FINAL DECISION
Ausgrid
Distribution Determination

2019 to 2024

Attachment 15
Alternative control services

April 2019

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 Ausgrid for the 2019–2024 regulatory control period. It should be read with all other parts of the final decision.

As a number of issues were settled at the draft decision stage or required only minor updates, we have not prepared all attachments. The attachments have been numbered consistently with the equivalent attachments to our longer draft decision. In these circumstances, our draft decision reasons form part of this final decision.

The final decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 7 – Corporate income tax

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 12 – Classification of services

Attachment 13 – Control mechanisms

Attachment 15 – Alternative control services

Attachment 18 – Tariff structure statement

Attachment A – Negotiating framework

Attachment B – Pricing methodology

Contents

Shortened forms

Shortened form	Extended form
ACS	alternative control services
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Augex	augmentation expenditure
Capex	capital expenditure
CCP	Consumer Challenge Panel, sub-panel 10
CESS	capital expenditure sharing scheme
CPI	consumer price index
DRP	debt risk premium
DMIAM	demand management innovation allowance (mechanism)
DMIS	demand management incentive scheme
Distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
Expenditure Assessment Guideline	Expenditure Forecast Assessment Guideline for Electricity Distribution
F&A	framework and approach
MRP	market risk premium
NEL	National Electricity Law
NEM	national electricity market
NEO	national electricity objective
NER	National Electricity Rules
NSP	network service provider
Opex	operating expenditure

Shortened form	Extended form
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
Repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SCS	standard control services
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital
LED	Light Emitting Diode

15 Alternative control services

This attachment sets out our final decision on Ausgrid's alternative control services: ancillary network services, metering and public lighting.

Alternative control services are customer specific or customer requested services and so the full cost of the service is attributed to a particular customer, or group of customers, benefiting from the service. We set service specific prices to provide a reasonable opportunity to the distributor to recover the efficient cost of each service from customers using that service. This is in contrast to standard control services where costs are spread across the general network customer base.

15.1 Final decision

For ancillary network services, our final decision is to accept Ausgrid's revised proposal which is consistent with our draft decision, subject to minor modelling updates and a reduction in the proposed labour times for two services.

For public lighting, our final decision is to accept Ausgrid's revised proposal, which is also consistent with our draft decision. We will replace the WACC and labour escalators consistent with our draft decision methodology, and adopted by Ausgrid in their revised proposal. Further, our final public lighting decision addresses stakeholder submissions and Ausgrid's response to some of those submissions. We have also accepted Ausgrid's revised PE cell per unit costs for 2019–20, increasing from $11.04 to $11.65 per cell.

For metering, our final decision is to accept Ausgrid's revised base level of opex, and consistent with our draft decision, apply a negative step change and a bespoke productivity adjustment to Ausgrid's metering opex. As such, we are rejecting Ausgrid's revised proposal to allow a negative step change to occur 'organically' through customer churn and apply a benchmark productivity adjustment to metering opex.

The detail of our final decision is set out in the following sections:

- 15.4 – Ancillary network services
- 15.5 – Public lighting
- 15.6 – Metering services.

15.2 Ausgrid's revised proposal

Ausgrid's revised proposal accepted our draft decision on labour rates for ancillary network services.[1] However, Ausgrid applied them with its own labour escalators. Ausgrid proposed several additional fees and changed a number of service

[1] Ausgrid, *Revised regulatory proposal 2019-24*, January 2019, p.138.

descriptions.[2] Ausgrid outlined how they would work with stakeholders as they shift to a new billing structure to improve transparency.

Ausgrid's revised public lighting proposal sets out a planned mass LED rollout contributing to a capex increase in 2019–20. The revised proposal projected $105.6 million in capex for 2019–24 with $48 million forecasted in 2019–20. Ausgrid proposed that the LED rollout would lead to decline in opex, forecasted at $64.9 million, over the 2019–24 regulatory period. This is because LED luminaires are less costly to operate than older technology.[3]

Ausgrid's revised public lighting proposal forecasted opex costs that are $5.7 million below their initial proposal, but slightly higher than our draft decision. Ausgrid attributed this increase to revised labour escalators. Specifically, they adopted updated escalators based on BIS Oxford Economics[4] and applied our methodology of averaging them with Deloitte Access Economics forecasts. There are also minor changes to input assumptions for CPI.

In its revised metering proposal,[5] Ausgrid rejected our negative step change and bespoke productivity adjustment in calculating its opex allowance. Instead, Ausgrid proposed that its opex would 'organically step down' under our preferred structure of metering charges. Consequently, Ausgrid proposed applying the lower benchmark productivity adjustment that we applied to other NSW distributors.

15.3 Assessment approach

Our final decision assessment approach is the same as for our draft decision. In terms of labour rates, in our draft decision we indicated that while our consultant, Marsden Jacob, had provided maximum reasonable labour rates, we considered them efficient for our purposes.[6] We maintain this view for our final decision.

In reaching our final decision, we have considered additional information submitted by Ausgrid, both with its revised proposal and in response to our information requests. We have also taken into account stakeholder submissions.

15.4 Ancillary network services

Ancillary network services share the common characteristic of being non-routine services provided to individual customers as requested. Ancillary network services are either grouped as 'fee based' or 'quoted' services, depending on how the service price is determined.

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2 Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, p. 4.
3 Ausgrid, *Revised Proposal Attachment 8.07 Public Lighting Services,* January 2019, p. 4.
4 Ausgrid, *Revised proposal, Attachment 8.07 Public Lighting Services* – January 2019, p. 6.
5 Ausgrid, *Revised Proposal Attachment 8.01 Metering services,* January 2019, p. 3.
6 AER, *Draft Decision: Ausgrid distribution determination 2019 to 2024 - Attachment 15 - Alternative Control Services*, November 2018, p.15-14.

We determine fee based service prices for the next regulatory control period as part of our determination, based on the cost inputs and the average time taken to perform each service. These services tend to be homogenous in nature and scope, and can be costed in advance of supply with reasonable certainty. By comparison, prices for quoted services are based on quantities of labour and materials, with the quantities dependent on a particular task. Prices for quoted services are determined at the time of a customer's enquiry and reflect the individual requirements of the customer's service request. For this reason, it is not possible to list prices for quoted services in our decision.

15.4.1 Ancillary network services—Final decision

X-Factors

While Ausgrid proposed its own labour escalators in its revised proposal,[7] we have applied our final decision X factors to ancillary network services. These have changed from our draft decision due to our revised labour escalation forecasts. Our final decision X factors are set out in Appendix A.

Fee based and quoted services

Ausgrid's revised proposal accepted our draft decision labour rates and applied them to its pricing models using its own escalators. Our final decision is to accept these labour rates, subject to our own modelling changes, which reduce all the labour rates (except for Admin) to those we determined in our draft decision.

For fee-based services, application of our final decision labour rates results in marginally different fees to those proposed by Ausgrid. For quoted services, these labour rates are maximum rates (which include on-costs and overheads) that Ausgrid should apply for the calculation of charges for ancillary network services offered on a quoted basis.

[7] Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, p. 5.

Table 15.1 AER final decision – hourly labour rates (incl. on-costs and overheads, $2019–20)

Ausgrid/AER labour category	Ausgrid proposed total hourly rate (base plus on-costs plus overheads) - 2019–20[1]	AER final decision - maximum total hourly rate (base plus on-costs plus overheads) escalated to 2019–20
Admin (R1)	$105.08	$104.74
Technical Specialist (R2)	$157.63	$157.11
Engineer (R3)	$197.04	$196.39
Field worker (R4)	$151.91	$151.41
Senior Engineer (R5)	$216.74	$216.02
Engineering Manager	$262.60	$261.74

1 Ausgrid's proposed labour rates in their revised regulatory proposal were for 2018–19. They have been inflated to 2019–20 in the above table, using the inflators Ausgrid included in their models. AER final decision numbers are based on our draft decision, with field worker increasing by $0.01 to be consistent with Marsden Jacob Table 5. The difference between the two sets of labour rates is caused by the AER not using a labour escalator to set the $2019–20 figures.

Source: Ausgrid, *Revised proposal Attachment 8.05 - Ancillary network services*; Ausgrid revised proposal alternative control services models; AER analysis.

Changes to labour time for certain services

For fee-based services, Ausgrid also proposed reducing the labour time taken for its 'Design information – simple' fixed fee in line with stakeholder feedback[8]; 'ASP Level 2 – Initial Authorisation'; and simplification of its 'Authorisation of ASPs' fees.[9] Our final decision is to accept these changes given they reduce the proposed fees.

Our final decision is also to change the service time for:

- Off-peak conversion
- Pillar/pole top disconnection completed.

In our draft decision, we reduced the labour time for the above services based on the recommendations of our consultant, who undertook benchmarking of the time taken for a number of common services between the distributors it considered.[10] While Ausgrid's revised proposal increased the labour time for these services, there was no rationale provided. In the absence of an explanation, our final decision is to substitute our draft decision labour times for these fees.

8 Ausgrid, *Revised Proposal – Attachment 8.05 Ancillary network services,* January 2019, p. 4.

9 Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, pp. 4-6.

10 AER, *Draft Decision: Ausgrid distribution determination 2019 to 2024 - Attachment 15 - Alternative Control Services*, November 2018, p.15-16.

New fees for services and changes to descriptions

Our final decision is to approve the following new fees that Ausgrid advised were inadvertently left out of its initial proposal price list,[11] as we consider they fall within our service classification decision:[12]

- Traffic control (quoted)
- Substation connect and reconnect (quoted)
- Facilitation of activities within clearances of distributor assets (quoted)
- Metering site alteration (fixed)
- NMI extinction (fixed).

Ausgrid's revised proposal simplified its fees for 'Authorisation of ASPs' by shifting from three separate fees to two. There was also an overall reduction in the proposed charge.[13] Our final decision is to accept this change given the reduced charge and simpler charging method.

Ausgrid also proposed changes to its service descriptions to respond to feedback received on its initial proposal.[14] In response to our information request, Ausgrid elaborated on the change to 'design certification' and confirmed that they were not seeking to impose any new obligations on Level 3 ASPs, but rather to provide clarity.[15] We are also comfortable with the other clarifying changes and our final decision is to accept these new fees.

New ancillary network services

Consistent with our draft decision, if new services arise during the 2019–24 regulatory control period with characteristics that are the same or essentially the same as other alternative control services,[16] we consider that they should be priced as a quoted service until the next regulatory period. Any new ancillary network service and pricing methodology should be disclosed through each distributor's annual pricing process.

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11 Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, pp. 5-6.

12 See Attachment 12 – Classification of services.

13 Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, p. 6.

14 Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, p. 4.

15 Ausgrid, *Response to information request #062 – Ancillary network services*, 27 March 2019.

16 Service classification is set out in attachment 12 of our final decision. We generally classify services in groupings rather than individually. This obviates the need to classify services one-by-one and instead defines a service cluster, such that where a service is similar in nature it would require the same regulatory treatment. This provides distributors with flexibility to alter the exact specification (but not the nature) of a service during a regulatory control period.

15.4.2 Ancillary network services—Reasons for final decision

Labour rates for fee-based and quoted services

In our draft decision, we reduced Ausgrid's labour rates to our efficient maximum rate, except for the administration rate, which we accepted, as it was marginally below our efficient maximum. In its revised proposal, Ausgrid proposed increasing its administration labour rate to our efficient maximum by accepting our draft decision approach to benchmark labour rates.[17]

Our general approach is that network businesses should not increase their revised proposal labour rates to meet efficient maximums we identify through our draft decision. Our maximum labour rates are based on a top-down approach, rather than the detailed information available to network businesses. However, in this case, all of Ausgrid's other labour rates have been reduced to our efficient maximum. The price impact of increasing the administration labour rate is also relatively small (around 1.5 per cent). Therefore, to ensure consistency with Ausgrid's labour rates, and due to the minor price impact, our final decision is to accept this change to the administration labour rate.

Increased transparency

In our draft decision, we accepted Ausgrid's proposal to rationalise and consolidate its connection related ancillary network service fees. However, we commented on the lack of detail in the proposal and included additional information we obtained through information requests in our decision.[18] We note that Ausgrid provided an updated map of its services (including revised fees), as part of its revised proposal.[19]

Our draft decision also urged Ausgrid, in response to submissions from Accredited Service Providers, to provide more transparent information on the billing of its quoted services.[20] Ausgrid's revised proposal refers to an internal review, and that they expect that improvements identified from this review should better address stakeholder concerns, by providing clearer information on how a quoted fee has been calculated.[21] We encourage Ausgrid to continue its efforts in this regard.

We note a submission from Power Design and Energy Projects continued to raise a number of concerns with Ausgrid's revised proposal. We understand that Power Design and Energy Projects has pursued some of these issues through the NSW

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17 Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, p. 5.

18 AER, *Draft Decision: Ausgrid distribution determination 2019 to 2024 - Attachment 15 - Alternative Control Services*, November 2018, p.15-10.

19 See Appendix B to Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019.

20 AER, *Draft Decision: Ausgrid distribution determination 2019 to 2024 - Attachment 15 - Alternative Control Services*, November 2018, p.15-18.

21 Ausgrid, *Revised Proposal Attachment 8.05 Ancillary network services,* January 2019, p. 7.

Government.[22] We also note Ausgrid's efforts to improve clarity in their ancillary network services, and their commitment to increase transparency of billing over time. We therefore do not intend to make any changes in response to this submission.

Security lighting – submission from AGL

AGL's submission to Ausgrid's revised proposal expressed concern with the pricing structure of security lights under a 'two-part tariff', where the capital component of the charge drops off after the first two years. This means that the fee for the first two years would include both the operating and capital cost, reducing to the operating cost only, after this time. AGL was concerned with managing customers' accounts with a complex charging structure if it offered security lighting.[23]

Ausgrid acknowledged the complexity of its approach to recovering capital costs. However, Ausgrid submitted that as retailers are not involved in this aspect of the billing process, they would not need to manage different customer accounts.[24] Therefore, our final decision, consistent with our draft decision, is to accept the recovery of capital charges over two years. AGL did not propose an alternative, and we consider that it is appropriate that customers' charges decline once the capital cost of the lights is paid.

15.5 Public lighting

15.5.1 Public lighting services—Final decision

Our final decision accepts Ausgrid's revised public lighting proposal. This includes the failure rates set in our draft decision, which Ausgrid accepted in its revised proposal.

We consider Ausgrid's proposed change to PE cell unit costs for 2019–20 from $11.04 to $11.65 per cell is acceptable. The revised PE cell prices compared reasonably with other network businesses. The effect of PE cell marginal price increase is negated when final adjustments to WACC, CPI and labour escalators are applied.

Our final decision reduces the public lighting nominal annuity prices between 2.5 per cent to 3.8 per cent when compared to Ausgrid's revised proposal. This is mainly driven by WACC adjustments. The pre-2009 charges have also reduced by 1.1 per cent. The nominal opex maintenance costs have not changed when compared to Ausgrid's revised proposal.

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[22] Power Design & Energy Projects Pty Ltd, *Australian Energy Regulator 2019-2024 regulatory period submission – Ancillary Network Services,* February 5 2019.

[23] AGL, *Submission on NSW draft decisions and revised proposals*, February 2019, p.3.

[24] Ausgrid, *Response to information request #062 – Ancillary network services*, 27 March 2019.

15.5.2 Public lighting services— Reasons for final decision

Ausgrid's Stakeholder Engagement

We received a submission from South Sydney Regional Organisation of Councils[25] (SSROC) responding favourably to Ausgrid's revised proposal, specifically its LED rollout program and adoption of lower failure rates from our draft decision.

SSROC previously acknowledged Ausgrid's improved stakeholder engagement in its submission to Ausgrid's initial proposal.[26] Access to public lighting models and data with limited confidentiality claims and greater transparency was well received by stakeholders. However, SSROC noted in its submission on Ausgrid's revised proposal that Ausgrid has ceased those stakeholder engagement initiatives. SSROC submitted that they would like to re-engage with Ausgrid on pricing and lighting technology matters.

In response to SSROC's most recent submission,[27] Ausgrid acknowledged the limitations of their stakeholder engagement strategy raised by SSROC. Ausgrid has undertaken steps to ensure stakeholder concerns are addressed. We understand that Ausgrid's public lighting team has initiated visits with their key stakeholders for one-on-one discussions. Further, Ausgrid informed us that they intend to conduct quarterly meetings with SSROC, with the first meeting scheduled for March 2019.[28] We consider that with ongoing stakeholder engagement, Ausgrid shall be able to address some outstanding issues from SSROC's initial submission that have been reflected again in their submission to the revised proposal.

SSROC's recent submission raised concerns on the following issues:

- Rejection of non LED luminaire offerings
- Night patrols to be extended on all main roads
- Review of column pricing
- 22W LED capital charges increase
- energy only tariff offer.

We consider many of these issues are best be progressed through Ausgrid's renewed commitment to customer consultation. Table 15.2 provides a summary of the key issues raised by SSROC, Ausgrid's response and our comments.

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[25] SSROC, *Submission to Ausgrid's revised proposal*, 4 February 2019.

[26] SSROC, *Submission to Ausgrid's initial proposal*, 8 August 2018.

[27] Response to Information request #057, received from Ausgrid on 22 February 2019.

[28] Response to information request #057, received from Ausgrid on 25 February 2019.

Table 15.2 Key issues raised in SSROC's submission to Ausgrid's revised proposal

SSROC Issue	SSROC Issue Description	Ausgrid Response	AER Comments
The AER should not approve pricing for non LED luminaires	LED should be the standard replacement technology for major roads. Non LED technology should not be used for new or replacement of old luminaires. SSROC would like to see LED floodlight and decorative light offerings.	The bulk LED rollout program Ausgrid plans to implement is likely to cover 90 per cent of lights on its network. The floodlights and decorative lights constitute a small portion of public lights provided. Ausgrid currently do not have a suitable supplier for LED floodlights and decorative lights and have therefore proposed non LED replacements. For interested customers, Ausgrid is willing to pursue and identify suppliers during the regulatory period. Ausgrid stated that their non LED luminaires comply with Australian standards.	We consider that LED for major roads is currently developing. We are aware that some distributors are starting to trial LEDs for major roads. While LED has significant benefits and cost savings, different councils may respond to such offerings differently, weighing the viability and capital cost impacts. Nonetheless, we encourage Ausgrid to identify suitable suppliers for those councils interested in adopting LEDs, including floodlights and decorative lights. However, in the absence of a proposal on LED for main roads, and Ausgrid's inability to identify a supplier, we have approved prices for non LED luminaires for the upcoming regulatory period.
Night patrols to be extended to all main roads	Night patrols currently do not cover all main (Cat V) roads. Due to lack of reporting parties and need for public safety, SSROC submitted that night patrols be extended to all main Cat V roads.	Ausgrid's internal data shows evidence of customers reporting outages for Cat V roads.[29] Ausgrid considered extending night patrol to include all Cat V roads would incur additional costs, which would not outweigh the benefits.	Extension of night patrols to all main roads would involve additional costs. We consider that this issue should be further reviewed jointly by SSROC and Ausgrid. If the parties agree that night patrols should apply to all main roads (Cat V lighting), then Ausgrid may update their pricing model as part of the annual pricing process. Should the parties disagree on whether the NSW Public Lighting Code is being adhered to, they should consult the NSW Department of Planning and Environment.
High pricing for large columns	Based on recent tenders staged by SSROC, it considered there is scope to reduce large column prices proposed by Ausgrid. Certain councils have high volumes of these columns and struggle with high street lighting costs.	Ausgrid considered their column prices are competitive and is happy to share information about the tender process undertaken and the contractual arrangements reached with their supplier, in confidence, with stakeholders.	Ausgrid's revised proposal provided a reduction in column pricing from its initial proposal. We consider exchange of information and transparent discussions between Ausgrid and relevant stakeholders would be beneficial. We encourage Ausgrid to interact with those councils who are most affected by column pricing movements.
Increase in capital charges	SSROC submitted that it	Moving the current 22W LED pricing from a 20 year economic	We note that Ausgrid has provided a calculation table[31] showing the price change

[29] Ausgrid submitted that their internal data reported 18,000 outages and approximately 33 per cent (6000) were on Cat V roads – Ausgrid response to information request #057, Question 4 – Night patrols.

SSROC Issue	SSROC Issue Description	Ausgrid Response	AER Comments
for 22W LED lights	is unclear what the basis of the increase in the capital charge for 22W LED lights.	life to 10 years has led to an increase in capital charges.[30] Ausgrid stated that this reduction aligns the economic life of 22W LED with customer feedback received during consultation on LED rollout as customer's preferred payback period for these assets.	due to the change in LED economic life. We consider Ausgrid has justified the increase in capital costs for 22W LED lights.
Energy only tariff – Rate 3	Council owned lights connected to private metering installations are expensive for councils. SSROC requested Ausgrid offer an energy only tariff, where lights can be installed on public lighting assets and maintained by councils.	An energy only tariff was offered before 1999, but was removed as it caused cost recovery issues. Further the mechanism does not align with the Revenue and Pricing Principles in National Electricity Law, as it restricts the opportunity of recovering, at least, the efficient costs of the service.	We understand that a Rate 3 energy only tariff is likely to benefit councils and may bring contestability to public lighting service. However, Ausgrid's argument that this arrangement may pose cost recovery issues has merit, and we consider that it is not appropriate for these costs to be recovered from the broader customer base.

SSROC raised other issues that we consider can be progressed in consultation with Ausgrid. These include, price impacts on customers and a proposal to work with Ausgrid to develop pricing for smart control technology that may offer a variety of asset management and maintenance cost savings. We expect that, through ongoing discussion and information sharing, the parties will positively progress these issues, particularly presenting clear information on individual council price impacts to respective councils.

We support SSROC initiating discussions with Ausgrid on smart control technology. Ongoing engagement between Ausgrid and key stakeholders will likely assist in shaping a broader approach and specifications relating to smart control technology. We consider that Ausgrid should be open to exploring the possibilities that smart control technologies can provide to Ausgrid and their public lighting customers.

If Ausgrid proposes the rollout of smart technology controls in future, the AER shall review and assess the efficiency of the prices proposed for smart technology controls in forthcoming regulatory determinations.

[30] Ausgrid submitted to us a table with 10 year and 20 year capital costs to illustrate the changes to capital charges. We understand that this table has also been provided to SSROC. Ausgrid response to information request #057, Question 6.

Our final decision[32] on public lighting prices for each light type are set out in Appendix B.

15.6 Metering services

Metering assets are used to measure electrical energy flows at a point in the network to record consumption data for billing purposes. We are responsible for the economic regulation of type 5 to 7 metering services provided by Ausgrid. Ausgrid's type 5 and 6 metering services are classified as alternative control services, while type 7 metering services are classified as standard control services.[33]

Since the introduction of the Power of Choice reforms on 1 December 2017, Ausgrid is no longer permitted to install or replace type 5 and 6 meters. Therefore, our final decision settles the prices for type 5 and 6 metering services Ausgrid provides to support the continued operation of existing type 5 and 6 meters.

15.6.1 Metering—Final decision

Our final decision is to:

- accept Ausgrid's base level of opex
- reject Ausgrid's proposal to allow an 'organic' negative step change through metering churn and to apply a negative step change of $1.01 million to opex, representing the reduction in fixed costs.
- apply a productivity adjustment of 69.7 per cent, representing the loss of economies of scale associated with the decreasing customer base.

Our final decision updates the inputs in Ausgrid's metering model to reflect actual metering expenditure in 2017–18, our final decision on weighted average cost of capital, and the most recent CPI escalation. The final decision metering prices, effective for the first year of the 2019–24 regulatory period, resulting from these input updates, are set out in Appendix C.

15.6.2 Metering—Reasons for final decision

Forecast operating expenditure

Our final decision is to substitute Ausgrid's proposed opex allowance of $104.7 million ($2018–19) with $97.5 million, as shown in Table 15.3.

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[32] The 2019–20 prices published are set out in Appendix B. The X factor is set at zero so for subsequent regulatory years the prices will increase by CPI.

[33] AER, *Ausgrid 2019-24 Draft decision – Attachment 12 – Classification of services*, November 2018, p. 6.

Table 15.3 AER final decision on Ausgrid's metering opex allowance

$m Real 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Original proposal	23.71	22.61	21.31	19.78	17.97	**105.39**
Draft decision	21.08	19.82	18.58	17.28	15.85	**92.62**
Revised proposal	23.09	22.02	20.97	19.90	18.7	**104.68**
Final decision	21.88	20.71	19.55	18.34	17.03	**97.51**

Consistent with our draft decision, we considered Ausgrid's proposed metering opex using a top-down 'base-step-trend' approach. This is our preferred approach to assessing most opex categories.[34] In particular, we:

- used the 'revealed costs' approach as the starting point and removed any non-recurrent expenditure
- adjusted for any step changes if we were satisfied that a prudent and efficient service provider would require them
- trended forward the base opex (plus any step changes).

We also had regard to benchmarking when considering Ausgrid's proposed metering opex.

Base

Ausgrid calculated a base level of opex using the approach we took in our 2014–19 determination. This approach involves calculating metering-related opex per customer for a five year period.[35] The average is then used to create a base level of opex.

In applying this method, Ausgrid proposed an average opex per customer for the current period of $15.13. This figure incorporates an updated figure for the 2017–18 year to reflect actual expenditure.

We consider that this figure is appropriate for use as a base for calculating opex for the next regulatory period. The amount $15.13 per customer is lower than Ausgrid's initial proposal,[36] reflecting the efficiencies gained in the 2017–18 regulatory year.

Step

Our draft decision included a $1.01 million ($2018–19) negative step change to represent the expected reductions in fixed costs.[37] This amount was sourced from the

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34 AER, *Better regulation: Expenditure forecast assessment guideline for distribution*, November 2013, p. 32.

35 By taking multiple (five) years of costs into account, we avoid any incentive on Ausgrid, going forward, to load a single year with expenditure. This is important given that we do not apply an efficiency benefit sharing scheme with respect to alternative control services.

36 Ausgrid, *Regulatory proposal – Attachment 8.01 – Ausgrid's metering services*, April 2018, p. 8.

37 AER, *Ausgrid 2019-24 Draft decision – Attachment 15 –Alternative Control Services,* November 2018, p. 28.

Sankofa report, provided with Ausgrid's initial proposal, and escalated to 2018–19 dollars.[38]

In its revised proposal, Ausgrid did not include a step change to its base level of metering opex. Ausgrid acknowledged that it worked collaboratively with its consultant, Sankofa, to provide the data needed to calculate an adjustment to its base level of opex.[39] However, Ausgrid submitted that Sankofa provided no detail to indicate why fixed costs would be declining. Ausgrid also noted that it did not propose a negative step change in its initial proposal.

In Sankofa's report, it provided a breakdown of Ausgrid's metering opex.[40] This breakdown involved classifying metering opex into the following groups:

- fixed costs that will remain constant over the forecast period.
- fixed costs that will exhibit a step change down with the change in metering regulation. (This includes costs that will be eliminated altogether.)
- fixed costs that will exhibit a step change up with the change in metering regulation.
- variable costs that will decrease directly (or with a diseconomy of scale factor) with meter volumes.

Sankofa provided an exhaustive list of activities and their classifications in its report.[41] This analysis determined that 7 per cent of opex was related to those fixed costs that will decrease or be eliminated, and 3 per cent of opex was related to those fixed costs that will increase. We have considered both fixed costs which expect a step change up and a step change down to arrive at a net effect of a negative step change.

Ausgrid are concerned that including the step change in addition to metering churn, would result in 'double counting' of these reduced fixed costs.[42] Ausgrid submitted that the current non-capital metering charges include both variable and fixed costs, and as a customer stops paying the non-capital charge, Ausgrid will no longer recover that customer's proportion of fixed costs, resulting in a reduction in the recovery of those fixed costs.

However, the nature of the building block model sees prices set by building up all expected costs. X-factors are used to set prices that allow for complete recovery of expected costs. This model takes into consideration the forecasted decline in customer numbers, and spreads the recovery of all expected costs over the remaining

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38 Sankofa Consulting, *Diseconomies of scale in meter reading; the impact of declining meter density on meter reading costs,* January 2018, p. 13.

39 Ausgrid, *Revised Proposal Attachment 8.01 Metering services,* January 2019, p. 7.

40 Sankofa Consulting, *Diseconomies of scale in meter reading; the impact of declining meter density on meter reading costs,* January 2018, p. 13.

41 Sankofa Consulting, *Diseconomies of scale in meter reading; the impact of declining meter density on meter reading costs,* January 2018, pp. 37-40.

42 Ausgrid, *Revised Proposal Attachment 8.01 Metering services,* January 2019, p. 7.

customers. We therefore do not accept Ausgrid's contention that the natural churn of metering customers incorporates a reduction in fixed costs. The model ensures that any fixed costs are recovered from remaining customers.

Therefore, we consider that a negative step change is required to represent the reduction of fixed costs as the customer base declines. This is presented in the Sankofa report, which shows that fixed costs are expected to reduce by $0.98 million ($2016–17) from the 2016–17 regulatory year to the 2019–24 regulatory period.[43] We have therefore applied a negative step change in the calculation of Ausgrid's opex, consistent with our draft decision.

Trend

Ausgrid trended its base level of opex over the 2019–24 regulatory period by considering declining customer numbers, changes in labour costs, and growing 'diseconomies of scale'.[44] We have updated our labour escalation factors, to reflect new estimates from Deloitte Access Economics. The wage price index from Deloitte Access Economics is averaged with the BIS Oxford Economics index, as provided by Ausgrid, to give our final labour escalation factors.

To incorporate the inefficiencies that are created by reducing customer numbers, Ausgrid applied a productivity adjustment to its opex. Ausgrid rejected the productivity adjustment used in our draft decision, which was based on the Sankofa analysis. Instead, Ausgrid applied the benchmark productivity adjustment that we applied to Endeavour Energy and Essential Energy in their respective draft decisions.[45]

The benchmark productivity adjustment was applied to Endeavour Energy and Essential Energy to drive more efficient outcomes. As Ausgrid's bespoke productivity adjustment was greater than the benchmark productivity adjustment, we found that the benchmark productivity adjustment would not drive Ausgrid to more efficient outcomes. This is supported by the fact that Ausgrid maintains a much larger customer base than other distributors, as well as enjoying a higher density of customers.

We have noted Ausgrid's reasons for applying our benchmark rate. However, we consider that the benchmark productivity adjustment will not provide the most efficient outcome, and is therefore not appropriate. For these reasons, we have applied the bespoke productivity adjustment, consistent with our draft decision.[46]

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43 Sankofa Consulting, *Diseconomies of scale in meter reading; the impact of declining meter density on meter reading costs,* January 2018, p. 13.

44 Ausgrid, *Revised Proposal Attachment 8.01 Metering services,* January 2019, p. 7.

45 Ausgrid, *Revised Proposal Attachment 8.01 Metering services,* January 2019, p. 8.

46 AER, *Ausgrid 2019-24 Draft decision – Attachment 15 –Alternative Control Services,* November 2018, p. 30.

A Ancillary network services prices

Table 15.4 Fee based ancillary network service prices for 2019–20, AER final decision ($2019–20)

Service	Type	AER Final Decision
METERING RELATED FEES		
Metering Services		
Metering Site Establishment	Fixed	$60.18
Special Meter Reading	Fixed	$11.13
Type 5-6 Meter Test	Quoted	$151.41
Types 5-7 non-standard Meter Data Services	Fixed	$15.88
Emergency maintenance of failed metering equipment not owned by the network	Fixed	$180.06
Off peak conversion	Fixed	$151.41
Disconnection Visit (Site Visit Only)	Quoted	$151.41
Disconnection Completed	Quoted	$151.41
Disconnection Visit (Disconnection Completed - Technical/ Advanced)	Quoted	$151.41
Pillar/ Pole Top Disconnection Completed	Fixed	$264.98
Pillar/Pole Top Site Visit	Fixed	$355.27
Reconnection/ Disconnection Outside Normal Business Hours	Fixed	$109.72
Network Tariff Change Request	Fixed	$52.37
Recovery of Debt Collection Costs - Dishonoured Transactions	Fixed	$28.02
Attendance at customers' premises to perform a statutory right where access is prevented	Fixed	$86.51
Vacant Property Disconnection	Fixed	$156.27
Vacant Property Site Visit	Fixed	$39.89
New metering related fees		
Distributor arranged outage for purpose of replacing metering - Simple	Fixed	$244.58
Distributor arranged outage for purpose of replacing metering - Complex	Quoted	$104.74 $151.41
Distributor arranged outage for purpose of replacing metering - Site visit only	Quoted	$151.41
Correction of metering and market billing data	Fixed	$52.37
Final read after type 5 meter equipment removed	Fixed	$69.83

Service	Type	AER Final Decision
Type 5 and 6 CT testing	Quoted	$151.41
Type 5 and 6 CT recovery	Quoted	$151.41
Metering Site Alteration	Fixed	$31.42
NMI Extinction	Fixed	$31.42
NON-METERING RELATED FEES		
Design related services		
Administration of Contestable Works - General	Fixed	$946.85
Administration of Contestable Works - Additional	Quoted	$104.74
Administration of Pioneer Schemes	Fixed	$1,293.68
Design Information - Simple	Fixed	$598.99
Design Information - Standard / Complex	Quoted	$196.39 $216.02
Design Information - Asset Creation	Base Charge + per asset	$28.28 $10.48
Design Certification - General	Fixed	$1,899.09
Design Certification - Other	Quoted	$196.39 $216.02
Connection application related services		
Technical assessment - Applications or relocations	Fixed	$411.64
Preliminary Enquiry	Quoted	$196.39 $216.02
Connection Offer - Basic	Fixed	$17.80
Connection Offer - Standard	Fixed	$52.37
Connection Offer - Negotiated	Quoted	$216.02
Planning Studies	Quoted	$196.39 $216.02
Site Inspection	Fixed	$483.12
Technical Support - Permanently Unmetered Supply (PUMS)	Quoted	$196.39
Registered participant support	Quoted	$216.02

Service	Type	AER Final Decision
Contestable network commissioning and decommissioning		
Commissioning assets - Simple	Fixed	$1,638.27
Commissioning assets - Standard	Fixed	$3,082.70
Commissioning assets - Complex	Quoted	$157.11 $196.39 $151.41
Decommissioning assets	Quoted	$157.11 $151.41
Access permits and clearances to work		
Simple permit or clearance to work	Fixed	$1,256.88
Complex permit or clearance to work	Quoted	$157.11 $196.39 $151.41
Access permit - cancellation - simple	Fixed	$487.04
Access permit - cancellation - complex	Fixed	$1,115.48
Install / remove overhead network earths	Quoted	$151.41
Access - standby person	Quoted	$151.41
Access - confined spaces entry permit	Quoted	$157.11 $151.41
Process and project facilitation	Quoted	$196.39 $216.02
Specialist services	Quoted	$216.02
Facilitation of activities within clearances of distributor assets	Quoted	$196.39 $151.41
Notices of arrangements		
Notice of arrangements	Fixed	$448.43
Notice of arrangements (early)	Quoted	$104.74 $196.39
Network related property services		

Service	Type	AER Final Decision
Property Tenure	Quoted	$104.74 $196.39 $216.02
Network safety service and security		
Rectification works		
Rectification of illegal connections	Quoted	$139.18
Provision of service/additional crew	Quoted	$151.41
Fitting of tiger tails	Quoted	$151.41 + torapoli hire
High load escorts	Quoted	$151.41
Temporary Power	Quoted	$151.41
Bushfire Mitigation works	Quoted	$151.41
Neutral integrity test	Quoted	$151.41
De-energisation of wires for safe approach	Quoted	$151.41
Rectification of network related customer fault	Quoted	$151.41
Cable termination and relocation works		
11 kV cable termination at zone substation	Quoted	$151.41
Termination of a sub-transmission cable at a zone substation	Quoted	$157.11 $151.41 $216.02
Complex customer initiated asset relocation	Quoted	$157.11 $151.41 $216.02
Traffic control		
Traffic control	Quoted	$151.41
Substation works		
Substation disconnect and reconnect	Quoted	$151.41
Inspection services – Private electrical installations and accredited service provides (ASPs)		
Inspection of level 1 ASP works		
Network Construction - Level 1 ASP works	Quoted	$157.11
Re-inspection – Level 1 ASP works	Quoted	$157.11

Service	Type	AER Final Decision
Inspection of level 2 ASP works		
Level 2 ASP works (NOSW) - A Grade	Fixed	$32.47
Level 2 ASP works (NOSW) - B Grade	Fixed	$57.60
Level 2 ASP works (NOSW) - C Grade	Fixed	$183.30
Re-inspections - Level 2 ASP works	Quoted	$174.91
Remedial actions - ASP Contestable works		
Investigate, review & implementation of remedial actions associated with ASP's connection works	Quoted	$216.02
Inspection of electrical contractor works		
Service size >100A and mandatory inspections	Quoted	$174.92
Re-inspection of electrical contractor works	Quoted	$174.91
Authorisation of ASPs		
ASP 1 Authorisations		
ASP Level 1 - Initial Authorisation or Additional Authorisation Session	Fixed	$235.67
ASP Level 1 - Authorisation Renewal or Additional Company to Existing Authorisation	Fixed	$52.37
ASP Level 1 - Company Authorisation - Initial	Fixed	$592.44
ASP Level 1 - Company Re-authorisation (Annual Fee)	Fixed	$108.02
ASP 2 Authorisations		
ASP Level 2 - Initial Authorisation	Fixed	$418.96
ASP Level 2 - Re-authorisation (Annual Fee)	Fixed	$340.41
ASP Level 2 - Additional authorisation	Fixed	$104.74
ASP 3 Authorisations		
ASP Level 3 - Authorisation/Re-authorisation (Biennial Fee)	Fixed	$78.56
Consultancy and review services		
Engineering consultancy	Quoted	$261.74
Approved materials list application	Quoted	$216.02 $261.74
Training		
Training - 5 to 9 participants	Fixed	$157.11

Service	Type	AER Final Decision
Training - 10 to 14 participants	Fixed	$91.65
Training - 15 or more participants	Fixed	$54.99
Complex training	Quoted	$302.43
ASP material sales	Purchase price + support costs adjustment	Accept the confidential support costs adjustment provided by Ausgrid

Source: Ausgrid alternative control services models 8.06.1 to 8.06.12; AER analysis.

Note: For quoted services the fees listed are the hourly labour rate only. Quoted service fees also include *Contractor Services* and *Materials*.

Table 15.5 Fee-based services - security lighting, $2019–20

Light size	Installation cost	Monthly charge (ex-GST) - first 2 years)	Monthly charge (ex-GST) - post 2 years
Small	$400	$82.91	$46.56
Medium	$400	$97.01	$60.24
Large	$400	$149.58	$118.93

Source: AER, *Draft Decision: Ausgrid distribution determination 2019 to 2024 - Attachment 15 - Alternative Control Services*, November 2018, p.15-40.

Table 15.6 Quoted service ancillary network services hourly labour rates for 2019–20, final decision ($2019–20)

Ausgrid/AER labour category	AER final decision - maximum total hourly rate (base plus on-costs plus overheads)
Admin (R1)	$104.74
Technical Specialist (R2)	$157.11
Engineer/Senior Engineering officer (R3)	$196.39
Field worker (R4)	$151.41
Senior Engineer (R5)	$216.02
Engineering Manager	$261.74

Note: Ausgrid and AER labour categories are the same, except Ausgrid includes an additional 'engineering manager' labour category.

Source: Marsden Jacob Associates, *Review of Alternative Control Services - Advice to Australian Energy Regulator - PUBLIC version*, September 2018; AER analysis.

Table 15.7 AER final decision on X factors for each year of the 2020–24 regulatory control period for ancillary network services (per cent)

	2020–21	2021–22	2022–23	2023–24
X factor	-0.7008%	-1.0452%	-1.2144%	-1.0624%

Source: AER analysis.

Note: To be clear, labour escalators themselves are positive for each year of the regulatory control period. However, the labour escalators in this table are operating as defacto X factors. Therefore, they are negative.

B Public lighting prices

Table 15.8 Public Lighting services approved charges for 2019–20, final decision ($2019–20)[47]

Annuity prices ($2019) - Post 2009 Capital				Opex Prices ($2019)	
Description	**Revised Proposal**	**Final Decision**	**Description**	**Revised Proposal**	**Final Decision**
Bracket - 0.5	6.20	5.93	Connection - O/U	106.01	106.00
Bracket - 0.6	6.20	5.93	Connection - UGR1	97.17	97.17
Bracket - 1.0	7.62	7.29	Connection – UGR2	35.33	35.33
Bracket - 1.2	7.62	7.29	Lamp - LED TRIAL	23.76	23.76
Bracket - 1.5	7.62	7.29	Lamp - LED1x100	31.60	31.60
Bracket - 2.0	7.62	7.29	Lamp - LED1x17	23.80	23.81
Bracket - 2.5	7.62	7.29	Lamp - LED1x200	31.61	31.61
Bracket - 3.0	7.62	7.29	Lamp - LED1x22	23.76	23.76
Bracket - 3.5	10.76	10.30	Lamp - LED1x25 GE	23.76	23.76
Bracket - 4.0	17.30	16.56	Lamp - LED1x28	23.81	23.81
Bracket - 4.5	17.30	16.56	Lamp - LED1x29	23.76	23.76
Bracket - 5.0	17.30	16.56	Lamp - LED1x298	31.63	31.63
Bracket - 6.0	21.51	20.59	Lamp - LED1x33	23.85	23.85
Bracket - 6.5	21.51	20.59	Lamp - LED1x42	23.89	23.89
Bracket - 7.0	21.51	20.59	Lamp - MBF1x1000	78.78	78.80
Bracket - 8.0	21.51	20.59	Lamp - MBF1x125	41.62	41.63
Bracket - C4	10.46	10.01	Lamp - MBF1x250	56.36	56.36
Bracket - T1	9.67	9.25	Lamp - MBF1x400	56.36	56.36
Bracket - T2	15.13	14.48	Lamp - MBF1x42	37.12	37.12
Bracket - T2A	15.13	14.48	Lamp - MBF1x50	41.73	41.73
Bracket - T3	21.71	20.78	Lamp - MBF1x80	39.53	39.54
Bracket - T3A	21.71	20.78	Lamp - MBF2x80	50.35	50.35
Bracket - T4	21.71	20.78	Lamp - MBI1x100	56.28	56.29

[47] The pre 2009 capital charges have not been published with this final decision due to confidentiality claims. The approved rates shall be directly provided to Ausgrid.

Annuity prices ($2019) - Post 2009 Capital				Opex Prices ($2019)	
Bracket - T5	21.71	20.78	Lamp - MBI1x1000	70.10	70.10
Bracket - T6	21.71	20.78	Lamp - MBI1x150	56.19	56.20
Bracket - T7	31.25	29.92	Lamp - MBI1x250	53.85	53.86
1*17W LED	55.28	54.39	Lamp - MBI1x400	53.77	53.78
1*22W LED	57.39	56.46	Lamp - MBI1x70	43.07	43.07
1*25W LED GE	49.25	48.45	Lamp - MBI1x70 II	61.05	61.05
1*29W LED	36.31	35.29	Lamp - SON1x100	66.23	66.24
1000W SON	99.64	96.87	Lamp - SON1x1000	72.69	72.70
1000W SON FLOODLIGHT	81.85	79.57	Lamp - SON1x150	63.02	63.02
1000W/1500W MBI FLOODLIG	110.23	107.18	Lamp - SON1x150 AR	63.02	63.03
100W LED ALD	113.62	111.80	Lamp - SON1x250	64.55	64.55
100W MBI	38.54	37.44	Lamp - SON1x250 AR	64.55	64.56
100W MBI FLOODLIGHT	41.60	40.42	Lamp - SON1x400	65.22	65.23
100W SON	40.93	39.77	Lamp - SON1x400 AR	87.61	87.61
100W SON FLOODLIGHT	59.31	57.65	Lamp - SON1x50	48.13	48.13
100W SON - PLAIN	40.93	39.77	Lamp - SON1x600	72.82	72.83
125W MBF	23.67	23.00	Lamp - SON1x70	46.44	46.45
125W MBF - BOURKE HILL	73.34	71.31	Lamp - SON2x250	92.45	92.46
125W MBF - PARKVILLE	92.36	89.81	Lamp - SON2x400	93.79	93.80
125W MBF -PLAIN	23.67	23.00	Lamp - SON4x250	143.55	143.56
125W/250W MBF FLOODLIGHT	32.71	31.79	Lamp - SON4x600	175.98	175.99
150W SON	41.28	40.11	Lamp - TF1x20	42.85	42.85
150W SON - PARKVILLE	108.38	105.37	Lamp - TF1x40	67.87	67.87
150W SON - PARKWAY 1	48.89	47.51	Lamp - TF1x80	42.55	42.55
150W SON ACTIVE REACTOR	59.83	58.15	Lamp - TF2x14 T5	43.43	43.44
150W SON FLOODLIGHT	48.01	46.66	Lamp - TF2x20	54.00	54.00

Annuity prices ($2019) - Post 2009 Capital				Opex Prices ($2019)	
150W/250W MBI FLOODLIGHT	72.76	70.73	Lamp - TF2x26	43.08	43.09
17W LED SY RRW	58.65	57.71	Lamp - TF2x40	43.08	43.09
2*14W TF - T5 PIERLITE M	31.00	30.13	Lamp - TF4x20	42.92	42.93
2*250W SON FLOODLIGHT	66.83	64.96	Lamp - TF4x40	44.54	44.54
2*400W SON FLOODLIGHT	131.47	127.84			
2*80W MBF - BOURKE HILL	63.92	62.15			
200W LED ALD	113.62	111.80			
20W LED GE	49.25	48.45			
250W MBF	40.58	39.43			
250W MBF - PARKWAY 1	48.89	47.51			
250W SON	41.28	40.11			
250W SON - PARKVILLE	116.91	113.67			
250W SON - PARKWAY 1	48.89	47.51			
250W SON ACTIVE REACTOR	59.83	58.15			
250W SON FLOODLIGHT	48.01	46.66			
250W SON GEC 'BOSTON 3'	101.05	98.25			
28W LED SY	61.18	60.20			
298W LED ALD	162.90	160.32			
2X14W TF - T5 PIERLIGHT	31.00	30.13			
33W LED LRL	66.94	65.86			
4*250W SON	74.99	72.90			
4*600W SON	113.20	110.06			
400W MBF	32.85	31.91			
400W MBF - B2229	32.85	31.91			
400W MBF - PARKWAY 1	64.14	62.35			

Annuity prices ($2019) - Post 2009 Capital			Opex Prices ($2019)
400W MBF FLOODLIGHT	70.26	68.30	
400W MBI FLOODLIGHT	55.70	54.13	
400W SON	44.69	43.43	
400W SON - PARKWAY 1	48.89	47.51	
400W SON ACTIVE REACTOR	66.83	64.96	
400W SON FLOODLIGHT	48.01	46.66	
42W LED LRL	85.68	84.29	
42W MBF SYLVANIA SUB ECO	28.49	27.68	
50W MBF	21.49	20.87	
50W MBF - BOURKE HILL	63.92	62.15	
50W MBF - NOSTALGIA	63.92	62.15	
50W MBF - PLAIN	21.49	20.87	
50W SON	20.79	20.19	
50W SON - NOSTALGIA	32.42	31.51	
50W SON - PLAIN	20.79	20.19	
70W MBI	26.87	26.11	
70W MBI - MACQUARIE DEC.	103.86	100.99	
70W MBI II	23.67	23.00	
70W MBI II AERO	24.55	23.85	
70W SON	23.59	22.92	
70W SON - BOURKE HILL	71.49	69.50	
70W SON - NOSTALGIA	66.67	64.81	
70W SON - PARKVILLE	83.61	81.30	
70W SON BOLLARD	50.90	49.48	

Annuity prices ($2019) - Post 2009 Capital			Opex Prices ($2019)
70W SON FLOODLIGHT	28.44	27.63	
70W SON - PLAIN	23.59	22.92	
80W MBF - BEGA+CURVE BRA	104.42	101.53	
80W MBF - BOURKE HILL	48.95	47.58	
80W MBF - NOSTALGIA	62.86	61.12	
80W MBF - PLAIN	20.49	19.90	
80W MBF - REGAL/FLINDERS	113.78	110.64	
80W MBF BOLLARD	40.51	39.37	
80W MBF TOORAK	57.36	55.77	
LED TRIAL	36.31	35.29	
TH FLOODLIGHT	118.58	115.30	
COLUMN 10.5M-13.5M	408.97	391.71	
COLUMN 14M-15M	408.97	391.71	
COLUMN 2.5M-3.5M	357.55	342.47	
COLUMN 4-6.5M ORION WATE	367.63	352.13	
COLUMN 4M-6.5M	383.89	367.70	
COLUMN 7M-10M	375.70	359.85	
DECORATIVE COLUMN	394.35	377.71	
DEDICATED SUPPORT & COND	364.74	349.35	
MACQUARIE STANDARD	360.20	345.01	
MAST 15.5M-30M	380.99	364.92	
ORION DOUBLE ARM	349.73	334.97	
POLO 10.5M DECORATIVE 2M	371.67	355.99	
ROCKS STANDARD	373.32	357.57	

C Metering service prices

Table 15.9 Metering X factors for 2019–24, AER final decision

Period		2020-21	2021-22	2022-23	2023-24
Metering X factor	Capital	3.1200%	3.1200%	3.1200%	3.1200%
	Non-capital	-1.0000%	-1.0000%	-1.0000%	-1.0000%

Note: We do not apply an X factor for 2019–20 because we set the 2019–20 metering charges in this determination.

Table 15.10 Annual metering charges for 2019–20, AER final decision

Tariff		2019-20
Residential Non ToU Closed	Capital	$15.62
	Non-capital	$10.89
Residential Transitional ToU	Capital	$15.62
	Non-capital	$10.89
Residential ToU	Capital	$17.38
	Non-capital	$28.15
Controlled Load 1	Capital	$8.67
	Non-capital	$0.92
Controlled Load 2	Capital	$8.67
	Non-capital	$0.92
Small Business Non ToU Closed	Capital	$23.88
	Non-capital	$11.24
Small Business Transitional ToU	Capital	$23.88
	Non-capital	$11.24
Small Business ToU	Capital	$16.59
	Non-capital	$27.89
LV 40-160 MWh (System)	Capital	$21.60
	Non-capital	$49.64
Transitional 40-160 MWh Closed	Capital	$21.60
	Non-capital	$49.64
Generator Tariff	Capital	$8.95
	Non-capital	$2.89

Source: AER analysis.

Note: Prices for the remaining years of the period will be adjusted for actual CPI during the AER's annual pricing approval process.