Draft Decision

Ausgrid Electricity Distribution Determination 2024-29 1 July 2024 to 30 June 2029

Attachment 16 Alternative Control Services

September 2023

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601
Tel: 1300 585 165

AER reference: AER212493, AER22005429

Amendment record

Version	Date	Pages
1	September 2023	46

Contents

16 Alternative control services

This attachment sets out our draft decision on prices Ausgrid is allowed to charge customers for the provision of the following alternative control services: ancillary network services and public lighting. We also make a draft decision on metering, which we classify as an alternative control service, in Attachment 20.

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.

16.1 Ancillary network services

Ancillary network services are non-routine services provided to individual customers as requested. Our F&A paper outlines several types of services that meet this broad definition.[1]

Ancillary network services are charged to customers on a user-pays approach which are either charged on either a fee or quotation basis, depending on the nature of the service.

We determine price caps for fee-based services for the 2024–29 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, such as disconnections and special meter reads.

By comparison, prices for quoted services are based on the quantities of labour and materials required, 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. However, our draft decision sets the maximum labour rates to be applied to quoted services.

---

[1] See AER, *Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy for the 2024-29 regulatory control period*, July 2022, pp. 5–6. Our F&A paper outlines several types of services that can be considered as meeting this broad definition such as network ancillary services, basic connection services and non-routine metering services.

16.1.1 Draft decision

16.1.1.1 Form of control for ancillary network services

Our draft decision is to maintain our final F&A position to apply price caps to ancillary network services as the form of control.

Under a price cap form of control, we set a schedule of price caps for fee-based services and maximum labour rates for quoted services for the first year of the regulatory control period, 2024–25. For each year thereafter, we adjust the price caps and maximum labour rates for inflation, the X factor,[2] and any relevant adjustments. This mechanism is set out in greater detail in section 14.5.2 of Attachment 14 – Control mechanisms.

As ancillary network services have a high share of labour and labour-related inputs, we use labour price growth forecasts as the ancillary network services X factor. Consistent with our previous decisions, we derived the X factor by averaging wage price index growth forecasts from KPMG (provided by the AER) and BIS Oxford Economics (provided by the DNSP).[3] Our draft decision X factors for ancillary network services are set out in Appendix A.

16.1.1.2 Fee-based and quoted services

Our draft decision does not accept Ausgrid's proposal as submitted. Based on our analysis and updated inputs, our draft decision is to:

- Substitute Ausgrid's proposed X factors with our draft decision labour price growth forecasts (see Table A.1 in Appendix A).
- Accept Ausgrid's proposed fee-based and quoted services labour rates for:
  - Engineer R3
  - Senior engineer R5
  - Engineering manager R6
- Not accept the following labour rates as they are above the maximum labour rates which we consider are efficient. As a result, we have substituted them with our labour rate benchmarks:
  - Administrative officer R1
  - Technical specialist R2
  - Field worker R4

---

2 Under the CPI–X framework, the X factor can be a measure of the real rate of change in prices from one year to the next. For ancillary network services, the X factor is the change in wage prices given that labour is the primary cost input for providing these services.

3 For more detail on the reasons for this decision, see the discussion in section 6.4.2 of Attachment 6 – Operating expenditure.

- Substitute Ausgrid's proposed year one (2024–25) prices for fee-based services with our draft decision price caps for 2024–25 (see section 16.1.4.2 and Table A.2 in Appendix A).

16.1.2 Ausgrid's proposal

Ausgrid proposed 108 discrete ancillary network services. This is the same number as in the 2019–24 period, though the service offerings are not identical as Ausgrid removed some services, introduced new services, and combined others.[4] Ausgrid also proposed to increase the proportion of fee-based services compared to quoted services in the 2024–29 period from 52% to 58% to provide more price certainty.[5]

Ausgrid proposed 6 labour categories to reflect the different types of labour it uses in providing ancillary network services (see Table 16.1). In the interest of transparency, Ausgrid proposed adding a separate vehicle allowance to the labour rates for field workers. In the 2019–24 period, these costs had been reflected in a higher overhead allocation.[6] Ausgrid derived its proposed labour rates for the 2024–29 period from the average of their approved labour rates from the 2019–24 period and either:[7]

- the 'Hays Max 40' rates[8] (for field workers), or
- the 'market median rate'[9] (for all other categories).[10]

Ausgrid applied a bottom-up approach to develop prices for all its fee-based services.[11] For year 1 of the 2024–29 period, Ausgrid used the AER's standardised ancillary network services model to derive prices.[12]

Ausgrid also proposed to not include a margin or tax in its prices for quoted services.[13] They stated that they have chosen to not include a margin as the AER has previously decided that

---

4 For a more detailed list of changes, see Ausgrid, *Att. 9.3 - Ancillary network services - 31 Jan 2023 - Public*, pp. 12–21.

5 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, pp. 7 and 12.

6 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 11.

7 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 10.

8 Hays Max 40 refers to the labour rates CutlerMerz derived using 2021–22 labour rates from the Hays Salary Guide. CutlerMerz based its calculations on a 40 hour week using a similar method to the one Marsden Jacob developed for the AER in previous distribution determinations. See Ausgrid, *Cutler Merz - Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022.

9 The median market rate refers to the median rate CutlerMerz derived using rates for accredited service providers from its internal database. See CutlerMerz*, Att. 9.3.b - NSW ANS labour rates review - 4 Aug 2022 – Public*.

10 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 10.

11 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 9.

12 Ausgrid, *Att. 9.3.a - Standardised ancillary network services model,* 31 Jan 2023.

13 Ausgrid also did not include separate margin or tax percentages for fee-based services in the standardised model (see Ausgrid, *Att. 9.3.a – Standardised ancillary network services model,* 31 Jan 2023, 'Input|Indirect Cost Rates'D25:D38).

margins will not be allowed when the overhead allocation are at 61%. They have not included a tax allowance as it is unclear how to apply this but welcomed further discussion with the AER.[14]

Ausgrid proposed that the AER continues to use labour price growth forecasts as the X factor for ancillary network services, as these services typically have a very high share of labour and labour-related inputs.[15]

Table 16.1 and Table 16.2 in section 16.1.4.1 contain Ausgrid's proposed labour rates for business hours and after hours, respectively.[16]

16.1.3 Assessment approach

The regulatory framework for assessing alternative control services is less prescriptive than for standard control services. That is, there is no requirement to apply the building block model exactly as prescribed in Part C of the National Electricity Rules (NER).

On this basis, our approach involves an assessment of the efficient costs of providing ancillary network services. Labour costs are the major input in the cost build-up of prices for ancillary network services. Therefore, our assessment focuses on comparing Ausgrid's proposed labour rates against maximum total labour rates, which we consider efficient.

Where Ausgrid's proposed labour rates exceed our maximum efficient labour rates, we apply our maximum efficient labour rates to determine prices. We follow this assessment process for services provided on a fee or quotation basis.

We also considered relevant stakeholder feedback raised throughout the consultation process and benchmarked Ausgrid's proposed ancillary network services prices against its prices for the 2019–24 period and the prices of other distributors. We will also make further adjustments to Ausgrid's ancillary network services prices where we consider it appropriate to do so.

16.1.4 Reasons for draft decision

Section 16.1.4.1 discusses the maximum labour rates we consider are appropriate for Ausgrid.

Section 16.1.4.2 sets out how we assessed Ausgrid's proposed fee-based prices and, where appropriate, adjusted them to derive our draft decision prices for 2024–25. This includes

---

14 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 11.

15 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 9.

16 The labour rates in Table 16.1 are specifically for quoted services, though they are consistent with the labour rates for fee-based services. The difference is that "base" labour rates and on-costs are the explicit labour input for fee-based services, with overheads being calculated at a later stage based on total direct costs (labour, materials and so on).

substituting our draft decision labour rates (among other draft decision factors), where necessary, following our considerations as set out in section 16.1.4.1.

Section 16.1.4.3 sets out our consideration of other issues raised in submissions.

16.1.4.1 Proposed labour rates

For ancillary network services we typically review the key inputs in determining the price for the service. We focus on labour rates as these are the principal input.

Consistent with the 2019–24 period, we continue to categorise Ausgrid's proposed labour rates into six different categories. This is on the basis that although distributors use different labour categories and descriptions, the types of labour used to deliver ancillary network services broadly fall into the following categories: administration, technical specialists, field workers, engineers, and senior engineers. For the NSW networks, we also benchmark a sixth category: engineering manager. This is consistent with our previous distribution determinations for the NSW distributors.[17]

This method is a continuation of Marsden Jacob's previous reports for the AER in relation to labour rates and ancillary network services.[18] In assessing the reasonableness of the proposed labour rates, we:

- derived salary ranges for our labour categories using NSW salary data for various electricity distribution-related occupations from the most recent, publicly available Hays Salary Guide (Hays)
- derived the raw hourly rate using the maximum salaries in each of the categories, dividing by number of weeks in a year and hours in a week
- escalated for on-costs (leave, superannuation, workers compensation, payroll tax)
- escalated for overheads – we continue to use a maximum overhead rate of 61%, based on Marsden Jacob's analysis. We note the profit margin allocation is already included within the overall overhead allowance
- escalated for assumed inflation, labour rate escalators (reflecting the wage price index) and an allowance to account for salary stickiness in the Hays data
- added an hourly vehicle cost, where required.

In aggregate, these elements are referred to as the 'maximum reasonable benchmark rate,' which is expressed as an hourly rate.

---

17 See, for example, AER, *Final decision - Ausgrid distribution determination 2019-24 - Attachment 15 - Alternative control services,* April 2019, p. 9.

18 Recent reports include: *Marsden Jacob Report – Review of Alternative control services for SA Power Networks Energex and Ergon Energy,* June 2019; *Marsden Jacob Associates – Review of Victorian distributors Alternative Control Services,* June 2020.

Compared to our 2019–24 period decision, we have made the following changes to the way we derive our maximum reasonable benchmark rate:

- using a 38-hour week, rather than a 40-hour week, consistent with the lates Hays report.
- excluding salary data from the 'Transmission line engineer' and 'Generator technician' occupations from our analysis.
- uplifting the engineer rate by 20% to obtain the Senior engineer rate.
- using Hays 2022–23 data (instead of the most recent 2023–24 data) for technical specialists, field workers and engineering managers.
- use of real inflation (CPI) and X factors to convert labour rates and the vehicle allowance to $2024–25.

Excluding occupations and the uplift for engineers

In considering labour rate benchmarks in the lead-up to our issues paper, we benchmarked the distributors' proposed labour rates with the most recent (at the time) labour rates derived from the Hays 2022–23 data. We found that, under our methodology, engineers and senior engineers would have the same hourly rate.

We applied several changes in deriving the raw labour rates. Upon consultation with our internal technical experts, we removed the roles of 'Transmission line engineer' (categorised as engineer) and 'Generator technician' (technical specialist) from their respective benchmarks as they are not typically employed by distributors.

Further, we consider it is not appropriate to assign occupations to the senior engineer category because senior engineer salaries reflect time in role, not particular occupations. Instead, we applied a 20% uplift from engineer salaries as a reasonable premium for time in role.

Changes to Hays Salary Guide

In July 2023, Hays released its 2023–24 salary data. There were some significant changes in its reporting with the report no longer including wage data for the technical specialist and field worker roles. It also did not update salaries for engineering managers. To derive our benchmarks for these labour categories, we instead use the latest data that we have, which is the Hays 2022–23 data.

For the administration and engineer labour categories, we used the Hays 2023–24 data as the relevant rates are still available.

In addition, we note that the Hays 2023–24 data is based on a 38-hour week.[19] We have therefore derived our maximum reasonable benchmark rates using a 38-hour week as we

[19] *Hays Salary Guide FY23/24 Australia and New Zealand*, p. 2

consider the Hays data captures the conditions of the broad labour pool from which Ausgrid draws its labour.

Determining labour rates in $2024–25

Finally, we applied one or two-year's worth of real inflation and X factors to convert the 2022–23 and 2023–24 labour rates (respectively, depending on which was applicable) to $2024–25. To convert $2022–23 nominal rates into $2023–24 nominal terms (where relevant), we used actual CPI consistent with the method applied during annual pricing proposals and consistent with our draft decision on control mechanisms.[20] To convert $2023–24 nominal rates into $2024–25 nominal terms, we have applied forecast CPI from the Reserve Bank of Australia as a placeholder for this draft decision. We will apply actual CPI consistent with our control mechanism for our final decision.

We also used this approach to escalate the $20 per hour vehicle allowance in our previous decisions for inflation only (i.e. no X factor) to $23.87.[21]

To obtain the benchmark after hour rates, we continue to apply 1.75 times the business hourly rate, as recommended by Marsden Jacob.

Using this method, Table 16.1 includes our maximum hourly labour rate for the six labour benchmark categories and Ausgrid's proposed prices for business hours. Table 16.2 contains the same information for after hours.

Table 16.1 AER maximum benchmark and Ausgrid proposed hourly labour rates for 2024–25 (business hours, including on-costs and overheads, $2024–25)

	AER maximum labour rate	Ausgrid proposed labour rate
Administration	$119.58	$136.17
Field worker (including vehicle allowance)	$196.56	$200.55
Technical specialist	$191.40	$206.03
Engineer	$265.73	$248.55
Senior engineer	$318.87	$296.77
Engineering manager	$345.38	$343.31

Source: AER analysis.

20 AER, *Draft decision - Ausgrid distribution determination 2024–29 - Attachment 14 - Control mechanisms,* September 2023.

21 See for example AER, *Draft decision - Powercor distribution determination 2021-26 - Attachment 16 - Alternative control services,* September 2020, p. 6; Marsden Jacob Associates, *Review of Victorian distributors Alternative Control Services,* June 2020, p. 24.

Table 16.2 AER maximum benchmark and Ausgrid proposed hourly labour rates for 2024–25 (after hours, including on-costs and overheads, $2024–25)

	AER maximum labour rate	Ausgrid implicit proposed labour rate[22]
Administration	$209.27	$238.29
Field worker (including vehicle allowance)	$343.98	$350.96
Technical specialist	$334.95	$360.55
Engineer	$465.03	$434.96
Senior engineer	$558.02	$519.35
Engineering manager	$604.42	$600.80

Source: AER analysis.

Outcomes of our benchmarking

As a result of our benchmarking, we do not accept the following labour rates for Ausgrid and replaced them with our maximum labour rates (for both business hours and after hours):

- Administrative officer R1
- Technical specialist R2
- Field worker R4

Table A.3 in Appendix A sets out our draft decision on the labour rates Ausgrid can utilise in the provision of quoted services.

Section 16.1.4.2 discusses the effect of our draft decision on labour rates on Ausgrid's prices for fee-based services.

Section 16.1.4.3 sets out our consideration of issues raised during the submission period.

Our consideration of Ausgrid's proposed analysis

Ausgrid responded to our issues paper and stated the salary ranges in the 2022 Hays Salary Guide do not accurately reflect the challenges in recruiting for specialist roles in the energy sector. Ausgrid encouraged the AER to consider a wider body of evidence than just the Hays Salary Guide.[23]

---

22 Ausgrid did not explicitly propose these overtime rates. Rather, they noted that we set the maximum overtime labour rate at 1.75 times the relevant ordinary rate (see section 16.1.4.1) and considered this cap is reasonable. See Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 23.

23 Ausgrid, *Submission - 2024-29 Electricity Determination – Ausgrid,* May 2023, p. 4.

We consider our current approach of using the Hays data is appropriate. We develop the maximum efficient benchmark labour rates using the latest Hays Salary Guides, which includes wage data from multiple businesses in the energy sector. We consider the Hays data appropriately represents the broad labour pool from which Ausgrid draws labour for ancillary network services. It also uses publicly available information thereby making it transparent and replicable for all stakeholders.

Ausgrid used the analysis in the CutlerMerz report as an input into developing its proposed labour rates (see Table 16.1).

CutlerMerz developed labour rate benchmarks using Hays data consistent with the Marsden Jacob method described above. Specifically, CutlerMerz developed two sets of benchmarks using this method and data source: one set applying a 40-hour week (Hays 40),[24] and another set applying a 36-hour week (Hays 36).

Of the two comparators, CutlerMerz appeared to place more weight on the Hays 36 benchmarks because the NSW distributors' enterprise agreements established a 36-hour week for "several labour categories".[25]

While we acknowledge the NSW distributors' enterprise agreements, we do not operate in a cost-of-service regulatory framework, but rather an incentive framework. We consider benchmarking the NSW distributors' labour rates against other comparable energy industry rates (and each other) is an appropriate method to assess the reasonableness of proposed labour rates. We consider the Hays data is fit-for-purpose in this regard because it captures the broad pool from which the NSW distributors draws its labour. We therefore consider our approach using Hays data sets labour rates that provide distributors with a reasonable opportunity to recover at least their efficient costs.

CutlerMerz also developed benchmarks using wage data from accredited service providers. However, this was from CutlerMerz's internal database and was not included in Ausgrid's proposal.[26] We therefore cannot comment on whether such data is reasonably representative of the labour types suitable for providing ancillary network services.

On balance, we are also not convinced CutlerMerz's analysis showed that one benchmark (those based on Hays compared to those based on accredited service providers) was more accurate or representative of labour conditions for ancillary network services than another. Depending on the labour types in question, CutlerMerz's analysis point to different conclusions as to whether a proposed labour rate is reasonable or not.[27]

---

24 This is consistent with Marsden Jacob's assumption in past distribution determinations. For example, see Marsden Jacob Associates, *Review of Victorian distributors Alternative Control Services*, June 2020, p. 6.

25 CutlerMerz does not specify which labour categories these are. Nevertheless, CutlerMerz calculated maximum benchmark rates based on the 36-hour week for all labour categories.

26 CutlerMerz, *Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022, p. 4 and 9.

27 CutlerMerz, *Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022, pp. 13–18.

For example, in relation to field worker, both the Hays 40 and Hays 36 benchmark rates were considerably higher than Ausgrid's rate (suggesting we accept Ausgrid's proposed rate). In contrast, all rates based on accredited service provider data were lower than Ausgrid's rate (suggesting we reject).[28] For administration staff and senior engineers, Ausgrid's rate was below all benchmarks except for the Hays 40 benchmark.[29] For engineers and engineering managers, Ausgrid's rate was below all benchmarks except for that based on the minimum rates for accredited service providers.[30]

The relativities between the benchmarks based on Hays data and accredited service providers also do not point to systemic bias in any one data set. For administration, the Hays 40 and Hays 36 benchmarks were largely below those based on accredited service providers.[31] For field workers, by contrast, the Hays 40 and Hays 36 benchmarks were above all the benchmarks for accredited service providers.[32]

16.1.4.2 Proposed fee-based services and benchmarking

Our draft decision is to not accept Ausgrid's proposed prices for fee-based services. We adjust for labour inputs only (see section 16.1.4.1).

Appendix A sets out our draft decision prices for Ausgrid's fee-based services incorporating these adjustments.

As we detailed in section 16.1.4.1, we have adjusted Ausgrid's proposed labour rates to reflect the outcome of our assessment of efficient labour rates. These adjustments have reduced Ausgrid's proposed prices by an average of 4.98% across all proposed fee-based services.[33]

In addition to our labour rates analysis, we benchmarked Ausgrid's fee-based services by comparing its prices and assumptions for its most commonly requested services with other distributor's proposals, as well as comparing the proposed prices against those we approved for the 2019–24 period.

We did not observe large increases in prices when we compared Ausgrid's proposed 2024–25 fee-based services prices with their 2023–24 equivalents (which we set prices for in our previous draft decision). Nearly all services had a less than 10% nominal increase (prior to incorporating our draft decision for labour).

---

28 CutlerMerz, *Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022, p. 14.

29 CutlerMerz, *Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022, p. 12 and 16.

30 Cutler Merz, *Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022, pp. 15 and 17.

31 Although Hays 36 benchmark was higher than that based on the minimum rates for accredited service providers. CutlerMerz, *Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022, p. 12.

32 Although Hays 36 benchmark was higher than that based on the minimum rates for accredited service providers. CutlerMerz, *Att. 9.3.b - NSW ANS labour rates review,* 4 Aug 2022, p. 14.

33 This average is unweighted and does not consider the quantity of services performed.

We also benchmarked the prices of Ausgrid's most commonly requested fee-based services against similar services provided by other electricity distributors. We found that the proposed fee-based services prices tended to benchmark well.

16.1.4.3 Other issues raised in submissions

We received a submission from Origin Energy on Ausgrid's disconnection/reconnection fees and its NMI extinction fees. We also received a submission from the Southern Sydney Regional Organisation of Councils on Ausgrid's proposed public lighting minor capital works which are classified as a quoted service.

Disconnection/reconnection fees

We consider Ausgrid's combined disconnection and reconnection fee is reasonable. While we acknowledge Origin Energy's submission, we agree with Ausgrid that the retailer requesting the disconnection and reconnection service receives the benefits on balance. As we discuss below, retailers also have other options besides requesting the disconnection/reconnection service, depending on the circumstance. We also note that some other distributors also combine the disconnection and reconnection service.

Origin Energy submitted that it does not agree with Ausgrid's practise of combining disconnection and reconnection fees and consider they should be charged independently. Origin submitted that combining the fees could lead to inequitable outcomes. Where the disconnected service is not ultimately reconnected, for example, the disconnecting party incurs an additional cost it is unable to recoup.[34]

In response to Origin Energy's concerns, Ausgrid stated retailers generally request a disconnection either because of non-payment by the retail customer or because a customer moves out. In the former case, the incumbent retailer generally remains the retailer after the customer has paid. In the latter case, the disconnection service protects the requesting retailer from unauthorised consumption before the new customer signs up with a retailer. Ausgrid therefore considers the retailer requesting the disconnection is the beneficiary in disconnection cases and so should incur the cost of both disconnection and reconnection.[35]

Ausgrid also stated there are other options available to the retailer which are more cost-effective. For example, a retailer can request a remote de-energisation from their metering provider where the meter is a smart meter. Ausgrid expects to see a significant decrease in disconnections performed by distributors as smart meter installation accelerates, and remote disconnection functionality is utilised.[36]

We agree with Ausgrid that, on balance, the retailer requesting a disconnection receives the benefits. This includes the benefits of a reconnection in cases where a non-paying customer

---

34 Origin Energy, *Submission - 2024-29 Electricity Determination - NSW and ACT,* May 2023, p. 10.

35 Ausgrid, *IR034 - ANS disconnection/reconnection and NMI extinction fees - 20230607 - Public*, p. 2.

36 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 7.

subsequently pays and is reconnected. As Ausgrid noted, retailers have other options besides disconnection/reconnection. We also expect such options to become more widely available as 2024–29 period progresses due to the AEMC review on smart meters.

NMI extinction fees

Origin noted that Ausgrid's practice of levying NMI extinction fees on retailers may not enable retailers to recover these costs where there are no shared customers. While we acknowledge Origin Energy's concerns, we do not consider Ausgrid's distribution determination is the appropriate forum to assess this issue. These concerns appear to be related to provisions for retail markets under chapter 6B of the NER. We encourage Origin and Ausgrid to discuss these concerns under those provisions.

Origin stated the network charging obligations in chapter 6B of the Rules apply to a distributor and a retailer who have shared customers.[37] Origin stated a customer can request the NMI extinction service through the retailer or an accredited service provider. In the latter case, the retailer may not have visibility of the customer's identity and cannot verify if the customer is a shared customer. Under certain circumstances, the retailer may subsequently not be able to recover the charges for NMI extinction that is levied on it. Origin proposed that Ausgrid or the relevant accredited service provider charge these fees directly to the customers.[38]

Ausgrid responded it is not practical for them to invoice customers directly. Ausgrid stated that in most cases, they do not have a direct billing relationship with the customer and therefore are not in a position to recover these costs directly. The relationship is between the customer and the retailer and therefore the retailer is better placed to pass the charge onto the customer.[39]

Ausgrid further stated a retailer can dispute a charge under the dispute resolution procedures in chapter 6B of the NER if the retailer cannot identify a shared customer. If the dispute is valid, the charge would be reversed for the retailer. Since the NMI extinction fee was introduced in the 2019–24 period, Ausgrid stated it is not aware of the fee being charged in circumstances where there is no shared customer. While Ausgrid understands the hypothetical concern expressed by Origin, the NER already contains mechanisms that adequately deals with such issues.[40]

We agree with Ausgrid that distributors in most, if not all, cases do not have a direct billing relationship with the customer. Retailers generally have the direct relationship with customers, including billing.

---

37 Origin Energy, *Submission - 2024-29 Electricity Determination - NSW and ACT,* May 2023, p. 10.

38 Origin Energy, *Submission - 2024-29 Electricity Determination - NSW and ACT,* May 2023, p. 10.

39 Ausgrid, *IR034 - ANS disconnection/reconnection and NMI extinction fees - 20230607 - Public*, p. 3.

40 Ausgrid, *IR034 - ANS disconnection/reconnection and NMI extinction fees - 20230607 - Public*, p. 3.

We also do not consider that Ausgrid's distribution determination is the appropriate forum to resolve this issue. It would appear from Origin's submission and Ausgrid's response that the issue in question relates to provisions dealing with shared customers under chapter 6B of the NER, which concern retail markets.

Minor capital works

Our draft decision is to accept Ausgrid's proposal to include public lighting minor capital works (minor capital works) as a quoted service.[41] We commend Ausgrid for engaging with councils to improve the transparency of how it charges for minor capital works and the processes through which customers can obtain information regarding their requests.

As noted above, we substituted the hourly rates for the following labour types Ausgrid proposed to use to provide minor capital works: Administration (R1), Technical Specialist (R2), and Field Worker (R4).[42] We accepted Ausgrid's proposed labour rates for Engineer (R3). This adjustment is consistent with our assessment of Ausgrid's proposed labour rates for ancillary network services (see section 16.1.4.1).

Ausgrid clarified the fee for this service will be the quoted hours multiplied by the relevant labour rate.[43] Ausgrid stated the charges recover costs for administration, management and engineering design designated as minor capital works in the Public Lighting Code and Ausgrid's Public Lighting Management Plan. These charges exclude any capital cost which is recovered via public lighting capital annuity charges.[44]

Responding to our issues paper, the Southern Sydney Regional Organisation of Councils (SSROC) stated it broadly supported Ausgrid's public lighting proposal (see section 16.2 for our consideration of Ausgrid's public lighting proposal). One of the reasons for its broad support is Ausgrid making two rounds of revisions to its 2020 minor capital works approach, which lowered the costs for councils.[45] Our draft decision on the labour rates for minor capital works would see these charges lowered further.

These revisions followed council concerns regarding Ausgrid's minor capital works prices when they were revised in 2020, which in turn caused many councils to suspend works.[46]

SSROC's assessment is that Ausgrid's charges for minor capital works for the 2024–29 period would decrease significantly compared to 2020.[47] Ausgrid informed us higher savings

---

41 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 20.

42 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, pp. 20 and 27–28.

43 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, pp. 20 and 27–28.

44 Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 49.

45 SSROC, *Submission - 2024-29 Electricity Determination – Ausgrid,* May 2023, p. 2.

46 SSROC, *Submission - 2024-29 Electricity Determination – Ausgrid,* May 2023, p. 3.

47 SSROC, *Submission - 2024-29 Electricity Determination – Ausgrid,* May 2023, p. 3.

would apply for more complex projects where Ausgrid is able to reduce the complexity of the design.[48]

Besides reduced charges, Ausgrid stated it is responding to councils' requests for greater transparency. Prior to performing the service, Ausgrid stated it will accompany each minor capital works offer with a quote that clearly summarises the number of hours allocated for the project and the relevant approved labour rates.[49]

Further, Ausgrid stated it developed an internal reporting tool that will provide better visibility to councils about project delivery. Upon request, Ausgrid will be able to provide a fast response regarding the delivery stage of the project, expected installation date and any potential risks to delivery.[50]

Ausgrid also commissioned a customer relationship management module, which it expects to introduce in late 2023–24. Ausgrid anticipates it will improve customer experience for minor capital works by providing live visibility of project status, including all relevant communications for each job and electronic acceptance of fees and charges.[51]

SSROC stated Ausgrid's new process appears to be improved with improved transparency and reporting but noted councils are yet to test them.[52]

16.2 Public lighting services

Public lighting services include the provision, construction and maintenance of public lighting assets.[53] This definition includes new technologies such as energy-efficient light emitting diode (LED) luminaires and emerging public lighting technologies such as smart-enabled luminaires.[54]

The main customers of public lighting services are local government councils and jurisdictional main roads departments.

There are a number of different tariff classes and prices for public lighting services. Factors influencing prices for a particular installation include which party funded the installation, and which party is responsible for maintaining and/or replacing installations.

---

48 Ausgrid, *IR013 - Public Lighting - 20230421 - Public*, pp. 1–2.

49 Ausgrid, *IR013 - Public Lighting - 20230421 - Public*, p. 2.

50 Ausgrid, *IR013 - Public Lighting - 20230421 - Public*, p. 2.

51 Ausgrid, *IR013 - Public Lighting - 20230421 - Public*, p. 2.

52 SSROC, *Submission - 2024-29 Electricity Determination - Ausgrid,* May 2023, p. 3.

53 AER, *Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy for the 2024-29 regulatory control period*, July 2022, p. 34.

54 AER, *Final framework and approach for Ausgrid, Endeavour Energy and Essential Energy for the 2024-29 regulatory control period,* July 2022, pp. 34–35.

In NSW, the date of installation also influences public lighting prices. Public lighting prices comprise of capital and operating expenditure (opex) prices for assets installed either pre or post 2009.

16.2.1 Draft decision

We do not accept Ausgrid's initial public lighting proposal. Stakeholders and our analysis raised some matters for discussion on some aspects of the initial proposal. In response, Ausgrid has openly and genuinely engaged on these aspects in order to seek resolution on them for our draft decision. We consider Ausgrid has adequately addressed stakeholder and our concerns. We commend Ausgrid in its engagement approach to deliver outcomes valued by its stakeholders.

Ausgrid submitted an amended model that included the following changes to its proposed public lighting pricing model for post 2009 assets:[55]

- applying the costs of photoelectric cells (PE cells) only once for 17 LED capital prices
- removing warranty costs from the capital prices for two LED services.

Our draft decision is to accept these amendments to Ausgrid's proposed public lighting model for post 2009 assets (see section 16.2.4).

We have also updated the hourly labour rates, WACC and CPI used to derive capital and opex prices for consistency with other aspects of our draft decision on Ausgrid's regulatory proposal (see section 16.2.4.4). We have substituted these draft decision figures as relevant in the public lighting models for both pre 2009 assets and post 2009 assets.[56] We note Ausgrid may amend some prices for post 2009 assets in its revised proposal for councils who opt to accelerate depreciation of these assets (see 16.2.2).

Our draft decision public lighting prices for 2024–25 are set out in Appendix B. These prices are on average 0.7% lower than Ausgrid's initial proposed prices for post 2009 assets (see section 16.2.2.1 for our note on the proposed prices). For subsequent years, the X factor is set at zero and the prices increase by CPI following the control mechanism formula.

16.2.2 Ausgrid's proposal

Ausgrid's public lighting customers supported rationalising the number of public lighting tariffs compared to the 2019–24 period, provided they do not significantly reduce cost reflectivity and are clearly explained.[57]

---

55 Ausgrid, *Att. 9.1.b - Public lighting model FY24-29,* 31 Jan 2023 – Public.

56 See the respective 'Draft decision changes' tabs in AER – Draft decision – Ausgrid 2024-29 – Public lighting model – Public – September 2023; AER – Draft decision – Ausgrid 2024-29 – Public lighting – pre-2009 fixed charge model – Public – September 2023.

57 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, pp. 7–8 and 20.

For opex prices, Ausgrid proposed to group similar luminaires together and calculate one maintenance price for each group. This reduces the number of opex prices from 50 to 6. Ausgrid also proposed 4 new opex prices for new LED luminaires with smart controllers. These will have lower prices than the equivalent category of luminaire without a smart controller.[58]

Similarly, Ausgrid's proposal rationalised its capital price list for legacy brackets from 26 to 6 categories, while adding five new prices for new bracket categories included in the LED rollout.[59] Ausgrid did not propose to rationalise its capital price list for luminaires due to councils' feedback that luminaire prices should be cost reflective.[60]

Consistent with the 2019–24 period, Ausgrid developed its proposed capital prices for the pre 2009 asset base using a building block model (pre 2009 model) and using an annuity model for post 2009 assets (post 2009 model).[61]

Ausgrid stated the value of its pre 2009 asset base will be fully or mostly depreciated during the 2024–29 period. However, poles will not be fully depreciated until 2044, requiring some councils to continue paying a small annual charge for these assets.[62]

Ausgrid consulted on the option for councils to accelerate payment of the remaining pre 2009 capital values by the end of the 2024–29 period.[63] Ausgrid received responses on this option from 14 councils with 11 councils responding positively. Ausgrid therefore only applied accelerated depreciation to the 11 councils that responded positively.[64] Ausgrid stated it is working with the relevant councils to finalise these arrangements for inclusion in the revised proposal.[65]

16.2.2.1 Correction of errors in the public version of public lighting model

During our consultation, Ausgrid detected errors in several post 2009 capital prices for brackets and luminaires in the public version of its public lighting model (published on our website).[66]

---

58 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, p. 22.

59 Ausgrid - Att. 9.1 - Public lighting services - 31 Jan 2023, pp. 20–21.

60 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, p. 21.

61 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, p. 166.

62 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, p. 18.

63 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, p. 8.

64 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, p. 18.

65 AER, *File note - Ausgrid - Public lighting proposal for 2024-29 regulatory control period.* 29 March 2023.

66 Ausgrid, *Att. 9.1.b - Public lighting model FY24-29*, 31 Jan 2023 – Public. Published on https://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/ausgrid-determination-2024%E2%80%9329/proposal#step-86040.

Ausgrid stated the error occurred when redacting information in the public version of the model. Zero traffic control costs were calculated for brackets and luminaires on major roads, which resulted in some incorrect prices.[67]

Ausgrid stated the other files it submitted to the AER contain the correct proposed prices for public lighting including the public version the indicative pricing schedule.[68] Attachment 9.1, which detailed Ausgrid's public lighting proposal, also contains the correct proposed prices.[69]

Ausgrid re-submitted the public version of the public lighting model with corrected prices.[70] These corrected prices are between 3.8% and 15.1% (or $1.47 and $10.13) higher than the prices in the original public version.

Ausgrid communicated this error to the Southern Sydney Regional Organisation of Councils (SSROC). Ausgrid stated that its consultation with SSROC prior to submission was based on the correct version of the model. SSROC appreciated the notification and noted the corrections still result in price reductions for the affected services.[71]

Ausgrid also communicated the oversight to the attendees of its public lighting session on 16 May, where Ausgrid presented price impacts based on the public version of the model (with some incorrect prices). Ausgrid received no responses.[72]

16.2.3 Assessment approach

To determine prices for public lighting services we assessed Ausgrid's public lighting model, considered historical data and benchmarked proposed costs against other NEM distributors and against independent data and information as relevant. Specifically, we assessed proposed labour price growth rates, other input assumptions and stakeholder submissions to derive proposed public lighting charges.

We consulted with Ausgrid and council representatives through information requests and meetings to clarify and potentially resolve outstanding issues.

---

67 Ausgrid, *information request AGD IR#028 – Opex calculation in the public lighting model – 20230516 – PUBLIC,* 16 May 2023, p. 2.

68 Ausgrid, *information request AGD IR#028 – Opex calculation in the public lighting model – 20230516 – PUBLIC,* 16 May 2023, p. 2.

69 Ausgrid, *Att. 9.1 - Public lighting services,* 31 Jan 2023, p. 18.

70 Ausgrid, *information request AGD IR#028 – Opex calculation in the public lighting model – 20230516 – PUBLIC*, 16 May 2023, pp. 2–3.

71 Ausgrid, *information request AGD IR#028 – Opex calculation in the public lighting model – 20230516 – PUBLIC,* 16 May 2023, p. 3; Ausgrid, *FOLLOW-UP IR: Ausgrid – information request AGD IR#028 – Opex calculation in the public lighting model, 20230516 – PUBLIC*, 13 June 2023.

72 Ausgrid, *information request AGD IR#028 – Opex calculation in the public lighting model – 20230516 – PUBLIC,* 16 May 2023, p. 3; Ausgrid, *FOLLOW-UP IR: Ausgrid – information request AGD IR#028 – Opex calculation in the public lighting model, 20230516 – PUBLIC,* 13 June 2023.

We also engaged Marsden Jacob to quality-assure public lighting models to ensure they are internally consistent, accurate and fit-for-purpose.

We updated model parameters where appropriate after taking the factors described above into consideration.

16.2.4 Reasons for draft decision

We consider Ausgrid's public lighting proposal is reasonable.

Ausgrid's initial proposal reduced prices for most public lighting services (on average 6.5% lower than 2024–25 prices in nominal terms). Drivers for the decreases include updated contract prices for luminaires and reduced opex requirements due to the LED rollout.

SSROC stated it broadly supported Ausgrid's public lighting proposal. While it does not necessarily agree with all of Ausgrid's assumptions and inputs, SSROC stated a complex pricing model must ultimately be considered in totality. SSROC is satisfied that the overall outcome is a fair and reasonable proposal.[73]

SSROC and the Consumer Challenge Panel (CCP26) also stated Ausgrid's engagement for its public lighting proposal was transparent and collaborative.[74]

Below, we consider specific aspects of Ausgrid's public lighting proposal.

16.2.4.1 Amendments in calculation of LED capital prices

During ongoing consultation with SSROC, Ausgrid identified two inputs that were not correctly applied in the post 2009 model submitted as part of its regulatory proposal.[75] Ausgrid amended these calculations, which we consider is reasonable, resulting in slight price decreases for a number of capital prices.[76]

First, Ausgrid applied the costs of PE cells twice in calculating the capital prices of 17 LED luminaires in the initial proposal model. Ausgrid amended the model such that the costs of PE cells are applied only once for these capital prices.[77] This amendment reduced the 2024–25 capital prices for those 17 LED luminaires by $1.87 in nominal terms.

---

73 SSROC, Submission - 2024-29 Electricity Determination – Ausgrid, May 2023, p. 2.

74 SSROC, Submission - 2024-29 Electricity Determination – Ausgrid, May 2023, p. 2; Consumer Challenge Panel 26, *Advice to the AER - 2024-29 Electricity Determination – Ausgrid,* May 2023 updated June 2022, p. 12.

75 Ausgrid, *RE: Ausgrid – information request AGD IR#028 – Opex calculation in the public lighting model – 20230516 – PUBLIC,* 20 July 2023.

76 Ausgrid, *Att. 9.1.b - Public lighting model FY24-29 - 31 Jan 2023 – Public; Ausgrid - Att. 9.1.b - Public lighting model FY24-29*, 31 Jan 2023 – Confidential.

77 Specifically, Ausgrid removed the cost of a PE cell from the following cells of the public lighting model: 'I_CAPEX - Stock Costs'!D124:D128, D130, D132, D134, D136, D139, D147:D149, D155, D160, and D164:D165.

Second, the model incorrectly applied the 5% warranty to the capital prices for 2 luminaires (1 x 29W LED and LED Trial). Ausgrid amended formulae in the model so it does not apply the 5% warranty uplift to these types of luminaires.[78] This amendment reduced the 2024–25 capital prices for those two luminaires by $2.07 in nominal terms.

16.2.4.2 Labour rates, WACC and CPI

We have also amended the following inputs into Ausgrid's public lighting model. These amendments are consistent with our draft decision on other relevant aspects of Ausgrid's regulatory proposal.

Labour rates

We substituted the labour rates in Ausgrid's public lighting model with our maximum benchmark rates for field workers.[79]

This reflects our draft decision not to accept Ausgrid's proposed hourly rate for field workers during business hours as part of our assessment of Ausgrid's ancillary network services proposal (see section 16.1.4.1). Ausgrid stated it used the rates for field workers—consistent with its proposal for ancillary network services—as an input in its public lighting model.[80]

Rate of return

We substituted the pre-tax nominal WACC and pre-tax real WACC inputs in Ausgrid's pre 2009 and post 2009 public lighting models, respectively, to be consistent with our draft decision on Ausgrid's rate of return (see attachment 3).

Inflation

We have substituted the forecast inflation input for the 2024–25 year in Ausgrid's pre 2009 and post 2009 public lighting models with the RBA forecast inflation for December 2023 as a placeholder in this draft decision.[81] We will update this for actual inflation in our final decision consistent with our final decision on Ausgrid's control mechanisms.

In addition, we substituted the inflation figures in the pre 2009 public lighting model for the 2023–24 regulatory year. We included the actual inflation for this year as defined in the control mechanism that applied to Ausgrid in the 2019–24 period.[82]

---

78 Specifically, 'C_Capex Build Up'!R15:R189.

79 Specifically, the base rate with no on-costs and overheads, and no vehicles.

80 Ausgrid, *Att. 9.1 - Public lighting services*, 31 Jan 2023, p. 25.

81 https://www.rba.gov.au/publications/smp/2023/aug/forecasts.html

82 AER, *Final decision - Ausgrid distribution determination 2019-24 - Attachment 13 - Control mechanisms,* March 2021, p. 12.

16.2.4.3 Upfront capital costs

SSROC submitted Ausgrid should provide councils the option to fund the capital cost of LEDs and other upgrades. SSROC stated distributors' cost of capital as allowed by the AER are generally higher than councils' cost of capital.[83]

After further engagement, Ausgrid offered councils the option to fund category V[84] LED rollout upfront. We understand Ausgrid and councils are still discussing certain aspects of this funding option at the time of this draft decision.

We encourage Ausgrid and councils to continue engaging on this funding option to arrive at a mutually beneficial outcome.

We also note the outcome of this engagement does not affect other aspects of this draft decision on Ausgrid's public lighting proposal.

16.2.4.4 Energy-only/rate 3 tariff

Our draft decision is that Ausgrid's position not to reintroduce an energy-only tariff at this time is reasonable. However, we are open to revisiting this issue in the future should industry establish the relevant frameworks that would better facilitate such tariffs.

SSROC submitted councils should have access to an energy-only tariff (which Ausgrid previously provided and referred to as a "rate 3" tariff). The introduction of smart controls allow both accurate location determination via a GPS chip and allow accurate energy consumption assessment via a metering chip.[85]

SSROC stated that compelling councils to install separate supply and metering or to use permanent unmetered supply billing, adds unnecessary and unproductive costs to public lighting. SSROC submitted re-introducing a rate 3 tariff would also be a key step to facilitating greater contestability.[86]

In response, Ausgrid noted there are currently no legislative requirements for data auditing and safety measures to ensure data integrity. Reintroducing a rate 3 tariff could present rate recovery issues with potentially inaccurate information from smart controls and challenges in retrospectively resolving such issues.[87]

---

83 SSROC, *Submission - 2024-29 Electricity Determination – Ausgrid*, May 2023, May 2023, p. 3.

84 This refers to public lighting services on roads where the visual requirements of motorists are dominant.

85 SSROC, *Submission - 2024-29 Electricity Determination – Ausgrid, May 2023, May 2023*, p. 3.

86 SSROC, *Submission - 2024-29 Electricity Determination – Ausgrid, May 2023*, May 2023, p. 3.

87 Ausgrid, *information request AGD IR#040 – Questions on public lighting following from stakeholder submissions – 20230613 – PUBLIC*, 23 June 2023, p. 3.

Ausgrid stated new legislation allowing smart controllers to be used as meters would assist in overcoming these challenges and enable Ausgrid to reconsider an energy-only tariff. Until the new legislation is introduced, however, Ausgrid does not support such a tariff.[88]

We consider Ausgrid's position not to reintroduce a rate 3 tariff at this time is reasonable.

Given its status as an emerging technology, the industry is still consulting on the regulatory framework regarding smart technologies and their role in metrology. We consider it is reasonable that such frameworks be first established before requiring metrology applications of smart technologies, such as a rate 3 tariff.

16.2.4.5 Introducing new services during a regulatory control period

Our draft decision is that Ausgrid must price any new public lighting services it introduces during the 2024–29 period according to the control mechanism for quoted services. Ausgrid should only introduce new services because customers want them (customer driven). In proposing new services, we require that Ausgrid be able to demonstrate customer support for such prices and services.

SSROC submitted Ausgrid and councils should be able to jointly introduce new technology during the 2024–29 period without waiting for the AER's annual pricing review. New public lighting technologies are changing rapidly and are helping councils with public lighting through improved reliability, lower energy consumption and lower costs. SSROC encouraged the AER to approve a transparent model parties can use to facilitate agreement on prices for new public lighting services between annual pricing reviews.[89]

We acknowledge new technologies have the potential to bring significant efficiencies to public lighting services. We therefore encourage distributors to deploy such technologies—with associated pricing—where they can provide benefits to customers.

Ausgrid is making good progress relative to other distributors with regard to such technologies. Its public lighting proposal for the 2024–29 period includes capital and opex prices for smart controllers, for example. Ausgrid stated some councils have already signed contracts to roll out smart lighting, with other councils also showing interest.[90]

Given the pace of change, however, public lighting customers could potentially request technologies during the 2024–29 period that Ausgrid has not priced in its proposal.

We are open to Ausgrid introducing pricing for new public lighting technologies during the 2024–29 period where there is demand for such technologies.

---

88 Ausgrid, *information request AGD IR#040 – Questions on public lighting following from stakeholder submissions – 20230613 – PUBLIC*, 23 June 2023, p. 3.

89 SSROC, *Submission - 2024-29 Electricity Determination – Ausgrid,* May 2023, p. 3.

90 AER, *File note - Ausgrid - Public lighting proposal for 2024-29 regulatory control period,* 29 March 2023.

We consider Ausgrid can price new technologies in accordance with the control mechanism formula for quoted services should it introduce such services during the 2024–29 period (see attachment 14 section 14.5.3). We consider this is consistent with our previous distribution determinations. We stated new alternative control services introduced during a regulatory control period with characteristics that are the same or essentially the same as other alternative control services should be priced as a quoted service until the next regulatory control period.[91]

Ausgrid can therefore use the pricing for existing smart technologies (see appendix B) as the basis for pricing new public lighting technologies introduced during the 2024–29 period.

Of course, councils may request emerging technologies whose characteristics may not be "the same or essentially the same" as any of Ausgrid's other alternative control services. In such cases, customer support is vital before Ausgrid introduces them during the 2024–29 period.

In addition, Ausgrid must be able to demonstrate that the price it charges a customer for new technologies reflects the efficient costs of those services, in accordance with the control mechanism formula (see attachment 14 section 14.5.3).

It is also worth considering that quoted services generally apply to one-off services. So the control mechanism poses no administrative issues where, for example, a council agrees to pay for the installation of new technologies up-front.

However, some councils may prefer to pay for new technologies over its economic or useful life. We consider this is possible under the control mechanism for quoted services.

This could involve determining the up-front costs based on the control mechanism formula as a first step. The distributor would then calculate an annual fee using a method appropriate to the service. We consider an annuity approach using Ausgrid public lighting model for post 2009 assets—with modifications only as required—is reasonable for this purpose.

On SSROC's suggestion, we do not consider it is appropriate for us to "approve" a model that Ausgrid and public lighting customers must use to determine prices of new technologies introduced in the 2019–24 period. Nevertheless, we consider Ausgrid's public pricing model for post 2009 assets is also reasonable for this purpose. Parties can make modifications to this model as required.

Further information about quoted services and introducing new prices within the 2024–29 period are set out in attachment 14 section 14.5.2.

---

91 For examples, see AER, *Final Decision - SA Power Networks distribution determination 2020-25 - Attachment 13 - Control mechanisms - November 2021 – Clean, pp. 17–18; AER - Final decision - Endeavour Energy distribution determination 2019-24 - Attachment 15 - Alternative control services,* April 2019, pp. 7–8.

16.2.4.6 LED cleaning

We are satisfied Ausgrid's proposed 6-yearly cleaning cycle for LEDs are an appropriate assumption for the 2024–29 period. However, we encourage Ausgrid, other distributors and other stakeholders to collaborate on updating the Australian standards in the coming years. We will have regard to such updated standards in future distribution determinations.

For Endeavour Energy's distribution determination, Western Sydney Regional Organisation of Councils (WSROC) submitted a 10 year cleaning cycle is more appropriate than 6 years.[92] On the other hand, the Campbelltown City Council and Wollondilly Shire Council appeared to suggest a 10-year maintenance cycle is too long as it raises compliance and safety issues.[93]

Responding to our information request, Ausgrid recommended a 6-year inspection cycle for all luminaires on its network as its inspection cycle consists of multiple tasks besides cleaning. Additional tasks include inspecting electrical wiring and validating asset information.[94]

Ausgrid stated it based the 6-year cycle on Australian standards, recommendations from luminaire manufacturers, impact of local environment and public safety requirements. Ausgrid stated it represents best value for money and allows Ausgrid to identify issues before they become more serious and impact both maintenance costs and safety.[95]

We are satisfied with Ausgrid's proposed 6-year cleaning cycle. We observe all NSW distributors will apply a 6 year cycle for the 2024–29 period.

For further consideration of this topic, please refer to our draft decision for Endeavour Energy.[96]

---

92 WSROC, *Submission - 2024-29 Electricity Determination - Endeavour*, May 2023, pp. 7–10.

93 Wollondilly Shire Council, *Submission - 2024-29 Electricity Determination - Endeavour Energy,* May 2023, p. 2.

94 Ausgrid, *information request AGD IR#040 – Questions on public lighting following from stakeholder submissions – 20230613 – PUBLIC*, 23 June 2023, p. 5.

95 Ausgrid, *information request AGD IR#040 – Questions on public lighting following from stakeholder submissions – 20230613 – PUBLIC*, 23 June 2023, pp. 5–7.

96 AER, *Draft Decision Attachment 16 - Alternative control services - Endeavour Energy - 2024-29 Distribution revenue proposal - September 2023*, section 16.2.4.8.

A Ancillary network services prices

Table A.1 X factors for each year of the 2024–29 regulatory control period for ancillary network services, draft decision (per cent)

	2025–26	2026–27	2027–28	2028–29
X factor	-1.3959%	-0.8524%	-0.7232%	-0.9381%

Note: We do not apply an X factor for 2024–25 because we set 2024–25 ancillary network services prices in this determination. To be clear, the labour escalators in this table are operating as de facto X factors. Therefore, positive labour escalators are represented as negative in this table and vice versa. X factors in this table are rounded to 4 decimal places but distributors should use the raw X factors in the draft decision model.

Table A.2 Fee-based ancillary network services prices for 2024–25, draft decision ($2024–25)

Service	Service category	Initial proposal	Draft decision
Metering site establishment	Metering and related ancillary network services	$78.23	$68.70
Special meter reading	Metering and related ancillary network services	$14.73	$14.44
Type 5-6 meter test simple	Metering and related ancillary network services	$541.48	$530.70
Type 5-6 meter test complex	Metering and related ancillary network services	$834.47	$817.86
Types 5-7 non-standard Meter data services	Metering and related ancillary network services	$21.04	$20.62
Emergency maintenance of failed metering equipment not owned by the network	Metering and related ancillary network services	$238.50	$233.75
Off peak conversion	Metering and related ancillary network services	$200.55	$196.56
Pillar/Pole top disconnection completed - Includes reconnection	Metering and related ancillary network services	$350.97	$343.99
Pillar/Pole top disconnection - Site visit only	Metering and related ancillary network services	$470.57	$461.20
Reconnection - additional charge when requested outside normal business hours	Metering and related ancillary network services	$145.31	$142.42

Service	Service category	Initial proposal	Draft decision
Recovery of debt collection costs - Dishonoured transactions	Metering and related ancillary network services	$37.11	$36.38
Attendance at customers' premises to perform a statutory right where access is prevented	Metering and related ancillary network services	$114.59	$112.31
Vacant property disconnection completed - Includes reconnection	Metering and related ancillary network services	$206.99	$202.87
Vacant property - Site visit only	Metering and related ancillary network services	$52.83	$51.78
Disconnection completed - Includes reconnection	Metering and related ancillary network services	$211.04	$206.84
Disconnection - Site visit only	Metering and related ancillary network services	$63.74	$62.47
Disconnection completed - Technical/ advanced - Includes reconnection	Metering and related ancillary network services	$354.90	$347.84
Correction of metering and market billing	Metering and related ancillary network services	$68.08	$59.79
Final read after type 5 meter equipment removed	Metering and related ancillary network services	$90.68	$83.09
Type 5 and 6 CT testing	Metering and related ancillary network services	$1,243.41	$1,218.67
Type 5 and 6 CT recovery	Metering and related ancillary network services	$300.83	$294.85
Metering site alteration	Metering and related ancillary network services	$40.85	$35.87
NMI Extinction	Metering and related ancillary network services	$40.85	$35.87
Distributor arranged outage for purpose of replacing metering - Not complete	Metering and related ancillary network services	$184.44	$178.46
Distributor arranged outage for purpose of replacing metering - Simple complete	Metering and related ancillary network services	$508.40	$495.97
Distributor arranged outage for purpose of replacing metering - Not completed -2nd visit	Metering and related ancillary network services	$328.21	$319.36

Service	Service category	Initial proposal	Draft decision
Distributor arranged outage for purpose of replacing metering - Complex complete	Metering and related ancillary network services	$718.47	$701.86
Distributor arranged outage for replacing a meter - additional charge when requested outside normal business hours (weekday)	Metering and related ancillary network services	$100.28	$98.28
Distributor arranged outage for replacing a meter - additional charge when requested outside normal business hours (weekend)	Metering and related ancillary network services	$200.55	$196.56
Administration of contestable works - General	Design	$1,230.93	$1,081.00
Adminstration of pioneer schemes	Design	$1,639.70	$1,628.59
Design information – Simple	Design	$758.08	$758.08
Design certification – General	Design	$2,403.48	$2,403.48
Technical assessment - Applications or relocations	Connection application	$524.31	$508.89
Connection Offer – Basic	Connection application	$23.15	$20.33
Connection Offer – Standard	Connection application	$68.08	$59.79
Site Inspection	Connection application	$611.43	$611.43
Commissioning assets – Simple	Network commissioning and decomissioning	$2,134.39	$2,038.62
Commissioning assets – Standard	Network commissioning and decomissioning	$4,007.07	$3,891.35
Simple network access permit,clearance to work or notification to work	Access permits, oversight and facilitation	$1,648.24	$1,531.20
Network access permit or clearance to work - cancellation - simple	Access permits, oversight and facilitation	$638.69	$593.34
Network access permit or clearance to work - cancellation - complex	Access permits, oversight and facilitation	$1,462.82	$1,358.94
Development application approvals - Simple	Access permits, oversight and facilitation	$68.08	$59.79

Service	Service category	Initial proposal	Draft decision
Development application approvals - complex	Access permits, oversight and facilitation	$206.03	$191.40
Notification of arrangements	Notifcation of arrangements	$571.13	$554.54
Supply of conveyancing information	Network related property services	$70.59	$63.36
Level 2 ASP works (NOSW) - A Grade	Inspection services	$42.28	$37.55
Level 2 ASP works (NOSW) - B Grade	Inspection services	$75.25	$68.18
Level 2 ASP works (NOSW) - C Grade	Inspection services	$240.07	$221.30
ASP level 1/2 - Individual authorisation - Initial	Authorisations of ASPs	$145.82	$140.10
ASP level 1/2 - Individual authorisation - Maintain	Authorisations of ASPs	$62.15	$58.83
ASP level 1 - Company Authorisation - Initial	Authorisations of ASPs	$1,062.21	$1,044.91
ASP level 2 - Company Authorisation - Initial	Authorisations of ASPs	$621.30	$612.29
ASP level 1/2- Company Authorisation - Maintain	Authorisations of ASPs	$194.01	$191.63
ASP Level 3 - Authorisation/Re-authorisation (Bi-annual Fee)	Authorisations of ASPs	$170.21	$149.48
Network related access/compliance training - Half day/per student	Training	$193.96	$185.14
Network related access/compliance training - Full day/per student	Training	$379.40	$362.80
Small Light - installation	Security lighting	$529.81	$519.26
Medium Light - installation	Security lighting	$529.81	$519.26
Large Light - installation	Security lighting	$529.81	$519.26
Small Light - monthly charge	Security lighting	$61.06	$58.59

Service	Service category	Initial proposal	Draft decision
Medium Light - monthly charge	Security lighting	$78.67	$75.51
Large Light - monthly charge	Security lighting	$154.71	$148.52

Table A.3 Quoted service hourly labour rates (business hours) for 2024–25, draft decision ($2024–25)

	Initial proposal (business hours)	Draft decision (business hours)	Initial proposal (after hours, implicit rate)[97]	Draft decision (after hours)
Administrative officer R1	$136.17	$119.58	$238.29	$209.27
Technical specialist R2	$206.03	$191.40	$360.55	$334.95
Engineer R3	$248.55	$248.55	$434.96	$465.03
Field worker R4	$200.55	$196.56	$350.96	$343.98
Senior engineer R5	$296.77	$296.77	$519.35	$558.02
Engineering manager R6	$343.31	$343.31	$600.80	$604.42

Table A.4 Non-exhaustive list of ancillary network services provided on a quotation basis

Description of service	Description of service
Network tariff change request - Bulk tariff transfers requested by a customer (R1)	Notification of arrangements (R1)

[97] Ausgrid did not explicitly propose these overtime rates. Rather, they noted that we set the maximum overtime labour rate at 1.75 times the relevant ordinary rate (see section 16.1.4.1) and considered this cap is reasonable. See Ausgrid, *Att. 9.3 - Ancillary network services,* 31 Jan 2023, p. 23.

Description of service	Description of service
Maintenance and testing of customer metering access points (R2)	Notification of arrangements (R3)
Maintenance and testing of customer metering access points (R3)	Property Tenure (R1)
Maintenance and testing of customer metering access points (R4)	Property Tenure (R3)
Distributor arranged outage for purpose of replacing metering - Additional activities (R4)	Property Tenure (R5)
Facilitation of metering related works supporting advanced meter roll-out (R4)	Rectification of illegal connections (R4)
Administration of contestable works - Additional (R1)	Fitting of tiger tails (torapoli covers) (R4) + torapoli hire charges
Design information - Standard (R3)	High load route assessment/escort (R4)
Design information - Complex (R5)	Temporary power (R4)
Design Certification - Other (R3)	Bushfire mitigation works (R4)
Design Certification - Other (R5)	Neutral integrity test (R4)
Preliminary Enquiry (R3)	Termination of a 11 kV cable at a zone substation (R4)
Preliminary Enquiry (R5)	Termination of a sub-transmission cable at a major/sub-transmission substation (R2)
Connection Offer - Negotiated (R5)	Termination of a sub-transmission cable at a major/sub-transmission substation (R4)
Planning Studies (R3)	Termination of a sub-transmission cable at a major/sub-transmission substation (R5)
Planning Studies (R5)	Complex customer initiated asset relocation (R2)
Technical Support - Permanently Unmetered Supply (PUMS) (R3)	Complex customer initiated asset relocation (R4)

Description of service	Description of service
Registered participant support (R5)	Complex customer initiated asset relocation (R5)
Commissioning assets - Complex (R2)	Traffic control (R4)
Commissioning assets - Complex (R3)	Substation disconnect and reconnect (R4)
Commissioning assets - Complex (R4)	Network Compliance Activities - Level 1 ASP works (R2)
Decommissioning assets (R2)	Re-inspection – Level 1 ASP works (R2)
Decommissioning assets (R3)	Re-inspections - Level 2 ASP works (R1)
Decommissioning assets (R4)	Re-inspections - Level 2 ASP works (R2)
Complex network access permit or clearance to work (R2)	Investigate, review & implementation of remedial actions associated with ASP's connection works (R5)
Complex network access permit or clearance to work (R3)	Service size >100A and mandatory inspections (R1)
Complex network access permit or clearance to work (R4)	Service size >100A and mandatory inspections (R2)
Install / remove overhead network earths or low voltage shorts (R4)	Re-inspection of electrical contractor works (R1)
Access - standby person (R4)	Re-inspection of electrical contractor works (R2)
Access - confined spaces entry permit (R2)	Engineering consultancy (R6)
Access - confined spaces entry permit (R4)	Approved materials list application (R5)
Process and project facilitation (R3)	Approved materials list application (R6)
Process and project facilitation (R5)	Public lighting minor capital works (R1)
Specialist services (R5)	Public lighting minor capital works (R2)
Facilitation of activities within clearances of distribution and transmission assets (R3)	Public lighting minor capital works (R3)

Description of service	Description of service
Facilitation of activities within clearances of distribution and transmission assets (R4)	Public lighting minor capital works (R4)
Facilitation of activities within clearances of distribution and transmission assets (R5)	

B Public lighting prices

Table B.1 Opex and capital prices for connections, brackets, support

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
O/U	Opex - Connections	$101.08	$102.28	1.19%
UGR1	Opex - Connections	$92.65	$93.76	1.19%
UGR2	Opex - Connections	$33.69	$34.09	1.19%
0.5	Capital - Bracket	$6.65	$6.51	-2.16%
0.6	Capital - Bracket	$6.65	$6.51	-2.16%
1.0	Capital - Bracket	$8.17	$7.99	-2.16%
1.2	Capital - Bracket	$8.17	$7.99	-2.16%
1.5	Capital - Bracket	$8.17	$7.99	-2.16%
2.0	Capital - Bracket	$8.17	$7.99	-2.16%
2.5	Capital - Bracket	$8.17	$7.99	-2.16%
3.0	Capital - Bracket	$8.17	$7.99	-2.16%
3.5	Capital - Bracket	$11.53	$11.28	-2.16%
4.0	Capital - Bracket	$18.52	$18.12	-2.16%
4.5	Capital - Bracket	$18.52	$18.12	-2.16%
5.0	Capital - Bracket	$18.52	$18.12	-2.16%
6.0	Capital - Bracket	$23.02	$22.52	-2.16%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
6.5	Capital - Bracket	$23.02	$22.52	-2.16%
7.0	Capital - Bracket	$23.02	$22.52	-2.16%
8.0	Capital - Bracket	$23.02	$22.52	-2.16%
C4	Capital - Bracket	$10.67	$10.43	-2.28%
T1	Capital - Bracket	$9.82	$9.59	-2.29%
T2	Capital - Bracket	$15.66	$15.31	-2.24%
T2A	Capital - Bracket	$15.66	$15.31	-2.24%
T3	Capital - Bracket	$22.69	$22.19	-2.22%
T3A	Capital - Bracket	$22.69	$22.19	-2.22%
T4	Capital - Bracket	$22.69	$22.19	-2.22%
T5	Capital - Bracket	$22.69	$22.19	-2.22%
T6	Capital - Bracket	$22.69	$22.19	-2.22%
T7	Capital - Bracket	$32.89	$32.16	-2.20%
Bracket - Minor Road (Cat P) - Short	Capital - Bracket	$9.86	$9.65	-2.16%
Bracket - Minor Road (Cat P) - Medium	Capital - Bracket	$15.66	$15.32	-2.16%
Bracket - Major Road (Cat V) - Short	Capital - Bracket	$12.81	$12.52	-2.26%
Bracket - Major Road (Cat V) - Medium	Capital - Bracket	$23.21	$22.69	-2.21%
Bracket - Major Road (Cat V) - Long	Capital - Bracket	$28.92	$28.28	-2.20%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
COLUMN 10.5M-13.5M	Capital - Support	$437.20	$427.76	-2.16%
COLUMN 14M-15M	Capital - Support	$437.20	$427.76	-2.16%
COLUMN 2.5M-3.5M	Capital - Support	$382.24	$373.98	-2.16%
COLUMN 4-6.5M ORION WATE	Capital - Support	$393.02	$384.53	-2.16%
COLUMN 4M-6.5M	Capital - Support	$410.39	$401.53	-2.16%
COLUMN 7M-10M	Capital - Support	$401.64	$392.96	-2.16%
DECORATIVE COLUMN	Capital - Support	$421.57	$412.47	-2.16%
DEDICATED SUPPORT & COND	Capital - Support	$389.92	$381.50	-2.16%
MACQUARIE STANDARD	Capital - Support	$385.07	$376.75	-2.16%
MAST 15.5M-30M	Capital - Support	$407.30	$398.50	-2.16%
ORION DOUBLE ARM	Capital - Support	$373.87	$365.80	-2.16%
POLO 10.5M DECORATIVE 2M	Capital - Support	$397.33	$388.75	-2.16%
ROCKS STANDARD	Capital - Support	$399.09	$390.47	-2.16%

Table B.2 Opex and capital prices for traditional luminaire

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
MBF1x1000	Opex	$62.23	$62.64	0.66%
MBF1x125	Opex	$36.19	$36.45	0.72%
MBF1x250	Opex	$49.26	$49.59	0.67%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
MBF1x400	Opex	$49.26	$49.59	0.67%
MBF1x42	Opex	$32.27	$32.51	0.74%
MBF1x50	Opex	$36.22	$36.48	0.72%
MBF1x80	Opex	$34.71	$34.96	0.73%
MBF2x80	Opex	$43.75	$44.05	0.69%
MBI1x100	Opex	$46.21	$46.53	0.69%
MBI1x1000	Opex	$48.11	$48.46	0.71%
MBI1x150	Opex	$46.21	$46.53	0.69%
MBI1x250	Opex	$45.87	$46.18	0.69%
MBI1x400	Opex	$45.86	$46.17	0.69%
MBI1x70	Opex	$34.11	$34.36	0.74%
MBI1x70 II	Opex	$36.53	$36.82	0.77%
SON1x100	Opex	$55.25	$55.61	0.66%
SON1x1000	Opex	$56.57	$56.95	0.67%
SON1x150	Opex	$54.59	$54.95	0.66%
SON1x150 AR	Opex	$54.59	$54.95	0.66%
SON1x250	Opex	$54.90	$55.26	0.66%
SON1x250 AR	Opex	$54.90	$55.26	0.66%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
SON1x400	Opex	$55.04	$55.40	0.66%
SON1x400 AR	Opex	$55.04	$55.40	0.66%
SON1x50	Opex	$40.54	$40.83	0.71%
SON1x600	Opex	$56.57	$56.95	0.67%
SON1x70	Opex	$40.20	$40.48	0.71%
SON2x250	Opex	$76.60	$77.06	0.61%
SON2x400	Opex	$76.86	$77.33	0.61%
SON4x250	Opex	$115.83	$116.50	0.57%
SON4x600	Opex	$121.90	$122.63	0.60%
TF1x20	Opex	$38.43	$38.70	0.71%
TF1x40	Opex	$63.27	$63.67	0.64%
TF1x80	Opex	$38.45	$38.72	0.71%
TF2x14 T5	Opex	$38.45	$38.72	0.71%
TF2x20	Opex	$49.29	$49.62	0.67%
TF2x26	Opex	$38.45	$38.72	0.71%
TF2x40	Opex	$38.45	$38.72	0.71%
TF4x20	Opex	$38.43	$38.70	0.71%
TF4x40	Opex	$38.45	$38.72	0.71%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
1000W SON	Capital	$108.54	$107.47	-0.98%
1000W SON FLOODLIGHT	Capital	$88.81	$87.93	-0.99%
1000W/1500W MBI FLOODLIG	Capital	$120.28	$119.10	-0.98%
100W MBI	Capital	$40.78	$40.35	-1.06%
100W MBI FLOODLIGHT	Capital	$44.18	$43.71	-1.05%
100W SON	Capital	$43.43	$42.98	-1.05%
100W SON - PLAIN	Capital	$43.43	$42.98	-1.05%
100W SON FLOODLIGHT	Capital	$63.82	$63.17	-1.02%
125W MBF	Capital	$26.34	$26.09	-0.94%
125W MBF - BOURKE HILL	Capital	$81.42	$80.65	-0.94%
125W MBF - PARKVILLE	Capital	$102.51	$101.54	-0.94%
125W MBF - PLAIN	Capital	$26.34	$26.09	-0.94%
125W/250W MBF FLOODLIGHT	Capital	$36.36	$36.02	-0.94%
150W SON	Capital	$43.82	$43.36	-1.05%
150W SON - PARKVILLE	Capital	$118.23	$117.07	-0.98%
150W SON - PARKWAY 1	Capital	$52.26	$51.72	-1.03%
150W SON ACTIVE REACTOR	Capital	$64.39	$63.74	-1.02%
150W SON FLOODLIGHT	Capital	$51.29	$50.76	-1.04%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
150W/250W MBI FLOODLIGHT	Capital	$78.73	$77.95	-1.00%
250W MBF	Capital	$43.04	$42.59	-1.05%
250W MBF - PARKWAY 1	Capital	$52.26	$51.72	-1.03%
250W SON	Capital	$43.82	$43.36	-1.05%
250W SON - PARKVILLE	Capital	$127.69	$126.44	-0.98%
250W SON - PARKWAY 1	Capital	$52.26	$51.72	-1.03%
250W SON ACTIVE REACTOR	Capital	$64.39	$63.74	-1.02%
250W SON FLOODLIGHT	Capital	$51.29	$50.76	-1.04%
250W SON GEC 'BOSTON 3'	Capital	$110.10	$109.02	-0.98%
2X14W TF - T5 PIERLIGHT	Capital	$34.47	$34.14	-0.94%
2x14W TF - T5 PIERLITE M	Capital	$34.47	$34.14	-0.94%
2x250W SON FLOODLIGHT	Capital	$72.15	$71.43	-1.01%
2x400W SON FLOODLIGHT	Capital	$143.84	$142.43	-0.97%
2x80W MBF - BOURKE HILL	Capital	$70.97	$70.31	-0.94%
400W MBF	Capital	$34.48	$34.10	-1.08%
400W MBF - B2229	Capital	$34.48	$34.10	-1.08%
400W MBF - PARKWAY 1	Capital	$69.18	$68.48	-1.01%
400W MBF FLOODLIGHT	Capital	$75.96	$75.20	-1.00%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
400W MBI FLOODLIGHT	Capital	$59.81	$59.20	-1.02%
400W SON	Capital	$47.60	$47.11	-1.04%
400W SON - PARKWAY 1	Capital	$52.26	$51.72	-1.03%
400W SON ACTIVE REACTOR	Capital	$72.15	$71.43	-1.01%
400W SON FLOODLIGHT	Capital	$51.29	$50.76	-1.04%
42W MBF SYLVANIA SUB ECO	Capital	$31.68	$31.38	-0.94%
4x250W SON	Capital	$81.20	$80.39	-1.00%
4x600W SON	Capital	$123.58	$122.36	-0.98%
50W MBF	Capital	$23.92	$23.69	-0.94%
50W MBF - BOURKE HILL	Capital	$70.97	$70.31	-0.94%
50W MBF - NOSTALGIA	Capital	$70.97	$70.31	-0.94%
50W MBF - PLAIN	Capital	$23.92	$23.69	-0.94%
50W SON	Capital	$23.14	$22.92	-0.94%
50W SON - NOSTALGIA	Capital	$36.04	$35.71	-0.94%
50W SON - PLAIN	Capital	$23.14	$22.92	-0.94%
70W MBI	Capital	$29.89	$29.61	-0.94%
70W MBI - MACQUARIE DEC.	Capital	$115.25	$114.17	-0.94%
70W MBI II	Capital	$26.34	$26.09	-0.94%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
70W MBI II AERO	Capital	$27.31	$27.06	-0.94%
70W SON	Capital	$26.24	$26.00	-0.94%
70W SON - BOURKE HILL	Capital	$79.36	$78.61	-0.94%
70W SON - NOSTALGIA	Capital	$74.01	$73.32	-0.94%
70W SON - PARKVILLE	Capital	$92.80	$91.93	-0.94%
70W SON - PLAIN	Capital	$26.24	$26.00	-0.94%
70W SON BOLLARD	Capital	$56.53	$56.00	-0.94%
70W SON FLOODLIGHT	Capital	$31.62	$31.33	-0.94%
80W MBF - BEGA+CURVE BRA	Capital	$115.87	$114.78	-0.94%
80W MBF - BOURKE HILL	Capital	$54.37	$53.86	-0.94%
80W MBF - NOSTALGIA	Capital	$69.79	$69.14	-0.94%
80W MBF - PLAIN	Capital	$22.81	$22.60	-0.94%
80W MBF - REGAL/FLINDERS	Capital	$126.26	$125.07	-0.94%
80W MBF BOLLARD	Capital	$45.01	$44.59	-0.94%
80W MBF TOORAK	Capital	$63.70	$63.10	-0.94%
TH FLOODLIGHT	Capital	$129.54	$128.27	-0.98%

Table B.3 Opex and capital prices for LED and smart controller

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
LED TRIAL	Opex - LED	$23.25	$23.44	0.82%
LED1x100	Opex - LED	$31.69	$31.94	0.78%
LED1x17	Opex - LED	$23.25	$23.44	0.82%
LED1x200	Opex - LED	$31.69	$31.94	0.78%
LED1x22	Opex - LED	$23.25	$23.44	0.82%
LED1x25 GE	Opex - LED	$23.25	$23.44	0.82%
LED1x28	Opex - LED	$23.25	$23.44	0.82%
LED1x29	Opex - LED	$23.25	$23.44	0.82%
LED1x298	Opex - LED	$31.69	$31.94	0.78%
LED1x33	Opex - LED	$23.25	$23.44	0.82%
LED1x42	Opex - LED	$23.25	$23.44	0.82%
Smart Controller (Licence and maintenance fee)	Opex - LED	$5.85	$5.92	1.19%
Luminaire - Decorative	Opex - LED	$24.94	$25.15	0.84%
Luminaire - Floodlight	Opex - LED	$31.69	$31.94	0.78%
Luminaire - Major (Cat V) road - smart controller installed	Opex - LED	$22.43	$22.62	0.83%
Luminaire - Minor (Cat P) road - smart controller installed	Opex - LED	$17.97	$18.13	0.89%
Luminaire - Floodlight - smart controller installed	Opex - LED	$22.43	$22.62	0.83%
Luminaire - Decorative - smart controller installed	Opex - LED	$19.66	$19.84	0.92%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
10W LED PH RRW	Capital – LED	$54.93	$54.93	0.01%
16W LED PH	Capital - LED	$55.08	$55.08	0.01%
17W LED ALD	Capital - LED	$51.10	$51.10	0.01%
17W LED ALD RRW	Capital - LED	$51.10	$51.10	0.01%
17W LED ALD RRW ZHAGA	Capital - LED	$53.80	$53.80	0.01%
17W LED ALD ZHAGA	Capital - LED	$53.80	$53.80	0.01%
17W LED SY RRW	Capital - LED	$68.87	$67.01	-2.70%
1x17W LED	Capital - LED	$65.02	$63.16	-2.86%
20W LED GE	Capital - LED	$58.13	$56.27	-3.20%
1x22W LED	Capital - LED	$67.43	$65.57	-2.76%
1x25W LED GE	Capital - LED	$58.13	$56.27	-3.20%
25W LED PH	Capital - LED	$55.23	$55.23	0.01%
28W LED SY	Capital - LED	$71.75	$69.89	-2.59%
1x29W LED	Capital - LED	$43.38	$40.92	-5.66%
33W LED LRL	Capital - LED	$78.32	$76.47	-2.37%
34W LED BOURKE HILL	Capital - LED	$156.61	$156.62	0.01%
40W LED ALD	Capital - LED	$56.25	$54.39	-3.31%
40W LED ALD ZHAGA	Capital - LED	$57.25	$57.25	0.01%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
42W LED LRL	Capital - LED	$95.99	$94.04	-2.03%
49W LED PH	Capital - LED	$59.14	$59.14	0.01%
49W LED PH ZHAGA	Capital - LED	$67.41	$67.42	0.01%
50W LED SY PT	Capital - LED	$203.24	$201.39	-0.91%
58W LED ALD	Capital - LED	$83.64	$83.65	0.01%
58W LED ALD ZHAGA	Capital - LED	$86.64	$86.65	0.01%
70W LED PH FLOOD	Capital - LED	$86.87	$86.79	-0.09%
74W LED ALD	Capital - LED	$93.77	$93.69	-0.09%
74W LED ALD ZHAGA	Capital - LED	$96.77	$96.69	-0.08%
76W LED PH	Capital - LED	$70.32	$70.24	-0.12%
76W LED PH ZHAGA	Capital - LED	$78.60	$78.52	-0.10%
100W LED ALD	Capital - LED	$127.88	$125.94	-1.52%
100W LED SY CT	Capital - LED	$221.33	$219.49	-0.83%
100W LED SY PT	Capital - LED	$218.31	$216.47	-0.84%
110W LED SY FLOOD	Capital - LED	$129.14	$129.06	-0.06%
120W LED PH FLOOD	Capital - LED	$95.44	$95.36	-0.08%
140W LED PH	Capital - LED	$75.59	$75.51	-0.11%
140W LED PH ZHAGA	Capital - LED	$83.86	$83.78	-0.10%

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
150W LED SY FLOOD	Capital - LED	$134.70	$134.63	-0.06%
150W LED SY PT	Capital - LED	$233.39	$231.55	-0.79%
152W LED PH FLOOD	Capital - LED	$96.20	$96.12	-0.08%
170W LED ALD	Capital - LED	$102.62	$102.54	-0.08%
170W LED ALD ZHAGA	Capital - LED	$105.62	$105.54	-0.07%
175W LED SY FLOOD	Capital - LED	$153.35	$153.28	-0.05%
200W LED ALD	Capital - LED	$127.88	$125.94	-1.52%
224W LED PH	Capital - LED	$87.92	$87.84	-0.09%
224W LED PH ZHAGA	Capital - LED	$96.20	$96.12	-0.08%
258W LED ALD	Capital - LED	$115.22	$115.14	-0.07%
258W LED ALD ZHAGA	Capital - LED	$117.19	$115.24	-1.66%
298W LED ALD	Capital - LED	$184.13	$182.19	-1.05%
600W LED ALD HM	Capital - LED	$409.86	$409.90	0.01%
COLONIAL ROCKS SPHERE	Capital - LED	$126.49	$126.50	0.01%
LED TRIAL	Capital - LED	$43.38	$40.92	-5.66%
Spare Luminaire 1	Capital - LED	$0.00	$0.00	
Spare Luminaire 2	Capital - LED	$0.00	$0.00	
Spare Luminaire 3	Capital - LED	$0.00	$0.00	

Charge Reference	Charge Group	Initial proposal	Draft decision	Difference (%)
Spare Luminaire 4	Capital - LED	$0.00	$0.00	
Spare Luminaire 5	Capital - LED	$0.00	$0.00	
Smart Controller - materials and installation	Capital - Smart Controller	$50.21	$50.22	0.01%
Smart Controller - material price only	Capital - Smart Controller	$22.46	$22.47	0.01%
Smart Controller - material price adjusted for PE Cell	Capital - Smart Controller	$20.60	$20.60	0.01%

Shortened forms

Term	Definition
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
capex	capital expenditure
CCP26	Consumer Challenge Panel, sub-panel 26
CPI	consumer price index
F&A	framework and approach
LED	light-emitting diode
NEM	national electricity market
NER	national electricity rules
NMI	national meter identifier
opex	operating expenditure
PE cell	photoelectric cell
RBA	Reserve Bank of Australia
RIN	regulatory information notice
WACC	weighted average cost of capital