FINAL DECISION

Jemena
Distribution Determination
2021 to 2026

Attachment 5
Capital expenditure

April 2021

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's final decision on the distribution determination that will apply to Jemena 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 – Not applicable to this distributor

Attachment 13 – Classification of 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.

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 services will determine their returns in the short term. If distributors reduce their costs,

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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.

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 accept Jemena's forecast capex for the 2021–26 regulatory control period. We are satisfied that this forecast capex is consistent with the efficient costs that a prudent distributor would incur in the 2021–26 regulatory control period and reasonably reflects the capex criteria. However, we have made adjustments to Jemena's forecast connections and real cost escalations to reflect its request for us to reflect updated data in our final decision.[6] When updated as per Jemena's request, Jemena's capex forecast is $636.0 million ($2020–21). This is 1 per cent above Jemena's revised proposal forecast of $627.2 million and 10 per cent above its estimated expenditure over the 2016–20 regulatory control period.[7] Table 5.1 outlines our final decision.

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

	2021–22	2022–23	2023–24	2024–25	2025–26	Total
Jemena's revised proposal	147.0	146.3	124.4	115.3	94.3	627.2
AER final decision	154.1	147.0	124.9	115.6	94.4	636.0
Difference ($)	7.1	0.6	0.5	0.3	0.1	8.7
Difference (%)	5	0	0	0	0	1

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

6 Jemena, *2021–26 Revised regulatory proposal - Attachment 4-01 - Capital expenditure*, December 2020, p. vii. These adjustments give effect to Jemena's request for updated connections forecasts. This also includes an update to the real cost escalation figures. Jemena updated its real cost escalations to reflect our standard approach. Our forecast incorporates and update to Deloitte Access Economics' forecasts.

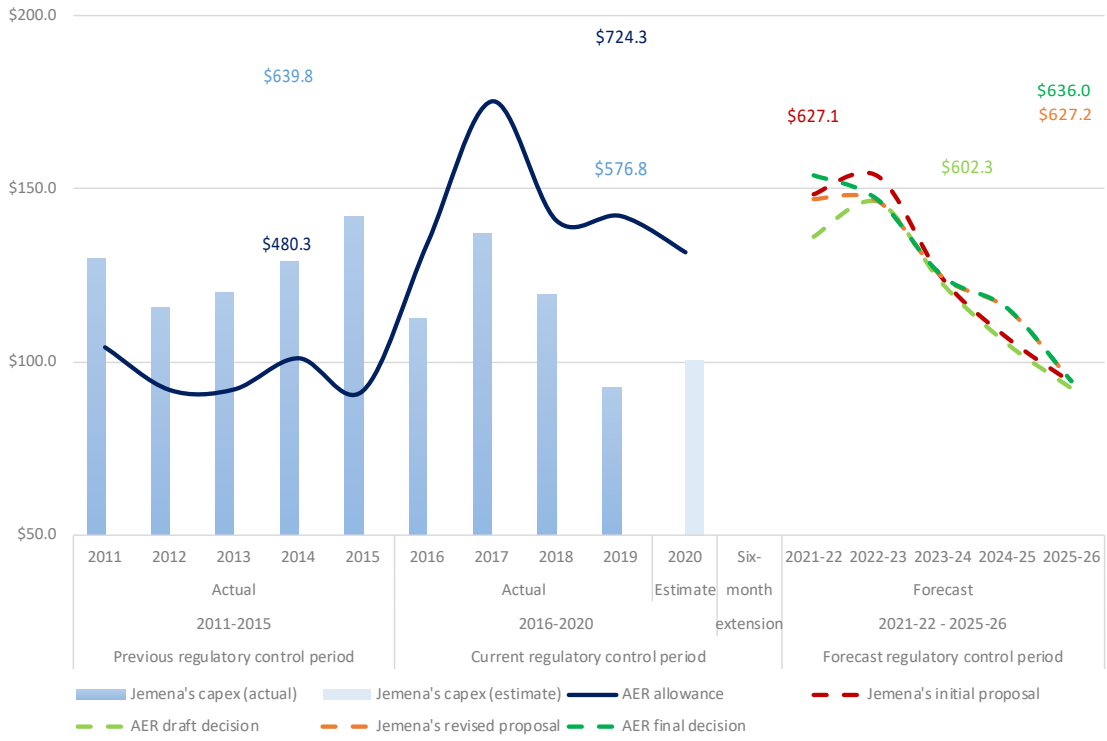
7 Jemena updated its revised proposal net capex from $625.9 million to $627.2 million, due to an update for Rapid earth fault current limiter (REFCL) capex. An update to account for gifted assets changed the gross capex from $769.1 million to $755.6 million.

Note: Numbers may not sum due to rounding.

5.2 Jemena's revised proposal

Jemena's revised capex forecast for the 2021–26 regulatory control period is $627.2 million. This is 9 per cent higher than its actual capex of $576.8 million over the current regulatory control period.[8] Figure 5.1 outlines Jemena's historical capex performance against its initial and revised proposals, and our draft and final decisions.

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



Source: Jemena'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.

Jemena's revised proposal largely accepted our draft decision and included updates to matters requiring more information. This included updates to:

- the REFCL bushfire mitigation program to account for revised solutions at its Kalkallo and Coolaroo zone substations;

[8] In this attachment we compare forecast capex with actual capex in the current regulatory control period, i.e. calendar year 2016 to 2019 prorated to five years.

- forecast real cost escalations from BIS Oxford that takes into account the effect of COVID-19;
- information and communications technology (ICT) metering costs that were identified as part of its ICT program but was omitted from its forecast capex costs;
- Jemena's request for us to update its connections forecast with new data that was not available at the time of Jemena's revised proposal; and
- additional distributed energy resources (DER) expenditure that was originally included in its operating expenditure (opex) forecast.

5.3 Reasons for final decision

We accept Jemena's revised proposal. However, we have identified adjustments to reflect additional information relating to real cost escalations and connections that was not available at the time of Jemena's revised proposal. This updated information is accounted for in Jemena's capex estimate.[9]

We are satisfied that Jemena's capex 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.

In coming to our final decision, we considered:

- Jemena's capex forecast from a top-down and a bottom-up perspective where there were differences from our draft decision.
    - 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 Jemena's revised proposal are outlined below.
    - We discuss our bottom up analysis of key areas that have changed between our draft decision and Jemena's revised proposal in attachment A. This includes augmentation capex (augex), connections and modelling adjustments. For all other categories, we are satisfied with Jemena's acceptance of our draft decision.
- Jemena's responses to the many questions we asked relating to aspects of its forecast that materially differed to our draft decision. We acknowledge Jemena's cooperation and assistance in providing its responses.
- the adjustments to account for up-to-date data for connections and real cost escalations, which we have applied to Jemena's forecasts to reflect a consistent

[9] NER, cl. 6.12.1(3)(ii).

forecasting approach with our other Victorian distribution determination assessments.

- Jemena's customer consultation in the form of the People's Panel, which we discuss in our overview.[10]

Net capex trend

Jemena's initial proposal and revised proposal were both around 9 per cent above its current regulatory control period actual capex.

Consistent with our draft decision[11], we did not consider there was sufficient evidence to support its forecast from a top-down perspective. Due to the introduction of the capital expenditure sharing scheme (CESS) in the current regulatory control period, we have placed significant weight on a distributor's revealed actual capex.

However, we recognise the difficulties of drawing conclusions based purely on overall capex in Jemena's circumstance. For example, REFCL capex accounts for 6 per cent of Jemena's forecast capex and the costs to comply with REFCL-related regulatory obligations were not material in the current regulatory control period.

We have also examined the longer term trend and, as shown in Figure 5.1, our forecast is in line with capex going back to the start of the 2011–15 regulatory control period. We also note that Jemena's 2019 net capex is lower due to a one off gifting of assets which increased its capital contributions by $15 million for that year.

Since Jemena's REFCL program includes material amounts of non-recurrent start up capex, we would expect Jemena's capex in the 2026–31 regulatory control period to return to a lower level of capex.

This indicates that although Jemena can maintain the safety and reliability of its network with current capex levels, new regulatory obligations that are typically non-recurrent in nature, can have a large effect on the capex spend.

This expectation is consistent with the trend we have observed in AusNet Services' capex between the current regulatory control period and the 2021–26 regulatory control period where a material driver of the decrease in overall capex was due to lower REFCL related costs in the forecast period.[12]

Stakeholder submissions

The Consumer Challenge Panel, sub-panel 17 (CCP17) raised no material issues with Jemena's revised proposal as it was supportive of Jemena's approach to its initial

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10 AER, *Final decision, Jemena Services distribution determination 2021–26 - Overview*, April 2021, pp. 34-36.

11 AER, *Draft decision, Jemena distribution determination 2021–26 - Attachment 5 - Capital expenditure*, September 2020, pp. 5-9–11.

12 AER, *Draft decision, AusNet Services distribution determination 2021–26 - Attachment 5 - Capital expenditure*, September 2020, p. 5-11.

capex proposal. However, the CCP17 did note that it was wary of Jemena's significant underspend and material CESS payments in conjunction with an increase in forecast capex relative to the current regulatory control period was a cause for concern.[13]

The Victorian Community Organisations (VCO) and its consultant Headberry Partners raised concerns with the level of detail in our analysis of DER and replacement capex (repex). For DER, the VCO questioned whether interventions by Jemena were required when its expected penetration levels are at levels that other Victorian networks can presently manage.[14]

VCO's consultant, Headberry Partners, noted greater use of longer term trend analysis should be used to assess capex, in particular for repex. Headberry Partners also raised concerns with the growth in Jemena's regulatory asset base.[15] Headberry Partners considered we should have sought independent advice for repex and that we had included significant increases in Jemena's repex compared to long term averages.[16]

Although Jemena's forecast repex is higher than historical trend[17], we considered several factors including Jemena's modelled repex being below the repex model threshold, our assessment of business cases and asset class strategies, and comparisons for the total capex trend in arriving at our draft decision. Our draft decision discussed these key elements of our in depth assessment of Jemena's repex.[18] Overall, we were satisfied that Jemena's repex forecast was prudent and efficient.

We recognise that the increase in forecast capex relative to current regulatory control period capex, particularly with the introduction of the CESS, has raised concerns. These concerns are discussed in our trend assessment section above and we have identified REFCL capex as the key driver of the increase. We also note that in our draft decision we found no material issues with Jemena's overall forecast capex and that there was general support for its total capex forecast.

To support our top-down review, consistent with the draft decision, we assessed the additional bottom-up material Jemena provided to support its revised capex forecast. Our final decision capex forecast reflects Jemena's revised proposal and includes

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13 CCP17, *Advice to the AER on the Victorian Electricity Distributors' Revised (Final) Regulatory Proposals for the Regulatory Determination 2021–26*, January 2021, p. 105 and p. 107.

14 VCO, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 22.

15 Headberry Partners, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 37.

16 Headberry Partners, *Submission on the Victorian EDPR Revised Proposal and draft decision 2021–26*, January 2021, p. 40.

17 Jemena's forecast repex is 11 per cent higher than the average over the last 10 years, whereas it is 25 per cent above the current period.

18 AER, *Draft decision, Jemena distribution determination 2021–26 - Attachment 5 - Capital expenditure*, September 2020, pp. 5-16–5-22.

modelling and forecast data updates. Table 5.2 outlines the capex assessment by driver.

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

Driver	Jemena's revised proposal	AER final decision	Difference ($)	Difference (%)
Repex	211.1	211.8	0.7	0
Augex	145.8	146.3	0.6	0
Gross connections	184.3	196.7	12.4	7
ICT capex	105.9	106.2	0.3	0
Other non-network capex	18.2	18.2	0.0	0
Capitalised overheads	90.2	91.0	0.8	1
Gross capex	**755.5**	**770.3**	**14.8**	**2**
less capital contributions	127.8	133.9	6.1	5
less asset disposals	0.5	0.5	0.0	0
Net capex	**627.2**	**636.0**	**8.7**	**1**

Source: Jemena's revised capex model and AER analysis.

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

With the exception of connections the differences across each category are solely due to updates to the CPI and real cost escalations. For capitalised overheads, we have updated our calculation to reflect an increase in forecast capex using our standard 75/25 fixed variable ratio.

Table 5.3 summarises the reasons for our decision to accept Jemena's estimate by capex driver. This reflects the way we have assessed Jemena'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.

Table 5.3 Summary of our findings and reasons by capex driver

Issue	Findings and reasons
Repex	Jemena accepted our draft decision.
DER capex	Jemena accepted our draft decision and included additional capex that was previously proposed as an opex step change.

Issue	Findings and reasons
Augex	Jemena accepted our draft decision but adjusted its REFCL forecast to reflect updated information. We have accepted the updated information.
Connections capex	Jemena accepted our draft decision and requested an update for Housing Industry Association (HIA) housing forecasts. We have updated connections forecast to reflect this new data.
ICT capex	Jemena accepted our draft decision and included additional capex for SAP advanced metering infrastructure (AMI) metering project that was left out of its initial proposal in error.
Other non-network capex	Jemena accepted our draft decision.
Capitalised overheads	We have updated capitalised overheads to reflect additional capex for connections. This reflects our standard approach to capitalised overheads.
Modelling adjustments	Modelling adjustments relate to Jemena's CPI and real price escalation assumptions. We have updated Jemena'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 Jemena's capex model.
Asset disposals	We accept Jemena's revised forecast for asset disposals.

A Capex driver assessment

This appendix describes our detailed analysis of Jemena's capex driver category forecasts for the 2021–26 regulatory control period. These categories are: DER integration capex, REFCL, connections capex and ICT capex. 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 Jemena's 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.[19] In particular, we take into account whether our overall capex forecast will provide Jemena 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.[20]

When assessing capex forecasts, we also consider:

- the prudency 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.[21]
- past expenditure was sufficient for the distributor to manage and operate its network in previous periods, in a manner that achieved the capex objectives.[22]
- 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).[23]
- 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.[24]

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19 NEL, ss. 7, 7A and 16(1)–(2).

20 NEL, s. 7A.

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

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

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

24 NEL, s. 16(1)(c).

A.1 DER integration capex

DER includes solar photovoltaic (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.

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 (for example, batteries and EVs).

A.1.1 Final decision

We accept that Jemena's revised DER integration capex as part of its Future Grid program would form part of a total capex forecast that reasonably reflects the capex criteria.

A.1.2 Jemena's revised proposal

Jemena's revised proposal includes a DER integration capex forecast of $30.4 million. It included an additional $2.2 million compared to our draft decision that was previously classified as opex in its initial proposal.

A.1.3 Reasons for final decision

Jemena acknowledged our draft decision acceptance of its DER integration program and sought to address concerns raised by stakeholders and those in our draft decision.

Consistent with our draft decision, we have found no material issues with Jemena's DER proposal and we note that Jemena has identified stakeholder support for its DER integration through its People's Panel and the Victorian government.[25]

In response to concerns raised by stakeholders on Jemena's lower solar penetration than other Victorian networks, we agree that it is possible to manage network constraints in various ways.

However, in reviewing the additional information provided by Jemena, we are satisfied with its DER integration road map and the benefits it has identified for consumers.[26]

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[25] Jemena, *Revised regulatory proposal 2021–26 - Attachment 4-01 - Capital expenditure*, December 2020, pp. 26–27.

[26] Jemena, *Revised regulatory proposal 2021–26 - Attachment 4-02 - Capital expenditure*, December 2020, p. 7.

Approximately half of Jemena's DER integration capex relates to developing foundational systems and capabilities to identify and forecast DER constraints.[27]

Value of DER

Jemena performed sensitivity analysis on the remaining half of its DER integration program relating to increasing its network hosting capacity. Based on this analysis, Jemena identified that its preferred option resulted in a higher net present value when the value of DER (VaDER) was greater than 3.2 c/kWh. We are satisfied by the information provided by Jemena.

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[28]. We published CSIRO and CutlerMerz's final report for the 'VaDER: methodology study' in November 2020 following the release of our draft decision.[29]

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.2 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.

A.2.1 Final decision

We accept that Jemena's revised augex forecast would form part of a total capex forecast that reasonably reflects the capex criteria.

A.2.2 Jemena's revised proposal

Jemena's revised proposal includes $133.1 million for augex (excluding DER integration).[30] Jemena's updated augex forecast is $7.8 million higher than our draft decision due to updates to its REFCL forecast. Our draft decision recognised that

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27 Jemena, *Revised regulatory proposal 2021–26 - Attachment 4-01 - Capital expenditure*, December 2020, p. 28.

28 AER, *Assessing Distributed Energy Resources (DER) Integration Expenditure consultation paper* - updated 29 November 2019

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

30 Jemena, *Information request 065*, January 2021.

Jemena would likely have to update its REFCL forecast to account for expenditure for Kalkallo zone substation.

A.2.3 Reasons for final decision

REFCL

Jemena's revised proposal included $42.3 million for REFCL augex for bushfire mitigation obligations.[31] Following the 2009 Victorian Bushfires Royal Commission, legislative amendments were introduced to reduce the likelihood of bushfire starts from electrical equipment faults.[32] These amendments place regulatory obligations to achieve certain protection performance requirements (referred to as 'required capacity') at one of Jemena's zone substations.[33] A REFCL is a protection device typically installed at a zone substation used to achieve the required capacity to reduce the risk of faulted power lines starting bushfires.

Jemena has materially changed its proposed REFCL program since the initial proposal. Jemena's initial proposal included $43.1 million for REFCL augex for compliance at Coolaroo zone substation. Jemena engaged technical consultant WSP to conduct a detailed options analysis for compliance in the Coolaroo area.[34] Many of the more cost-effective options required exemptions. In May 2020, Jemena applied for an exemption for the Coolaroo 22 kV distribution feeders to pursue its preferred solution of constructing a new zone substation at Greenvale. Our draft decision recognised the exemption application and included $34.3 million in our substitute estimate of total capex. This exemption was granted in November 2020 and formed part of Jemena's revised proposal capex forecast.[35]

Through our engagement, Jemena identified it would require additional capex for Kalkallo zone substation that was not included in the initial proposal, as Jemena initially expected minimal intervention at the Kalkallo area on its behalf. Jemena operates three feeders originating from Kalkallo zone substation, which is owned by AusNet Services and must also comply with the regulatory obligations.
AusNet Services' revised proposal for Kalkallo no longer involves installing a REFCL at

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31 Jemena updated its revised proposal in January 2021 from $41.2 million. The total capex for the revised Coolaroo solution is $0.8 million lower, however, the $1.0 million increase in the forecast regulatory control period capex to $42.3 million reflects a change in the project timing from the January to June 2021 period due to the change in Coolaroo solution. Jemena, *Information request 072 - Q1*, February 2021, pp. 1–2.

32 *Electricity Safety (Bushfire Mitigation) Regulations 2013* (Vic), *Electricity Safety Amendment (Bushfire Mitigation Civil Penalties Scheme) Act 2017* (Vic) and *Electricity Safety (Bushfire Mitigation Duties) Regulations 2017* (Vic).

33 Achieving required capacity involves reducing the voltage and current on faulted power lines as defined in the *Electricity Safety (Bushfire Mitigation Duties) Regulations 2017*, regulation 7.

34 This was a joint planning report for AusNet Services and Jemena to achieve compliance in the Coolaroo and Kalkallo networks. WSP, *Economic options to maintain REFCL compliance at Kalkallo and Coolaroo zone substations*, December 2019.

35 Victorian Government, *Order in Council for Jemena exemption from section 120M(1)(C) of the Electricity Safety Act 1998*, 26 November 2020, pp. 2392–2395, http://www.gazette.vic.gov.au/gazette/Gazettes2020/GG2020G047.pdf

the zone substation. Consequently, Jemena has proposed capex to ensure its feeders meet the required capacity or are covered by an exemption.

Overall, Jemena's revised proposal includes:

- $31.5 million for installing REFCLs at Coolaroo, and undertaking feeder works
- $10.8 million for Kalkallo for undergrounding and installing Remote REFCL.

We have accepted Jemena's revised REFCL augex as part of the total capex forecast that reasonably reflects the capex criteria. Our analysis included assessing benchmarking and engineering design. Our capex assessment for Coolaroo and Kalkallo are discussed in more detail below.

Assessment of Coolaroo zone substation expenditure

Having received an exemption to pursue a lower cost option for achieving compliance at Coolaroo, the revised proposal included capex for a proposed new zone substation at Greenvale. In January 2021, Jemena amended its revised proposal solution for Coolaroo due to difficulties in acquiring suitable land in the required timeframe and therefore it considered that constructing a new Greenvale zone substation was no longer feasible. Due to this constraint, Jemena has proposed an innovative solution to distinguish parts of the Coolaroo network into the urban network with low bushfire risk area and high bushfire risk area, served by two REFCL units operating at different sensitivity settings. Jemena has proposed:

- one REFCL operating at high performance settings on the feeders serving the high bushfire risk area, therefore meeting the required capacity stipulated in the regulations.
- one REFCL to operate at base-level settings on the feeders serving the urban network in the low bushfire risk area, which will operate below the required capacity. This is consistent with how Jemena operates the REFCL at its Sydenham zone substation.

Jemena has proposed to also undertake some bushfire mitigation activities including feeder rearrangements, load transfer and minor undergrounding near park reserves. Jemena has indicated that it anticipates previous exemptions will likely be valid as the solution is conceptually similar.[36] Overall, we consider the proposed solution is reasonable as it pragmatically addresses the different bushfire risks in the Coolaroo network associated with the high bushfire risk area and the low bushfire risk area that is predominantly underground. The options analysis undertaken is comprehensive and Jemena has actively considered and sought exemptions to progress lower cost options. This gives us a degree of confidence in the final proposed solution. Jemena has engaged positively on this issue and has been forthcoming with timely responses to our questions given the late amendment in the assessment process.

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[36] Jemena, *Revised regulatory proposal 2021–26 - Attachment 04-03 - Bushfire mitigation obligations at Coolaroo*, January 2021, p. 19.

Assessment of Kalkallo zone substation expenditure

Jemena and AusNet Services have proposed a joint compliance solution at Kalkallo zone substation. The Kalkallo network has significant underground network leading to high capacitance on particular feeders and busbars. As the REFCL capacity must exceed the network capacitive loading to achieve the required capacity, this has caused difficulty in finding a cost-effective solution. There have been several options considered by the distributors as part of the WSP joint planning report.

The combined solution for both distributors involves a new approach to address the significant forecast growth in capacitive charging current. REFCLs are typically installed at the zone substation, however, the approach proposes to install 'Remote REFCL' on individual feeders.[37] This allows the distributors to target protection of overhead lines with bushfire risk and avoid the high capacitance associated with the underground sections of the feeders.

Jemena's three Kalkallo feeders are largely underground. Jemena has proposed different solutions for each of the feeders as follows:

- KLO-021 is of fully underground construction and therefore covered by the general underground exemption.[38] There is no proposed expenditure for this feeder.
- KLO-013 requires minor undergrounding of 170 m to allow it to be covered by the general underground exemption.
- KLO-022 has both underground and overhead conductor, which Jemena proposes to separate into different networks using Remote REFCL. The Remote REFCL will meet the required capacity for the overhead sections, and the remaining underground network will remain a non-REFCL network covered by the general underground exemption. Approximately 4 km of undergrounding is proposed for this feeder.

In discussions with Jemena, it has indicated this is at least a 10 year solution as there is minimal planned development in the area protected by the Remote REFCL on KLO-022.[39] We are satisfied that the capex for this approach is prudent and efficient to address the difficulties in the Kalkallo network.

We discuss our assessment of AusNet Services' contribution to the proposed solution in our final decision for AusNet Services.[40]

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37 Remote REFCL has been developed by AusNet Services as an alternative option to achieving the required capacity. The Remote REFCL utilises an isolation transformer and REFCL to create a separate downstream network from the zone substation to lower the capacitance seen by the REFCL, where the REFCL protects downstream overhead line.

38 Victorian Government, *Order in Council for exemption from section 120M(1)(C) of the Electricity Safety Act 1998*, 1 October 2020, pp. 2061–2062, http://www.gazette.vic.gov.au/gazette/Gazettes2020/GG2020G039.pdf

39 Meeting between AER and Jemena, *Coolaroo REFCL design update*, 22 January 2021.

40 AER, *Final decision AusNet Services distribution determination 2021–26 - Attachment 5 - Capital expenditure*, April 2021, pp. 5-14–5-18.

A.3 Connections

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.3.1 Final decision

Jemena's revised proposal originally included forecasts for gross capex ($199.1 million) and capital contributions ($142.6 million), however at the time of submission these had not been updated to account for the Federal Court's recent decision regarding the taxation treatment of gifted assets. Jemena has since submitted revised forecasts, updating for this decision, and we have adopted these revised forecasts submitted by Jemena. The accepted forecast is for gross capex of $196.7 million and capital contributions of $133.9 million. This forecast also changes our COVID-19 adjustment to apply only to residential connections, and to use updated HIA forecasts.

A.3.2 Jemena's revised proposal

In Jemena's revised proposal it accepted our draft decision forecasts of $198.0 million for gross connections and $142.6 million for all capital contributions, but requested an update to our COVID-19 adjustment based on HIA data released in November.

A.3.3 Reasons for draft decision

Effect of COVID-19

Our draft decision adjusted connections in the first year of the next regulatory period, based on dwellings forecast made by the HIA. Although Jemena accepted this adjustment, it requested that we consider information that has since emerged regarding the effect of the pandemic on construction, and updated HIA forecasts. We consider that recent stimulus announcements by the Victorian government justify reversing our COVID-19 adjustment for non-residential connections. We also have revised down our HIA adjustment for residential connections based on updated HIA forecast data (from a 42 per cent reduction in the first year to a 37 per cent reduction). These changes to our COVID-19 adjustment increase net capex by $6.0 million.

Gifted Assets

On 21 October 2020, the Federal Court ruled that the value of assets that are 'gifted' to distribution businesses (in effect constituting a capital contribution) are not taxable income. Before this ruling, we treated gifted assets as both a part of gross capex and capital contributions. This was to allow businesses to recover costs from consumers for the tax they expected to incur from receiving these assets.

In response to an information request, Jemena submitted updated forecasts removing gifted assets (excluding rebates) from its gross capex and the capital contributions

forecasts.[41] We have adopted these updated forecasts, to ensure revenue is no longer recovered from consumers for this purpose.

A.4 Forecast non-network capex

The proposed non-network capex for Jemena includes expenditure on ICT, buildings and property, motor vehicles, tools and equipment.

A.4.1 Final decision

We accept that Jemena's revised non-network expenditure forecast of $124.5[42] million would form part of a total capex forecast that reasonably reflects the capex criteria.

A.4.2 Jemena's revised proposal

Jemena's revised non-network expenditure forecast of $124.2 million reflected an increase of $8.8 million for additional AMI SAP ICT costs. Our draft decision accepted Jemena's initial proposal non-network capex forecast. Jemena acknowledged its initial proposal had not included this expenditure as part of its initial SAP migration program and it has corrected this error in its revised proposal.[43] Jemena made no other changes to its non-network capex forecast.

A.4.3 Reasons for position

We have reviewed the $8.8 million incremental increase in ICT capex for its AMI SAP migration. This program was part Jemena's overall SAP migration program but it did not include this capex in its initial proposal.

Although our draft decision accepted Jemena's overall SAP migration program, we did not assess the AMI element of the program as this was not included in Jemena's original forecast.

In response to our information request, Jemena has provided additional information to support its AMI SAP migration. Jemena noted that although the AMI is a separate SAP environment to its core enterprise resource planning they form one system.[44]

We are satisfied this capex is required to maintain Jemena's ICT environment consistent with our assessment of Jemena's SAP migration in our draft decision.

We have also assessed whether this capex should be included as part of alternative control services capex rather than SCS capex. We are satisfied that this capex should remain in SCS capex.

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41 Jemena, *Information request 061,* January 2021.

42 This includes an adjustment for real cost escalations.

43 Jemena, *Revised regulatory proposal 2021–26 - Attachment 04-01 - Capital expenditure*, December 2020, p. 32.

44 Jemena, *SAP ISU (AMI) strategy paper*, November 2020, p. 1.

We have not assessed the remaining non-network capex as the forecast is consistent with Jemena's initial proposal and our draft decision.

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
AMI	advanced metering infrastructure
augex	augmentation capital expenditure
capex	capital expenditure
CCP17	Consumer Challenge Panel, sub-panel 17
CESS	capital expenditure sharing scheme
CPI	consumer price index
DER	distributed energy resources
distributor	distribution network service provider
EV	electric vehicles
HIA	Housing Industry Association
ICT	information and communications technology
NEL	National Electricity Law
NEO	National Electricity Objective
NER	National Electricity Rules
opex	operating expenditure
PTRM	post-tax revenue model
PV	photovoltaic
REFCL	rapid earth fault current limiter
repex	replacement capital expenditure
SCS	standard control services
STPIS	service target performance incentive scheme
VaDER	Value of DER
VCO	Victorian Community Organisations