



FINAL DECISION

CitiPower Distribution Determination 2021 to 2026

Attachment 5 Capital expenditure

April 2021

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Note

This attachment forms part of the AER's final decision on the distribution determination that will apply to CitiPower for the 2021–26 regulatory control period. It should be read with all other parts of the final decision.

The final decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency benefit sharing scheme

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 12 – Customer Service Incentive Scheme

Attachment 13 – Classification of services

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Attachment 15 – Pass through events

Attachment 16 – Alternative control services

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Attachment A – Negotiating framework

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5 Capital expenditure

Capital expenditure (capex) refers to the money required to build, maintain or improve the physical assets needed to provide standard control services (SCS). 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 regulations, and to maintain the safety, reliability, quality, security of its network (the capex objectives).¹

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 and cost inputs (the capex criteria).² We must make our decision in a manner that will, or is likely to, deliver efficient outcomes that benefit consumers in the long term (as required under the National Electricity Objective (NEO)).³

If we are not satisfied, we must set out the reasons for this decision and a substitute estimate of the total of the distributor's required capex for the regulatory control period that we are satisfied reasonably reflects the capex criteria, taking into account the capex factors.⁴

The *AER capital expenditure assessment outline* explains our and distributors' obligations 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. Appendix A outlines further detailed analysis of our final decision.

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 and is often referred to as the 'capex bucket'.

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

¹ NER, cl. 6.5.7(a).

² NER, cl. 6.5.7(c).

³ NEL, ss. 7, 16(1)(a).

⁴ NER, cl. 6.12.1(3)(ii)

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

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 recognises that distributors should have 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 reset. Distributors also may not need to complete some of the programs or projects proposed if circumstances change. 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. As noted previously, distributors may spend more or less than our forecast in response to unanticipated changes.

5.1 Final decision

We do not accept CitiPower's revised capex forecast of \$633.3 million.⁶ We are not satisfied that its total net capex forecast reasonably reflects the capex criteria. Our substitute estimate of \$589.9 million is 7 per cent below CitiPower's revised forecast. We are satisfied that our substitute estimate reasonably reflects the capex criteria. Table 5.1 outlines our final decision.

Table 5.1 Final decision on CitiPower's total net capex forecast (\$ million, 2020–21)

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
CitiPower's revised proposal	145.4	135.8	127.8	116.6	107.6	633.3
AER final decision	127.7	129.0	121.6	110.6	100.9	589.9
Difference (\$)	-17.8	-6.8	-6.2	-6.0	-6.7	-43.4
Difference (%)	-12	-5	-5	-5	-6	-7

Source: CitiPower's revised post-tax revenue model (PTRM) and AER analysis.

Note: Numbers may not sum due to rounding.

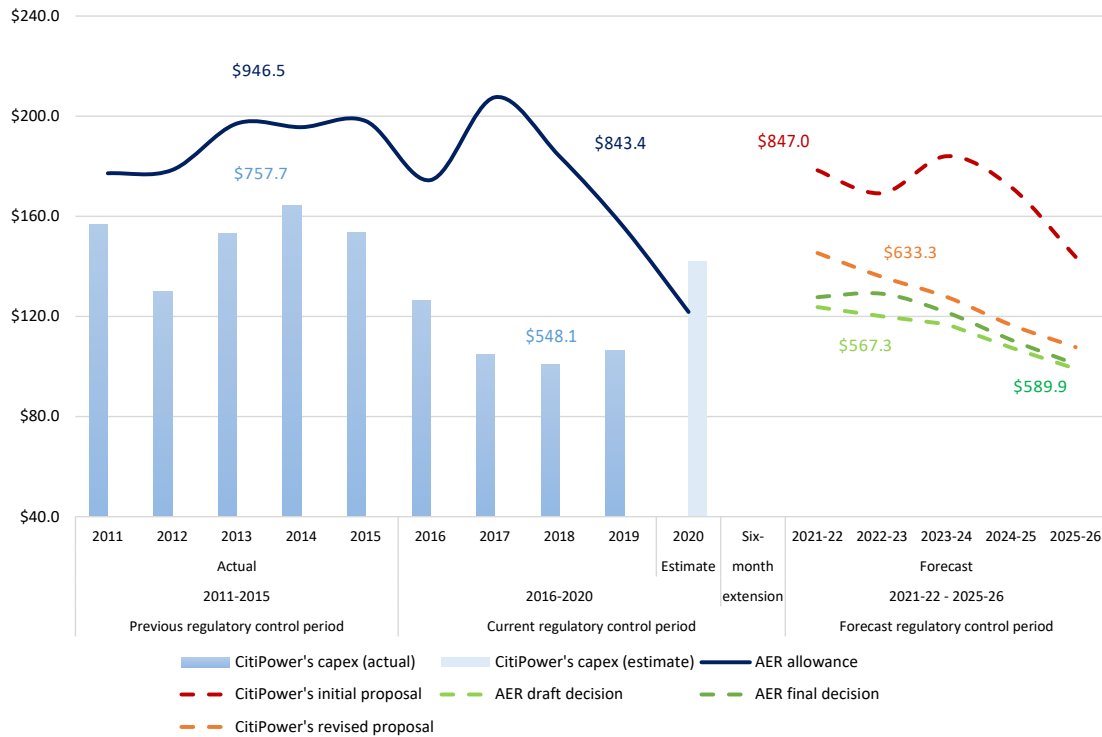
5.2 CitiPower's revised proposal

CitiPower's revised capex forecast for the 2021–26 regulatory control period is \$633.3 million. This is 16 per cent higher than its actual capex of \$548.1 million over

⁶ All dollar amounts are presented in real \$2020–21 unless otherwise stated.

the current regulatory control period.⁷ CitiPower's revised proposal accepted some aspects of our draft decision, reducing its forecast capex by 25 per cent relative to its initial proposal. Figure 5.1 outlines CitiPower's historical capex performance against its initial and revised proposals, and our draft and final decisions.

Figure 5.1 CitiPower's historical vs forecast capex snapshot (\$ million, 2020–21)



Source: CitiPower's revised proposal and AER analysis.

Note: The capex figures reported refer to five-year totals over a regulatory control period. The 2020 estimate has been included in this chart for indicative purposes. We have not used this estimate in our trend comparison. Our draft decision assessed minor repairs as replacement capital expenditure (repex), whereas it is included in operating expenditure (opex) for the final decision.

5.3 Reasons for final decision

We are not satisfied that CitiPower's total capex forecast reasonably reflects the capex criteria. We are therefore required to set out a substitute estimate.⁸ We are satisfied that our substitute estimate represents a total capex forecast that reasonably reflects the capex criteria and forms part of an overall distribution determination that contributes to achieving the NEO to the greatest degree.

⁷ In this attachment we compare forecast capex with actual capex in the current regulatory control period; i.e. calendar year 2016 to 2019 pro-rated to five years.

⁸ NER, cl. 6.12.1(3)(ii).

In coming to our decision, we asked CitiPower many questions across multiple information requests. CitiPower was receptive to our questions and in most cases provided useful responses within the requested timeframes. We acknowledge that our questions are likely to have presented additional resourcing challenges, particularly due to COVID-19, and appreciate CitiPower's cooperation and assistance.

We typically analyse a distributor's total capex forecast from a top-down perspective. This top-down review forms the starting point of our capex assessment to determine whether further detailed analysis is required, but is also used throughout our review process to test the results of our bottom-up assessment. We apply both top-down and bottom-up reviews so that our decision is fully informed. Key aspects of our top-down assessment of CitiPower's revised proposal are outlined below.

Net capex trend

While we acknowledge CitiPower's efforts to reconsider its forecast in light of the concerns raised about its initial proposal in our draft decision, we would encourage it and other distributors to include more substantiated capital expenditure requirements in its initial proposal. CitiPower's initial forecast was 41 per cent above its current period actual capex, with insufficient evidence to support its forecast in full.⁹

Despite a reduction from its initial proposal, CitiPower's revised capex forecast is still 16 per cent higher than its actual capex over the current regulatory control period. The capital expenditure sharing scheme (CESS) was applied in the current regulatory control period. As a result, actual capex is a strong indicator of efficient costs and we therefore place significant weight on a distributor's revealed actual capex.

In addition, CitiPower's higher forecast relative to the current regulatory control period is combined with an underspend of approximately 32 per cent. This resulted in a significant CESS payment of \$68.3 million. This highlights that CitiPower has demonstrated in the current regulatory control period that it can manage and maintain its network within the allowances provided.

Stakeholder submissions

The Consumer Challenge Panel – sub-panel 17 (CCP17) is 'supportive of the significant reduction in the Draft Decision of CitiPower's proposed capital investment' and notes that 'CitiPower's network performance and services to customers are quite good, even with a regulatory underspend of 31 per cent in the current period, demonstrating the distributor's capability to operate effectively at existing levels of investment'.¹⁰

⁹ This comparison accounts for CitiPower's withdrawal of its proposed environmental repex. For a like-for-like comparison, minor repairs is not included in this comparison as it is included in opex as per CitiPower's revised proposal and our final decision.

¹⁰ CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p.108.

Energy Consumers Australia's (ECA) consultant Spencer&Co both submit that, with the exception of CitiPower's pole replacement program, CitiPower's revised capex forecast is more in line with its historical expenditure. Spencer&Co's advice to ECA 'indicates that many of the issues proposed by CitiPower... appear reasonable, with only some more minor issues being recommended for further review'.¹¹

The Victorian Community Organisations (VCO) are largely supportive of our draft decision which 'address stakeholder concerns about a continually-growing RAB'. VCO's consultant Headberry Partners finds that CitiPower's revised proposal for capex increases is 'likely to exceed requirements'.¹²

To support our top-down review, consistent with the draft decision, we assessed – from a bottom-up perspective – the additional material CitiPower provided to support its revised capex forecast. Our assessment highlighted that CitiPower's revised repex, augmentation capital expenditure (augex), connections forecasts and capitalised overheads would not form parts of a total capex forecast that reasonably reflects the capex criteria, having regard to the capex factors. Table 5.2 outlines the capex amounts by driver that we have included in our substitute estimate of \$589.9 million.

Table 5.2 Capex driver assessment (\$ million, 2020–21)

Driver	CitiPower's revised proposal	AER final decision	Difference (\$)	Difference (%)
Repex	145.1	128.1	-17.0	-12
DER capex	43.8	44.2	0.4	1
Augex	106.3	105.7	-0.6	-1
Gross connections	392.0	385.1	-6.9	-2
ICT capex	71.7	71.7	0.1	0
Other non-network capex	20.7	20.7	0.0	0
Capitalised overheads	108.8	98.8	-10.0	-9
Gross capex	888.4	854.4	-34.0	-4
less capital contributions	-252.9	-262.3	-9.4	4
less asset disposals	-2.2	-2.2	0.0	0
Net capex	633.3	589.9	-43.4	-7

Source: CitiPower's revised proposal and AER analysis.

Note: Numbers may not sum due to rounding. Modelling adjustments are incorporated into each line item and relate to CitiPower's consumer price index (CPI) and real price escalation assumptions.

¹¹ Spencer&Co, *Report to Energy Consumers Australia - a review of the Victorian Distribution Networks - Revised Proposals 2021–26*, January 2021, pp. 4–5.

¹² VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, pp. 4-6.

Table 5.3 summarises the reasons for our substitute estimate by capex driver. This reflects the way we have assessed CitiPower's revised total capex forecast. 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. However, we use our findings on the different capex drivers to assess a distributor's proposal as a whole and arrive at a substitute estimate for total capex where necessary. In addition, as noted above, our decision on total capex does not limit a distributor's actual spending.

Detailed reasons for our findings for each capex driver are provided in Appendix A.

Table 5.3 Summary of our findings and reasons

Issue	Findings and reasons
Repex	We are not satisfied that the supporting evidence adequately justifies that CitiPower's proposed repex is required to manage network risk over the forecast regulatory control period.
DER capex	CitiPower's revised proposal accepted our draft decision on distributed energy resources (DER) integration capex. CitiPower stated it would develop a unified approach to solar enablement and digital network investment as part of a broad future network strategy that accommodates customer choices for all forms of DER.
Augex	Our final decision also reallocates a portion of two of CitiPower's augex programs to alternative control services (ACS) capex, consistent with our draft decision.
Connections capex	We do not accept CitiPower's connections and capital contributions forecasts, as its method for forecasting changes in capital contributions due to changes in the weighted average cost of capital (WACC) is inconsistent with the way it charges customers.
ICT capex	CitiPower accepted the majority of our draft decision for information and communications technology (ICT) capex, including our top-down trend-based assessment of recurrent ICT capex and our minor adjustments to its intelligent engineering program. Our assessment focused on CitiPower's repropoed smaller customer enablement program and a new field service management solution program. We accept CitiPower's revised ICT capex forecast and have included this forecast in our substitute estimate of total capex.
Other non-network capex	CitiPower's revised proposal accepted our draft decision for other non-network capex.
Capitalised overheads	We do not consider capitalised overheads should be forecast on the same basis as expensed overheads. CitiPower has also not accounted for the relationship between direct capex and capitalised overheads. Our final decision applies an average of current regulatory control period actual capitalised overheads. We then adjust for the rate of change and the

Issue	Findings and reasons
	difference actual and forecast direct capex.
Modelling adjustments	Modelling adjustments relate to CitiPower's CPI and real price escalation assumptions. We have updated CitiPower's labour price growth to be consistent with our opex decision, as set out in attachment 6. Deloitte Access Economics' real labour escalation forecast for 2021–22 is a nine-month forecast to account for the transition from calendar to financial year in the opex rate of change. We have amended this forecast to reflect a 12-month figure to be consistent with CitiPower's capex model.
Asset disposals	We accept CitiPower's revised forecast for asset disposals.

Based on both our top-down and bottom-up assessments, we are not satisfied that CitiPower's revised capex forecast reasonably reflects the capex criteria. We are satisfied our substitute estimate reasonably reflects the capex criteria, as our substitute estimate is more in line with CitiPower's actual capex over the current regulatory control period. In addition, as noted above, most stakeholder submissions supported a final decision capex allowance lower than CitiPower's revised proposal.

A Capex driver assessment

This appendix outlines our detailed analysis of CitiPower's capex driver category forecasts for the 2021–26 regulatory control period. These categories are repex, DER integration capex, augex, connections capex, ICT capex, other non-network capex and capitalised overheads. All dollar amounts are presented in real \$2020–21 unless otherwise stated.

We used various qualitative and quantitative assessment techniques to assess the different elements of CitiPower's revised proposal to determine whether it reasonably reflects the capex criteria. More broadly, we seek to promote the NEO and take into account the revenue and pricing principles set out in the NEL.¹³ In particular, we take into account whether our overall capex forecast will provide CitiPower with a reasonable opportunity to recover at least the efficient costs it incurs to:

- provide direct control network services
- comply with its regulatory obligations and requirements.¹⁴

When assessing capex forecasts, we also consider:

- The prudence and efficiency criteria in the NER are complementary. Prudent and efficient expenditure reflects the lowest long-term cost to consumers to achieve the expenditure objectives.¹⁵
- Past expenditure was sufficient for the distributor to manage and operate its network in previous periods, in a manner that achieved the capex objectives.¹⁶
- The capex required to provide for a prudent and efficient distributor's circumstances to maintain performance at the targets set out in the service target performance incentive scheme (STPIS).¹⁷
- The annual benchmarking report, which includes total cost and overall capex efficiency measures, and considers a distributor's inputs, outputs and its operating environment.
- The interrelationships between the total capex forecast and other constituent components of the determination, such as forecast opex and STPIS interactions.¹⁸

¹³ NEL, ss. 7, 7A and 16(1)-(2).

¹⁴ NEL, s. 7A.

¹⁵ AER, *Better regulation: Expenditure forecast assessment guideline for electricity distribution*, November 2013, pp. 8–9.

¹⁶ AER, *Better regulation: Expenditure forecast assessment guideline for electricity distribution*, November 2013, p. 9.

¹⁷ The STPIS provides incentives for distributors to further improve the reliability of supply only where customers are willing to pay for these improvements.

¹⁸ NEL, s. 16(1)(c).

A.1 Repex

Repex must be set at a level that allows distributors prudent and efficient costs to meet the capex objectives. Replacement can occur for a variety of reasons, including when:

- an asset fails while in service or presents a real risk of imminent failure
- a condition assessment determines that it is likely to fail soon or degrade in performance, such that it does not meet its service requirement and replacement is the most economic option¹⁹
- the asset does not meet the relevant jurisdictional safety regulations and can no longer be safely operated on the network
- the risk of using the asset exceeds the benefit of continuing to operate it on the network.

The majority of network assets will remain in efficient use for far longer than a single five-year regulatory control period (many network assets have economic lives of 50 years or more). As a result, a distributor will only need to replace a portion of its network assets in each regulatory control period.

A.1.1 Final decision

We are not satisfied that CitiPower's revised repex forecast reasonably reflects the capex criteria. We have included \$128.1 million for repex in our substitute estimate of total capex. This is \$17.0 million (12 per cent) lower than CitiPower's revised forecast. We are satisfied that our substitute estimate forms part of a total capex forecast that reasonably reflects the capex criteria. Our substitute estimate is 63 per cent above CitiPower's actual repex over the current regulatory control period.

A.1.2 CitiPower's revised proposal

CitiPower included \$145.1 million for forecast repex in its revised proposal for the 2021–26 regulatory control period. CitiPower's revised proposal is 39 per cent below its initial proposal forecast assessed and 16 per cent above our draft decision.²⁰ It also represents an 85 per cent step-up from its actual historical spend over the current regulatory control period.

CitiPower accepted most elements of our draft decision on repex but did not accept our decision on wood poles, central business district (CBD) pits, oil-filled circuit breakers and zone substation transformer repex. The key adjustments to CitiPower's revised repex forecast were:

¹⁹ A condition assessment may relate to the assessment of a single asset or a population of similar assets. High-value/low-volume assets are more likely to be monitored on an individual basis, while low-value/high-volume assets are more likely to be considered from an asset category wide perspective.

²⁰ These comparisons are on a like-for-like basis by considering minor repairs in opex, as per CitiPower's revised proposal and our final decision.

- reducing its forecast for wood poles repex
- maintaining its initial forecast for CBD pits
- reducing its forecast for circuit breakers and transformers repex, in response to our draft decision
- not accepting our draft decision to shift minor repairs for its underground and overhead expenditure from opex to repex. Our final decision on the minor repairs step-change is discussed in Attachment 6.²¹
- accepting our draft decision for its fault program, service lines, pole top structures, protection relays and non-wood poles repex.

CitiPower has not demonstrated that its proposed repex for wood poles, CBD pits and zone substation transformers is prudent and efficient.

A.1.3 Reasons for final decision

CitiPower accepted many elements of our draft decision on repex and as a result its revised forecast is materially lower than its initial repex forecast. We commend CitiPower for its consideration of the concerns we raised in the draft decision and the concerns of stakeholders regarding affordability and better demonstrating the need for investment.

In coming to our position on CitiPower's wood poles, CBD pits, and its zone substation transformer program, we have considered additional supporting evidence and stakeholder submissions. We are aware of the importance of network risk and typically accept proposed capex where sufficient evidence is provided. In this case, we were not satisfied that the amount of repex proposed by CitiPower is required to manage network risk over the forecast regulatory control period. We expect that the \$128.1 million for repex as part of the total capex will allow CitiPower to maintain reliability and sustainable safety outcomes at an acceptable cost to consumers.

Below, we discuss our assessment of CitiPower's repex for wood poles, CBD pits, circuit breakers and zone substation transformers. For all other elements of the repex forecast, CitiPower has either accepted our draft decision or we have assessed the initial proposal to be prudent and efficient, and therefore we have included them in our substitute estimate of total capex.

CitiPower's wood poles repex

We do not consider that CitiPower's wood poles repex forecast of \$20.0 million is prudent and efficient, and it would not form part of a total capex forecast that

²¹ AER, *Final decision CitiPower distribution determination 2021–26 - Attachment 6 - operating expenditure*, April 2021, pp. 20-21.

reasonably reflects the capex criteria. We have included \$13.6 million for wood poles repex in our substitute estimate of total capex, which is in line with our draft decision.²²

In our draft decision we raised a number of concerns with CitiPower's initial forecast. This included a lack of cost-benefit or options analysis, insufficient justification for the proactive risk-based program and issues with its 'enhanced pole calculator' (EPC) based forecasting methodology.

CitiPower has addressed some of these concerns in its revised proposal. In particular, we commend CitiPower for developing a risk model to assess its need for proactive interventions.²³ In addition, it has further tested its proposed EPC and updated the tip load assumptions in the EPC algorithm.

However, we still have concerns with CitiPower's lack of justification for a forecast that is substantially higher than historical repex. There are also some issues with the EPC based component of CitiPower's forecast.

CitiPower's revised proposal

CitiPower forecast \$20.0 million for wood poles repex in its revised proposal. It revised the compliance-driven interventions—pole calculator component downward reflecting revisions to its tip load assumptions. It also removed the proactive risk-driven volumes that it forecast in its initial proposal after risk analysis found these volumes were not economic.

Our position

Overall, we are not satisfied that CitiPower's wood poles repex forecast is prudent and efficient. CitiPower has not adequately demonstrated that its forecast increase of 115 per cent relative to current regulatory control period spend is required to maintain safety and reliability. Our position is based on a number of concerns with CitiPower's wood poles forecast:

- CitiPower has not demonstrated the need to increase its repex to the level it has forecast for the 2021–26 regulatory control period. We would expect more compelling evidence such as cost-benefit analysis to support a large step up in repex.
- We reviewed the EPC in the context of Powercor's wood poles repex forecast. We had a number of concerns that are likely to be relevant to CitiPower's forecast, including:
 - It is unclear that the serviceability index and sound wood thickness thresholds used in the EPC model would result in prudent timing of interventions.

²² Our final decision is slightly higher because of an increase in real cost escalation compared with our draft decision.

²³ Interventions are replacements or reinforcements (staking).

- The addition of the sound wood thickness test may lead to poles being intervened at higher than efficient volumes.
- The EPC formulas used in the forecast contain an error that overstates the number of reinforced poles requiring replacement.
- CitiPower's low staking rates leads to an overstatement of repex required.
 - CitiPower's revised forecast includes a staking rate of 17 per cent. This is substantially lower than its long-term staking rate of close to 70 per cent. CitiPower stated that its forecast staking rate is based on staking rates in the current regulatory control period (of 60 per cent), but it did not apply these rates consistently to its forecast.
 - This low staking rate likely leads to an overstatement of repex needed, because the cost of staking a pole is much lower than the cost of replacement.

CBD cable pits

CitiPower's revised proposal included a forecast for CBD cable pits of \$14.4 million. Our draft decision included an amount consistent with its historical expenditure (\$2.9 million). Our draft decision noted a number of concerns which included insufficient credible options, lack of testing of chosen volumes and no evidence of reliability issues.

CitiPower's revised proposal maintains its initial forecast, but has substantiated its forecast with the results of its most recent inspection program. CitiPower has relied on these inspection results and is proposing to address all medium and major defects observed from its actual inspections over 2018–2020. It is also proposing to refurbish or replace all major and medium defects expected to be found, using the same find-rate from its recent inspection program, over the 2021–26 regulatory control period years.

While we consider CitiPower's proactive inspection program to be a positive step in understanding the state of its cable pits, the additional evidence does not sufficiently address the concerns made in our draft decision. The evidence provided does not demonstrate that its revised forecast is prudent and efficient because:

- the proposed volumes have been not been sufficiently tested, a concern we raised in the draft decision and supported by stakeholders. The CCP17²⁴ and ECA's consultant (Spencer&Co.)²⁵ supports the objective of the program, but consider that CitiPower had not sufficiently supported the volumes, timing and efficiency of the proposed program. CitiPower compared our draft decision, its proposed volume and the scenario of addressing all observed defects in the 2021–26 regulatory

²⁴ CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 109.

²⁵ Spencer&Co, *Report to Energy Consumers Australia - a review of the Victorian Distribution Networks - Revised Proposals 2021–26*, January 2021, p. 21.

control period. The analysis does not test the number of major defects that would maintain the risk. It also does not test if the cost of remediating medium defects justifies the risk.

- CitiPower submitted that none of these pits have failed with any associated consequence, so it does not have any evidence of observed reliability issues.
- the analysis indicates that the probability of a failure causing a consequence is rare, which would not justify the investment on a risk-cost analysis perspective. This is consistent with EMCa's view²⁶ and the risk cost analysis provided in the initial proposal, which deduced an optimal timing in around 10 years time.²⁷

Based on the evidence before us, CitiPower has not established that its \$14.4 million for the refurbishment of the CBD cable pits is prudent and efficient. We have included \$7.4 million in our substitute estimate of total capex.

Based on the new inspection records, we acknowledge that CitiPower's pits are ageing and there is a need to intervene on pits with major defects, therefore, a step-up above our draft decision is reasonable. Our substitute estimate includes sufficient capex for CitiPower to rectify observed major defects, as well as the major defects expected to be observed over the upcoming 2021–26 inspection program.

Our substitute estimate assumes a rectification period over 10 years rather than over 5 years (as proposed), which is more aligned with CitiPower's own initial cost-benefit analysis. Further, our substitute estimate does not include capex to address medium defects, as there is no evidence that the risk of medium defects outweighs the cost. In addition, a sample of inspection reports shows that a medium defect assigned pit is generally in good condition, with CitiPower's structural engineer recommending minor repairs as the next step.²⁸ This is distinct to major defects where CitiPower's structural engineer recommending remediation as a priority.²⁹

Oil-filled circuit breakers

CitiPower's revised proposal included \$8.0 million for a circuit breaker replacement project, specifically its J18/J22 oil-filled circuit breakers and their associated protection. Our final decision is to include CitiPower's revised forecast for its circuit breaker replacement project in the total capex forecast.

CitiPower's revised proposal has reduced its initial estimate and provided additional condition information to support its program.³⁰ CitiPower points to the 2016 explosive failure as a rationale to implement its oil-filled circuit breaker proactive replacement program.

²⁶ EMCa, *Review of aspects of CitiPower's regulatory proposal 2021–26*, September 2020, pp. 91–92.

²⁷ CitiPower, *Regulatory proposal 2021–26 – model 4.05 – CBD cable pits*, January 2020.

²⁸ CitiPower, *information request 069*, December 2020.

²⁹ CitiPower, *information request 069*, December 2020.

³⁰ CitiPower, *Revised regulatory proposal, BUS 4.07 - J18 and J22 Circuit Breakers and Bus protection*, December 2020, p.10.

We sought to understand the underlying failure mode. The asset failure investigation report notes that the existing (Oil) Maintenance Practice at the time was the main contributor.³¹ It also describes the maintenance practice at the time, particularly noting that the filtration process was not designed to remove moisture.

The report made a number of key recommendations which centred around improving CitiPower's oil filtration process, with the focus on removing moisture from the oil. It also recommended undertaking a survey of in-service oil quality to understand the chemical (e.g. water content and pH) and electrical characteristics (e.g. dielectric strength) of the oil in sample of circuit breakers. CitiPower has confirmed that the reports' recommendations were implemented,³² but a proactive replacement program did not commence over the current period.³³

The investigation, the identified root cause and the implemented recommendations has demonstrated an issue with CitiPower's oil maintenance practice, rather than an inherent issue with the population of J18 and J22 circuit breakers themselves. The implementation of the improved oil maintenance practices is likely to reduce the risk of similar failure events occurring the future.

We also sought to understand the existing condition of its proposed replacements. We identified a large degree of variation in the provided data. For example, 8 out of 16 zone substations have limited or insufficient data to appropriately assess the condition,³⁴ which questions the reliability of the data. Despite concerns with the condition data, we have had regard to the consumer groups' support for this program. The CCP17 and Spencer&Co (on-behalf of the ECA) indicated their support for objective of this program.³⁵ Based on the information before us, which includes the materiality of a potential reduction, we have included CitiPower's revised proposal for its circuit breakers and associated protection replacement in our substitute estimate of total capex. We expect that CitiPower will continue to improve its asset management practices, including its maintenance and data collection practices, to enable it to maintain the safety and reliability of its network.

Zone substation transformer replacement

CitiPower's revised proposal included \$17.1 million for zone substation transformers replex. We have included \$13.4 million in our substitute estimate of total capex.

Our draft decision did not accept the initially proposed unit rates as they were materially higher than other distributors. We also questioned the prudence of one of the

³¹ CitiPower, *Information Request 066*, December 2020.

³² CitiPower, *Information Request 066a*, January 2021.

³³ AER, meeting minutes between AER and CitiPower, 18 December 2020.

³⁴ CitiPower, *Revised regulatory proposal, BUS 4.07 - J18 and J22 Circuit Breakers and Bus protection, December 2020*, Public, p.11-12.

³⁵ Spencer&Co, *Report to Energy Consumers Australia - a review of the Victorian Distribution Networks - Revised Proposals 2021–26*, January 2021, p. 21; CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 109.

proposed transformers—Victoria Market (VM) transformer. We observed that CitiPower's own condition-based risk model indicated that the transformer has 10 years before it reaches end of life based on its current condition.³⁶

In the revised proposal, CitiPower has re-proposed all five zone substation transformer replacements, albeit with a slightly reduced unit rate. We acknowledge there may be additional costs to replace a transformer in inner city locations compared with other distributors. CitiPower has provided additional information to support its revised proposal unit rates.³⁷ While we have some outstanding concerns for its two North Richmond zone substation transformer unit rates, we consider any reduction would be immaterial.

For its VM transformer, CitiPower did not address our draft decision concern regarding the prudence of its proposed replacement. In its business case, CitiPower indicates that the on-load tap changer (OLTC) condition assessment is the driver of the overall VM transformer 1 condition.³⁸ Based on the information before us, approximately 43 per cent of CitiPower's transformer fleet have a similar yearly number of OLTC operations as the proposed VM transformer 1. In addition, CitiPower's documentation indicates that the VM transformer 1 has zero OLTC defects.³⁹ CitiPower has not demonstrated that its replacement of the VM transformer 1 is prudent. We also have concerns with the efficiency of its unit rates. For example, CitiPower included an allowance for secondary system replacement, even though the scope of works indicates that the existing transformer protection was recently upgraded so it is not expected that any significant secondary works are required.⁴⁰

Given our concerns with the prudence of the VM transformer replacement, we have included \$13.4 million for zone substation transformers repex in our substitute estimate of total capex. While we consider certain projects in our determining of our substitute estimate of total capex, we do not determine which programs or projects a distributor should or should not undertake. Should the circumstances change in the forecast period, it is up to CitiPower to manage this as part of its capex portfolio. We are satisfied that our substitute estimate is sufficient for CitiPower to maintain the safety and reliability of its network, as it is 41 per cent higher than its average transformers repex over the last 10 years.

A.2 DER integration capex

DER includes solar PV, energy storage devices, electric vehicles (EVs) and other consumer appliances that are capable of responding to demand or pricing signals. Increasing DER penetration represents a change in the way that consumers interact with electricity networks and the demands that are placed on networks.

³⁶ AER, *Draft Decision - CitiPower Distribution determination 2021 to 2026 - Attachment 5 - Capital Expenditure*, September 2020, p. 28.

³⁷ CitiPower, *Information Request 086* February 2021; CitiPower, *Information Request 068*, December 2020.

³⁸ CitiPower, *Revised regulatory proposal, BUS 4.03 - transformer evaluation methodology*, January 2020, p. 28.

³⁹ CitiPower, *Information Request 019*, May 2020.

⁴⁰ CitiPower, *Revised regulatory proposal, Attachment 48 - Functional scope VM transformers*, December 2020.

DER integration expenditure addresses increasing DER penetration on the network. This includes managing voltage within safety standards and allowing solar customers to dynamically export back onto the grid. DER integration capex includes:

- augmenting the network to physically provide greater solar PV export capacity
- ICT capex to develop greater visibility of the low voltage network and manage changes being driven by technological developments (batteries and EVs).

A.2.1 Final decision

We accept that CitiPower's revised DER integration capex forecast forms part of a total capex forecast that reasonably reflects the capex criteria. We have included this amount in our substitute estimate of total capex.

A.2.2 CitiPower's revised proposal

CitiPower's revised proposal includes a DER integration capex forecast of \$43.8 million. Its revised proposal accepted our draft decision on DER integration capex. CitiPower stated it would develop a unified approach to solar enablement and digital network investment as part of a broad future network strategy that accommodates customer choices for all forms of distributed energy.⁴¹

A.2.3 Reasons for final decision

CitiPower's revised proposal stated that it will increase its network's DER hosting capacity in a smart way by leaning on technology such as its dynamic voltage management system.⁴² It also highlighted that it is seeking to get the most out of its existing network by:

- expanding its demand management capabilities by developing a platform to facilitate market-led demand management across its low-voltage assets, which will reduce augmentation costs for all customers
- developing dynamic operating envelopes to better manage DER, including ensuring DER operates within the bounds of the network's capacity to minimise disruption and ensure customers get fair access.⁴³

We endorse CitiPower's revised approach and is one we suggest all distribution networks should adopt. Stakeholder submissions from the CCP17, ECA, Spencer&Co and VCO agreed.⁴⁴ VCO submitted that it supports CitiPower's acceptance of our draft

⁴¹ CitiPower, *Revised regulatory proposal*, December 2020, p. 2.

⁴² CitiPower, *Revised regulatory proposal*, December 2020, p. 83.

⁴³ CitiPower, *Revised regulatory proposal*, December 2020, p. 83.

⁴⁴ CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 9; ECA, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 4; Spencer&Co, *Report to Energy Consumers Australia - a review of the Victorian Distribution Networks - Revised*

decision, reducing network augmentation spending while maintaining the budget for developing smart grid capabilities.⁴⁵ Further, it commended CitiPower on making a strong case for smart-grid programs such as dynamic voltage management, adding that these functionalities will allow network constraints to be safely managed.

CitiPower also stated that it will need to accommodate additional solar and battery installations due to the Victorian Government's expanded solar homes program.⁴⁶ It noted that it will manage the impacts on its network within the program accepted in our draft decision. We acknowledge that the expanded program is likely to increase DER penetration on CitiPower's network. However, the reduction in Victoria's minimum feed-in tariff by one third from 1 July 2021 will help to balance this trend.⁴⁷

Value of DER (VaDER)

CitiPower accepted our draft decision on the amount of capex required to facilitate and integrate DER on its network. Our decision supports CitiPower accommodating solar PV growth on its networks to achieve consumer expectations regarding the Victorian Government's Solar Homes program.

As highlighted in our draft decision, we commissioned the CSIRO and CutlerMerz to conduct a study into potential methodologies for determining the VaDER in response to stakeholder submissions on our consultation paper *Assessing Distributed Energy Resources (DER) Integration Expenditure*.⁴⁸ We published CSIRO and CutlerMerz's final value of DER 'VaDER: methodology study' in November 2020 following the release of our draft decision.⁴⁹

We will continue to consider this advice and recommendations, and the Australian Energy Market Commission's current DER rule change consultation process during our ongoing stakeholder engagement and in finalising our DER integration expenditure guideline. We will continue to engage with stakeholders on the development of the DER guideline in the context of these proposed rule changes, which are due for finalisation in mid-2021.

A.3 Augex

The need to build or upgrade the network to address changes in demand and network utilisation typically triggers augex. The need to upgrade the network to comply with quality, safety, reliability and security of supply requirements can also trigger augex.

Proposals 2021–26, January 2021, p. 13; VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 7.

⁴⁵ VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, pp. 21–22.

⁴⁶ CitiPower, *Revised regulatory proposal*, December 2020, p. 9.

⁴⁷ Renew Economy, *Victoria regulator slashes FIT by one third*, February 2021.

⁴⁸ AER, *Assessing distributed energy resources integration expenditure*, November 2019; See: <https://www.aer.gov.au/system/files/AER%20Assessing%20Distributed%20Energy%20Resources%20%28DER%29%20Integration%20Expenditure%20consultation%20paper%20-%2028%20November%202019.pdf>.

⁴⁹ CSIRO and CutlerMerz, *Value of distributed energy resources: Methodology study – Final report*, October 2020.

A.3.1 Final decision

We do not accept that CitiPower's revised augex forecast forms part of a total capex forecast that reasonably reflects the capex criteria. This is due to our reallocation of a proportion of its proposed network communications expenditure to ACS capex. This reallocation is consistent with our draft decision and is discussed below. We have retained the forecast for traditional augex from our draft decision that CitiPower accepted in its revised proposal.

A.3.2 CitiPower's revised proposal

In its revised proposal, CitiPower accepted our draft decision forecast for traditional augex. It considered that COVID-19 lessened the risk associated with not upgrading the substation at Port Melbourne. However, it did not accept our draft decision allocation of communications augex between SCS and ACS.

A.3.3 Reasons for final decision

Consistent with our draft decision, we have excluded replacement of the Port Melbourne substation from our forecast of prudent and efficient capex.

Other augex programs

Consistent with our draft decision and ACS final decision, we have reallocated a proportion of CitiPower's proposed network communications expenditure to ACS capex. CitiPower allocated 100 per cent of its 3G shutdown network communications program to SCS capex. However, as outlined in our ACS metering draft decision (attachment 16), some 3G shutdown capex should be allocated to ACS metering.

The 3G systems that are being replaced are used to backhaul bulk data from advanced metering infrastructure (AMI) meters. This data is used for both metering and standard control network services. Therefore, this cost should be shared between SCS and ACS. Based on our analysis, we have allocated 90 per cent of this program to SCS capex and the remaining 10 per cent to ACS capex.

Similarly, CitiPower allocated 88 per cent of its annual communication devices program to SCS capex. Our ACS metering analysis has determined that this allocation should be 25 per cent SCS capex and 75 per cent ACS capex. Our substitute estimate of total capex is consistent with these reallocations. Further analysis of these reallocations can be found in attachment 16 of this final decision.

A.4 Connections capex

Connections capex is expenditure incurred to connect new customers to the network and, where necessary, augment the shared network to ensure there is sufficient capacity to meet new customer demand.

A.4.1 Final decision

We do not accept that CitiPower's connections and capital contributions forecasts would form part of a total capex forecast that reasonably reflects the capex criteria. Its method for forecasting changes in capital contributions due to changes in the WACC are inconsistent with the way it actually charges customers. In addition, we have retained our adjustment for the effects of the pandemic for connections to high density commercial and residential buildings.

The forecast we have included in our substitute estimate of total capex increases capital contributions by 4 per cent to \$262.3 million and gross connections down by 2 per cent to \$382.7 million. This is based on our calculations of the effect of the changes to capital contributions due to the changed WACC, and changes to CitiPower's connections policy.

A.4.2 CitiPower's revised proposal

CitiPower's revised proposal included a gross connections forecast of \$392 million and a capital contributions forecast of \$127 million for the 2021–26 regulatory control period. This was an increase in net connections of \$19.3 million from our draft decision. CitiPower introduced an adjustment to its forecast contributions for the effect of its falling WACC and prices. It proposed reversing our COVID-19 adjustment for non-residential connections; returned to its originally proposed contribution ratios, and removed gifted assets excluding rebates to reflect a recent Federal Court decision on taxation treatment.

A.4.3 Reasons for final decision

Effect of WACC and prices

Generally, customers pay a capital contribution to connect to the network to cover the costs of connecting them (incremental cost), insofar as they exceed the net present value (NPV) of the network use charges they are expected to pay over the life of that connection (incremental revenue). CitiPower argued that changes to distribution tariffs and the WACC over the next regulatory control period will lead to lower capital contributions, by increasing incremental revenue.

CitiPower calculated that this will lead to \$25.2 million less in capital contributions in its revised proposal. However, we found the following problems with this calculation:

- CitiPower's forecasts did not account for the way it removes opex from incremental revenue. When asked how opex had been accounted for, CitiPower provided a modified forecast that removed opex in a way that it has since acknowledged differs from its actual practice in calculating customer contributions.⁵⁰

⁵⁰ CitiPower, *Information request 065*, December 2020; CitiPower, *Information request 077*, January 2021.

- CitiPower did not base its forecast on a sample of actual connections contributions. Instead it used an approach equivalent to assuming that some customers will pay negative capital contributions. CitiPower also acknowledged the need to correct for this issue.⁵¹

CitiPower's approach also raises procedural issues. CitiPower forecast declining prices and proposed a declining WACC in its initial proposal. However, it did not forecast that this would have any effect on capital contributions at the initial proposal stage. To allow issues to be considered comprehensively and fairly by us and by all stakeholders, it is good practice to incorporate any effects on future capex at the initial proposal stage, if they are known about at that time.

In general, a lower WACC can lead to either higher or lower capital contributions. This is because there are two effects on incremental revenue. As the WACC is used as the discount rate, a lower WACC means higher incremental revenue if prices are unchanged. However, a lower WACC also reduces prices and hence incremental revenue excluding opex. Our substitute estimate addresses these issues by:

- calculating opex as a ratio of distribution use of system (DUoS) charges and accounting for the effect of the forecast increase in this ratio on incremental revenue;
- accounting for forecast price reductions over the forthcoming regulatory control period, and not only in the first year;
- estimating the portion of the overall incremental revenue increase that does not subtract from incremental cost, in cases where capital contributions fall to zero;
- calculating the overall change in incremental revenue due to the changed WACC and prices by averaging effects at the beginning, middle and end of each regulatory control period.

CitiPower stated that it did not have issues regarding this method.⁵² Overall, we forecast a 2 per cent reduction in capital contributions due to this cause, compared with CitiPower's forecast 10 per cent reduction. This is after updating the WACC and price path for the outcome of our final decision. If we had used CitiPower's method with our final decision WACC and price path, the capital contributions forecast would have been an 8 per cent reduction compared to historical contributions.

Effect of changed augmentation threshold

Our final decision raises the threshold at which customers make a contribution to augmenting the shared network on three phase connections. In CitiPower's revised proposal, it argued our capital contributions forecast should decrease if our final decision retained this change. We have reduced our capital contributions alternative

⁵¹ CitiPower, *Information request 083*, February 2021.

⁵² CitiPower, *Information request 083*, February 2021.

forecast by \$6.2 million to incorporate this change, based on historical data CitiPower provided demonstrating this effect.⁵³

Effect of COVID-19

Our draft decision adjusted connections in the first year of the next regulatory control period, based on dwellings forecast made by the HIA. CitiPower's revised proposal reversed this adjustment for non-residential connections, based on its function codes. We have accepted this change, based on recent stimulus announcements by the Victorian government.

However, we have retained our COVID adjustment for high density commercial and residential connections, as this category is likely to be strongly affected. In addition, we have increased our forecast based on updated HIA forecast data (from a 42 per cent reduction in the first year to a 37 per cent reduction for the affected function codes).

Gifted assets

We accept CitiPower's treatment of gifted assets in its revised proposal. This removes gifted assets excluding rebates from the gross capex and capital contributions forecasts. As these capital contributions are no longer considered taxable income, this treatment ensures no tax is recovered from consumers to cover this amount.

A.5 ICT capex

ICT refers to all devices, applications and systems that support business operation. ICT expenditure is categorised broadly as either replacement of existing infrastructure for reasons due to end of life, technical obsolescence or added capability of the new system or the acquisition of new assets for a business need.

A.5.1 Final decision

We accept that CitiPower's revised ICT capex forecast would form part of a total capex forecast that reasonably reflects the capex criteria. We have included this amount in our substitute estimate of total capex.

A.5.2 CitiPower's revised proposal

CitiPower's revised proposal includes an ICT capex forecast of \$71.7 million for the 2021–26 regulatory control period, which is split into \$40.4 million in recurrent ICT and \$31.3 million in non-recurrent ICT. Table A.1 summarises CitiPower's revised proposal and our final decision.

⁵³ CitiPower, *Information request 077*, January 2021.

**Table A.1 Draft decision on CitiPower's ICT capex forecast
(\$ million, 2020–21)**

Category	Initial proposal	Draft decision	Revised proposal	Final decision
Recurrent ICT	53.4	40.0	40.4	40.4
Non-recurrent ICT	30.0	26.7	31.3	31.3
Total ICT capex	83.4	66.6	71.7	71.7

Source: AER analysis.

Note: Numbers may not sum due to rounding.

A.5.3 Reasons for final decision

CitiPower accepted the majority of our draft decision for ICT capex, including our top-down trend-based assessment of recurrent ICT capex and our minor adjustments to its intelligent engineering program. The key differences between CitiPower's revised ICT capex forecast and its initial forecast are:

- a reproposed smaller customer enablement program
- a new field service management solution program.

Therefore, our final decision assessment has primarily focused on these two programs.

Customer enablement

CitiPower's customer enablement program seeks to invest in unified online platforms and tools, as well as contact centre improvements to streamline its customer communications relating to network services such as connection and supply requests.⁵⁴ The program intends to facilitate customer usage of online and contact centre services. CitiPower has stated it will now jointly undertake this program with Powercor and United Energy.⁵⁵

Our draft decision highlighted that CitiPower had not justified the prudence and efficiency of this program because:

- CitiPower did not fully justify the benefit of accessing information in relation to network connections through the proposed app, with convenience being the only additional value that was likely to be provided;
- CitiPower did not fully justify the benefit of providing improved availability and customer access to information through the myEnergy portal and real-time energy usage data, as this initiative would duplicate services that are already provided through energy retailers, and that real-time data was not necessarily required to extract the claimed benefits;

⁵⁴ CitiPower, *Revised Regulatory Proposal - Customer enablement business case*, December 2020, p. 8.

⁵⁵ CitiPower, *Revised Regulatory Proposal - Customer enablement business case*, December 2020, p. 8.

- CitiPower did not fully justify the benefit of a reduction in call centre time through the proposed app, as consumers already have access to the same services through the webpage, and the choice of an app would not make a material difference to calls; and
- CitiPower's approach to valuing savings in customer time utilising the average consumer wage rate as a proxy for the enquiry time overvalued the time customers spend following up a connection or outage enquiry.⁵⁶

We support CitiPower's revised scaled-down customer enablement forecast. However, we highlight concerns about several areas of the revised program:

- the use of the average consumer wage rate in the calculation of the value of time saved despite our concerns raised in the draft decision;
- the sensitivity analysis conducted using number of users accessing various portals, achieving only a positive NPV of economic benefit for the whole program with two thirds of all customers accessing portals by 2026; and
- the contact centre AI initiative that seeks to improve call centre outcomes, as consumers already having access to the same services through the webpage (as highlighted in our draft decision).

The CCP17 acknowledged CitiPower's work presenting its revised customer enablement proposal to its Consumer Advisory Panel and it supports the revised investment.⁵⁷ Based on the evidence before us, we have included CitiPower's revised customer enablement forecast in our substitute estimate of total capex.

Field service management solution

CitiPower's revised proposal includes a new program to replace its field management services software that upholds the functionality of the Automated Integrated Works Management (AIWM) field operations program.⁵⁸ CitiPower's current Click application will become unsupported in December 2023, as the vendor ClickSoftware has been acquired by Salesforce.⁵⁹

It stated that AIWM has facilitated improved planning and forecasting, collaboration between work streams, contract and supplier management, and optimised work dispatching and scheduling. This investment is proposed in place of the original recurrent ICT enterprise management systems program.⁶⁰ We are satisfied that CitiPower has netted off the recurrent ICT capex component of this program in its capex and cost-benefit analysis models.

⁵⁶ AER, *Draft decision, CitiPower 2021–26 — Capital expenditure*, September 2020, pp. 64–65.

⁵⁷ CCP17, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 116.

⁵⁸ CitiPower, *Revised regulatory proposal, Field service management solution business case*, December 2020, p. 4.

⁵⁹ CitiPower, *Revised regulatory proposal, Field service management solution business case*, December 2020, p. 4.

⁶⁰ CitiPower, *Revised regulatory proposal, Field service management solution business case*, December 2020, p. 5.

The CCP17 submitted that it supports this program as it maintains an existing service, well-established in CitiPower's operational processes to deliver efficient field services, including direct services to customers.⁶¹ Overall, CitiPower has justified the prudence and efficiency of this program, and therefore we have included this program in our substitute estimate of total capex.

A.6 Other non-network capex

Other non-network capex includes property, fleet, plant, tools and equipment. Property expenditure relates to the maintenance, refurbishment and optimisation of offices, operational depots, warehouses, training facilities and other specialist facilities. The indirect costs associated with property assets have been assessed as part of overheads and the costs below refer to 'direct' capital costs only.

Fleet includes expenditure for purchasing new vehicles and related items, including mounted plant. This can be divided between light fleet (passenger and light commercial vehicles) and heavy fleet (elevated work platforms, crane borers and other heavy commercial vehicles).

A.6.1 Final decision

We accept that CitiPower's revised other non-network capex forecast would form part of a total capex forecast that reasonably reflects the capex criteria. We have included this amount in our substitute estimate of total capex.

A.6.2 CitiPower's revised proposal

CitiPower's revised proposal includes other non-network capex forecast of \$20.7 million for the 2021–26 regulatory control period.

A.6.3 Reasons for final decision

CitiPower accepted our draft decision for other non-network capex.⁶²

A.7 Capitalised overheads

Overhead costs include business support costs not directly incurred in producing output, and shared costs that the business cannot directly allocate to a particular business activity or cost centre. The Australian Accounting Standards and the distributor's cost allocation methodology determine the allocation of overheads.

⁶¹ CCP17, *Advice on draft decision and revised regulatory proposals*, January 2021, p. 116.

⁶² CitiPower, *Revised regulatory proposal*, December 2020, pp. 106–107.

A.7.1 Final decision

We do not accept that CitiPower's revised capitalised overheads forecast would form part of a total capex forecast that reasonably reflects the capex criteria. We have included \$98.8 million for capitalised overheads in our substitute estimate of total capex. This is \$10.0 million or 9 per cent lower than CitiPower's revised proposal. We are satisfied our substitute estimate forms part of a total capex forecast that meets the capex criteria.

A.7.2 CitiPower's revised proposal

CitiPower included \$108.8 million for forecast capitalised overheads in the 2021–26 regulatory control period. CitiPower did not accept our use of a 2016–19 average to forecast base overheads and did not accept our 75/25 ratio for fixed and variable overheads. CitiPower proposed to apply the opex rate of change and 2019 capitalised overheads as the base.⁶³

A.7.3 Reasons for final decision

We do not consider capitalised overheads should be forecast on the same basis as expensed overheads. The base, step and trend approach is used to forecast total opex. Expensed overheads form part of the total opex forecast. Similarly, capitalised overheads form part of total capex. It is not a requirement for opex and capex to be forecast on the same basis.

To assess capex, we typically compare capex over the current regulatory control period to the forecast period. We do not select a single base year due to the more lumpy nature of capex. Although capitalised overheads may not necessarily vary year to year as much as direct capex, we do not consider a single year of capitalised overheads is sufficient to be representative of forecast capitalised overheads.

In addition, the basis for selecting a single base year in opex is the interaction between opex and the efficiency benefit sharing scheme (EBSS). Under the EBSS, a distributor does not benefit from shifting costs to, or increasing costs in, the regulatory year in which future opex forecasts will be based.⁶⁴ Another method for setting forecasts is to use an averaging method that provides the same incentive to reduce opex without an EBSS.

CitiPower's methodology of applying the 2019 base year results is a 9.3 per cent increase in capitalised overheads relative to the current regulatory control period. This is before accounting for the difference between current regulatory control period and forecast regulatory control period capex. We do not consider such an increase in

⁶³ CitiPower, *Revised regulatory proposal*, December 2020, p. 108.

⁶⁴ AER, *Final decision – Electricity distribution network service providers – Efficiency benefit sharing scheme*, June 2008, p. 8.

capitalised overheads between the current regulatory control period and the forecast regulatory control period is justified.

CitiPower has also not accounted for the relationship between direct capex and capitalised overheads. Its revised proposal considered the 75/25 fixed and variable ratio of capitalised overheads to capex is incorrect because its forecast capex is higher than 2019 capex and our draft decision reduced capitalised overheads.

We do not consider CitiPower's reasoning of using the rate of change and delinking of capitalised overheads with direct capex is reasonable.⁶⁵ However, we recognise that an increase or decrease in direct capex should result in an increase or decrease in capitalised overheads. For this reason, we have adjusted forecast capitalised overheads, using our standard 75/25 fixed variable proportion, for the 6.3 per cent increase in direct capex that attracts overheads relative to historical direct capex. This results in a 1.6 per cent increase in CitiPower's capitalised overheads.

We do not typically apply the rate of change to our capitalised overheads, as this is due to the potential for double counting opex output growth and changes in direct capex. However, we have retained CitiPower's use of the rate of change and updated it to reflect our final decision opex rate of change. We consider using the rate of change in this instance does not materially affect forecast capitalised overheads.

The 2021–22 opex rate of change uses a 9-month calculation. This is to take into account the transition from calendar to financial year between regulatory control periods. We have applied this rate of change twice to allow for the 18-month time frame in CitiPower's capex model.

⁶⁵ Direct capex includes the main categories of capex that attracts capitalised overheads. This includes repex, connections and augex.

Shortened forms

Shortened form	Extended form
ACS	alternative control services
AER	Australian Energy Regulator
AIWM	Automated Integrated Works Management
AMI	advanced metering infrastructure
augex	augmentation capital expenditure
capex	capital expenditure
CBD	Central Business District
CBRM	condition-based risk modelling
CCP17	Consumer Challenge Panel, sub-panel 17
CESS	capital expenditure sharing scheme
CPI	consumer price index
DER	distributed energy resources
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ECA	Energy Consumers Australia
EMCa	Energy Market Consulting associates
EPC	Enhanced Pole Calculator
ESV	Energy Safe Victoria
EVs	electric vehicles
HIA	Housing Industry Association
HV	high-voltage
ICT	information and communications technology
NEL	National Electricity Law
NEO	National Electricity Objective
NER	National Electricity Rules
NPV	net present value
OLTC	On-load tap changer
opex	operating expenditure

Shortened form	Extended form
PTRM	post-tax revenue model
PV	photovoltaic
RAB	regulatory asset base
repex	replacement capital expenditure
RIN	regulatory information notice
SCS	standard control services
STPIS	service target performance incentive scheme
VaDER	value of DER
VCO	Victorian Community Organisations
VM	Victoria Market transformer 1
WACC	Weighted average cost of capital