercor to address our concerns and resubmit its economic model to support this program.
- Minor station works – Powercor's forecast for its minor station works is reasonable. Its forecasting approach is appropriate and there is a need to undertake the proposed reactive works in the 2026–31 period.

Substation switchgear

Powercor proposes $37.1 million for the completion of 5 switchboard replacements in 2026–31. Its forecast is 804.1% higher than current period spend. Its proposed program involves 4 new substations (KYM, PLD, NKA and MNA), and completion of 1 'in-flight' switch board replacements (WBL). Table A1.10 sets out Powercor's proposal and our draft decision position on each of the proposed replacements. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $23.9 million which is 35.5% per cent lower than Powercor's forecast.

Table A1.10 Powercor's forecast for its substation switchgear program and the AER's draft decision ($2025–26, million)

Substation	Powercor's 2026–31 forecast	Expected completion date
In-flight replacement projects		
Warrnambool (WBL)	4.5	2026–27
Forecast substation switchboard projects		
Kyabram (KYM)	9.5	2028–29

Substation	Powercor's 2026–31 forecast	Expected completion date
Portland (PLD)	9.2	2029–30
Numurkah (NKA)	9.3	2030–31
Mooroopna (MNA)	4.7	2031–32
Total	**37.1**	

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following EMCa findings:

- Powercor's expects its in-flight replacement at Warrnambool to be completed in the first year of the forecast period. It is reasonable to include forecast capex to complete this project. Our draft decision is to accept this project.
- For the remaining projects expected to commence in the 2026–31 period, there are issues with Powercor's modelling. Optimal timing was not explored. Similar to other repex programs, the present value of costs/benefits were reviewed over different time periods and outdated VCR values were used. It's largest source of risk (associated with relays) was hard coded so it could not be reviewed. Adjusting for more reasonable modelling assumptions leads to the deferral of the NKA and MNA projects beyond the 2026–31 period. Our assessment concurs with EMCa's findings and our draft decision includes Powercor's forecast for 2 of its 4 proposed projects.

SCADA

Powercor proposes $30.6 million for its SCADA program in 2026–31. Table A1.11 sets out Powercor's proposal and our draft decision on each of the proposed interventions. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $25.5 million which is 16.8% lower than Powercor's forecast.

Table A1.11 Powercor's SCADA forecast and AER draft decision ($2025–26, million)

Intervention type	Forecasting approach	Powercor's forecast	AER's draft decision
Relay replacement	Cost benefit analysis.	25.7	20.6
Unplanned replacement	Forecast based on historical expenditure	4.9	4.9
Total repex		**30.6**	**25.5**

Source: Powercor's regulatory proposal and AER analysis.

We came to our draft decision having regard to the following EMCa findings:

- Relay replacement – Powercor's forecast for its relay replacement program is overestimated. There were issues with Powercor's methodology and modelling. There is a lack of transparency on how Powercor identified each site and the timing for replacement. It is also unclear how asset condition relates to replacement decisions. The risk costs were hard coded so it was not possible to determine how energy at risk was

calculated including what VCR values were applied. The present value of costs/benefits were reviewed over different time periods. Given there is marginal difference in net benefits between replacing in the 2026–31 period compared to the following period, adjusting for the modelling issues would likely lead to some projects being deferred beyond the 2026–31 period. Our assessment concurs with EMCa's findings and our draft decision includes a 20% reduction to Powercor's forecast.

- Unplanned replacements – Powercor's forecast for its unplanned replacement program is reasonable. Powercor used historical expenditure to forecast replacement of secondary defects, batteries and chargers. This program of work is required especially given the upward trend in defects and failures for these assets over the last 5 years. Our assessment concurs with EMCa's findings and our draft decision accepts this program.

Other replacement

Powercor proposes $19.5 million for its other replacement program in 2026–31.[49] Powercor submits that its forecast for other replacement is based on historical expenditure as historical expenditure is relatively stable while the type of assets can vary.[50] We consider this approach reasonable. Powercor noted that this category includes the innovation fund and that there was a misallocation with another category in its reset RIN.[51] Once removing the innovation fund and accounting for potential misallocations from Powercor's forecast for this category, there does not appear to be a step up from its historical expenditure. Therefore, our draft decision is to accept this category.

In its revised proposal, we encourage Powercor to re-submit its reset RIN adjusting for any errors it found since submitting its initial proposal.

A.2 Connections

We do not accept that Powercor's net connections capex forecast of $607.7 million and capital contributions (type 1) of $664.7 million would form part of a total capex forecast that reasonably reflects the capex criteria.[52] Our draft decision includes $527.1 million in net connections capex and $437.5 million in capital contributions. When compared to Powercor's proposal, this is a decrease of $80.6 million (13.3%) in net connections and $227.2 million (34.2%) in capital contributions.

A.2.1 Powercor's proposal

Powercor proposes $607.7 million for total net connections capex. Powercor's net connections capex forecast represents a 36.1% increase in expenditure compared to current period actual/estimates of $446.6 million. Powercor has explained residential and subdivision growth driven by housing shortages and an increase in data centre connections have significantly contributed to this uplift.[53] Its proposal includes a forecast $664.7 million in

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49 Rather than use Powercor's reset RIN forecast for this category, we relied on its capex model and CitiPower's categorisation in IR042. This does not include Powercor's innovation program.

50 Powercor, *Response to information request 042*, July 2025, p. 36.

51 Powercor, *Response to information request 042*, July 2025, pp. 9, 36.

52 Contributions from customers can be via direct funding (Type 1 contributions) or in contributed or gifted assets (Type 2 contributions). Only Type 1 capital contribution has been considered in making this decision.

53 Powercor, *Regulatory Proposal 2026–31*, p 66.

capital contributions (type 1), which is a 29.3% increase from the current period of $514.2 million. Powercor also proposes $44.7 million for large, bespoke net connections, which include data centres ($33.6 million) and grid-connected batteries ($11.1 million).Table A2.1.1 summarises the changes in total net connections and capital contributions from the current period to the forecast period.

Table A2.1 Powercor's connections proposal ($2025–26, million)

Powercor proposal	2021–26 actuals/est	2026–31 forecast	% change
Net connections	446.6	607.7	36.1%
Capital contributions	514.2	664.7	29.3%

Powercor engaged with its consultant Macromonitor to develop its forecast modelling approach for connections capex. Macromonitor applied an econometric model that incorporates historical trends, demographic forecasts, occupant/purchase demand and expected growth in various customer types in developing its final forecasts for connection volumes and unit rates. It has also provided a summary of their forecasting methodology for both residential and non-residential connections which employs:

- publicly available data
- known projects and
- a detailed analysis of economic influences used in their econometric model.

Across Powercor's material business as usual (BAU) connection types, it forecasts an average increase of 13.7% from its current period volumes.[54] We excluded embedded generation connections in calculating this increase as they were immaterial in net connections and skewed the volume aggregate. Macromonitor has attributed drivers such as a reduction in interest rates, residential and subdivision growth and work done in non-residential sectors to the increasing volumes.[55]

Powercor proposes a gross capex of $224.0 million and net capex of $33.6 million for data centres. It engaged L.E.K to model its data centre load forecasts and has forecast an 85.0% capital contribution rate (to gross capex excluding overheads) for data centres. It also stated that its forecast only includes contracted data centres.[56] In response to our information request, Powercor clarified that its forecast is based on a top-down methodology rather than estimated costs for specific data centres.[57] The capex forecast is based on an average $/MW rate multiplied by data centre capacity in the forecast period as estimated by L.E.K.[58]

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54 BAU connections consists of residential, commercial and industrial, subdivision and embedded generation connection types. Powercor, *PAL MOD 6.01 - Connections - Jan2025 - Public,* January 2025.

55 Macromonitor, *Forecasts by Region: Report prepared for CitiPower, Powercor & United Energy,* August 2024, p 1, 9; Powercor, *Regulatory Proposal 2026–31*, pp 70–71.

56 Powercor, *Regulatory Proposal 2026–31*, p 66.

57 Powercor, *Response to information request 028,* May 2025, p 1.

58 Powercor, *PAL ATT 6.02 – LEK - Data centre load forecasts* – Oct2024 – PUBLIC.

A.2.2 Reasons for our decision

For our analysis of Powercor's connections forecast, we have divided its proposed capex into 2 separate categories: BAU connections, and large bespoke connections (such as data centres).

We engaged Baringa to assess Powercor's connections volumes. We came to our draft decision having regard to Baringa's findings and our assessment of Powercor's proposed connection volumes, unit rates and associated methodologies.

A.2.2.1 BAU connections

Our draft decision includes $516.0 million in BAU net connections capex and $401.9 million in capital contributions, which is $47.0 million (8.4%) and $36.6 million (8.4%) lower than Powercor's proposal respectively.

We broadly accept Powercor's forecast volumes for BAU connection types. Baringa found the alignment of the gross state product growth rates with historical trends ensured volumes forecasts were realistic, reflecting long-term economic dynamics.[59] Further, Macromonitor had used publicly available sources (such as the ABS) as inputs for their projections which were able to be verified. Based on Baringa's assessment we are satisfied that the forecast connection volumes are prudent and efficient. However, we note some of Powercor's forecast volumes methodology could benefit from increased transparency of its intermediary calculation steps.

We do not consider Powercor's forecast unit rates are reasonable as it used 2023–24 unit rates as the basis for its forecast. While Powercor considered the prior years' unit rates were not a reliable indicator of forecast unit rates because of volatility during the pandemic, it did not sufficiently explain how the selection of a single year addresses the issue of volatility.[60]

We consider that using a longer historical trend better reflects forecast unit rates, particularly where volatility is an issue. For this reason, our alternative forecast is based on the last 3 years of Powercor's actual unit rates in the 2021–26 period. This results in a $47.0 million or an 8.4% decrease in net connections. We intend to update this to include the 4th year when the data is available.

We also reviewed the capital contributions formula. In response to an information request, Powercor clarified that the contribution rates have been calculated from samples of completed projects by connection category.[61] These samples are updated based on the global weighted average costs of capital. We consider this methodology reasonable.

We encourage Powercor to respond to the issues we have raised in its revised regulatory proposal. We also welcome further supporting information, including actual capex from 2024–25, policy changes, and updated economic and demographic statistics which could materially impact its forecast assumptions.

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59 Baringa, *Distribution demand forecast assessment: Review of Powercor's 2026-31 regulatory proposal*, report for the AER, Baringa, 2025, p 27.

60 Powercor, *Response to information request 018: CESS and Connections*, April 2025, p 6.

61 Powercor, *Response to information request 018*, p. 5.

A.2.2.2 Large bespoke connections

Powercor proposes a gross capex of $224.0 million and net capex of $33.6 million for data centres and forecasts an 85.0% capital contribution rate (to gross capex excluding overheads) for data centres. Our draft decision is to not accept Powercor's forecast. This is because we do not consider its forecast is prudent and efficient, given the basis of its forecast does not reflect the capex it requires in the 2026–31 period.

Powercor's top-down methodology, estimated by their consultant L.E.K, is based on an average $/MW rate multiplied by data centre capacity in the forecast period, which does not identify the data centres that need to be constructed in the 2026–31 period.

It also assumes that data centre capacity has a relationship with forecast capex. However, we consider Powercor has not demonstrated this relationship. This is because the forecast capacity measure appears to include data centres that have been or will be constructed in the current period. Further, Powercor has not provided information to support the volume of expected data centre connections with reference to actual connection inquiries in the forecast period.

It is our understanding that Powercor will be revising its data centre forecast for our consideration in its revised proposal. We would expect Powercor to provide forecast information supported by actual data centre connection applications. This includes contract information for committed data centres and the status of any connection enquiries.

Guidance for revised proposal data centres forecast

We acknowledge that demand for data centres is likely to increase in the forecast period relative to the current period. However, we must be satisfied that the forecasts accurately reflect the likely demand for data centre connections in the forecast period.

To assist Powercor with its revised proposal, we have broadly identified 3 categories of data centre connection projects with differing levels of information to support them. We have provided this guidance given that data centres are a relatively new type of connection. We do not consider this guidance to be comprehensive and expect there to be adjustments to factor in the information that is available to Powercor.

We encourage Powercor in its revised proposal to provide information to support the following categories:

- *Committed in-flight projects.*

  For committed 'in-flight' connections, we consider these to be data centre connections where committed works agreements (CWAs) have been signed. If Powercor provides evidence of these CWAs for connections to be constructed in the forecast period, we will be satisfied Powercor has demonstrated that the capex is prudent and efficient.

- *Projects that are between the connection enquiry to connection offer stage.*

  For projects that are at the enquiry to CWA stage, we would require cost build ups for projects at the feasibility and offer stages. This should be based on actual unit rates from historical projects. Where this unit rate is not available, it should be based on a comparable unit rate multiplied by the MVA. These projects should then be weighted against the probabilities of them progressing within the forecast period. These weights

should be supported by evidence of how often projects at their respective stages of maturity at the time of the revised proposal are likely to progress to the CWA stage in the forecast period.

- *Future project which are anticipated but enquiries have not yet been received.*

  For projects that have not advanced to the enquiry stage, we acknowledge that it may be difficult for Powercor to forecast based on actual enquiries. Where available, we expect Powercor to provide evidence of the volume of interest it has received for data centre connections. For example, if a connection applicant has paid any fees, or there has been public announcements or scoping and drawing documents. We note that data centres may have significant lead time so we expect that any data centres to be constructed in the forecast period should already have evidence available.

  However, we acknowledge that there could be data centres constructed towards the latter years of the forecast period where direct evidence is not currently available. If Powercor intends to include a forecast for data centres where limited evidence is available, then we expect Powercor to provide independent evidence that there will be continued uptake in data centres in their network.

Powercor will also have to demonstrate that holistically their forecast is in line with the expectations of other organisations such as AEMO. Powercor must explain why it considers the uptake in data centres will likely occur in its network area rather than in another Victorian network. We also consider Powercor should factor in that applicants may apply to multiple DNSPs and that some may be more speculative in nature relative to typical connection applications.

Other major connections

We accept Powercor's grid connected batteries proposal of $11.1 million. This is because it is based on an established forecasting methodology, noting that these are connections are offset by substantial capital contributions.

A.3 Augex

We do not accept that Powercor's augex forecast of $543.9 million would form part of a total capex forecast that reasonably reflects the prudent and efficient costs to maintain the safety, reliability and security of the network. Our draft decision includes $314.5 million in augex, which is $229.4 million (or 42.2%) lower than Powercor's proposal.

A.3.1 Powercor's proposal

Powercor has proposed $564.7 million for augex. We consider $6.2 million of proposed augex is network innovation and $14.6 million is resilience and have assessed these as such. For our draft decision, we have assessed the remaining $543.9 million as augex and referred to this amount for the remainder of this section.

Powercor expects to underspend its augex by 13.5% in the current period which it submits is due to several factors, including:[62]

- stronger than expected performance from solar export solutions,
- deferred and delayed augex, and
- pandemic-related demand uncertainty and supply chain delay.

Powercor's forecast is a material step up (78.4%) relative to its current period spend. It notes that the increase is primarily driven by an increase in its demand forecast and demand driven capex as a result.[63] Powercor has proposed $290.1 million for demand driven, $110.7 million for non-demand driven augex and $143.1 million for bushfire related augex. The key drivers of demand driven augex for Powercor are increasing peak demand, population growth and electrification of gas and transport.

A.3.2 Reasons for our decision

In coming to our decision, we have reviewed the information Powercor provided in support of its augex forecast. We engaged EMCa to review aspects of Powercor's proposed augex and Baringa consulting to review Powercor's demand forecast. When assessing Powercor's proposal for augex, we had regard to major project business cases, key assumptions, identification of need, historical comparison, options and cost benefit analysis. Where required, we have sought further information from Powercor through information requests.

We undertook a top-down assessment which informed our bottom-up assessment of Powercor's proposed augex.

A.3.2.1 Top-down assessment

Our top-down assessment revealed that Powercor's proposed step up in augex of 78.4% in the forecast period relative to current period spend required a more in-depth assessment. Our top-down assessment found:

- The quality and transparency of the economic analysis and investment options considered by Powercor requires review.
- Powercor's demand forecasting model requires a full review to justify the large increases in demand.
- Powercor is proposing an increase in augex relative to the current period, particularly in its demand driven augex. The key drivers of demand driven augex for Powercor are increasing peak demand, population growth and electrification of gas and transport.
- Powercor is expecting to underspend by 13.5% in the current period but its forecast for 2026–31 is materially higher. The increase in its forecast for 2026–31 is partially driven by Powercor's large customer driven electrification program.
- Powercor has proposed several programs targeted at improving reliability both for regional customers and in bushfire areas. In the absence of a compliance obligation

62 Powercor, *Regulatory proposal 2026–31*, p 31.

63 Powercor, *Regulatory proposal 2026–31*, p 31.

these programs must have a positive economic benefit. These programs require review to determine if they have a positive customer benefit.

A.3.2.2 Bottom-up assessment

We make the following overall observations:

- *Powercor's cost benefit analysis was not sufficient in some cases.*

  We engaged EMCa to undertake a targeted review of certain aspects of Powercor's augex including demand and non demand augex projects ($421.0 million or 77.4%). This included the customer-driven electrification ($100.6 million), regional and rural supply ($65.4 million), western growth corridor expansion ($93.0 million), stand-alone power systems ($3.9 million), worst served customers ($15.1 million) and bushfire mitigation ($143.1 million) programs.

  We note the following key findings identified by EMCa:[64]

  - Powercor has selected the highest net present value (NPV) option in each case (except for projects based on a compliance obligation) and the business cases presented both the optimal timing of the project and sensitivity analyses focussed on the NPV. The sensitivity analysis was focused on the robustness of the NPV against negative changes however, it did not include changes to the optimal timing.
  - Powercor presented business cases and supporting cost-benefit analysis models that provided foundational material to support assessment. However, cost-benefit analysis models were not transparent and contained hard-coded data. In some cases, Powercor's responses to information requests did provide the additional detail necessary but there were still some responses with hard coded data.
  - An issue with the business cases and cost benefit models is the limited information on the cost estimation for projects and that in several cases the cost estimates are too high.
  - For the demand-driven projects EMCa were satisfied that there was a need for Powercor to consider means of mitigating the risk of unserved energy with increasing demand. Powercor presented a good range of options but did not consider any non-network solutions to economically defer network expansion.
  - Overall concerns with Powercor's analysis is that it did not justify timings, had overestimated costs and incorrectly applied the VCR.

  Our assessment concurs with EMCa's findings, and we have undertaken a similar analysis for the remaining projects and found similar concerns for some projects.

- *Issues were identified with the demand forecast but these did not materially affect the augex forecast.*

  We engaged Baringa Consulting to review CPU's demand forecasts. Baringa assessed the methodologies and assumptions underpinning the demand forecast.

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64 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 120–122.

We note the following key concerns identified by Baringa:[65]

- CPU's forecasting approach is generally well-documented, though there are inconsistencies in the treatment of block loads.
- Baringa had some concern with the maximum demand forecast due to validation challenges with the Blunomy model and the exclusion of gas electrification impacts. Baringa also had moderate concerns with the minimum demand forecast. However, errors in the maximum and minimum demand forecasts have opposite effects on augex and customer energy resources (CER) enablement expenditure. So, issues with maximum and minimum demand have had no material impact on the augex at a project level.
- Customer number forecasts did raise some concern, with the stated methodology appearing inconsistent with regulatory information notices (RIN) data and likely overstating growth given historically slower customer growth. This did not have an impact on augex at the project level.

We agree with Baringa's findings on the demand forecast. Specifically, we agree that despite the issues identified by Baringa, we do not consider it had a material impact on our conclusions on augex. We have not made any adjustments for the demand forecast and all our adjustments related to the issues identified with the cost benefit analysis above.

Our bottom-up review found that some of Powercor's forecast at the project level is not prudent and efficient. While we made no changes to the demand forecast, we found issues in Powercor's cost benefit analysis including issues with optimal timing, overestimated costs and incorrect use of VCR. Our project specific issues are discussed in more detail below. Table A3.1 sets out our alternative forecast for Powercor's augex projects.

Table A3.1 Powercor's augex forecast by project and the AER's draft decision ($2025–26, million)

Project	Powercor's forecast	Reduction	AER's draft decision
Customer-driven electrification	100.6	88.7	11.9
REFCL compliance	97.8	13.9	83.9
Western growth corridor expansion	93.0	0.0	93.0
Regional and rural supply	65.4	59.0	6.3
Minimising bushfire risk	26.2	26.2	0.0
System security	26.1	0.0	26.1
Power quality	20.9	7.9	13.0
Non-mandated REFCL	19.1	19.1	0.0
Worst served customer program	15.1	8.3	6.8

[65] Baringa, *Distribution demand forecast assessment: Review of Powercor's 2026-31 regulatory proposal*, report for the AER, Baringa, 2025, p 6, pp 27–36.

Project	Powercor's forecast	Reduction	AER's draft decision
HV feeder program	14.0	0.0	14.0
Metering	13.4	4.4	9.0
Communications	12.6	0.0	12.6
ZSS capacity upgrades	8.7	0.0	8.7
AEMO compliance	8.6	0.0	8.6
Subtransmission upgrades	8.4	0.0	8.4
Operational technology	5.3	0.0	5.3
Stand-alone power systems	3.9	1.9	1.9
Asset relocations	3.5	0.0	3.5
HV customer non-compliance	1.3	0.0	1.3
Total augex	**543.9**	**229.4**	**314.5**

Source: Powercor proposal, AER analysis. Numbers may not sum due to rounding.

For the projects in Table A3.1 that we have accepted, we found these are prudent and efficient investments. Powercor assessed investment options using reasonable assumptions and provided options analysis where relevant. Where projects were ongoing business as usual programs, we found that the costs were consistent with historical spending. For projects proposed to meet compliance obligations we found that Powercor had proposed the least cost option to rectify the issue.

We have made adjustments to proposed metering capex to reflect our updates to communications equipment unit costs. This includes reducing unit costs and installation costs to better align with historically approved costs for some types of communications equipment. Please see Attachment 15 – Metering Services for details.

We discuss our findings on Powercor's forecast where we recommend an alternative forecast below.

Customer driven electrification

Powercor proposes a $100.6 million capex program to improve its steady-state voltage compliance by investing in proactive augmentation, and reactive augmentation, with a preference for proactive investment that maintains existing voltage performance levels. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $11.9 million which is $88.7 million lower than Powercor's forecast.

Our analysis of the cost benefit analysis model has shown that Powercor has not justified the need to conduct this level of augmentation during the next regulatory period. Our alternative forecast applies historical costs from the current regulatory period to maintain voltage compliance.

We came to our draft decision having regard to the following EMCa findings that:[66]

- EMCa were satisfied that Powercor is likely to have to spend on maintaining voltage compliance above the functional limit over the next regulatory period due to forecast demand and the expected trend to electrification. However, Powercor's modelling indicates it is likely to maintain compliance until the end of the next regulatory period and we consider that the impact of voltage decline is likely to be less than Powercor has forecast.
- Based on the information provided, the jump from 2 voltage complaints in FY24 to 78 voltage complaints forecast for FY27, is not reasonable from the information provided. In Powercor's 2023 and 2024 annual regulatory information notice (RIN), it recorded 2 complaints related to technical quality of supply. However, Powercor has included a forecast of 78 complaints in its model for FY27. Powercor has not provided sufficient justification for the gap between the RIN and the inputs to Powercor's model.
- The use of VCR to value energy served to customers at less than 216 volts is not a valid application of the VCR. Powercor values energy supplied to customers at non-compliant voltages using the VCR. EV charging interruption is the main example given for valuing curtailment using VCR. Using the VCR to assign value to energy supplied with non-compliant voltages is not consistent with the AER's intended application of it, even for curtailment of EV charging. The use of VCR leads to a significant overestimation of the economic cost of undervoltage supply because while the risk of loss of supply may increase, energy supply is generally not lost when voltage falls below lower standard threshold. Customer impacts of undervoltage would be much less than VCR. There is likely delay to EV charging but this is not typically real-time critical. EMCa expect that the VCR is much higher than the economic cost of an undervoltage excursion and much higher than what people would be prepared to pay, given what we assume to be modest impacts. Powercor's use of VCR to attribute an economic cost to undervoltage supply overestimates this cost, leading to an overestimation of the economic benefits of rectification.
- Powercor's modelling shows it would not risk breaching its voltage compliance obligations within the next regulatory control period.[67] EMCa consider that there are approaches that are less expensive than a large augmentation project that can be used to maintain this obligation. This includes using AMI data to deploy a mix of focused HV, LV, proactive and reactive interventions where and when required. Powercor can also use non network approaches, including Flexible Services, to mitigate voltage decline. Powercor has not demonstrated the need and justification to maintain voltage service at current levels throughout the period.

We have considered EMCa's findings and agree that Powercor has not justified this level of augmentation during the next regulatory period. In particular, we consider that the use of VCR to value undervoltage is not appropriate and that the impacts would be much less. We also consider that the increase in voltage complaints is not reasonable and Powercor needs

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66 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 95–104.

67 Victorian Essential Services Commission, Electricity distribution code of practice clause 20.4.1.

to consider approaches that are less expensive to maintain its functional compliance obligations.

Based on the information provided Powercor can maintain voltage compliance obligations with existing expenditure. We do not consider that Powercor's proposal justifies the step up in expenditure for this project in the next regulatory period. Given the range of issues we consider that historical costs is an appropriate alternative estimate as Powercor has not justified the need for additional expenditure beyond historical spending. However, we invite Powercor to consider this project in its revised proposal while taking into account the concerns we have raised.

Regional and rural supply

Powercor proposes $65.5 million for its economic single wire earth return (SWER) lines upgrade, which involves upgrading 606km across 44 separate SWER lines in its network. Powercor states lower capacity, poor voltage, lower reliability, export limits, deteriorating conductors, and customer feedback as drivers for upgrading the SWER lines. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $6.3 million which is $59.0 million lower than Powercor's forecast.

Our alternative estimate includes 5 SWER line upgrades which we found had a positive customer benefit.

Powercor states these lines have limited capacity to support electrification and renewables and noted challenges in justifying rural upgrades under the current regulatory framework, which focuses narrowly on the value of energy at risk. Powercor also advised that it has been participating in a government policy review to identify barriers for enabling electrification and renewable generation in regional and rural areas, with a focus on SWER networks.

In Victoria a network outage review was commissioned into both the energy transmission and distribution system response to the 13 February 2024 storms, led by a panel of independent experts. One of the recommendations was:[68]

> *'To support reliable electricity supply to communities impacted by prolonged power outages, a minimum service level standard should be introduced for Victorian distribution feeders, which if breached, requires remediation by the relevant distribution business. The service level standard must account for customers' experience of prolonged power outages. This recommendation should be implemented by June 2025.'*

We note that if there are changes to the regulatory obligations in Victoria after our final decision is made then Powercor can apply for a cost pass through to recover costs to meet the new obligation.

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[68] Victoria State Government, *Network Outage Review | February 2024 Storm and Power Outage Event,* August 2025, p 10.

We have received 2 submissions regarding regional reliability from CCP32[69] and Farmers for Climate Action.[70] These both indicated support for this program and a need to improve reliability for regional Victorian customers.

Our role is to provide for capex to maintain reliability of the network.[71] To enable us to be satisfied that forecast capex reasonably reflects the capex criteria, any project included in a capex proposal that is to improve reliability must either be required by a compliance obligation or have an economic benefit to consumers.[72] Powercor has proposed this project to improve reliability on the basis that it has an economic benefit to customers as there is currently no compliance obligation in Victoria which requires its completion. As such we have assessed this project to determine if it is prudent and efficient having a positive net benefit which is consistent with our assessment requirements in the NER.[73]

We came to our draft decision having regard to the following findings identified by EMCa:[74]

- Powercor's cost estimate includes a bushfire category areas (BCA) loading factor, of 1.5 x base cost for sites in high bushfire risk areas. There is no justification provided for the inclusion of this loading nor how it was derived. EMCa do not consider that Powercor has provided sufficient information to determine that the application of the BCA factor is reasonable. EMCa has recommended we remove the BCA factor in our alternative estimate.
- Powercor quantifies the benefits from reducing energy at risk for importing customers experiencing voltages less than 216V, which is valued at VCR. Similarly to the customer driven electrification project (see above) we consider that use of VCR for undervoltage overestimates the net economic benefit. EMCa recommended we reduce the VCR value from 100% to 10% and update to 2024 VCR values.
- Powercor has calculated the NPV of the project using the annualised capex rather than the capex cost itself. Annualised capex using an economic life that is longer than its analysis period has the effect of underestimating the PV of the capex that it proposes and therefore overestimates the NPV.

We have considered EMCa's findings and agree that it is not economical to conduct this level of augmentation during the next regulatory period. In particular, we consider that the use of VCR to value undervoltage is not appropriate and that the impacts would be much less. Using the VCR to assign value to energy supplied with non-compliant voltages is not consistent with the AER's intended application of it, even for curtailment of EV charging. The use of VCR leads to a significant overestimation of the economic cost of undervoltage supply because while the risk of loss of supply may increase, energy supply is generally not lost

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69 CCP32, *CCP32 Advice to the Australian Energy Regulator on the 2026–31 Regulatory Proposal for Powercor Electricity Distribution Network*, May 2025, p 19.

70 Farmers for Climate Action, *Farmers for Climate Action and ors - Submission - Powercor electricity distribution proposal 2026–31,* May 2025, p 1.

71 NER, cl. 6.5.7(a).

72 NER, cl. 6.5.7

73 NER, cl. 6.5.7(a).

74 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 82–85.

when voltage falls below lower standard threshold. Customer impacts of undervoltage would be much less than VCR. We have reduced the VCR value from 100% to 10% and updated to 2024 VCR values in our alternative estimate.

We also consider the inclusion of the BCA factor is not reasonable and Powercor has not justified the inclusion of this loading. In addition, our assessment concurs with EMCa's finding on the annualised capex.

After accounting for these changes only 5 (of the 44) projects have a positive NPV. The remaining 39 projects have a negative NPV.

We acknowledge the engagement Powercor has undertaken with its rural stakeholders in developing its regional and rural reliability and worst served feeder augex projects. Although this project was broadly supported by Powercor's stakeholders, community support is not the sole factor in determining whether a project is prudent and efficient. The driver of these projects is to improve reliability. However, in the absence of a regulatory obligation, we must assess the cost and benefits of these projects. in accordance with clause 6.5.7 of the Rule, in particular the capex objective that the proposal must include forecast capex that is required, to the extent there is no applicable regulatory obligation or requirement in relation to reliability, that maintains current reliability and security of the distribution system.[75] Despite the strong customer support for this program, we cannot be satisfied that these 39 projects are in the long-term interests of consumers given the strong negative NPV's.

Hence, we have included the 5 projects, with adjusted costs by removing the BCA loading in our alternative estimate. It is open to Powercor to come back to us with updated modelling in its revised proposal to address these concerns.

Worst served customer program

Powercor proposes a $15.1 million capex program across 4 projects designed to improve reliability in worst-served areas. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $6.8 million which is $8.3 million lower than Powercor's forecast.

Our alternative estimate includes the 2 projects which we determined to have a positive benefit to customers.

Powercor's worst served customer program is a part of its program to improve reliability for regional customers. Similarly to the regional and rural supply program there is no compliance obligation in Victoria requiring Powercor to undertake any work on worst served feeders. We have assessed this program on an economic basis to determine if it is prudent and efficient.

As noted above a network outage review was commissioned into both the energy transmission and distribution system.[76] One of the recommendations was to introduce a service level standard by June 2025.

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75 NER, cl. 6.5.7(a)(3).

76 Victoria State Government, *Network Outage Review | February 2024 Storm and Power Outage Event,* August 2025, pp 10

We note that if there are changes to the regulatory obligations in Victoria after our final decision is made then Powercor can apply for a cost pass through to recover costs to meet the new obligation.

We came to our draft decision having regard to the following findings identified by EMCa:[77]

- To value energy at risk Powercor has used: VCR for zero to 500 minutes off supply, worst served customer value (WSC) incremental to VCR for 500 to 700 minutes off supply and value of network reliability (VNR) incremental to VCR for 720+ minutes off supply. The WSC value was developed by Powercor with its customers as a new approach to creating additional economic value for improving supply to select worst served customers.
- EMCa determined through sensitivity analysis that the NPV's for all 4 projects are sensitive to the input factors. EMCa recommend removing the WSC value and the VNR values as they do not consider these appropriate to be added on top of VCR which already includes customer values.
- In addition, EMCa have updated VCR values to 2024 to reflect more recent data. This results in a reduction in the benefits for residential customers given the updated values are much lower.
- Powercor has also included system average interruption frequency index (SAIFI) reduction benefits in its cost-benefit analysis model. EMCa do not consider that this is reasonable as the SAIFI improvement from the proposed solutions is not adequately justified. EMCa recommended that the SAIFI benefits be set to zero.
- EMCa have also corrected the timing of the benefits to start after the project's completion in the alternative forecast.
- EMCa found that only 2 projects had a positive NPV after account for the changes discussed above and one of these was only marginally positive (+0.1 million).

Our assessment concurs with EMCa's findings and proposed changes. We have removed the WSC value and the VNR values in our alternative forecast as we do not consider these appropriate to be added on top of VCR, which already includes customer values. We do not consider an additional value to value energy at risk beyond the VCR is reasonable.

We have also used 2024 VCR in our alternative estimate to reflect more up to date data. We have also set the SAIFI benefits to 0% in our alternative forecast and corrected the timing of the benefits.

We have considered EMCa's findings and agree that only 2 projects have a positive NPV after accounting for the changes, with one only marginally positive.

As in the regional and rural supply program, we acknowledge the engagement Powercor has undertaken with its rural stakeholders in developing its regional and rural reliability and worst served feeder augex projects. Although this project was broadly supported by Powercor's stakeholders, community support is not the sole factor in determining whether a project is

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77 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 89–93.

prudent and efficient. The driver of these projects is to improve reliability. However, in the absence of a regulatory obligation, we must assess these the cost and benefits of these projects.

Given the strong customer support for this program, we have included the project with the marginally positive NPV in our alternative estimate, where ordinarily in the absence of community support this potentially may not be prudent and efficient on cost benefit alone. Hence, we have included 2 projects in our alternative estimate. It is open to Powercor to come back to us with updated modelling in its revised proposal to address these concerns.

Stand-alone power systems

Powercor proposes a $3.9 million capex program to install 17 stand-alone power systems (SAPS) on its SWER network. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $1.9 million which is $2.0 million lower than Powercor's forecast.

Powercor has proposed a pilot program, selecting 17 SAPS sites from the 71 SAPS (at 44 nodes) identified from its analysis as being economically viable. Powercor states it expects to expand the SAPS portfolio in the 2031–36 period once it has demonstrated a track record of integrating these into its systems to provide customers greater confidence on service level outcomes associated with this approach.

We note Victorian Greenhouse Alliances made a submission to our Issues Paper, which included comments regarding Powercor's SAPS program. The Victorian Greenhouse Alliances requested Powercor disclose which remote and rural communities have been assessed under its SAPS strategy and provide clear cost/benefit information.[78]

Our draft decision includes an alternative estimate includes 50% of the proposed expenditure needed to conduct a smaller pilot program.

We came to our draft decision having regard to the following findings identified by EMCa:[79]

- Powercor's SAPS modelling methodology makes many assumptions that need to be tested in practice before the costs and benefits can be confirmed. Although reasonable in their own right, collectively the estimations, averaging, and qualifications of inputs to the derivation of cost and benefits point to the need for confirming parameters across a number of sites before progressing with a roll-out based on economic analysis. Based on the information provided EMCa are not convinced that all 17 SAPS are required for the pilot study.
- EMCa consider that unless Powercor can demonstrate the technical benefit of deployment of all 17 SAPS, a smaller pilot should be able to produce the necessary confirmation of parameters. A pilot of up to 6 sites should commence as soon as practicable with deployment to occur as early as practicable to provide sufficient time for

78 Victorian Greenhouse Alliances, *Submission – Victorian electricity distribution proposal 2026-31*, May 2025, p 20.

79 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, p 93-95.

parameters to be confirmed prior to possible submission in the proposal for the 2031-36 regulatory control period for a wider deployment.

Our assessment concurs with EMCa's findings and have included 50% of the expenditure in our alternative estimate to allow for a smaller pilot program. We recommend Power provide additional evidence of the need for a larger pilot program in its revised proposal if Powercor considers that a larger pilot program is necessary.

Bushfire mitigation augex

Powercor proposes $143.1 million for its bushfire mitigation augex. The bushfire mitigation program includes 3 categories of work:

- non-mandated REFCL compliance ($19.1 million)
- maintain REFCL compliance ($97.8 million)
- minimising bushfire risk ($26.2 million); this comprises minimising bushfire risk from SWER lines ($13.4 million) and maintaining REFCL reliability ($12.9 million).

Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $83.9 million, which is $59.2 million lower than Powercor's forecast. We have not included the non-mandated REFCL and minimising bushfire risk programs in our alternative forecast and we have reduced the maintain REFCL compliance project by $13.9 million.

Non-mandated REFCL

Powercor proposes $19.1 million capex program to reduce bushfire risk from Horsham's bare 22kV overhead lines. Our draft decision is to not accept Powercor's proposed non-mandated REFCL project. This is because Powercor has not adequately demonstrated that the project is prudent or efficient to undertake in the next regulatory control period.

We came to our draft decision having regard to the following findings identified by EMCa:[80]

- Powercor stated that the ESV's January 2024 consultation paper suggests that further deployment or extension of REFCL technology may be a practicable way to mitigate bushfire risks and meet general obligations. EMCa consider that a program to target the highest risk areas of the SWER is reasonable, including the use of non-mandated REFCL where they can be demonstrated as economic options.
- Powercor calculate the NPV for this project as $3.4 million. We found that it considers the costs and benefits over differing timeframes, namely 30 years life for the costs (using annualised costs) and benefits over the assessment period of 20 years. This results in underestimating the costs to achieve the stated benefits. EMCa considered the costs proposed within the assessment period and found the NPV is marginal.
- EMCa also found that Powercor has not undertaken analysis of the optimal timing for this project, that maximises the NPV. The project is currently planned for the end of the next regulatory period but given the overestimated costs we consider that this project should be deferred into the next regulatory period.

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80 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 114–115.

Our assessment concurs with EMCa's findings and have not included this project in our alternative estimate.

Maintain REFCL compliance

Powercor proposes $97.8 million capex program to maintain its REFCL compliance obligations. Increasing capacitive current is driving the need to invest in further mitigation efforts to ensure Powercor can maintain compliance with compliance obligations. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $83.9 million which is $13.9 million lower than Powercor's forecast.

We consider that the Bendigo substation portion of this program should be deferred into the next regulatory period as there is not enough evidence to justify the timing.

We came to our draft decision having regard to the following findings identified by EMCa:[81]

- In the current regulatory period, Powercor used forecast network capacitive charging current as the metric to assess REFCL performance. For the forecast period, Powercor has used the forecast damping current against the damping current threshold limit. Where this threshold limit is exceeded at a REFCL site, it indicates a probable non-compliance issue.
- EMCa determined that Powercor has undertaken a reasonable forecasting method for most of its proposed capex. Powercor has considered the least cost option that is required for each location and an NPV has not been considered as this is project is for a compliance obligation.
- Powercor has proposed REFCL works at Bendigo substation due to the REFCL damping current limits forecast to be exceeded by 2032. EMCa consider there is a reasonable level of uncertainty in the need for such a high-cost solution given the timing of the forecast. Powercor has also proposed works at adjacent substations which may provide staging options and preserve option value for consideration of the prudent augmentation option at a later time, and which is more likely to occur beyond the next regulatory control period.

We have considered EMCa's findings and agree that there is a reasonably level of uncertainty over the timing for the Bendigo substation. We do not consider that Powercor has adequately considered the work at adjacent substations in its forecast timing. We have not included the Bendigo substation in our alternative estimate.

Minimising bushfire risk

Powercor proposes a $26.2 million capex program comprised of $12.9 million for it's maintain REFCL reliability project and $13.4 million for its minimising bushfire risk from SWER lines project. Our draft decision is to not accept Powercor's forecast and to not include this program in our alternative forecast.

Minimising bushfire risk: maintain REFCL reliability

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81 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 116–120.

Powercor states that there is a need to restore reliability for customers following the reduced automation capability of its Fault Detection Isolation and Restoration (FDIR) schemes on REFCL protected networks. The FDIR schemes do not function as intended on REFCL protected networks due to the near instantaneous operation of the REFCL at the zone substation.

Powercor has not sufficiently taken into account the benefits from the similar project underway in the current regulatory period to improve reliability of REFCL networks and benefits attributed to fault indication capability are overestimated. When these issues are corrected the program does not have a positive economic benefit.

We came to our draft decision having regard to the following findings identified by EMCa:[82]

- In the current period Powercor has a project Mitigating REFCL reliability impacts for $13.0 million ($2021) to address a decline in customer reliability. We included this in our determination for the current period. In response to an information request, Powercor stated that for this project it is in the process of reinstating earth fault discrimination on all automatic circuit reclosers (ACRs) on its REFCL networks by replacing all ACRs with REFCL compatible devices. EMCa found that Powercor does not appear to have accounted for the benefits arising from this current project in its cost-benefit analysis model.
- EMCa also found that the reliability benefits claimed by Powercor in its cost-benefit analysis model are too high. The calculations appear to overestimate the likely incremental benefits from introduction of fault indicators. While they may be an integral part of a fault detection isolation and recovery scheme, the analysis does not appear to take adequate account of the existing functionality. The decline in reliability observed also cannot be directly attributed to the lack of fault indication only and is more likely attributed to the decline in device coordination to which the current period project is targeted.
- EMCa are also not convinced that fault indication capability improves SAIFI, as it is an indication a fault has travelled passed the location of the fault indicator and which allows for FDIR schemes to operate and/or improved fault location for patrols. This has an impact on reducing the duration of the outage, and not the frequency of the outage.

Our assessment concurs with EMCa's findings and have not included this project in our alternative estimate.

Minimising bushfire risk: minimising bushfire risk from SWER lines

Powercor proposed that it needs to reduce fire risk on its SWER network in the highest bushfire risk areas. It proposed replacing bare overhead conductors with covered conductor and using early fault detection technology, prioritising sections with the highest risk profiles based on age, condition, and fire risk modelling.

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82 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 105–109.

We came to our draft decision having regard to the following findings identified by EMCa:[83]

- Powercor states that the result of its sensitivity analysis was that the preferred option remains economic under most sensitivities. However, EMCa found that the costs of the preferred option are understated because annualised capex has been used rather than incurred capex. This means the capex used in the calculation of the NPV is lower than will be required to deliver the claimed benefit. Once costs are adjusted this program has a negative NPV.
- EMCa consider that a program to target the highest risk areas of the SWER is reasonable, however Powercor has not adequately demonstrated that the program as proposed is prudent or efficient. Specifically, EMCa have concerns that the benefits of the EFD devices remain highly uncertain and require ongoing development of the technology.

Our assessment concurs with EMCa's findings and have not included this project in our alternative estimate.

Power quality

Powercor proposes $20.9 million for 2 projects to support power quality in its network. A $13.0 million project to maintain voltage compliance and a $7.9 million project for harmonics management. Our draft decision is to not accept Powercor's forecast and to include an alternative forecast of $13.0 million which is $7.9 million lower than Powercor's forecast. We have included the maintaining voltage compliance project in our alternative forecast but not the harmonics management project.

For the harmonics management project Powercor proposes to install low voltage active harmonic filters on 7 feeders in the Northern Murray region to reduce non-compliant voltage harmonic distortion, which exceeds the 6.5 per cent limit set by the electricity distribution code of practice, NER, and Australian Standards. Powercor states that high distortion, driven by variable speed drive irrigation pumps, has reached up to 20%, disrupting customer operations, with existing measures not fully resolving the issue.

Additionally, Powercor's proposed options focus on treating the symptoms rather than addressing the root cause of harmonic distortion. While the electricity distribution code of practice sets obligations for both customers and network service providers, the proposed measures effectively allow a small number of customers to remain non-compliant with their harmonic contributions. An alternative approach not considered by Powercor would include mailing reminders to customers, installers, and electricians about their compliance obligations, allocating modest operational funding for local monitoring, and offering power quality and harmonics monitoring as an alternative control service.

A.4 Resilience

We do not accept that Powercor's total expenditure (totex) forecast of $98.4 million ($91.6 million in capex, $6.8 million in opex) for resilience would form part of a total expenditure

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83 EMCa, *Powercor 2026 - 2031 Regulatory Proposal: REVIEW OF ASPECTS OF PROPOSED EXPENDITURE ON AUGEX, REPEX AND VEGETATION MANAGEMENT*, report for the AER, EMCa, 2025, pp 110–114.

forecast that reasonably reflects the expenditure criteria. We have included $25.8 million ($25.8 million in capex, $0 in opex) in our alternative estimate.

A.4.1 Powercor's proposal

Powercor proposes a resilience totex forecast of $98.4 million comprised of 7 programs. Powercor submits that its network resilience investments have been driven by the outcomes from recent Victorian Government reviews and strongly supported by stakeholder and customer feedback.[84] Table A4.1 provides a breakdown of these programs.

Table A4.1 Powercor's 2026–31 climate resilience proposal ($2026 real, million)

Project/program	Capex	Opex	Total
Bushfire exposed pole program	52.0	0.0	52.0
Flood clearance remediation program	20.7	0.0	20.7
Microgrid program	13.1	0.0	13.1
Situational awareness for extreme weather	3.3	2.8	6.1
Radio sites solar and batteries	1.5	0.0	1.5
Community support officers	0.0	4.0	4.0
Mobile Emergency Response Vehicles	1.0	0.0	1.0
Total Forecast	**91.6**	**6.8**	**98.4**

To understand how extreme weather events are likely to impact its network and communities over 2026–31 and beyond, Powercor engaged AECOM to undertake a climate impact assessment. This assessment used existing independent literature, including the Victorian Government's Climate Science Report and the Electricity Sector Climate Information, to identify and map climate risks and hazards.[85]

In assessing potential resilience investments, Powercor also included the AER's recently released VNR as well as its own value for worst served customers. In a few cases, Powercor undertook a cost benefit assessment in support of its program forecast.

A.4.2 Reasons for our decision

We acknowledge the continual need for investments by networks to better manage extreme weather events and the projected increase in climate related risk.

We are also aware that modelling the impact of extreme weather events on networks is a challenging and new area of forecasting, and we acknowledge the efforts made by Powercor to understand those impacts. We have accepted its climate risk modelling, noting that we are still at a learning stage of modelling the impact on networks from expected climate risk.

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84 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, 31 January 2025, p 14.

85 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, p 9.

We also recognise Powercor's extensive customer engagement to better understand its customers' preferences on resilience-related expenditure, especially around community resilience initiatives. We have accepted the proposed capex for these initiatives. We have also accepted the need for the initiatives that are in line with the Network Outage Review as we consider these will assist in planning for, and quicker restoration and recovery after, an extreme weather event.

Where we recommend not accepting community resilience related opex, this is because we do not consider incremental step changes for these minor costs are warranted under our opex forecasting approach.

We have not accepted Powercor's capex forecast in full. This is because while we found that network investments are prudent, we were not provided with sufficient evidence that its proposed solution was efficient. We therefore did not have confidence that its preferred option would achieve the greatest net benefit to consumers. In particular, we consider the supporting information had overestimated the benefits associated with the programs and therefore the associated capex is too high.

Below we set out our assessment of Powercor's proposal against our resilience guidance note, and our review of Powercor's bottom-up forecast.

A.4.2.1 Assessment against network resilience guidance note criteria

In assessing the prudency and efficiency of Powercor's climate resilience program, we have had regard to the extent that its proposal satisfies relevant criteria in our guidance note on network resilience.

Overall, we consider Powercor has satisfied some of the network resilience guidance note criteria. It engaged well with its customers about network resilience expenditure and made efforts in modelling climate risk and how that risk impacts its assets. However, we found that for key programs Powercor overestimated costs and benefits such that its preferred option is not the prudent and efficient option.

Identified need

Powercor engaged AECOM to undertake a climate impact assessment and to develop a methodology to measure how these climate hazards will impact its network in the future. Much of this modelling focused on bushfire and flood as Powercor submits that modelling related to other types of extreme events is still maturing (i.e. windstorm).

We consider that Powercor has demonstrated a reasonable increase in the rate of risk of unserved energy due to climate change. It has also made efforts to develop a causal link between the proposed resilience expenditure and the increase in risk from floods and bushfire.

Testing of the preferred option

We consider that Powercor has not satisfied this criterion.

For key programs such as its Bushfire exposed pole and flood clearance programs, while we acknowledge that these investments are prudent, we consider that Powercor has overestimated the benefits and the costs to mitigate the risk. We do not have confidence that its preferred option is the option that achieves the greatest net benefit.

Genuine customer engagement

We consider that Powercor has satisfied this criterion.

The CCP32 considers that Powercor undertook reasonable engagement with its wider customer group as well as at the community level. Powercor conducted 3 resilience workshops with customers, supported by Forethought,[86] during March 2024 held in Red Hill, Ballarat and online with 37 people participating across the workshops. The joint DNSP resilience framework activities included an additional 136 people.[87]

Powercor's Customer Advisory Panel (CAP) considers that Powercor has undertaken a sincere, thorough and sustained engagement program, including diverse customer groups and other stakeholders.[88] It also welcomes the business's plans to invest more in tackling [resilience] issues but recognises that they cannot be resolved within one reset alone.[89] The CAP also notes its support for the community resilience initiatives, notably the community support officers.

A.4.2.2 Findings on Powercor's bottom-up forecast

Bushfire exposed pole program

Powercor submits that its bushfire exposed pole program is aimed at addressing impacts on its network from exogenous bushfire events.[90] To address this risk, Powercor has proposed to replace the top 5 NPV positive segments of at-risk wood poles with concrete poles. It proposed a total of 1,670 poles for this program with 94 poles that it has identified as overlaps with the condition-based replacement program. Powercor has included the cost to replace those 94 poles in its condition-based (repex) program.

Our draft decision accepts Powercor's proposed number of poles for intervention. However, we consider the costs of that intervention are too high. Our alternative forecast of $4.5 million reflects the adjustment to a more reasonable cost.

We note that this program is to address impacts on its poles from exogenous extreme weather events. It is one of a few bushfire mitigation programs for which Powercor is funded.

While we acknowledge AECOM's climate impact assessment, we have several concerns with Powercor's cost benefit analysis where we consider that the benefits have either been double-counted or are too high. We found:

- The 2024 VCR values were not used. This has led to an overestimation of the capex required to mitigate the risk. When 2024 values were applied, the capex is reduced by 19.4% with 330 fewer poles selected for replacement.

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86 Forethought is an independent market research and community engagement firm that Powercor partnered with to assist with its stakeholder engagement.

87 Consumer Challenge Panel 32, *CCP32 Advice to the Australian Energy Regulator on the 2026–31 Regulatory Proposal for Powercor Electricity Distribution Network*, 14 May 2025, p 15.

88 Customer Advisory Panel, *Customer Advisory Panel report on Powercor's Regulatory Proposal 2026–31*, April 2025, p 1.

89 Customer Advisory Panel, *Customer Advisory Panel report on Powercor's Regulatory Proposal 2026–31*, April 2025, p 25.

90 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, p 19.

- Incorrect application of the VNR methodology resulted in an overestimation in the value of unserved energy by 23.2%. Powercor applied the VNR multiplier to the aggregate values, rather than the 6 to 12-hour outage duration values.[91] It also applied an incremental VNR benefit to all feeders based on the historic average bushfire outage duration rather than applying the multipliers to specific outages with durations greater than 12 hours.
- Powercor has assumed its program would eliminate all energy at risk caused by exogenous bushfires. This assumption overestimates the risk to be mitigated. Powercor states that the fires that damage its poles typically occur at the pole base and not at the height of its conductors.[92] However, we consider the assumption that installing concrete poles would eliminate all network damages, including no proactive de-energisation either by the network (or customers) from an impending bushfire for safety reasons, to be unrealistic.
- Powercor has not made any adjustments for the same benefits occurring across programs resulting in a double-counting of benefits – Powercor's situational awareness program, which we have included in our alternative forecast, has forecasted a 4% reduction in Customer Average Interruption Duration Index.[93] This program involves the purchase of IT systems to allow improved visualisation and an optimised fault response through the automation of data extraction processes and improved two-way sharing of data. If the program results in quicker restoration of power to a customer after an outage or prevent certain outages altogether, this reduces the need for other resilience programs. Yet no adjustment has been made in Powercor's modelling to account for double-counting of benefits.
- Powercor has likely overestimated the risk to the network based on historical exogenous bushfire outage data – We reviewed Powercor's historical bushfire outage data at the feeder level for the feeders considered for investment. The dataset included one exogenous fire since 2009 that caused a 22.83-hour outage and affected 1,392 customers, roughly 0.15% of its customer base.[94] As a result, we do not consider that Powercor has demonstrated that its network carries the level of risk required to justify the proposed exogenous bushfire expenditure.

For the above reasons, we do not consider that Powercor's forecast to be efficient. To derive our alternative forecast, we have applied the cost of fire-resistant pole wraps in place of Powercor's preferred option of concrete poles as the primary intervention method. Our alternative forecast accepts Powercor's proposed intervention volumes of 1,670 poles.

We consider fire-resistant pole wraps to be a reasonable and least regrets option. Powercor stated in its proposal that it considered but dismissed the pole wrap solution in its cost-benefit analysis because it intends to trial this solution to determine suitability to its network

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91 AER, *Final decision, Value of network resilience*, September 2024, p 24.

92 Powercor, *Response to information request 036: Resilience*, p 4.

93 Powercor, *Powercor – IR029 – Q6 – Updated PAL MOD 5.09 – Situational awareness risk – May2025 – Public.xlsx,* May 2025.

94 Powercor, *Powercor – IR036 – Q1&2 – historical flood and bushfire outage data – 20250605 – public.xlsx,* 5 June 2025.

in its innovation program.[95] However, we note that Ergon Energy and Energex use pole wraps which we accepted in our previous decisions after a successful statewide trial.[96] This solution is also proven to be successful during wildfires in North America.[97]

For the poles that overlap with Powercor's condition-based program, we have included the cost of replacing them with concrete poles. We have moved these overlapped poles to the Network Resilience Plan (instead of repex) given this also relates to network resilience.

Flood clearance remediation program

Powercor submits that its flood program is required to manage safety risks and eliminate the unserved energy of high voltage segments in 1 in 100-year flood zones.[98] Powercor proposes to increase the height of high voltage and sub-transmission poles in these at-risk areas. It states that replacing these poles with taller poles will eliminate all the energy at risk during these events. It proposed a total of 835 poles for this program with 51 poles identified as overlaps with the condition-based replacement program. Powercor has included the cost to replace those 51 poles in its condition-based (repex) program.

Our draft decision accepts part of Powercor's forecast for this program. While we accept investment in flood clearance remediation is prudent, we consider that its forecast is not efficient. Our alternative forecast is $8.9 million.

Similar to our findings on Powercor's bushfire program, while we acknowledge AECOM's climate impact assessment, we have several concerns with Powercor's cost benefit analysis where we consider that the benefits have either been double-counted or are too high:

- The 2024 updated VCR values were not used. This had led to an overestimation of the capex required to mitigate the risk. When 2024 values were applied, the capex is reduced by 5.2% with 38 fewer poles selected for replacement.
- Incorrect application of the VNR methodology has resulted in an overestimation of the value of unserved energy by 21.1%. Powercor applied the VNR multiplier to the aggregate values, rather than the 6 to 12-hour outage duration values. It also applied an incremental VNR benefit to all feeders based on the historic average flood outage duration rather than applying the multipliers to specific outages with durations greater than 12 hours.
- Powercor has assumed that its program would eliminate all the energy at risk caused by floods. This assumption overestimates the energy at risk to be mitigated. Powercor's modelling does not account for the likelihood of a reduced load when flood waters enter customers premises where the residual current devices will shut the premises power off for safety reasons (i.e. once flood water reaches the lowest power point), or customers self-evacuate before or during flood events. We therefore consider the assumption that installing taller poles would eliminate all energy at risk unrealistic and overestimated. Ultimately, Powercor's solution does not prevent floods from damaging electrical and

95 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, p 20.

96 AER, *Draft Decision – Ergon Energy Electricity Distribution Determination 2025 to 2030, Attachment 5*, September 2024, pp 31, 81.

97 Bonneville Power Administration*, BPA protects wood poles and reliable service with fire-resistant wrap,* 11 September 2024.

98 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, p 27.

non-electrical infrastructures behind the connection point which in turn prevents consumers from using power even if the network is available.

- Powercor has not made any adjustments for the same benefits occurring across programs resulting in a double-counting of benefits. Our concern is set out in the bushfire program write up.

For the above reasons, we do not consider that Powercor's forecast to be efficient. To derive our alternative forecast, we used the calculation of the value of unserved energy from the historical flood outage data provided to us in an information request from Powercor.[99] Notably, Powercor's historic unserved energy from flood related outages was driven primarily through 2 major flood events, one in January 2011 and the other in October 2022. We grew this value of unserved energy by the figure used in Powercor's modelling representing the increased risk per annum from climate change over 20 years (Powercor's forecasting period) to derive the maximum achievable benefit per annum. Using this figure, we derive the total capex justifiable, excluding the poles that overlap with its condition-based program. For these poles, we have included and moved the $1.3 million of replacement to the Network Resilience Plan given this relates to network resilience.

To assess the validity of Powercor's submission that the investment would eliminate 100% of energy at risk, we reviewed the Victoria Government's reports of the 2 major flood events and determined that 8,000 houses were damaged during the 2011 floods while 9,800 houses were damaged during the floods of 2022. We then compared these numbers against the customer numbers on each of the affected feeders and found that about 29% of consumers were unlikely to be able to use mains supply, even if the network was available. We therefore adjusted the maximum achievable benefit by 29.0%. We consider this a likely conservative estimate given that there will be premises that are undamaged but unoccupied during flood events. We further reduced the benefit by a further 4% to net off the benefits from the situational awareness program. This brings the total alternative forecast to $8.9 million.[100]

Microgrid program

Powercor submits that the program is required to manage higher than average unplanned outages due to the topography of the 4 feeders.[101] Our draft decision is to accept part of Powercor's forecast. We have not accepted its forecast in full because its costs for the program appear to be overestimated and therefore not efficient. Our alternative forecast is $6.6 million.

We have several concerns with Powercor's cost benefit analysis where we consider that the benefits have either been double-counted or are too high:

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99 Powercor, *Powercor – IR036 – Q1&2 – historical flood and bushfire outage data – 20250605 – public.xlsx*, 5 June 2025.

100 To test our alternate forecast, we compared Powercor's proposed capex for the feeders that had experienced any level of flooding in the past 14 years. This amount resulted in capex of $6.4 million. We would expect our alternative forecast to be higher, as Powercor's proposal includes an increase in network risk from climate modelling and feeders that have not been historically impacted by flood events.

101 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, pp 34–58.

- The most updated VCR values were not used which overestimates the capex required to mitigate the risk.
- incorrect use of the VNR methodology which overestimates the value of unserved energy.
- Powercor included an additional worst-served (WS) customer value of $22.30/kWh to its VCR value.[102] This is applied to feeders where the annual minutes off supply is greater than 500. Powercor considers that the AER should allow for sufficient flexibility for distribution networks to apply their own VCR for worst-served customers where there is consistent customer engagement and willingness to pay evidence to support it. We consider that Powercor has not provided sufficient information to support a move away from the VCR methodology. In particular, it has not provided reasons as to why the VCR methodology does not already account for these customers, therefore risking a potential double-count of benefits if the proposed WS value is included. Also, it does not provide the reason as to why the WS value is not used holistically but rather as a supplementary value in addition to the published VCR value.

To derive our alternative forecast of $6.6 million, we adjusted Powercor's model; namely applied the 2024 VCR values, correctly applied the VNR methodology and removed Powercor's worst-served customer value. Once these modelling adjustments were made, the Apollo Bay and Lancefield projects are NPV negative. As a result, we have excluded these projects from our alternative forecast.

Radio sites solar and batteries

Powercor submits that the proposed investment is required to extend the battery capacity at 23 radio sites across its network to 72 hours, with 6 additional solar back-up supply for high-risk sites.[103]

We have accepted this program as we consider that, after reviewing its business case, Powercor has demonstrated the prudency and efficiency of the program. Powercor also stated that there is a NER compliance component to the program as it is required to provide and maintain the necessary primary and back-up communication facilities for control, operational metering, and indication from the relevant local sites to the appropriate interfacing termination as nominated by AEMO.[104] AEMO requires greater than 99% reliability as well as low latency due to the risks involved. Further, we consider that this program allows Powercor to better respond to the recommendation laid out in the Victorian government's Network Outage Review.

Situational awareness for extreme weather

Powercor submits that the proposed investment is required to enable Powercor and United Energy to support coordinated responses to major weather events across the network to

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102 Powercor, *Regulatory proposal 2026-31, Apollo Bay microgrid Model number: 5.04; Ballan microgrid Model number: 5.05; Donald microgrid Model number: 5.06; Lancefield microgrid Model number: 5.07*, 31 January 2025.

103 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, p 60.

104 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, p 61-62.

meet government and community expectations.[105] This program is shared with United Energy, with a 50:50 split in costs. Powercor and United Energy propose purchasing/developing IT systems that will allow improved visualisation and an optimised fault response through the automation of data extraction processes and improved 2-way sharing of data.

We have included this program in our alternative forecast as we consider that it allows Powercor to better respond to the recommendations laid out in the Victorian government's network outage review, notably recommendations 4 and 5.

We note that Powercor's modelling forecasts that its preferred option would result in a 4% improvement in Customer Average Interruption Duration Index during MED events. As we have accepted this program, we have reduced the maximum achievable benefits modelled within the rest of Powercor's resilience expenditure by the same amount.

In relation to opex, Powercor proposed $2.8 million (0.1% of forecast opex) for situational awareness, consisting of labour and contract fees associated with the capex investment. We have not included these costs in our alternative forecast of total opex.

Through the opex base-trend-step forecasting approach, United Energy is provided an opex uplift through the trend rate of change factor established on a top-down basis. Typically, we consider small step changes such as these incremental IT costs are more likely to be accounted for through the rate of change factor and/or productivity improvements. Step changes should relate to material cost increases that are unlikely to be managed within base opex or through the rate of change. We provide this guidance on step changes in both the Expenditure Forecast Assessment Guideline and the Better Resets Handbook.

Mobile emergency response vehicles

Powercor proposes to purchase 3 additional mobile emergency response vehicles in addition to its 2 existing units.[106] We found that most of the costs relate to capabilities that are considered a network service (i.e. relay key electrical safety and outage information to impacted consumers, the control room, and other resilience actors).

We have included the full capex for this program in our alternative forecast. We found the costs to be prudent and efficient. Further, we consider that this program is in line with the recommendations in the Network Outage Review. government's response to the Network Outage review.

Community support officers

Powercor proposed opex of $4.0 million to onboard 5 new community support officers to strengthen community partnerships and enable better sharing of information across parties. Broadly, their responsibilities include increased community and emergency response agency engagement, establishing community resilience plans, and undertaking scenario and response modelling. Powercor submitted this is currently undertaken on an ad-hoc basis,

105 Powercor, *NETWORK AND COMMUNITY RESILIENCE*, p 77.

106 Powercor, *Network and Community Resilience,* 31 January 2025, p 67.

employing one Major Client Manager to work across the 3 CPU businesses, with a small component to support an on-ground presence during outage events.

Powercor stated this initiative is based on recommendations from the 2 Victorian Government resilience reviews: the *2021 Electricity Distribution Network Resilience Review* and *2024 Network Outage Review*. Powercor also emphasised that this initiative is consistent with a recurring community engagement theme since 2021 to maintain a local resilience planning presence. Powercor's Customer Advisory Panel supports this program, as does the Consumer Challenge Panel.

We sought additional information from Powercor to test the efficiency of proposed costs and the need for a step change in the 2026–31 period, specifically:

- the nature and cost of network and community resilience opex in the current period, including the 2024–25 base year
- why the business has delayed implementation of the proposed community resilience initiatives to the 2026–31 period and not responded sooner to community and government feedback and recommendations.

In its response, Powercor submitted it was unable to isolate resilience expenditure in the current period from activities such as emergency response. Powercor further submitted that it had engaged with customers over a 3-year period to ensure its proposal is aligned to both customer and government expectations. Powercor considered it would not be prudent to presuppose outcomes from the Victorian Government's response to the network resilience review (finalised in September 2023).

We recognise this program is strongly supported by customers and government stakeholders and agree it would be prudent for Powercor to undertake these activities. However, we have not included this step change in our alternative estimate of total forecast opex as we do not consider there is a need for a step change under our opex forecasting framework for these minor incremental costs.

We note that Powercor has materially underspent opex relative to its forecast allowance in the current period, on average by $41.0 million (–11.6%) for each year of the 2021–26 period. Our top-down opex forecasting approach provides for a forecast of prudent and efficient total opex for the period. Actual expenditure allocation and prioritisation within the period remains at the discretion of the business.

Powercor states that, to date, most of its network and community resilience activities have focused on emergency response, with limited proactive investments. Powercor does not have dedicated roles related to network and community resilience, and in response to our information request[107] stated:

> 'To date, we have declined invitations to participate in municipal planning due to resource constraints. We are also unable to maintain a proactive approach to engaging communities on resilience, electrification, or other BAU responsibilities …. Instead, we maintain a reactive approach in which we attend

[107] Powercor, *IR024 – Community and network resilience,* 13 May 2025, p 6.

> meetings upon request, subject to competing resourcing requirements, such as major customer engagement.'

Given the material opex underspend in the current period, we do not consider resource constraints to be a justification for the approach taken in the current period, and therefore the need for a step change in the 2026–31 period. We consider the community engagement feedback received over several years by Powercor, and the timing of the Network Resilience review recommendations / Victorian Government response, suggest Powercor has had the opportunity and capacity to prudently address the identified need for this program in the current period.

Through the opex base-trend-step forecasting approach, Powercor is provided an opex uplift through the trend rate of change factor established on a top-down basis. Typically, we consider small step changes are more likely to be accounted for through the rate of change factor and/or productivity improvements. Step changes should relate to material cost increases that are unlikely to be managed within base opex or through the rate of change. We provide this guidance on step changes in both the Expenditure Forecast Assessment Guideline and the Better Resets Handbook.

As discussed above, Powercor appears to have been aware of the likely need for additional community resilience expenditure since the initial years of the current period and has not satisfactorily justified the delayed implementation of this investment. We do not consider it appropriate or necessary to include a step change for this program in our alternative estimate of total forecast opex for Powercor in these circumstances.

B Contingent project

Contingent projects are usually significant network augmentation projects that are reasonably required to be undertaken to achieve the capital expenditure (capex) objectives. However, unlike other proposed capex projects, the need for the project within the regulatory control period and the associated costs are not sufficiently certain. Consequently, expenditure for such projects does not form a part of the total forecast capex that we approve in this determination. Such projects are linked to unique investment drivers and are triggered by defined 'trigger events'. The occurrence of the trigger event must be probable during the relevant regulatory control period.[108] The cost of the projects may ultimately be recovered from customers in the future if certain predefined conditions (trigger events) are met.

If, during the regulatory control period, Powercor considers that the trigger event for an approved contingent project has occurred, then it may apply to us.[109] At that time, we will assess whether the trigger event has occurred, and the project meets the threshold. If satisfied of both, we would determine the efficient incremental revenue which is likely to be required in each remaining year of the regulatory control period as a result of the contingent project, and amend the revenue determination accordingly.[110]

This appendix details our assessment of Powercor's proposed Point Cook Zone Substation contingent project as part of its regulatory proposal for the 2026–31 regulatory control period.

B.1 AER decision

Our decision is to reject Powercor's proposed Point Cook Zone Substation contingent project for the 2026–31 period. We consider Powercor's contingent project does not meet the requirements in the NER to be included as contingent project.

B.2 Powercor's proposal

Powercor proposes $58.0 million for the Point Cook Zone Substation contingent project for the 2026–31 regulatory control period.[111] Powercor submits the proposed project is probable or plausible to occur by 2031.

Powercor submits that the proposed contingent project would be reasonably required to meet the NER capital expenditure objectives to meet or manage expected demand and to maintain the quality, reliability and security of supply.

Powercor submits that far west Melbourne is experiencing significant population and economic growth, including that driven by significant net internal migration from other suburbs of Greater Melbourne. This growth, combined with conditional approvals for new industrial offtakes, will result in a substantial increase in energy demand forecasts. Powercor proposes the western growth corridor expansion augex project to address this and proposes the Point Cook Zone Substation as a contingent project. Powercor proposes this as a

108 NER, cl. 6.6A.1(c)(5).

109 NER, cl. 6.6A.2(a).

110 NER, cl. 6.6A.2(e).

111 Powercor, *MANAGING UNCERTAINTY*, January 2025, p 28.

contingent project because it is the last in a series of major projects, and due to the inherent uncertainty in forecast demand, and the fact that, while it would be required with its current demand forecasts prove accurate, the earlier stages of the project may sufficiently address the increased demand ultimately experienced in the 2026–31 period.

B.3 Reasons for decision

B.3.1 Assessment approach

We reviewed Powercor's proposed contingent project against the assessment criteria in the NER.[112] We considered whether:

- the proposed contingent project is reasonably required to be undertaken to achieve any of the capex objectives[113]
- the proposed contingent project capital expenditure is not otherwise provided for in the capex proposal[114]
- the proposed contingent project capital expenditure reasonably reflects the capex criteria, taking into account the capex factors[115]
- the proposed contingent project capital expenditure exceeds the defined threshold,[116] and
- the trigger events in relation to the proposed contingent project are appropriate.[117]

Powercor's revenue proposal included a description of the contingent project, proposed trigger events, project requirement, proposed capex and demonstration of rules compliance.[118]

We reviewed the project based on Powercor's and our own analysis. We reviewed whether the contingent project is reasonably likely to be required in the 2026–31 period based on the materiality and plausibility of the trigger conditions. This gives us a high-level view of whether the project is reasonably required to achieve any of the capex objectives and reflect the capex criteria. We also considered whether the proposed trigger events for the project are appropriate. This includes having regard to the need for the trigger event:

- to be reasonably specific and capable of objective verification[119]
- to be a condition or event which, if it occurs, makes the project reasonably necessary to achieve any of the capex objectives[120]
- to be a condition or event that generates increased costs or categories of costs that

112 NER, cl. 6.6A.1(a).
113 NER, cl. 6.6A.1(b)(1).
114 NER, cl. 6.6A.1(b)(2)(i).
115 NER, cl. 6.6A.1(b)(2)(ii).
116 NER, cl. 6.6A.1(b)(2)(iii).
117 NER, cl. 6.6A.1(b)(4).
118 Powercor, *MANAGING UNCERTAINTY*, January 2025, p 4.
119 NER, cl. 6.6A.1(c)(1).
120 NER, cl. 6.6A.1(c)(2).

relate to a specific location rather than a condition or event that affects the distribution network as a whole[121]

- to be described in such terms that it is all that is required for the revenue determination to be amended,[122] and
- to be a condition or event, the occurrence of which is probable during the 2026–31 regulatory control period but the inclusion of capex in relation to it (in the total forecast capex) is not appropriate because either:
  - it is not sufficiently certain that the event or condition will occur during the regulatory control period or if it may occur after that period or not at all, or
  - assuming it meets the materiality threshold, the costs associated with the event or condition are not sufficiently certain.[123]

B.3.2 Assessment of Powercor's proposed contingent project

Powercor has proposed the following triggers for the Point Cook Zone Substation:

- prepares a business case and relevant regulatory investment test for distribution documentation, including a cost-benefit analysis that demonstrates that the Preferred Option is the construction of the Point Cook Zone Substation; and
- obtains all relevant internal approvals to proceed with the project.

We had concerns that the triggers did not meet the requirements of 6.6A.1(c). In particular, the triggers were not specific enough and were not an event that, if that event occurred, would make the undertaking of the proposed contingent project necessary. Additionally, we were concerned that the triggers were not objectively verifiable, as the findings of the business case were not factually objective. We considered that the triggers did not accord with the requirements of clauses 6.6A.1(c)(1), (2) and (4).

We issued an information request to Powercor, which requested that Powercor provide updated triggers to address our concerns. In response, Powercor provided new triggers for the contingent project.[124]

Powercor's new proposed trigger events for the contingent project have 3 elements: the successful completion of a RIT-D; Powercor's board commitment to proceed with the project subject to the AER amending the revenue determination pursuant to the NER; and a specific additional load.

The new triggers Powercor proposed are:

- Powercor receives a connection application or applications for 130 MW of load in the Melton and Wyndam Local Government Areas that will increase annualised expected unserved energy above the annualised cost of the contingent project within 3 years of a contingent project application; and

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121 NER, cl. 6.6A.1(c)(3).

122 NER, cl. 6.6A.1(c)(4).

123 NER, cl. 6.6A.1(c)(5).

124 Powercor, *Response to information request 056,* August 2025.

- Powercor has completed a Regulatory Investment Test for Distribution (RIT-D) to determine the preferred credible option to connect and supply the load or loads, pursuant to the NER; and
- Powercor commits to proceed with the preferred credible option from the RIT-D, subject to the AER amending Powercor's 2026–31 regulatory determination pursuant to the NER. To provide objective verification of this trigger, a letter from the Chief Executive Officer of Powercor will be sent to the AER to confirm such commit.

Broadly, we consider these triggers are more appropriate because the successful completion of a RIT-D process may demonstrate that a project is reasonably necessary to achieve the capex objectives and reasonably reflects the capex criteria. The successful completion of a RIT-D is an important step to ensure that the capex for a project is required to achieve the capex objectives and reasonably reflects the capex criteria. Completion of the RIT-D process provides evidence of a comprehensive and transparent assessment of credible options which demonstrates that the proposed network investment maximises net economic benefits.

However, we consider a determination by us that the preferred option satisfies the RIT-D will provide greater surety that the cost and scope of the proposed contingent project will satisfy the capex objectives and capex criteria.

For the trigger:

- Powercor receives a connection application or applications for 130 MW of load in the Melton and Wyndam Local Government Areas that will increase annualised expected unserved energy above the annualised cost of the contingent project within 3 years of a contingent project application

Powercor states in its associated business case only 43MVA of transferred load needs to be transferred to maximise the NPV, and that according to Powercor's demand forecast this demand occurs in the 2026–31 regulatory control period.[125] That is, the efficient solution to the expected demand growth in the Point Cook region is to build and commission the Point Cook zone substation by FY32. Powercor also states that this project would be required if its current demand forecast proves accurate.[126]

Hence, we consider that the occurrence of the trigger event in the 2026–31 regulatory control period is extremely likely. We consider that this project does not meet the requirements of NER cl 6.6A.1(c)(5)(i); that is, the timing of the trigger events is reasonably known such that it is sufficiently certain that they will occur in the regulatory control period.

We recommend that Powercor either provides additional evidence to support why the occurrence of the trigger event for this project is not sufficiently certain or include this expenditure in its capex in revised proposal. If Powercor includes this as a contingent project in its revised proposal, we also recommend it considers determination by the AER in its RIT-D trigger.

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125 Powercor, *AUGMENTATION, GREATER WESTERN MELBOURNE SUPPLY AREA,* January 2025, pp 14–16.

126 Powercor, *MANAGING UNCERTAINTY*, p 29.

Shortened forms

Term	Definition
AER	Australian Energy Regulator
ACS	alternative control services
augex	augmentation expenditure
capex	capital expenditure
CBRM	condition-based risk model
CER	consumer energy resources
DNSP	distribution network service providers
EMCa	Energy Market Consulting associates
ICT	information and communications technology
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Energy Objectives
NER	National Electricity Rules
NPV	net present value
opex	operating expenditure
PoC	probability of consequence
PoF	probability of failure
REFCL	rapid earth fault current limiter
repex	replacement expenditure
RIT-D	Regulatory Investment Test for distribution network service providers
RIT-T	Regulatory Investment Test for transmission network service providers
SAIFI	system average interruption frequency index
SCS	standard control services
SWER	single wire earth return
VCR	value of customer reliability
VNR	value of network reliability
ZSS	zone substation