DRAFT DECISION
Essential Energy
Distribution determination

2019 to 2024

Attachment 15 – Alternative control services

November 2018

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on the distribution determination that will apply to Essential Energy for the 2019–24 regulatory control period. It should be read with all other parts of the draft decision.

The draft decision includes the following attachments:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency benefit sharing scheme

Attachment 9 – Capital expenditure sharing scheme

Attachment 10 – Service target performance incentive scheme

Attachment 11 – Demand management incentive scheme

Attachment 12 – Classification of services

Attachment 13 – Control mechanism

Attachment 14 – Pass through events

Attachment 15 – Alternative control services

Attachment 16 – Negotiated services framework and criteria

Attachment 17 – Connection policy

Attachment 18 – Tariff structure statement

Contents

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
capex	capital expenditure
CCP/CCP10	Consumer Challenge Panel (sub-panel 10)
CPI	consumer price index
distributor	distribution network service provider
EBSS	efficiency benefit sharing scheme
NEL	national electricity law
NEM	national electricity market
NEO	national electricity objective
NER	national electricity rules
NSP	network service provider
opex	operating expenditure
PPI	partial performance indicators
PTRM	post-tax revenue model
RAB	regulatory asset base
RFM	roll forward model
RIN	regulatory information notice
WACC	weighted average cost of capital

15 Alternative control services

This attachment sets out our draft decision on the prices Essential Energy (Essential) is allowed to charge customers for the provision of alternative control services (ancillary network services, public lighting and metering).

Alternative control services are customer specific or customer requested services and so the full cost of the service is attributed to that particular customer. We set service specific prices to provide a reasonable opportunity to enable 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.

Revenue from alternative control services represents around 6.7 per cent of Essential's total regulated revenue.[1]

15.1 Draft decision

Our draft decision is to classify ancillary network services, metering services and public lighting as alternative control services, as set out in our final Framework and Approach. Our draft determination also maintains our position, as set out in our final Framework and Approach, to apply caps on the prices of individual services in the next regulatory control period to all alternative control services. We consider the benefit of capping individual services prices is that it promotes cost reflective pricing which outweighs any detriment from increased administration costs.

Our draft decision is to not accept some of Essential's proposed fees for ancillary network services because we do not consider proposed labour rates are efficient. Our substitute fees for ancillary network services are set out in Table 15-6

Our draft decision is to accept the charging structure of Essential's public lighting proposal but to not accept proposed charges. Our substitute public lighting charges are set out in Table 15-9.

Our draft decision on Essential's metering proposal is, again, to accept the proposed charging structure. However, we consider Essential's metering opex proposal did not reflect efficient costs. Our substitute metering charges are set out in Table 15-13.

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

- Section 15.4 – Ancillary Network Services
- Section 15.5 – Public lighting
- Section 15.6 – Metering

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[1] Essential Energy, *RIN response*, work sheet 3.1.

15.2 Essential Energy's proposal

Essential proposed 150 ancillary network service charges for the 2019–24 regulatory period. These include charges for:

- Design-related services
- Connection application related services
- Contestable network commissioning and decommissioning
- Access permits, oversight and facilitation
- Notices of Arrangement and Completion
- Network related property services
- Site establishment services
- Rectification works to maintain network safety
- Inspection services
- Authorisation of ASPs.

Essential proposed to reclassify several services from unclassified network services to alternative control services (ancillary network services) for the 2019–24 regulatory period. This reclassification is motivated by the AER's Distribution Ring-fencing Guideline.

Essential proposed fees for the majority of services reclassified as alternative control services. However, for some such services the charge is determined by an hourly rate per job—quoted services. Essential also introduced a number of new services.

Essential's proposed new services and reclassified services are listed in Appendix A.

To develop charges for each of its fee based ancillary network services Essential proposed a cost-build up approach. This approach builds up labour rates from base pay rates to fully-loaded rates including all labour on-costs and overheads. Essential's final charges are based on the labour required to perform the service and the time taken to perform the service. Overtime rates are applied to enable charges to also be provided for overtime services.

Essential proposed that in the case where a new service is identified within a regulatory period and falls within an existing service group classification, but for which no charge has been approved, it would develop changes in the same way as for other services in the same grouping.

For public lighting, Essential proposed to move to component based pricing to promote transparency and reduce complexity. For the 2019–24 control period, Essential proposed reductions in public lighting revenue due to revenue smoothing arrangements and operating costs savings resulting from LED uptake. Other key features of Essential's public lighting proposal include:

- funding safety programs - Removal of choke boxes, pot belly and triangular columns, control wires
- increased penetration of LED lighting technology
- setting performance targets with reference to the revised NSW Public Lighting Code – Essential may seek to revise its public lighting proposal if the newly revised and binding code published by NSW Government mandates new performance levels compared to their projections forecasted on their proposal.

Essential proposed to continue four year bulk lamp replacements for traditional luminaires and eight years for LED technology (accounting for 10 years as the payback period for LEDs).

For metering services Essential did not propose capex expenditure on new meters during the 2019–24 regulatory control period, due to no longer being responsible for providing new meters. However, Essential did propose $11.67 million ($2018–19) for indirect capital related to non-system assets.[2] It also proposed that while its meter operating costs will decrease during the 2019–24 regulatory control period, they will increase on a per customer basis due to diseconomies of scale.[3]

15.3 Assessment approach

The National Electricity Rules (NER) are less prescriptive and afford more discretion for determining the control mechanism for alternative control services than those set out for standard control services. For example, there is no requirement to establish a full building block model to set the revenue to be earned from the services as there is for standard control services. The control mechanism may be either a control on the price of the service, or the revenue to be earned from the service, or both. As a general principle we attempt to regulate alternative control services in a lighter handed manner than standard control services.

Our determination must state the basis of the control mechanism to apply to alternative control services.[4] Our decision on the form of control mechanism for alternative control services must be in accordance with our final Framework and Approach. The formulae that give effect to the form of control must be as set out in the Framework and Approach unless we consider that unforeseen circumstances justify a departure.

In deciding on a control mechanism for alternative control services, we must have regard to potential competition in the relevant market, administrative costs, applicable regulatory arrangements, consistency between regulatory arrangements, and any other relevant factor. The control mechanism for alternative control services may use elements of the building block model for standard control services but there is no

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2 Essential Energy, *Attachment 17.1 Type 5 and 6 Metering Services Proposal 2019-24*, April 2018, p. 8.

3 Essential Energy, *Attachment 17.1 Type 5 and 6 Metering Services Proposal 2019-24*, April 2018, p. 6.

4 NER, cl. 6.2.6(b).

requirement to apply the building block model exactly as it is set out in Part C of the NER.

The different regulatory requirements for alternative control services compared to standard control services recognise their different characteristics. Standard control services are central to electricity supply and are relied on by all customers. In contrast, alternative control services are customer specific. Accordingly our approach to assessing alternative control services is different to that of standard control services.

For ancillary network services we undertook a bottom up cost assessment. Labour costs are the major input in the cost build-up of prices for ancillary network services. Therefore, our assessment focusses on comparing Essential's proposed labour rates against maximum total labour rates which we consider efficient. Where Essential's proposed labour rates exceed our maximum reasonable labour rates we apply our maximum reasonable labour rates to determine charges.

We assessed Essential's proposed maximum total labour rates. We also assessed the proposed times taken to perform the service as well as the escalators and allocators applied by Essential as these are also cost inputs which determine the final charge for some services. Our assessment of these inputs is informed by benchmarking against inputs applied by other distributors and based on recommendation of our consultant Marsden Jacob Associates (Marsden Jacob).

For the quoted services component of ancillary network services, we compared Essential's proposed labour rates (inclusive of on-costs and overheads) to the corresponding maximum labour rate recommended by Marsden Jacob to determine whether the proposed labour rate is efficient.

For public lighting we assessed the bottom up costing approach proposed by Essential by evaluating various key parameters. We used benchmarking analysis to evaluate capital and operational expenditure assumptions, overheads and failure rates in the proposed public lighting model. We referenced recommendations by Marsden Jacob for our assessment on input costs. We assessed the validity of data and calculations provided in the public lighting model. We considered issues raised by stakeholders in submissions and incorporated these into our decision. We assessed the robustness of the submitted public lighting model and considered the impacts of component based pricing on tariff outcomes.

We assessed Essential's metering proposal by analysing the metering Post Tax Revenue Model, studying historic data and benchmarking costs against other NEM distributors. In particular we assessed the opex costs on a category basis and how these costs have trended over time. We also relied on the recommendations of Marsden Jacob for labour rates when assessing metering.

15.4 Ancillary network services

Ancillary network services share the common characteristics of being services provided to individual customers on an 'as needs' basis (e.g. relocating poles or temporary supply at a customer's request.). Ancillary network services involve work on, or in relation to, parts of Essential's distribution network. They are therefore, similar to

common distribution services in that only Essential may perform these services in its distribution area.

For the purposes of this draft determination, we refer to the service groups 'fee based services' and 'quoted services' collectively as a single group called 'ancillary network services'.

Prices for fee based services are predetermined based on the cost of providing the service and the average time taken to perform it. 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 and service requested.

15.4.1 Ancillary network services—Draft decision

Our draft decision is to classify ancillary network services as alternative control services. This is consistent with our final Framework and Approach and Essential's proposed classification of ancillary network services.

Form of control - Ancillary network services

Our draft decision is to apply a price cap form of control for fee based and quoted services. This is consistent with our final Framework and Approach and Essential's proposed form of control for fee based and quoted services. Under a price cap form of control, we set a schedule of prices for the first year of the regulatory period, 2019–20. For 2020–21 and subsequent years the prices for fee based services are determined by adjusting the previous year's prices by the formula set out in Attachment 13 – Control mechanisms.

Consistent with previous decisions we also applied a labour escalator as the X Factor. Our proposed X Factors in this draft decision are set out in Table 15-8.

Fee based services - Ancillary network services

Our draft decision is to accept Essential's proposed ancillary network fee based services. We consider the proposed fee based services are consistent with our Final Framework and Approach.

However, we do not consider the proposed fees and hourly rates for all of Essential's ancillary network services reflect efficient costs. Instead we have substituted charges we consider efficient. These are set out in Table 15-6.

We accept Essential's proposed pricing for its customer requested security lighting services. We consider Essential's proposed charges for the following customer requested lighting services reflect efficient costs:

- Provision of security lighting

- Nightwatch 250W
- Nightwatch 400W

- Provision of Luminaire Glare Shield.

Essential proposed to separate its disconnection and reconnection fees for the 2019–24 period, as a result of customer consultation which showed a preference for these fees to be expressed separately. We accept Essential's proposed separation of disconnection and reconnection fees, but not the proposed charges.

Quoted services - Ancillary network services

Our draft decision is to not accept Essential's proposed labour rates for quoted services. Essential's proposed maximum hourly rates (including on costs and overheads) for quoted services are higher than those considered efficient by our consultant Marsden Jacob.

Our draft decision for Essential's hourly labour rates for quoted services is set out in Table 15-1. These hourly labour rates are maximum rates (which include on costs and overheads) that Essential should apply for the calculation of charges for ancillary network services offered on a quotation basis.

Our draft decision approved rates include the application of Essential's proposed overtime escalation rate of 171 per cent, which falls within the range suggested by Marsden Jacob.[5]

Table 15-1 AER draft decision - maximum quoted service hourly rates ($2019–20)

Essential labour category	Essential's proposed total hourly rate (base plus on-costs, overhead, non-system capital and profit)	AER labour category[1]	AER draft decision - maximum hourly rate
Admin (NH)	130.65	Admin (NH)	**104.77**
Admin (AH)	237.20	Admin (AH)	**178.10**
Paralegal (NH)	178.51	Admin (NH)	**104.77**
Paralegal (AH)	324.28	Admin (AH)	**178.10**
Indoor technical officer (NH)	182.96	Technical specialist (NH)	**157.15**
Indoor technical officer (AH)	332.15	Technical specialist (AH)	**267.15**
Outdoor technical officer (NH)	217.92	Technical specialist outdoor	**177.36**

[5] Marsden Jacob Associates, *Review of Alternative Control Services - Advice to Australian Energy Regulator - PUBLIC version*, September 2018, p. 11.

Essential labour category	Essential's proposed total hourly rate (base plus on-costs, overhead, non-system capital and profit)	AER labour category[1]	AER draft decision - maximum hourly rate
		(NH)	
Outdoor technical officer (AH)	367.11	Technical specialist outdoor (AH)	**301.51**
Engineer/Professional (NH)	245.11	Senior Engineer (NH)	**196.44**
Engineer/Professional (AH)	416.48	Senior Engineer (AH)	**333.94**
Field worker (NH)	176.42	Field Worker (NH)	**151.45**
Field worker (AH)	291.77	Field Worker (NH)	**257.47**

Source: Essential attachment 17.7 ANS Model - ANS Pricing Model 19_24 output.

Note: While Essential presents 2019–20 labour rates and charges in its regulatory proposal they are actually in $2018–19 and Essential notes that inflation will need to be applied. For the purposes of our analysis we have escalated labour rates to 2019–20 by using CPI of 2.45 per cent.

NH = Normal Hours; AH = After Hours

Ancillary network services introduced during the regulatory period

Essential proposed to price new alternative control services introduced during the regulatory period as per similar services already classified.[6] Essential premised this proposal by noting that ring–fencing obligations may, if a new service is treated as unregulated, prevent Essential from offering the service.

While we agree that new services which clearly fall within an existing service group classification may be treated as regulated services (such that ring–fencing obligations do not apply), our draft decision differs from Essential's proposal.

If Essential introduces new services during the regulatory period which are classified as alternative control services based on Attachment 12 – Classification of services, then we consider these new services should be priced on the same basis as a quoted service until they can be properly assessed for the subsequent regulatory period. The price of any new service introduced within the subsequent regulatory period should be disclosed through the annual pricing regulatory process.

6 Essential Energy, *2019–24 Regulatory proposal*, p. 99.

15.4.2 Ancillary network services - Reasons for draft decision

Fee based and quoted services

We do not accept Essential's proposed charges for fee based ancillary network services and proposed labour rates for quoted services.

For ancillary network services we consider it important to review each of the services with specific focus on the key inputs in determining the charge for the service. We consider the key inputs in determining an efficient level of fees for ancillary network services include the underlying labour rates, the time taken to perform the service and any material and vehicle costs associated with providing the service.

In considering these inputs we had regard to maximum reasonable benchmarks for such services developed by Marsden Jacob. By inputting the maximum reasonable benchmarks for labour rates, vehicle costs and times taken to perform services, we were able to assess Essential's proposed charges for fee based services against a 'maximum reasonable' charge.

Figure 15-1 Summary of Marsden Jacob's report to the AER - Review of Alternative Control Services

We engaged Marsden Jacob to provide advice in relation to estimates of reasonable maximum total labour rates for the distributors currently undergoing resets as well as benchmarking of certain fee-based services. Marsden Jacob also provided advice on public lighting and metering input costs.

Marsden Jacob found that although each of the distributors reviewed used different category names and descriptions, the types of labour used to deliver ancillary network services broadly fell into the following five categories:

- administration
- technical services
- engineers
- field workers and
- senior engineers.[1]

Using these categories Marsden Jacob developed benchmark labour rates based on *Hays 2017 Energy sector and office support salary data* against which the efficiency of the proposed labour rates could be assessed.

In assessing the reasonableness of proposed labour rates, Marsden Jacob 'normalised' the rates provided by each business and separated them into 'raw' labour rates, on-costs and overheads.[2]

1. Raw labour costs – based on the Hays salary data and the figures used included a 8.5 per cent escalator.[3]
2. On-costs – to cover both basic leave entitlements and standard on-costs.[4]
3. Overheads – to cover all additional costs. Overall Marsden Jacob recommended a maximum overhead rate of 61 per cent Marsden Jacob also accepted the inclusion of an explicit profit margin, however where these are identified this allocation was benchmarked within the overall overhead allowance.[5]

Based on its study, Marsden Jacob recommended the maximum reasonable benchmark labour rates as set out below. Marsden Jacob recommended that we apply these maximum rates to any services it did not benchmark, to arrive at a maximum rate.

Table 15-2 Maximum total hourly rates (base plus on-costs plus overheads), $2018–19

	Ausgrid	Endeavour	Essential	Evoenergy[1]	TasNetworks[2]	Power and Water
Admin	$102.26	$102.26	$102.26	$108.37	$90.36	$89.94
Technical specialist	$153.39	$153.39	$153.39	$153.00	$144.56	$179.87
Engineer	$191.74	$191.74	$191.74	$191.25	$168.65	$167.88
Field Worker[3]	$147.83	$147.83	$147.83	$147.50	$140.45	$169.89
Senior Engineer	$210.91	$210.91	$210.91	$210.37	$198.75	$203.86

Source: Marsden Jacob Associates, Review of Alternative Control Services - Advice to Australian Energy Regulator - PUBLIC version, September 2018, Tables 5 and 7, pp. 8, 10.

Notes: [1] For Evoenergy, Marsden Jacob applied Sydney rates for all labour categories except for Administration as Hays only reports Administration rates for Canberra.

[2] For TasNetworks, Marsden Jacob used the lowest rate for Sydney, Canberra and Darwin for Administration and lower of Sydney and Darwin for other staff as there are no Hays figures for Tasmania. Marsden Jacob has applied the lowest rate as Tasmania has the lowest Average Weekly Earnings rates of any capital city in Australia.

[3] Field worker rate includes an allowance of $20 for a vehicle as an additional overhead.

The maximum hourly rates include the highest of the Hays salary rates for each labour category. Marsden Jacob noted that while these are reasonable maximum rates, more efficient rates may be gained by reference to a different point in the Hays salary bands. For our next distribution determination for these distributors, Marsden Jacob recommended the AER consider whether it is appropriate to reduce the maximum rates to reflect efficiency frontier benchmarks rather than the highest of the Hays rates for each labour category.[6] We note Marsden Jacob's recommendation in the context of future determinations. For the purposes of this draft decision we consider the maximum reasonable rates provided by Marsden Jacob should be considered efficient for our purposes.

References:

1. Marsden Jacob Associates, Review of Alternative Control Services - Advice to Australian Energy Regulator - PUBLIC version, September 2018, p. 3.
2. Ibid., p.3.
3. Ibid., p.4.
4. Ibid., pp.5-6.
5. Ibid., pp.7-8.
6. Ibid., p. 8.

Regulatory treatment of overheads and cost allocation

In its discussion of maximum overhead rates, Marsden Jacob noted that capping the overhead rate may have unintended consequences for the broader cost allocation methodology.[7]

We reviewed the objectives of our cost allocation guideline. The cost allocation method sets out the principles and policies for attributing costs to, or allocating costs between, the categories of distribution services a distributor provides. Hence, in approving a distributor's cost allocation method, we approve the methodology it uses to allocate costs. This does not equate to accepting proposed costs.

Approval of actual costs is subject to applicable requirements set out in the NER. Proper application of the cost allocation method does not indicate whether the distributor's expenditure, including overheads, is at efficient levels or otherwise reflects the requirements of the NER, having regard to the revenue and pricing principles and the national electricity objective. By extension, proper application of the cost allocation method does not indicate whether the resulting overhead rates represent efficient levels.

Fee based services

To calculate charges for fee based services Essential used a cost build up approach. The underlying costs include labour and time taken to perform the service.

Essential's proposed six labour categories to perform ancillary network services. These include:

a. Administration
b. Paralegal
c. Technical officers (indoor and outdoor)
d. Professional
e. Field worker
f. Contractors.

To determine the direct labour unit cost for each task, the employee class hourly rates were multiplied by the completion time for each task. The direct labour unit cost of all tasks relevant to the specific service was then totalled to derive the overall direct labour unit rate for each service.

In addition Essential included fleet costs and overhead in the build-up of its total charge. Essential's overhead rate is the product of its explicit overhead rate, its non-system charge and its margin. The breakdown of these as follows:

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[7] Marsden Jacob Associates, *Review of Alternative Control Services - Advice to Australian Energy Regulator - PUBLIC version*, September 2018, p. 8.

- fleet costs of $19.73, based on calculating the average hourly rate of vehicle commonly used in the service[8]
- overheads
- non-system costs (cost of providing depots, information technology and communications)
- a rate of return.

To assess Essential's proposed fees for ancillary network services we compared Essential's cost of labour against the maximum labour rates recommended by Marsden Jacob. Based on this analysis we consider Essential's proposed total labour rates to exceed the maximum reasonable benchmark labour rates.

We have substituted labour rates we consider efficient to calculate charges for ancillary network services. This results in decreases to many of the fee based ancillary network service charges of between 12 per cent and 20 per cent, with some charges for ancillary networks services decreasing less and some more depending on the type(s) of labour used to perform the service. Our draft decision on fees for ancillary network services is set out in Table 15-6. Note that we have escalated Essential's proposed 2019–20 fees by an inflation rate for the purposes of comparing fees as Essential's proposal notes that inflation still needs to be applied.

Security Lighting

Essential's proposed prices for security lighting are lower than prices proposed by Endeavour and Ausgrid, although it does charge a separate usage charge which is equivalent to the public lighting usage charge. On this basis, we accept Essential's proposed prices. We note Essential expects to earn very little revenue from this service (around $5,000 per annum).[9]

Change to wording of service

In a Ring-fencing waiver decision, we rejected Essential Energy's application for a ring-fencing waiver for "provider of last resort" services. Instead we issued them with a reclassification waiver. Accordingly we amended Essential's description of some services as set out in Table 15-3.

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[8] Essential included fleet costs only in the build up of the Outdoor technical specialist, Professional and Field worker labour rates.

[9] Essential Energy, *Response to Information Request #032 - Alternative Control Services - Security Lighting*, August 2018.

Table 15-3 AER amendments to service descriptions

Service	Essential Proposed	AER change
1. Premises Connection Assets (NEW)		
	1.1 Part A. Design and construction of customer funded premises connection assets, where a customer is unable to secure the service from the contestable market. The service will only be offered where it has been validated that there is no alternate supplier via Essential Energy's 'Provider of Last Resort process	1.1 Part A. Design and construction of customer funded premises connection assets
2. Extensions (NEW)	2.1 Part A. Design and construction of customer funded extensions, where a customer is unable to secure the service from the contestable market. The service will only be offered where it has been validated that there is no alternate supplier via Essential Energy's 'Provider of Last Resort process	2.1 Part A. Design and construction of customer funded extensions
3. Augmentations (NEW)	3.1 Part C. Design and construction of customer funded network augmentation, where a customer is unable to secure the service from the contestable market. The service will only be offered where it has been validated that there is no alternate supplier via Essential Energy's 'Provider of Last Resort process	3.1 Part C. Design and construction of customer funded network augmentation
1. Non-Standard Connection Services (NEW)	1.1 Part C. Inspection, Maintenance & Testing of Customer Assets, where a customer is unable to secure the service from the contestable market. The service will only be offered where it has been validated that there is no alternate supplier via Essential Energy's 'Provider of Last Resort process.	1.1 Part C. Inspection, Maintenance & Testing of Customer Assets.

15.5 Public lighting

Public lighting services include the design, financing, procurement and construction of public lighting installations. It also includes maintenance of public lighting assets. Essential's area has more than 160,000 public lights servicing 80 customers including councils, community groups and government associations.

We have maintained public lighting as an alternative control service because a defined group of customers– local councils and road authorities–purchase these services.

Essential's public lighting charges comprise pre 2009 and post 2009 capital charges and operational maintenance charges.

In terms of capital charges, the pre 2009 assets were developed using a building block approach. Those are depreciated in accordance with the building block model. Capital charges are set according to when the asset was either installed by the distribution network service provider or gifted to them and the type of asset (pole, luminaire,

bracket or outreach). The pre 2009 asset base is not being added to. Rather, it is depreciating over time and will eventually depreciate to zero value.

Capital charges for post 30 June 2009 assets are determined using an annuity capital charge approach. The post 2009 asset base is subject to investment as older assets are replaced and new public lighting services are provided. The size of the post 2009 asset base depends on the balance of investment and depreciation. In terms of maintenance costs, parameters such as asset failures rates, spot and bulk maintenance cycles, labour rates and traffic controller assumptions influence the operational charges for public lighting services.

15.5.1 Public lighting - Draft decision

Our draft decision is to accept Essential's adoption of component based pricing for its public lighting services. We consider component based pricing supports transparency in Essential's cost recovery, benefiting customers. We also accepted Essential's proposed labour rates as these are efficient when compared to rates recommended by Marsden Jacob.

With respect to Essential's proposed public lighting charges, we consider some inputs and assumptions used by Essential to determine proposed charges do not reflect efficient costs for the provision of public lighting services. On this basis we do not accept Essential's proposed public lighting charges. We also note submissions raised a number of issues which impact proposed charges.

In response to stakeholder submissions on its public lighting proposal, Essential:[10]

- acknowledged errors and lack of transparency in its public lighting proposal
- proposed to undertake a new consultation process with public lighting stakeholders, incorporating AER staff as observers
- committed to developing and submitting a revised public lighting proposal in the context of its broader revised regulatory proposal.

We consider Essential's response to submissions demonstrates a practical and transparent way forward. We support Essential's proposed approach.

Our draft decision is necessarily based on information submitted with the public lighting model submitted already with its broader 2019–24 regulatory proposal. For the purpose of making a draft decision we have substituted the following parameters in Essential's public lighting model:

- spot replacement hours
- other maintenance costs
- additional material costs for bulk repair

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[10] Essential Energy, letter to AER in response to submission, 7 September 2018.

- pole design capital charge
- lamp failure rates.

We also substituted Essential's proposed WACC with ours, consistent with our WACC applied to standard control services.

Form of control

We maintain our final Framework and Approach position to apply price caps for individual public lighting services as the form of control. This means a schedule of prices is set for the first year. For the following years the previous year's prices are adjusted by CPI. Due to smoothening of prices, the X factor is zero. The control mechanism formula is set out in Attachment 13 of this draft decision.

15.5.2 Public Lighting - Reasons for draft decision

We do not approve Essential's proposed public lighting charges with regards to WACC, failure rates and other input assumptions. Our draft decision substitute charges provide reductions of 8.8 per cent for capex charges and 12.4 per cent for opex charges compared to Essential's proposed charges.

Submissions

We received submissions from stakeholders supporting component based pricing. Orana Regional Organisation of Councils (OROC), for example, submitted that this approach simplifies variations in tariff classes and provides more cost reflective approach which is appropriate.

Councils also supported rollout of LED technology and called for faster removal of obsolete technologies. NSW Roads and Maritime Services (RMS) submitted that LED lighting is a lower cost option compared to legacy lighting.

Essential proposed an LED uptake target of 25 per cent by 2019 and up to 90 per cent by June 2024. While councils generally submitted support for the LED rollout, OROC described Essential's proposal as ambitious, noting that the Asset Management Plan submitted by Essential shows only 9.77 per cent of Essential's public lighting network account is currently LED lights. However, we note the 9.44 per cent included in Essential's Asset Management Plan is not the latest estimate of the proportion LED lights on Essential's network.

The updated percentage of LED on Essential's network is 12 per cent for 2017–18 and projected to be 26 per cent for 2018–19.[11] We understand Essential has already initiated discussion with its stakeholders about an updated inventory profile for the coming regulatory period.

[11] Taken from the inventory list provided during Essential's discussion with its customers on 2 October 2018.

OROC also provided detailed comment on assumptions and project cost inputs used by Essential for determining public lighting charges. We have engaged extensively with Essential on these issues. See Table 15-4 for our assessment of the issues raised by OROC.

Table 15-4 OROC submission – issues raised with respect to Essential's public lighting model calculations[12]

OROC Issue	Discussion
OROC Issue - AER 1	**Life of wood poles and steel columns**
Issue in detail	**OROC states that standard control service LV poles are accounted for 53 years of life while public lighting poles are accounted for 35 years, the average life of poles is understated**
AER's approach	Other businesses in the NEM account for 35 years as the life of wood poles and steel columns, so we accept the 35 years of life proposed by Essential
Draft Decision	We accept the 35 years as the asset life for public lighting poles and columns
OROC Issue - AER 2	**AER should not approve the costs associated with removal of stranded assets**
Issue in detail	Removal of control wires, choke boxes, control boxes, pot belly and triangular columns from the public lighting network
AER's approach	We raised this with Essential who responded that these are dedicated streetlight assets. We also understand that removal of control wire across the whole network poses a significant cost impact to councils. Essential proposed to undertake this program in stages co-ordinating with major group lighting upgrade works. Essential has assured us that they shall further discuss this issue with customers during consultation on its revised proposal
Draft Decision	Removal of assets that pose a safety risk to public and contractors working on public lighting assets is a prudent step. Undertaking removal of these assets by scheduling it with other upgrades and repair works is an efficient outcome. Therefore we accept the costs proposed by Essential under safety programs and urge Essential to undertake further discussion with stakeholders.
OROC Issue - AER 3	**Night patrol costs should be recovered for both Cat V and Cat P luminaires.**
Issue in detail	OROC has referred to the 2007 annual streetlight business asset report prepared for Dubbo city council and found night patrol reported across 15 different days. OROC has drawn a conclusion from the reporting pattern that night patrols have been carried out on Cat P roads in addition to Cat V roads (e.g. 42W HPS defects were reported which are usually located on Cat P roads).
AER's approach	We raised this with Essential and they responded that night patrols cover carried highways, collector roads, arterial roads and sub-arterial roads. Essential added that road category dictates the major road patrol and not the lighting category. The category V and category P may be understood differently by the council compared to the classification on Essential system.

[12] OROC was provided access to Essential's confidential public lighting model by signing a confidentiality undertaking.

OROC Issue	Discussion
Draft Decision	We accept the costs proposed by Essential for night patrols and urge Essential to undertake further discussion with stakeholders.
OROC Issue - AER 4	**Incorrect labour hours per spot repair and replacement – Opex Input Sheet**
Issue in detail	The average labour hours per repair based on table 6.3.7 (Essential tariff proposal – attachment 17.4) is 1.9 whereas Cell C24 Opex Input sheet of PL Model (attachment 17.5 - Cell C24 Opex Input Sheet) shows 2.2 hours, which needs to be corrected.
AER's approach	We consider this change to be appropriate, we have adjusted cell C24 -Opex Sheet on the model published with this draft decision.
Draft Decision	We do not accept the 2.2 man hours for spot repair as proposed by Essential on their public lighting model - Attachment 17.5
OROC Issue - AER 5	**Comparison on luminaires opex costs between Essential and Endeavour proposed prices for 2019–20**
Issue in detail	The travel time between repairs vary between the two networks
AER's approach	Essential and Endeavour Public lightening networks are quite different geographically. The two business have different costing approaches to public lighting charges
Draft Decision	We accept that travel times may differ between networks.
OROC Issue - AER 6	**Other maintenance costs $155,124 in cell C351 of "opex input" sheet of attachment 17.5 is incorrect**
Issue in detail	Only $4,063 of the $155,124 is related to other maintenance costs while remaining costs (155124.03-4063 = 151061.03) are either misallocated distribution poles (21m long transmission poles and urban substation poles) or related to assets already being accounted for in capex.
AER's approach	When we consulted with Essential staff they acknowledged an issue and are planning to provide further detail with their revised proposal. For our draft decision all costs except $4,063 have been removed. We have adjusted cell C351 - Opex Sheet on the model published with this draft decision.
Draft Decision	We have modified the $155,124 of other maintenance costs and replace it with $4063 in cell C351 of "opex input" sheet of attachment 17.5.
OROC Issue - AER 7	**Similar to issue AER 4, but affecting non-PE cell callouts and non-lamp labour**
Issue in detail	Opex Input – Cell C357 to be replaced by $156.29, which reduced the figure in Cell C358 by $184,795.63.
AER's approach	We have actioned this change on the model published with our draft decision.
Draft Decision	We have adjusted Cell C358 from $1355315.80 to $1170520.16.
OROC Issue - AER 8	**Non PE cell and non-lamp related labour costs (7489 attendances in Cell C356 on opex input sheet) applied evenly across luminaire technology**
Issue in detail	Opex Input sheet – Cell C362 is mainly composed of the non PE cell and non-lamp callout labour costs (OROC states that 7489 callouts is a large value) accounting for overheads $9.62 in cell C362 increases to $14.46 This is evenly applied across all luminaires including LED and is particularly inappropriate for LED lights; OROC claims that this charge increases the failure rate from around

OROC Issue	Discussion
	7.86% to 12.63%. AER to consider appropriateness of applying this failure rate to LED technology.
AER's approach	Essential has clarified that the value in cell C362 is related to material costs like diffusers and wiring common to all assets and therefore applicable to all.
Draft Decision	We agreed with Essential's reasoning and approved this charge. We urge Essential to undertake further discussion with stakeholders while formulating its revised proposal.
OROC Issue - AER 9	**Opex Input sheet Cell C382 shows additional material costs for bulk replacement**
Issue in detail	Opex Input sheet Cell C384, flowing into Opex Calc sheet across all luminaires – accounted by Essential as additional material cost for bulk replacement.
AER's approach	Essential plans to engage with customers on this issue while re-building the public lighting model for the revised proposal.
Draft Decision	For our draft decision we consider these costs are not sufficiently justified, therefore the additional material costs have been removed from the public lighting tariff calculations.
OROC Issue - AER 10	**Pole design cost "capex input" sheet cell G45** **Secondly Merging of Tariff class 3 and 5 to new capital charge is not clear in the public lighting tariff proposal**
Issue in detail	OROC questioned the pole design cost applied as $518.88 per light. OROC seeks additional information on the design works carried out by Essential for poles. This is reflected on sheet "Capex build up" column K showing design cost of poles. Further information on tariff restructuring due to introduction of component based pricing should be provided to customers.
AER's approach	We understand that Essential plans to engage with customers on this issue while re-building the public lighting model for its revised proposal
Draft Decision	For our draft decision we have removed the pole design costs from the calculations. Essential may confirm the design costing approach with its revised proposal if these are perceived as appropriate costs. With regards to the second issue around clarity of tariffs, Essential has provided confidential tariff mapping calculations to us. We urge Essential to engage with customers sharing more information on the tariff restructure.
OROC Issue - AER 11	**Very high failure rate of 70W HPS lamps, when compared it with 150W, 250W and 400HPS lamps** **Fig 11 on submission shows failure profile for Sylvania brand 70W HPS which is around 6.5% in comparison to 13.2% proposed on Essential PL model**
Issue in detail	When opex rates for 250W HPS and 70W HPS are compared, the latter is higher. Also point to be noted is that 250W HPS is usually installed on major roads requiring traffic controllers and still turns out to less than 70W HPS. The submission notes that 70W HPS is a major luminaire in Essential region meaning Essential currently has large quantity of these lights on its network
AER's approach	Essential has responded that the proposed failure rate is the actual rate witnessed for 70W HPS lights on their network.
Draft Decision	In the past reset, the AER has approved 10.88 per cent failure rate for 70W HPS. Much efficient failure rates are being witness and proposed by other

OROC Issue	Discussion
	networks in national electricity market. We do not accept the proposed failure rate and have replaced it on the public lighting model.
OROC Issue - AER 12	**Impact Analysis tool for new tariff structure**
Issue in detail	OROC requested an impact analysis spreadsheet for public lighting customers assuming static inventory to help customers understand the impact of Essential's tariff restructure on final charges.
AER's approach	We requested Essential to provide tariff mapping analysis showing the impact of price variations. Essential submitted an exhaustive tariff mapping spreadsheet comparing current charges to the charges under the new component based tariff structure. Due to confidential customer information being present on the tariff mapping spreadsheet we are unable to publish this information.
Draft Decision	We recommend Essential consider providing tariff mapping information and impact analysis under the new component based tariff to individual customers.

Failure rates

Essential Energy proposed failure rates in its asset management plan for the ten most common luminaires.[13] We note Essential applied high failure rates for a range of mercury vapour lamps, metal halide lamps and HPS lamps. OROC's submission raised the issue of high failure rate for 70W HPS lamps. The metal halide 1000W lamp (mapping code MHR0100) is shown to have a 28.89 per cent failure rate, mercury vapour 400 (mapping code MVA0220) also has a high failure rate of 12.55 per cent, while mercury vapour 2X400 only has a 0.58 per cent failure rate.

We consider the proposed high lamp failure rate assumptions are not efficient given the expected life of lamps and technological advances which are improving lamp life. We refer to our draft decision for 2014–19, where we approved failure rates in the range of 4 to 6 per cent by comparing performance standards across other providers. In our 2014–19 final decision we approved lower failure rates in the range of 10 per cent to 11 per cent for HPS and LPS, and as low as 5 per cent for mercury vapour lamps.

We consider the lamp failure rates approved in our 2014–19 final decision to be efficient and prudent and comparable to other distributors. On this basis we adjusted the high lamp failure rates in Essential's public lighting model. Table 15-5 shows proposed and adjusted failure rates.

Table 15-5 Failure rates, per cent

	Essential Proposed	Draft Decision
High Pressure Sodium 50	13.79%	10.88%
High Pressure Sodium 70	13.20%	10.88%

[13] Attachment 17.4.1 Public lighting AMP, p 9.

Mercury Vapour 250	10.37%	5.01%
Mercury Vapour 400	12.55%	5.01%
Metal Halide (Reactor Control Gear) 1000	28.89%	5.65%

Next steps for Essential's public lighting proposal

We note that, while its public lighting proposal has been challenged, Essential has taken steps to share information related to public lighting charges with its stakeholders and us through the draft determination process.

Essential has worked through various information requests, provided additional data, participated positively in meetings with AER staff and committed to a significant new consultation process to inform a revised public lighting proposal. We expect Essential will address limitations in its public lighting model and respond to our draft decision positively in its revised proposal.

Our draft decision public lighting charges are set out in Table 15-9.

NSW public lighting code

The NSW Government has updated the Public Lighting Code (Code).[14] The revised Code commences on 1 July 2019. Under the revised Code, compliance is mandatory for public lighting service providers as a condition to the electricity distribution licence issued under the Electricity Supply Act 1995 (NSW). The Code has been updated at the final stage of our draft decision assessment of Essential's public lighting proposal. It will be open to Essential to incorporate changes to its public lighting proposal with its revised regulatory proposal.

15.6 Metering services

Essential's type 5 and 6 metering services are classified as alternative control services. Essential's type 7 metering services, however, are classified as standard control services.[15] Metering assets are used to measure electrical energy flows at a point in the network to record consumption for the purposes of billing.

Since introduction of the Power of Choice reforms on 1 December 2017, Essential is no longer responsible for installation of new meters and is prohibited from installing type 5 or type 6 meters from 1 April 2018. Customers are now able to source new meters from the market. New minimum standards for meters mean only advanced or 'smart' meters with remote communications capability may now be installed.

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14 Email received on 16 October 2018 from NSW Energy.

15 AER, *Framework and approach* Ausgrid, Endeavour and Essential Energy *Regulatory control period commencing 1 July 2019*, July 2017, p. 27

We are responsible for setting charges for type 5 and 6 metering services which, going forward, do not relate to the provision of types 5 and 6 meters, so do not include up front capital charges for new meters. However, the charges we determine do relate to the reading and, in the case of Essential's residual stock of types 5 and 6 meters, the servicing of customer meters.

Essential developed its pricing based on its own custom model. While this relies on the building block model for defining its components, prices are derived in a different manner to the AER's Post-tax Revenue Model. Essential separated the building block components into an operating and maintenance category, which includes opex, tax and debt raising costs, and a capital recovery category which includes return on capital and return of capital (depreciation). Unlike in the Post-tax Revenue Model, this revenue is not smoothed throughout the regulatory control period. Essential then allocated the opex by tariff class and used the total revenue in each category in each tariff class in each year of the 2019–24 regulatory control period, divided by the forecast customer numbers in that same year in that tariff class, to calculate proposed charges. [16]

15.6.1 Metering services—Draft decision

Service classification - Metering services

Our draft decision is to classify type 5 and 6 metering services as alternative control services. This is consistent with our Final Framework and Approach and Essential's proposed classification of metering services.

Form of control - Metering services

Our draft decision is to apply a price cap form of control for metering services. This is consistent with our Final Framework and Approach and Essential's proposed form of control for metering services. Under a price cap form of control, we set a schedule of prices for the first year of the regulatory period, 2019–20. For 2020–21 and subsequent years the prices for metering services are determined by adjusting the previous year's prices by the formula set out in Attachment 13 – Control mechanism.

Metering services

Essential proposed a series of charges which did not involve explicitly calculated X factors. However, Essential has accepted that we will calculate X factors explicitly in order to apply the price cap formula.[17]

Details of Essential's proposed charges are provided in Table 15-12.

Our draft decision is that metering charges will move at different rates for the capital component of charges (applying to meters installed before July 2015) and the operating and maintenance component of the rate (applying to all small customer

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16 Essential Energy, *17.2 Metering Model*; June 2018

17 Essential Energy*, Response to Information Request #009*, June 2018, p. 3.

meters) over the 2019–24 regulatory control period. In the first year of the regulatory control period, charges will be set as per Table 15-13. In subsequent years, the operating and maintenance component of metering charges will increase by 1.6 per cent, then 3.7 per cent, followed by 8.8 per cent and finally 8.0 per cent. The capital cost component of metering charges will increase by 1.3 per cent and then decrease, first by 0.4 per cent, then by 0.2 per cent, then by 0.3 per cent.[18]

Our draft decision is to accept the following elements of Essential's metering model, which we consider are consistent with the pricing principles and promotion of the national pricing objective:

- Opening metering asset base

  Our draft decision is to accept an opening metering asset base (MAB) value as at 1 July 2019 of $91.04 million ($nominal). This is based on assessing the reasonableness of this value against Essential's historical capex and previous asset base.

- Depreciation

  Our draft decision is to accept the proposed remaining lives (12.8 years) of the metering asset categories.

  Consistent with our draft decision for standard control services, we specify that forecast, as opposed to actual, depreciation will apply to Essential's MAB.

- Rate of return

  Our draft decision is to accept that the same weighted average cost of capital (WACC) and imputation credit (gamma) values for standard control services should apply to alternative control metering services. However, unlike for standard control service, we will not annually adjust Essential's return on debt.

- Forecast capex

  Our draft decision is to accept Essential's proposed forecast capex building block of $11.67 million.

In respect of Essential's proposed metering opex, we are not satisfied the methodology Essential used to estimate this value is appropriate. Our draft decision is to substitute Essential's forecast opex of $90.5 million with $82.9 million ($2018–19).

[18] Essential's metering model uses an allocation of costs per year and forecast customer numbers to calculate the required charges for that year on a per customer basis. This method does not include the natural smoothing of rate changes inherent to the AER's Post-tax Revenue Model.

15.6.2 Metering services—Reasons for draft decision

Structure of Metering Charges

Our draft decision is to approve Essential's proposed metering charges structure:

- This is an annual charge comprising two components:
    - capital —metering asset base (MAB) recovery
    - non-capital —operating expenditure (opex) and tax.

These charges are then further divided into rates depending on the customer and tariff type such as residential anytime or controlled load. [19]

This structure is consistent with the approved structure in the current regulatory period, with the exception that:

- an upfront charge for meter installation no longer applies as Essential is no longer responsible for installing meters;
- a separate maintenance (non-capital) rate no longer applies to meters installed before 30 June 2015 and on or after 30 June 2015.

Essential also removed its solar tariff class. This is a result of the removal of gross solar installations to which these charges related.[20]

We consider this structure is both reflective of the actual costs involved in the provision of metering services and, due to being consistent with current charges, easy to understand.

Forecast Capex

Essential is no longer responsible for installing meters and did not propose any capex for meters. The only capex proposed is $11.67 million ($2018–19) for non–system capex, reflecting IT, fittings and plant, vehicles, buildings, land and other non-system costs. This represents a significant reduction from the $46.6 million ($2014–15) we approved for the 2015–19 regulatory control period.[21] We consider this to be appropriate given Essential is no longer required to purchase new or replacement meters.

Essential's proposed metering capex represents around 2.4 per cent of the total non-system capex proposed while metering represents around 3 per cent of the total revenue proposal. The allocation of capex costs to metering are therefore in line with the total capex costs.

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19 Essential Energy, *Attachment 17.1 Type 5 and 6 Metering Services Proposal 2019-24*, April 2018, p. 9.

20 Essential Energy*, Response to Information Request #009*, June 2018, p. 3.

21 AER, *Final Decision on Essential Energy distribution determination 2015−16 to 2018−19; Attachment 16 – Alternative control services*; April 2015, p.38.

Regulatory Asset Base and Asset Lives

Essential proposed a regulatory asset base for metering at 1 July 2019 of $91.04 million ($nominal). While Essential used its own metering model to determine charges, it still uses this base to calculate depreciation. Essential further proposed remaining lives of 12.8 years for its metering assets.

Our draft decision is to accept Essential's proposed regulatory asset base. It aligns with our expectations, based on application of our roll forward model to Essential's historical capex. Our draft decision is also to approve Essential's proposed remaining lives as in line with the expected remaining lives of Essential's metering assets.

Forecast Opex

Our draft decision is to substitute Essential's proposed opex allowance of $90.5 million with $82.9 million ($2018–19).[22]

Essential proposed that, as its meter population reduces, it will experience a reduction in opex efficiency. In other words, opex per customer would increase as meter numbers reduce. This recognises that there are some fixed costs which remain fixed and have to be spread over a smaller number of meters, while the time spent on reading meters will increase as the distance between meters (and hence travel time) increases. [23]

Essential developed its opex forecasts using a bottom-up approach.

- Tax and debt raising costs averaging $0.46 million ($2018–19).
- Meter Co-ordinator/Data Provision cost assumed to be a fixed cost of $1.89 million ($2018–19) including overheads.
- Meter Compliance/Testing costs based on a forecast testing schedule and a cost per test/inspection. This cost per inspection/testing is built up based on a time estimate, a labour and on cost amount and a fleet cost allocation amount. These costs vary year on year but average $1.11 million ($2018–19) including overheads.
- Meter Reading costs based on forecast meter quantities and increased meter reading costs year on year. Essential applied a 4 per cent loading to the cost per meter reading per annum. These costs vary year on year but average $14.62 million ($2018–19) including overheads.

We are satisfied that the first three of these represent prudent expenditure. The tax and debt raising costs are calculated with our standard Post-tax Revenue Methodology

[22] These opex figures include Tax and Debt raising costs as per Essential's metering model.

[23] Essential Energy, *Attachment 17.1 Type 5 and 6 Metering Services Proposal 2019-24*, April 2018, p. 6.

which we consider appropriate.[24] The meter co-ordinator and data provision costs are comparable to previously approved costs for these services. The meter compliance/testing costs are driven by the assumed labour rates which are below the approved rates provided by Marsden Jacob. However, we consider further justification is required for the approach taken with respect to Essential's proposed meter reading costs.

We considered Essential's proposed meter reading opex using a top-down 'base–step–trend' approach. This is our preferred approach to assessing most opex categories.[25] 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 Essential's proposed metering opex.

Base

Our draft decision is to accept Essential's proposed base year.

Essential's meter reading is conducted by external contract with cost applied per national meter identifier.[26] Essential used its total meter reading costs from July 2016 to June 2017 to calculate a meter reading unit cost per national meter identifier and this therefore represents its base year. As the time Essential submitted its proposal, this was the most recent full financial year for which Essential had external contractor costs.

We accept that in this case, taking an average of the metering costs over a longer period would not improve upon this estimate.

Step

Essential did not propose step changes. Our draft decision is to accept this as we are not aware of any material issue which would justify departing from this position.[27]

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[24] While we have not changed the methodology used for calculating the inputs, changes to other inputs to the model, such as the level of opex, have changes this average from $0.46 million per annum to $0.33 million per annum ($2018–19).

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

[26] Essential Energy, *17.2 Metering Model*; 22 May 2018. Metering AMP tab

[27] Essential Energy, *Attachment 17.1 Type 5 and 6 Metering Services Proposal 2019-24*, April 2018, p. 7.

Trend

Essential's proposed trend is that its meter reading costs per national meter identifier will increase 4 per cent per annum in real terms. We consider further justification is required for this rate.

In response to our queries, Essential submitted that the four per cent increase in meter reading costs year on year was determined using the forecast average yearly reduction in Type 5 and 6 meters over the 2019–24 regulatory control period. Essential forecast that meter read contractors will expect to receive increased revenue per meter read to incurring rising per meter costs as reading density reduces.[28]

This derivation can be seen in Essential's metering model where Essential has taken an arithmetic average of the annual reduction in the forecast Type 5 and 6 meter population from 2017–18 to 2023–24 which (with rounding) comes to 4 per cent. The result is that meter reading costs in 2016–17 year are (if applying the 2023–24 overhead rate) $14.45 million ($2018/19) and in 2023–24 they are again $14.45 million[29] ($2018/19). This is despite a forecast 24 per cent reduction in the meter population between the two regulatory years.

While we accept that there may be an increase in per unit meter reading costs, we expect that overall as the number of meters decreases, regardless of whether the work is done by Essential or an external party, the total cost of reading these meters will decrease. If the cost of doing the work decreases, we do not consider it efficient to continue with the same level of expenditure for the work to be undertaken.

Benchmarking

We still need to benchmark Essential's level of productivity adjustment. Ausgrid, Endeavour and Essential all proposed productivity adjustments for the 2019–24 regulatory control period. We consider that, if efficient, the rate at which opex per customer will increase relative to a reduction in customer numbers will be comparable or lower relative to its peers.

To make this comparison, we have conducted a top down analysis. For each NSW distributor, we applied the following form to the relationship between its forecast opex in the 2019–24 regulatory control period with respect to meter numbers:

$$\log_e Opex = (Productivity\ Factor \times \log_e Meter\ Population) + Base\ Opex\ Level$$

This means the rate at which opex changes is relative to the rate at which the meter population changes, adjusted by some productivity factor. By applying this curve to each of the distributors, we can calculate an equivalent productivity factor on a

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[28] Essential Energy, *Response to Information Request #009*, June 2018, p. 3.

[29] These numbers are not identical beyond the two decimal places shown. An exact match in the final year could be achieved with a geometric average of the reduction in the meter population year on year and the removal of rounding, but the resultant difference to the productivity adjustment is trivial.

common basis. We are not considering the *Base Opex Level* factor here as that will be determined by the base year chosen which we have already discussed above.

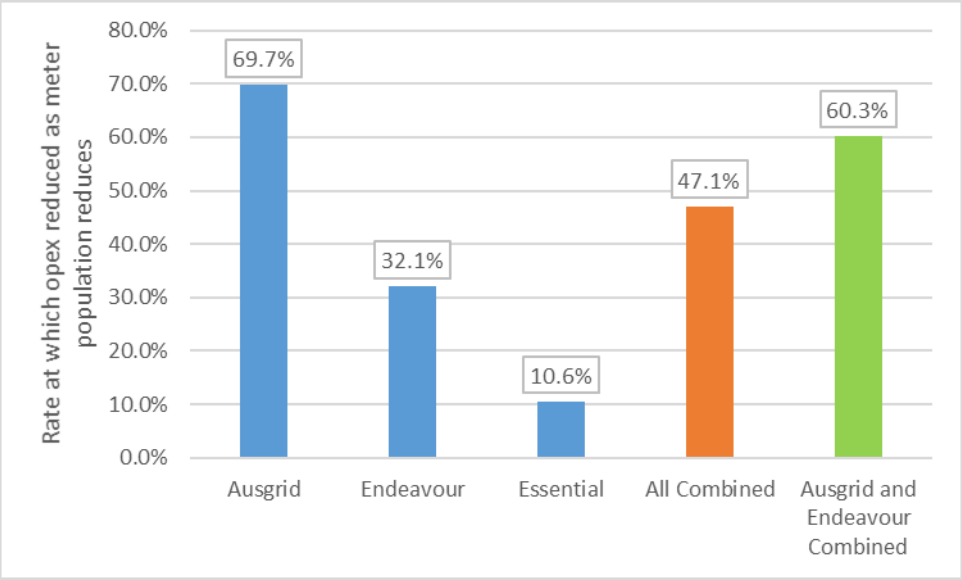
Essential's meter compliance/testing opex forecasts vary year on year but the underlying assumptions do not vary with the change in meter population. Essential submitted that compliance testing costs will remain relatively fixed in real terms as meter numbers vary. [30] Essential also included costs for resolution of unknown meters and CT compliance field testing in the 2019–20 regulatory year but no other year of the 2019–24 regulatory control period. As this is the year with the highest forecast number of meters in the 2019–24 regulatory control period, it is likely that this would result in an overestimation of the correlation between meter numbers and forecast opex and by extension make Essential's productivity factor appear higher than it actually is.

We substituted Essential's forecast meter compliance/testing costs in any given regulatory year with the average of these costs per annum over the 2019–24 regulatory control period when deriving Essential's productivity factor.

Figure 15-2 shows the *Productivity Factor* for all three businesses as well as the productivity factor from the NSW distributors combined and just Ausgrid and Endeavour combined. Note that a **high** productivity factor indicates that as meter numbers reduce, opex reduces just as quickly (so a minimal loss in productivity which is **highly efficient**). A **low** productivity factor indicates that as meter number reduce, there is very little opex change (so a significant loss of productivity which is **inefficient**).

[30] Essential Energy, *Attachment 17.1 Type 5 and 6 Metering Services Proposal 2019-24*, April 2018, p. 6.

Figure 15-2 Comparing productivity adjustment for NSW businesses, all combined and Ausgrid and Endeavour combined[31]



Essential's productivity factor is the least efficient of the three NSW distributors. Our draft decision is to recalculate Essential's opex, using a productivity factor in line with the productivity factor used by its peers. Recognising that there are elements which will impact an individual distributor's productivity as meter numbers reduce (such as existing customer density) we will not use the most efficient productivity factor of Ausgrid. We will however use the productivity factor of 60.3 per cent which will also be applied to Endeavour. This is the result of removing Essential's forecast opex as sufficiently different from the remainder of the distributors and deriving a combined productivity factor for the remaining NSW distributors.

We consider that Essential's opex with a 60.3 per cent productivity factor represents an efficient level but this implicitly applies our above assumption of constant meter compliance/testing opex which is not reflective of Essential's actual meter testing schedule. To get a more accurate estimate of Essential's actual metering opex in each year of the 2019–24 regulatory control period, we have therefore taken the total metering opex calculated with the 60.3 per cent productivity factor, removed the average cost allowance for meter compliance/testing and then added in Essential's own bottom-up compliance/testing opex costs.

Consistent with the approach we have taken in assessing Standard Control Services opex, we have then trended meter reading opex forward for labour rate escalation

[31] This represents the effect if we consider the forecast opex and forecast meter numbers in aggregate and find the productivity factor which suits the curve. It is not the same as an arithmetic average of the productivity factors.

using the average of the Deloitte Access Economics and BIS Oxford Economics wage price indices.

In summary - our metering opex draft decision

Our draft decision to substitute Essential's proposed metering opex allowance of $90.5 million with $82.9 million ($2018–19) is driven by:

- our acceptance of Essential's proposed capex, opening RAB, depreciation, tax, and meter compliance and testing costs
- our benchmarking assessment that Essential's proposed meter reading productivity factor is not efficient in the circumstances
- our draft decision to substitute a productivity factor of 60.3 per cent (adjusted for Essential's bottom-up compliance/testing opex costs) for Essential's proposed 10.6 per cent.
- application of the average of the Deloitte Access Economics and BIS Oxford Economics wage price indices.

A Ancillary network services charges

The following sets out Essential's reclassified and new services.

Reclassified services

- Pioneer scheme establishment (fee)
- Security lighting (fee)
- Redundant material co-ordination (fee)
- Substation commissioning (fee)
- Testing and commissioning of street lights/mains/cables/underground pillars (fee)
- Commissioning - other network equipment (fee)
- Sale of approved materials (fee)
- Rectification of contestable work (hourly rate)
- Completion notice - other than notice of arrangement (hourly rate)
- Provision of Design related Training for Design Compliance (fee)

New services

- Design re-certification (hourly rate)
- Non-standard design approval (hourly rate)
- Vegetation clearing of private trees encroaching DNSP assets (fee)
- Inspection of private trees encroaching DNSP assets (hourly rate)
- Vegetation clearing of pricing trees encroaching private assets (fee)
- Rectification works by Essential Energy of private asset aerial mains defects (hourly rate)
- Rectification works by Essential Energy of DNSPs assets due to landowner encroachment issues (hourly rate)
- Planned interruption - customer requested (hourly rate)
- Unplanned outage - meter fault (site attendance) (fee)
- Redundant meter disposal (fee)
- Retailer requested distributer planned interruption - cancellation after notification (fee)

Services unbundled from existing services

- Easement processing - conveyancing review (hourly rate)
- Development application and encroachment processing (hourly rate)

- Legal review services - customer funded works (hourly rate)
- Work near electrical assets - de-energisation of mains (fee)
- Work near electrical assets - disable auto reclose (fee)
- Site safety supervision (hourly rate)
- Provision of construction work by DNSP (hourly rate)
- Substation inspection (fee)
- Inspection services of privately owned electrical infrastructure (hourly rate)
- Inspection customer installation (fee)

B Ancillary network services charges

Table 15-6 Fee based ancillary network service prices for 2019–20, AER draft decision ($2019–20)

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
1. Design Related Service				
1.1 Design Information				
Underground Urban Residential Subdivision (Vacant Lots) - Up to 5 Lots	Per Job	Fee	$548.88	$471.44
Underground Urban Residential Subdivision (Vacant Lots) - 6 to 10 Lots	Per Job	Fee	$731.84	$628.59
Underground Urban Residential Subdivision (Vacant Lots) - 11 to 40 Lots	Per Job	Fee	$1,280.71	$1,100.04
Underground Urban Residential Subdivision (Vacant Lots) - Over 40 Lots	Per Job	Fee	$1,646.63	$1,414.33
Rural Overhead Subdivisions and Rural Extensions - All	Per Job	Hourly Rate	$182.96	$157.15
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All	Per Lot	Hourly Rate	$182.96	$157.15
Commercial / Industrial Developments and Sub Transmission - All	Per Job	Hourly Rate	$182.96	$157.15
Asset Relocations or Street lighting (Not forming part of other categories) - All	Per Job	Hourly Rate	$182.96	$157.15
1.2 Design Certification				
Underground Urban Residential Subdivision (Vacant Lots) - Up to 5 Lots	Per Job	Fee	$365.92	$314.30
Underground Urban Residential Subdivision (Vacant Lots) - 6 to 10 Lots	Per Job	Fee	$548.88	$471.44
Underground Urban Residential Subdivision (Vacant Lots) - 11 to 40 Lots	Per Job	Fee	$914.79	$785.74
Underground Urban Residential Subdivision (Vacant Lots) - Over 40 Lots	Per Job	Fee	$1,097.75	$942.89
Rural Overhead Subdivisions and Rural Extensions - Up to 5 Poles	Per Job	Fee	$365.92	$314.30
Rural Overhead Subdivisions and Rural Extensions - 6 to 10 Poles	Per Job	Fee	$548.88	$471.44
Rural Overhead Subdivisions and Rural Extensions - 11 or More Poles	Per Job	Fee	$914.79	$785.74
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Up to 10 Lots	Per Job	Fee	$548.88	$471.44
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - 11 to 40 Lots	Per Job	Fee	$731.84	$628.59
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Over 40 Lots	Per Job	Fee	$1,097.75	$942.89
Commercial / Industrial Developments and Sub Transmission - All	Per Job	Hourly Rate	$182.96	$157.15

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Asset Relocations or Street lighting (Not forming part of other categories) - All	Per Job	Hourly Rate	$155.21 or $199.15	$157.15
1.3 Design Re-checking				
Underground Urban Residential Subdivision (Vacant Lots) - All	Per Job	Hourly Rate	$182.96	$157.15
Rural Overhead Subdivisions and Rural Extensions - All	Per Job	Hourly Rate	$182.96	$157.15
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All	Per Job	Hourly Rate	$182.96	$157.15
Commercial / Industrial Developments and Sub Transmission - All	Per Job	Hourly Rate	$182.96	$157.15
Asset Relocations or Streetlighting (Not forming part of other categories) - All	Per Job	Hourly Rate	$182.96	$157.15
1.4 Design Re-certification (NEW)				
Underground Urban Residential Subdivision (Vacant Lots) - All	Per Job	Hourly Rate	$182.96	$157.15
Rural Overhead Subdivisions and Rural Extensions - All	Per Job	Hourly Rate	$182.96	$157.15
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All	Per Job	Hourly Rate	$182.96	$157.15
Commercial / Industrial Developments and Sub Transmission - All	Per Job	Hourly Rate	$182.96	$157.15
Asset Relocations or Streetlighting (Not forming part of other categories) - All	Per Job	Hourly Rate	$182.96	$157.15
1.5 Administration				
Underground Urban Residential Subdivision (Vacant Lots) - Up to 5 Lots	Per Job	Fee	$522.63	$419.06
Underground Urban Residential Subdivision (Vacant Lots) - 6 to 10 Lots	Per Job	Fee	$653.28	$523.83
Underground Urban Residential Subdivision (Vacant Lots) - 11 to 40 Lots	Per Job	Fee	$914.59	$733.36
Underground Urban Residential Subdivision (Vacant Lots) - Over 40 Lots	Per Job	Fee	$1,045.25	$838.12
Rural Overhead Subdivisions and Rural Extensions - Up to 5 Poles	Per Job	Fee	$522.63	$419.06
Rural Overhead Subdivisions and Rural Extensions - 6 to 10 Poles	Per Job	Fee	$653.28	$523.83
Rural Overhead Subdivisions and Rural Extensions - 11 or More Poles	Per Job	Fee	$1,175.91	$942.89
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All	Per Job	Hourly Rate	$130.66	$104.77
Commercial / Industrial Developments and Sub Transmission - All	Per Job	Hourly Rate	$130.66	$104.77
Asset Relocations or Streetlighting (Not forming part of other categories) - All	Per Job	Hourly	$130.66	$104.77

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
		Rate		
1.6 Non - Standard Design Approval (NEW)				
Underground Urban Residential Subdivision (Vacant Lots) - All	Per Job	Hourly rate	$245.11	$196.44
Rural Overhead Subdivisions and Rural Extensions - All	Per Job	Hourly Rate	$245.11	$196.44
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All	Per Job	Hourly Rate	$245.11	$196.44
Commercial / Industrial Developments and Sub Transmission - All	Per Job	Hourly Rate	$245.11	$196.44
Asset Relocations or Streetlighting (Not forming part of other categories) - All	Per Job	Hourly Rate	$245.11	$196.44
2. Connection Application Related Services				
2.1 Connections Customer Interface co-ordination				
Customer Interface co-ordination for contestable works - Basic	Per Job	Hourly Rate	$217.92	$177.36
Customer Interface co-ordination for contestable works - Complex	Per Job	Hourly Rate	$245.11	$196.44
2.2 Preliminary Enquiry Service				
Preliminary Enquiry Service - Basic	Per Enquiry	Hourly Rate	$217.92	$177.36
Preliminary Enquiry Service - Complex	Per Enquiry	Hourly Rate	$245.11	$196.44
2.3 Connection / relocation process facilitation				
Connection / relocation process facilitation - All	Per Hour	Hourly Rate	$182.96	$157.15
2.4 Connection Offer Service				
Connection Offer Service - Basic	Per Offer	Fee	$32.66	$26.19
Connection Offer Service - Standard	Per Offer	Hourly Rate	$182.96	$157.15
2.5 Planning, Protection and Power Quality Studies				
Planning / Protection Studies and Analysis	Per Job	Hourly Rate	$245.11	$196.44
2.6 Additional Services Requested by ASP / Connection Applicant (NEW)				
Additional Services Requested by ASP / Connection Applicant	Per Hour	Hourly Rate	$217.92	$177.36
2.7 Data Gathering Fee - Failure to Provide Documentation (NEW)				

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Data Gathering Fee - Failure to Provide Documentation	Per Job	Hourly Rate	$217.92	$177.36
2.8 Pioneer Scheme Administration (NEW) (reclassified from to alternative control)				
Pioneer Scheme Establishment	Per Job	Fee	$130.66	$104.77
Pioneer Scheme - New Connection	Per Job	Fee	$130.66	$104.77
3. Contestable Network Commissioning & Decommissioning				
3.1 Substation Commissioning				
Underground Urban Residential Subdivision (Vacant Lots) - All (NT)	Per Substation	Fee	$1,777.29	$1,525.91
Underground Urban Residential Subdivision (Vacant Lots) - All (OT)	Per Substation	Fee	$2,700.09	$2,374.04
Rural Overhead Subdivisions and Rural Extensions - All (NT)	Per Substation	Fee	$1,777.29	$1,525.91
Rural Overhead Subdivisions and Rural Extensions - All (OT)	Per Substation	Fee	$2,700.09	$2,374.04
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All (NT)	Per Substation	Fee	$1,777.29	$1,525.91
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All (OT)	Per Substation	Fee	$2,700.09	$2,374.04
Commercial / Industrial Developments and Sub Transmission - All (NT)	Per Substation	Fee	$1,777.29	$1,525.91
Commercial / Industrial Developments and Sub Transmission - All (OT)	Per Substation	Fee	$2,700.09	$2,374.04
Asset Relocations or Streetlighting (Not forming part of other categories) - All (NT)	Per Substation	Fee	$1,777.29	$1,525.91
Asset Relocations or Streetlighting (Not forming part of other categories) - All (OT)	Per Substation	Fee	$2,700.09	$2,374.04
3.2 Testing & Commissioning of Streetlights / Mains / Cables / UG Pillars (NEW) (reclassified to alternative control)				
Underground / Overhead Streetlights (NT)	Per S/L	Fee	$88.21	$75.73
Underground / Overhead Streetlights (OT)	Per S/L	Fee	$145.89	$128.73
Underground / Overhead Distribution Mains (NT)	Per Job	Fee	$2,169.28	$1,847.61
Underground / Overhead Distribution Mains (OT)	Per Job	Fee	$3,207.43	$2,801.75
Underground Pillar / Pits (NT)	Per Pit / Pillar	Fee	$88.21	$75.73
Underground Pillar / Pits (OT)	Per Pit / Pillar	Fee	$145.89	$128.73

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Underground Cable Test (NT)	Per Job	Fee	$767.43	$658.82
Underground Cable Test (OT)	Per Job	Fee	$1,269.20	$1,119.99
3.3 Redundant Material Coordination (NEW) (re-classified to alternative control)				
Redundant Material Co-ordination	Per Occasion	Fee	$65.33	$52.38
3.4 Commissioning - Other Network Equipment (NEW) (re-classified to alternative control)				
Recloser (NT)	Per Recloser	Fee	$2,771.20	$2,321.35
Recloser (OT)	Per Recloser	Fee	$3,517.15	$2,942.12
Regulator (NT)	Per Regulator Site	Fee	$3,172.08	$2,655.86
Regulator (OT)	Per Regulator Site	Fee	$4,067.22	$3,400.78
Smart Switch (NT)	Per Switch	Fee	$1,033.67	$854.47
Smart Switch (OT)	Per Switch	Fee	$1,466.32	$1,214.51
Other - Specialised equipment (NT)	Per Job	Hourly Rate	$217.92	$177.36
Other - Specialised equipment (OT)	Per Job	Hourly Rate	$367.11	$301.51
4. Access Permits, Oversight & Facilitation				
4.1 Access Permits				
Underground Urban Residential Subdivision (Vacant Lots) - All (NT)	Per Job	Fee	$2,966.44	$2,531.99
Underground Urban Residential Subdivision (Vacant Lots) - All (OT)	Per Job	Fee	$4,119.94	$3,592.15
Rural Overhead Subdivisions and Rural Extensions - All (NT)	Per Job	Fee	$2,966.44	$2,531.99
Rural Overhead Subdivisions and Rural Extensions - All (OT)	Per Job	Fee	$4,119.94	$3,592.15
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All (NT)	Per Job	Fee	$2,966.44	$2,531.99
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - All (OT)	Per Job	Fee	$4,119.94	$3,592.15
Commercial / Industrial Developments and Sub Transmission - All (NT)	Per Job	Fee	$2,966.44	$2,531.99
Commercial / Industrial Developments and Sub Transmission - All (OT)	Per Job	Fee	$4,119.94	$3,592.15
Asset Relocations or Streetlighting (Not forming part of other categories) - All (NT)	Per Job	Fee	$2,966.44	$2,531.99

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Asset Relocations or Streetlighting (Not forming part of other categories) - All (OT)	Per Job	Fee	$4,119.94	$3,592.15
Access Permit Rescheduled (Outage Cancellation) - All		Fee	$731.81	$624.60
4.2 Access to Network Assets (Standby)				
Access to Network Assets (Standby)	Per Job	Hourly Rate	$217.92	$177.36
4.3 Sale of Approved Materials / Equipment to ASPs (NEW) (re-classified to alternative control)				
Sale of Approved Materials / Equipment to ASP For these jobs, materials & other costs are charged at purchase price + %			26.86%	26.86%
4.4 Services to supply and connect temporary supply to one or more customers				
Connect & disconnect MG to OH/UG mains, switchboard or kiosk (NT)	Per Job	Fee	$2,398.03	$2,058.84
Connect & disconnect MG to OH/UG mains, switchboard or kiosk (OT)	Per Job	Fee	$3,205.48	$2,800.95
Install & remove HV LL Links or bonds (NT)	Per Job	Fee	$3,629.71	$3,116.16
Install & remove HV LL Links or bonds (OT)	Per Job	Fee	$5,417.63	$4,759.41
Break & remake LV bonds (NT)	Per Job	Fee	$3,012.23	$2,586.07
Break & remake LV bonds (OT)	Per Job	Fee	$4,511.78	$3,964.29
Generator Hire - Invoice cost + %	Per Job	Fee	55.89%	55.89%
4.5 Rectification of contestable work (ASP Installed) (NEW)				
Admin	Per Job	Hourly Rate	$130.66	$104.77
Para Legal	Per Job	Hourly Rate	$178.51	$104.77
Field Worker	Per Job	Hourly Rate	$176.42	$151.45
Indoor Technical Officer	Per Job	Hourly Rate	$182.96	$157.15
Outdoor Technical Officer	Per Job	Hourly Rate	$217.92	$177.36
Engineer / Professional	Per Item	Hourly rate	$245.11	$196.44
Materials	Per Job	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
5. Notices of arrangement and completion notices				
5.1 Notice of Arrangement				
Notice of Arrangement	Per Job	Fee	$429.02	$340.49

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
5.2 Request for Early Notice of Arrangement (NEW) (re-classified to alternative control)				
Request for Early Notice of Arrangement	Per Job	Hourly Rate	$182.96	$157.15
5.3 Completion Notice - Other than Notice of Arrangement (NEW) (re-classified to alternative control)				
Completion Notice - Other than Notice of Arrangement	Per Job	Hourly Rate	$182.96	$157.15
6. Network Related Property				
6.1 Conveyancing Information				
Supply of conveyancing information - Per Desk Inquiry	Per Enquiry	Fee	$65.33	$52.38
6.2 Easement Processing - Conveyancing Review (NEW) (unbundled service)				
Easement Processing - Conveyancing Services	Per Job	Hourly Rate	$178.51	$104.77
Easement Processing - Contract Legal Services	Per Job	Fee	55.89%	55.89%
6.3 Services Involved in Obtaining Deeds of Agreement (DOA)				
Services Involved in Obtaining Deeds of Agreement (DOA)	Per DOA	Hourly Rate	$245.87	$196.44
6.4 Development Applications and Encroachment Processing (NEW) (unbundled service)				
Development Applications and Encroachment Processing	Per Application	Hourly Rate	$178.51	$104.77
6.5 Crown Land Acquisition (NEW)				
Crown Land Acquisition - Legal Services	Per Job	Hourly Rate	$245.11	$196.44
Crown Land Acquisition - Contract Legal Services	Per Job	Fee	55.89%	55.89%
6.6 Legal Review Services - customer funded works (NEW) (unbundled service)				
Legal Review Services - Customer Funder Works	Per Job	Hourly Rate	$245.11	$196.44
Legal Review Services - Customer Funder Works - Contract Legal Services	Per Job	Fee	55.89%	55.89%
7. Site Establishment Services				
7.1 Site Establishment				
Site Establishment - Per NMI	Per NMI	Fee	$97.99	$78.57
8. Network Safety Services				
8.1 Work near electrical assets - De energisation of Mains (NEW) (unbundled service)				
Safe Approach Clearances - De energisation of Mains (NT)	Per Job	Fee	$2,260.78	$1,933.58
Safe Approach Clearances - De energisation of Mains (OT)	Per Job	Fee	$3,183.58	$2,781.71

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
8.2 Work near electrical assets - Disable Auto Reclose (NEW) (unbundled service)				
Safe Approach Clearances - Disable Auto Reclose (NT)	Per Job	Fee	$784.10	$673.22
Safe Approach Clearances - Disable Auto Reclose (OT)	Per Job	Fee	$952.36	$822.44
8.3 Provision of Traffic Control by the DSNP (NEW) (unbundled service)				
Provision of Traffic Control by the DSNP	Per Job	Fee	55.89%	55.89%
8.4 Site Safety Supervision (NEW) (unbundled service)				
Site Safety Supervision	Per Job	Hourly Rate	$176.42	$151.45
8.5 Provision of construction work by DSNP (NEW) (unbundled service)				
Provision of construction work by DSNP	Per Job	Hourly Rate	$176.42	$151.45
Materials (Cost + %)	Per Job	Fee	71.96%	71.96%
8.6 Warning Markers (NEW)				
Design	Per Job	Hourly Rate	$182.96	$157.15
Installation	Per Job	Hourly Rate	$176.42	$151.45
Hire - Tiger Tails	Per Tiger Tail	Fee	$2.42	$2.42
Hire - Warning Markers	Per Marker	Fee	$2.85	$2.85
Purchase - Warning Markers	Per Marker	Fee	$180.11	$180.11
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
8.7 High load escorts				
High load escorts	Per Job	Hourly Rate	$217.92	$177.36
9. Rectification Works to Maintain Network Safety				
9.1 Vegetation Clearing of Private Trees Encroaching DNSP Assets (NEW)				
Vegetation Clearing of Private Trees Encroaching DNSP Assets	Per Job	Fee	55.89%	55.89%
9.2 Inspection of Private Trees Encroaching DNSP Assets (NEW)				
Inspection of Private Trees Encroaching DSNP Assets	Per Job	Hourly Rate	$182.96	$157.15

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
9.3 Vegetation Clearing of Private Trees Encroaching Private Assets (NEW)				
Vegetation Clearing of Private Trees Encroaching Private Assets	Per Job	Fee	55.89%	55.89%
9.4 Rectification works by Essential Energy of Private Asset aerial mains defects (NEW)				
Admin	Per Job	Hourly Rate	$130.66	$104.77
Para Legal	Per Job	Hourly Rate	$178.51	$104.77
Field Worker	Per Job	Hourly Rate	$176.42	$151.45
Indoor Technical Officer	Per Job	Hourly Rate	$182.96	$157.15
Outdoor Technical Officer	Per Job	Hourly Rate	$217.92	$177.36
Engineer / Professional	Per Item	Hourly rate	$245.11	$196.44
Materials	Per Job	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
9.5 Rectification works by Essential Energy of DSNP's assets due to landowner encroachment issues (NEW)				
Admin	Per Job	Hourly Rate	$130.66	$104.77
Para Legal	Per Job	Hourly Rate	$178.51	$104.77
Field Worker	Per Job	Hourly Rate	$176.42	$151.45
Indoor Technical Officer	Per Job	Hourly Rate	$182.96	$157.15
Outdoor Technical Officer	Per Job	Hourly Rate	$217.92	$177.36
Engineer / Professional	Per Job	Hourly Rate	$245.11	$196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
10. Retailer of Last Resort				
10.1 Retailer of Last Resort (ROLR)				

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Retailer of Last Resort	Per Event	Cost	Cost per event	Cost per event
11. Planned Interruption - Customer Requested				
11.1 Planned Interruption - Customer Requested (NEW)				
Admin	Per Job	Hourly Rate	$106.54	$73.34
Field Worker	Per Job	Hourly Rate	$115.35	$106.02
Indoor Technical Officer	Per Job	Hourly Rate	$149.19	$110.00
Outdoor Technical Officer	Per Job	Hourly Rate	$149.19	$124.15
Engineer / Professional	Per Job	Hourly Rate	$171.36	$137.51
Contractor (contractor costs + %)	Per Job	Fee	55.89%	55.89%
12. Attendance at customers' premises - Statutory Right				
12.1 Attendance at customers' premises - Statutory Right				
Attendance at customers' premises - Statutory Right	Per Event	Hourly Rate	$176.42	$151.45
13. Inspection Services - Private electrical Installations and ASP's				
13.1 Inspection of Construction Work (by Level 1 ASP's)				
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - First 10 Lots - Grade A	Per Lot	Fee	$108.96	$88.68
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - Next 30 Lots - Grade A	Per Lot	Fee	$108.96	$88.68
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - Remainder - Grade A	Per Lot	Fee	$21.79	$17.74
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - First 10 Lots - Grade B	Per Lot	Fee	$261.51	$212.83
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - Next 30 Lots - Grade B	Per Lot	Fee	$152.54	$124.15
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - Remainder - Grade B	Per Lot	Fee	$87.17	$70.94
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - First 10 Lots - Grade C	Per Lot	Fee	$544.80	$443.40
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - Next 30 Lots -	Per Lot	Fee	$305.09	$248.31

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Grade C				
Underground Urban Residential Subdivision (Vacant Lots) - Per Lot - Remainder - Grade C	Per Lot	Fee	$146.01	$118.83
Rural Overhead Subdivisions and Rural Extensions - Per Pole - First 5 Poles - Grade A	Per Pole	Fee	$130.75	$106.42
Rural Overhead Subdivisions and Rural Extensions - Per Pole - Next 5 Poles - Grade A	Per Pole	Fee	$108.96	$88.68
Rural Overhead Subdivisions and Rural Extensions - Per Pole - Remaining Poles - Grade A	Per Pole	Fee	$87.17	$70.94
Rural Overhead Subdivisions and Rural Extensions - Per Pole - First 5 Poles - Grade B	Per Pole	Fee	$261.51	$212.83
Rural Overhead Subdivisions and Rural Extensions - Per Pole - Next 5 Poles - Grade B	Per Pole	Fee	$217.92	$177.36
Rural Overhead Subdivisions and Rural Extensions - Per Pole - Remaining Poles - Grade B	Per Pole	Fee	$152.54	$124.15
Rural Overhead Subdivisions and Rural Extensions - Per Pole - First 5 Poles - Grade C	Per Pole	Fee	$435.84	$354.72
Rural Overhead Subdivisions and Rural Extensions - Per Pole - Next 5 Poles - Grade C	Per Pole	Fee	$403.15	$328.12
Rural Overhead Subdivisions and Rural Extensions - Per Pole - Remaining Poles - Grade C	Per Pole	Fee	$326.88	$266.04
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - First 10 Lots - Grade A	Per Lot	Fee	$108.96	$88.68
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - Next 30 Lots - Grade A	Per Lot	Fee	$108.96	$88.68
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - Remaining Lots - Grade A	Per Lot	Fee	$108.96	$88.68
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - First 10 Lots - Grade B	Per Lot	Fee	$261.51	$212.83
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - Next 30 Lots - Grade B	Per Lot	Fee	$261.51	$212.83
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - Remaining Lots - Grade B	Per Lot	Fee	$261.51	$212.83
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - First 10 Lots - Grade C	Per Lot	Fee	$544.80	$443.40
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per Lot - Next 30 Lots - Grade C	Per Lot	Fee	$544.80	$443.40
Underground Commercial and Industrial or Rural Subdivisions (Vacant Lots) - Per	Per Lot	Fee	$544.80	$443.40

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Lot - Remaining Lots - Grade C				
Commercial / Industrial Developments and Sub Transmission - All Grades	Per Lot / Pole	Hourly Rate	$185.95 or $199.15	$177.36
Asset Relocations or Streetlighting (Not forming part of other categories) - All Grades	Per Lot / Pole	Hourly Rate	$185.95 or $199.15	$177.36
13.2 Inspection of service work (Level 2 ASP's)				
Per NOSW - A Grade	Per NOSW	Fee	$54.48	$44.34
Per NOSW - B Grade	Per NOSW	Fee	$91.53	$74.49
Per NOSW - C Grade	Per NOSW	Fee	$234.23	$212.83
13.3 Re-inspection of work of a service provider (Level 1 & Level 2 ASP's work)				
Reinspection (Level 1 & Level 2 work)	Per Job	Hourly Rate	$217.92	$177.36
13.4 Re-inspection Customer Installation				
Reinspection Customer Installation (per re-inspection CCEW)	Per Job	Hourly Rate	$217.92	$177.36
13.5 Investigation, review & implementation of remedial actions associated with work performed by ASP's				
Investigation, review & implementation separated by Incident Category (1-2 classification)	Hourly Rate		$178.58	157.15
Investigation, review & implementation separated by Incident Category (3-5 classification)	Per Job Fee		$2,678.50	$2357.22
13.6 Substation Inspection (NEW) (unbundled service)				
Substation Inspection - A Grade	Per Substation	Fee	$435.84	$354.72
Substation Inspection - B Grade	Per Substation	Fee	$762.72	$620.77
Substation Inspection - C Grade	Per Substation	Fee	$980.64	$798.13
13.7 Inspection Services of Privately Owned Electrical Infrastructure Assets (NEW)				
Admin	Per Job	Hourly Rate	$130.66	$104.77
Field Worker	Per Job	Hourly Rate	$176.42	$151.45
Outdoor Technical Officer	Per Job	Hourly Rate	$217.92	$177.36
Engineer	Per Job	Hourly Rate	$245.11	$196.44

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Materials	Per Job	Hourly Rate	71.96%	71.96%
Contractor (contractor costs + %)	Per Job	Fee	55.89%	55.89%
13.8 Inspection Customer Installation (NEW) (unbundled)				
Inspect Installation (customers) per CCEW	Per CCEW	Fee	$54.48	$53.18
14. Provision of Training to 3rd parties for Network Related Access				
14.1 Provision of Training to ASP's for Network Access				
Access Permit Recipient Training to ASPs (scheduled course)	Per Student	Fee	$287.64	$233.79
14.2 Provision of Design Related Training for Design Compliance (Level 3 ASP's) (NEW) (re-classified to alternative control)				
Provision of Design Related Training for Design Compliance (Level 3 ASP's)	Per Student	Fee	$283.25	$229.74
14.3 Provision of Training - Entry into Electrical Stations				
Provision of training - Entry Electrical Stations	Per Student	Fee	$366.03	$296.65
15. Customer Requested Lighting Services (NEW) (re-classified to alternative control)				
15.1 Provision of Security Lighting (NEW) (re-classified to alternative control)				
Nightwatch 250W	Per Light	Fee / Month	$26.04	$25.42
Nightwatch 400W	Per Light	Fee / Month	$27.07	$26.42
15.2 Provision of Luminaire Glare Shield				
Provision of Luminaire Glare Shield (customer requested)	Per Light	Fee	$518.97	$506.56
16. Off - Peak Conversion				
16.1 Off - Peak Conversion				
Off - Peak Conversion	Per Job	Fee	$109.38	$93.90
17. Authorisation of ASPs				
17.1 Authorisation of ASPs				
Authorisation - Initial	Per Authorisation	Fee	$653.47	$527.13
Authorisation - Renewal	Per Authorisation	Fee	$156.79	$125.72
17.2 ASP Authorisation Agreement				
Authorisation Agreement - Initial	Per Authorisation	Fee	$457.35	$379.77
Authorisation Agreement - Renewal	Per Authorisation	Fee	$65.33	$52.38

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
18. Customer Initiated Asset Relocations (NEW)				
18.1 Design and construction of asset relocations - customer funded				
Admin	Per Job	Hourly Rate	$130.66	$104.77
Para Legal	Per Job	Hourly Rate	$178.51	$104.77
Field Worker	Per Job	Hourly Rate	$176.42	$151.45
Indoor Technical Officer	Per Job	Hourly Rate	$182.96	$157.15
Outdoor Technical Officer	Per Job	Hourly Rate	$217.92	$177.36
Engineer / Professional	Per Item	Hourly Rate	$245.11	$196.44
Materials	Per Job	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
19. Terminations of Cable at electrical station - Distributer Required Performance (NEW) (re-classified to alternative control)				
19.1 DSNP Provided cable jointing & termination services for contestable works				
Indoor Technician	Per Job	Hourly Rate	$182.96	$157.15
Field Worker	Per Job	Hourly Rate	$176.42	$151.45
Outdoor Technician	Per Job	Hourly Rate	$217.92	$177.36
Engineer / Professional	Per Job	Hourly Rate	$245.11	$196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %				
CONNECTION FEES				
1. Premises Connection Assets (NEW)				
1.1 Part A. Design and construction of customer funded premises connection assets				
Admin	Per Job	Hourly Rate	130.66	104.77
Para Legal	Per Job	Hourly	178.51	104.77

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
		Rate		
Field Worker	Per Job	Hourly Rate	176.42	151.45
Indoor Technical Officer	Per Job	Hourly Rate	182.96	157.15
Outdoor Technical Officer	Per Job	Hourly Rate	217.92	177.36
Engineer / Professional	Per Job	Hourly Rate	245.11	196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %				
1.2 Part C. Part design and construction of connection assets where a customer requests that connection assets are designed and constructed to an increased standard (beyond that required by the distributors' standards and policies), and where those works are designed and constructed by the distributor (as a result of safety, reliability or security reasons).				
Admin	Per Job	Hourly Rate	130.66	104.77
Para Legal	Per Job	Hourly Rate	178.51	104.77
Field Worker	Per Job	Hourly Rate	176.42	151.45
Indoor Technical Officer	Per Job	Hourly Rate	182.96	157.15
Outdoor Technical Officer	Per Job	Hourly Rate	217.92	177.36
Engineer / Professional	Per Job	Hourly Rate	245.11	196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %				
2. Extensions (NEW)				
2.1 Part A. Design and construction of customer funded extensions				
Admin	Per Job	Hourly Rate	130.66	104.77

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Para Legal	Per Job	Hourly Rate	178.51	104.77
Field Worker	Per Job	Hourly Rate	176.42	151.45
Indoor Technical Officer	Per Job	Hourly Rate	182.96	157.15
Outdoor Technical Officer	Per Job	Hourly Rate	217.92	177.36
Engineer / Professional	Per Job	Hourly Rate	245.11	196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %				
3. Augmentations (NEW)				
3.1 Part C. Design and construction of customer funded network augmentation				
Admin	Per Job	Hourly Rate	130.66	104.77
Para Legal	Per Job	Hourly Rate	178.51	104.77
Field Worker	Per Job	Hourly Rate	176.42	151.45
Indoor Technical Officer	Per Job	Hourly Rate	182.96	157.15
Outdoor Technical Officer	Per Job	Hourly Rate	217.92	177.36
Engineer / Professional	Per Job	Hourly Rate	245.11	196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %				
3.2 Part D. Any shared network enlargement/enhancement undertaken by a distributor where a customer requests that assets are designed and constructed to an increased standard (beyond that required by the distributors' standards and policies).				
Admin	Per Job	Hourly Rate	130.66	104.77

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Para Legal	Per Job	Hourly Rate	178.51	104.77
Field Worker	Per Job	Hourly Rate	176.42	151.45
Indoor Technical Officer	Per Job	Hourly Rate	182.96	157.15
Outdoor Technical Officer	Per Job	Hourly Rate	217.92	177.36
Engineer / Professional	Per Job	Hourly Rate	245.11	196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %				
4. Connections under Chapter 5 of the NER (NEW)				
4.1 C. Design and construction of assets that are deemed non-contestable (generally as a result of safety, reliability or security reasons) and are undertaken by the DNSP.				
Admin	Per Job	Hourly Rate	130.66	104.77
Para Legal	Per Job	Hourly Rate	178.51	104.77
Field Worker	Per Job	Hourly Rate	176.42	151.45
Indoor Technical Officer	Per Job	Hourly Rate	182.96	157.15
Outdoor Technical Officer	Per Job	Hourly Rate	217.92	177.36
Engineer / Professional	Per Job	Hourly Rate	245.11	196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%
For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %			For these jobs, materials & other contractor costs are charged at purchase price / contractor costs + %	
5. Reconnections / Disconnections				
5.1 Disconnect / Reconnect - Vacant Premise				
Disconnect - Vacant Premise	Per Job	Fee	40.06	40.06
Reconnect - Vacant Premise	Per Job	Fee	48.41	48.41

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
5.2 Disconnect / Reconnect - Site visit only				
Disconnect / Reconnect - Site visit only	Per Job	Fee	37.37	37.37
5.3 Disconnect / Reconnect - Pole Top / Pillar				
Disconnect - Pole Top / Pillar Box	Per Job	Fee	317.48	265.04
Reconnect - Pole Top / Pillar Box	Per Job	Fee	317.48	265.04
5.4 Disconnect / Reconnect - Complete				
Disconnection - Complete	Per Job	Fee	54.62	54.62
Reconnection - Complete	Per Job	Fee	48.41	48.41
5.5 Disconnect / Reconnect - Technical Disconnection				
Disconnection - Technical Disconnection	Per Job	Fee	54.62	54.62
Reconnect - Technical Reconnection	Per Job	Fee	48.41	48.41
5.6 Reconnect - Outside of Normal Business Hours				
Reconnect - Outside of Normal Business Hours	Per Job	Fee	162.28	136.31
5.7 Illegal Connections				
Illegal Connections	Per Job	Hourly Rate	217.92	177.36
Meter FEEs				
1. Special Meter Reading and Testing (legacy meters)				
1.1 Move In / Move Out Read				
Move In / Move Out Read	Per Job	Fee	17.54	17.54
1.2 Special Meter Read (incl. wasted visit)				
Special Meter Read (incl. wasted visit)	Per Job	Fee	17.54	17.54
1.3 Special Meter Test – 1st				
Special Meter Test – 1st	Per Meter	Fee	740.93	603.03
1.4 Special Meter Tests – Additional				
Special Meter Tests – Additional	Per Meter	Fee	479.43	390.20
1.5 Special Meter Tests – CT Meter (NEW)				
Special Meter Tests – CT Meter (NEW)	Per Meter	Fee	893.48	727.18
2. Emergency maintenance of failed metering equipment not owned by the distributor (contestable meters) (NEW)				
2.1 Unplanned Outage – Meter Fault (Site attendance)				
Unplanned Outage – Meter Fault (Site attendance) (NT)	Per Job	Fee	431.90	369.29

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Unplanned Outage – Meter Fault (Site attendance) (OT)	Per Job	Fee	697.20	613.13
2.2 Unplanned Outage – Meter HW Fault (Site attendance)				
Unplanned Outage – Meter HW Fault (Site attendance) (NT)	Per Job	Fee	431.90	369.29
Unplanned Outage – Meter HW Fault (Site attendance) (OT)	Per Job	Fee	697.20	613.13
2.3 Unplanned Outage – Retailer outage impacting non retailer customer (Site attendance)				
Unplanned Outage – Retailer outage impacting non retailer customer (Site attendance) (NT)	Per Job	Fee	351.31	293.57
Unplanned Outage – Retailer outage impacting non retailer customer (Site attendance) (OT)	Per Job	Fee	563.44	484.40
2.4 Unplanned Outage – Remote De-Energisation – EE not notified (Site attendance)				
Unplanned Outage – Remote De-Energisation – EE not notified (Site attendance) (NT)	Per Job	Fee	343.70	293.57
Unplanned Outage – Remote De-Energisation – EE not notified (Site attendance) (OT)	Per Job	Fee	551.32	484.40
3. Meter recovery and disposal – type 5 and 6 (legacy meters) (NEW)				
3.1 Redundant Meter Disposal				
Redundant Meter Disposal	Per Occasion	Fee	32.66	26.19
4. Distributor arranged outage for purposes of replacing meter (NEW)				
4.1 Retailer Requested Distributer Planned Interruption – Cancellation after notification				
Retailer Requested Distributer Planned Interruption – Cancellation after notification	Per Job	Fee	539.05	457.20
4.2 Retailer Requested Distributer Planned Interruption – Initial Visit				
Retailer Requested Distributer Planned Interruption – Initial Visit (NT)	Per Job	Fee	473.39	403.06
Retailer Requested Distributer Planned Interruption – Initial Visit (OT)	Per Job	Fee	744.46	652.20
4.3 Retailer Requested Distributer Planned Interruption – Isolation Completed				
Retailer Requested Distributer Planned Interruption – Isolation Completed (NT)	Per Job	Fee	401.19	343.67
Retailer Requested Distributer Planned Interruption – Isolation Completed (OT)	Per Job	Fee	654.96	576.91
Retailer Requested Distributer Planned Interruption – Isolation Completed – Additional Labour Required NT	Per Job	Hourly Rate	176.42	151.45
Retailer Requested Distributer Planned Interruption – Isolation Completed – Additional Labour Required OT	Per Job	Hourly Rate	291.77	257.47
4.4 Retailer Requested Distributer Planned Interruption – Early Cancellation				
Retailer Requested Distributer Planned Interruption – Early Cancellation	Per Job	Fee	48.35	40.77
4.5 Retailer Requested Distributer Planned Interruption – MC No Attendance				

	Fee Category	Fee Type	Essential proposal 2019–20*	AER Draft Decision 2019–20
Retailer Requested Distributer Planned Interruption – MC No Attendance (NT)	Per Job	Fee	357.09	305.81
Retailer Requested Distributer Planned Interruption – MC No Attendance (OT)	Per Job	Fee	455.13	395.92
5. Customer requested provision of additional metering/consumption data (NEW)				
5.1 Provision of metering consumption data				
Provision of metering consumption data	Per Occasion	Fee	32.67	26.19
1. Non-Standard Connection Services (NEW)				
1.1 Part C. Inspection, Maintenance & Testing of Customer Assets.				
Admin	Per Job	Hourly Rate	127.53	104.77
Para Legal	Per Job	Hourly Rate	174.24	104.77
Field Worker	Per Job	Hourly Rate	172.20	151.45
Indoor Technical Officer	Per Job	Hourly Rate	178.58	157.15
Outdoor Technical Officer	Per Job	Hourly Rate	212.71	177.36
Engineer / Professional	Per Job	Hourly Rate	239.25	196.44
Materials	Per Item	Fee	71.96%	71.96%
Contractor	Per Job	Fee	55.89%	55.89%

Source: Essential Energy ACS pricing models; AER Analysis.

Note: The AER has escalated Essential's proposed prices from $2018–19 to $2019–20 using forecast CPI of 2.45 per cent for the purposes of this table.

Table 15-7 Quoted service ancillary network services hourly labour rates for 2019–20, draft decision ($2019–20)

Essential labour category	AER labour category[1]	AER draft decision – maximum hourly rate
Admin (NH)	Admin (NH)	**104.77**
Admin (AH)	Admin (AH)	**178.10**

Essential labour category	AER labour category[1]	AER draft decision – maximum hourly rate
Paralegal (NH)	Admin (NH)	**104.77**
Paralegal (AH)	Admin (AH)	**178.10**
Indoor technical officer (NH)	Technical specialist (NH)	**157.15**
Indoor technical officer (AH)	Technical specialist (AH)	**267.15**
Outdoor technical officer (NH)	Technical specialist outdoor (NH)	**177.36**
Outdoor technical officer (AH)	Technical specialist outdoor (AH)	**301.51**
Engineer/Professional (NH)	Senior Engineer (NH)	**196.44**
Engineer/Professional (AH)	Senior Engineer (AH)	**333.94**
Field worker (NH)	Field Worker (NH)	**151.45**
Field worker (AH)	Field Worker (NH)	**257.47**

Source: Essential attachment 17.7 ANS Model – ANS Pricing Model 19_24 output.

Note: While Essential presents 2019–20 labour rates and charges in its regulatory proposal they are actually in $2018–19 and Essential notes that inflation will need to be applied. For the purposes of our analysis we have escalated labour rates to 2019–20 by using CPI of 2.45 per cent.
NH = Normal Hours; AH = After Hours

Table 15-8 AER draft 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	-0.71%	-1.15%	-1.28%	-1.08%

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.

C Public lighting services charges

Table 15-9 Public Lighting charges for 2019–20, AER draft decision ($2019–20)

Support Type	Essential Proposal	Draft Decision	Essential Proposal	Draft Decision
	Capex - $2019–20[32]	Capex - $2019–20	Opex - $2019–20[33]	Opex – 2019–20
7.5m Steel Column Single Outreach	212.39	158.74	13.48	13.38
7.5m Steel Column Double Outreach	219.91	165.77	13.48	13.38
9.0m Steel Column Single Outreach	285.84	227.51	13.48	13.38
9.0m Steel Column Double Outreach	322.50	261.84	13.48	13.38
10.5m Steel Column Single Outreach	341.67	279.80	13.48	13.38
10.5m Steel Column Double Outreach	394.86	329.61	13.48	13.38
12.0m Steel Column Single Outreach	388.88	324.01	13.48	13.38
12.0m Steel Column Double Outreach	397.29	331.88	13.48	13.38
12m Roundabout Column	527.12	453.46	13.48	13.38
15m Roundabout Column	453.46	384.48	13.48	13.38
18m Roundabout Column	781.51	691.68	13.48	13.38
9.5m Timber Pole	112.37	65.07	15.63	15.52
11m Timber Pole	157.80	107.61	15.63	15.52
12.5m Timber Pole	173.50	122.31	15.63	15.52
14m Timber Pole	184.13	132.27	15.63	15.52
15.5m Timber Pole	195.51	142.93	15.63	15.52
Decorative Category P Column	239.68	184.29	13.48	13.38
Suspended			31.26	31.03

[32] The price submitted by Essential Energy on its public lighting model - Attachment 17.5 with their April 2018 proposal had charges in $2018–19, for the purpose of comparison we have converted the proposed prices into $2019–20 terms.

[33] The price submitted by Essential Energy on its public lighting model - Attachment 17.5 with their April 2018 proposal had charges in $2018–19, for the purpose of comparison we have converted the proposed prices into $2019–20 terms.

Night Patrol	Essential Proposal	Draft Decision
Opex charges - $2019–20		
Night Patrol Per Asset Inspection	15.53	15.42

Bracket Type	Essential Proposal	Draft Decision
Capex charges - $2019–20		
Streetlight Bracket Category P	52.12	48.81
Streetlight Bracket Category V	86.44	80.94

Traditional Luminaire Type	Essential Proposal	Draft Decision	Essential Proposal	Draft Decision
	Capex - $2019–20	**Capex - $2019–20**	**Opex - $2019–20**	**Opex – 2019–20**
Tubular Fluorescent <40W	-	-	57.60	49.34
Tubular Fluorescent >40W	24.95	23.84	57.35	49.09
42W CFL Standard	33.07	31.60	65.64	56.59
42W CFL Decorative	92.75	88.63	65.64	56.59
32W Compact Fluorescent	89.19	85.23	68.05	58.98
2x14W T5 Fluoro	-	-	70.45	60.89
50W High Pressure Sodium	-	-	101.27	79.03
50W High Pressure Sodium – Twin Arc	31.42	30.02	66.69	58.36
70W High Pressure Sodium	30.79	29.42	99.29	79.12
70W High Pressure Sodium – Twin Arc	31.42	30.02	61.63	53.41
100W High Pressure Sodium	-	-	99.29	79.12
120W High Pressure Sodium	-	-	89.00	79.65
150W High Pressure Sodium	68.02	65.00	89.00	79.65
150W High Pressure Sodium – Twin Arc	69.79	66.69	74.85	66.60
220W High Pressure Sodium	-	-	89.81	80.42
250W High Pressure Sodium	68.02	65.01	89.81	80.42
250W High Pressure Sodium – Twin Arc	75.89	72.52	85.87	77.39
2x250W High Pressure Sodium	-	-	89.81	80.42

Traditional Luminaire Type	Essential Proposal	Draft Decision	Essential Proposal	Draft Decision
310W High Pressure Sodium	-	-	89.81	80.42
360W High Pressure Sodium	78.61	75.12	97.75	88.45
400W High Pressure Sodium	78.61	75.12	97.75	88.45
400W High Pressure Sodium – Twin Arc	81.85	78.22	76.35	68.24
2x400W High Pressure Sodium	-	-	97.75	88.45
3x400W High Pressure Sodium	-	-	97.75	88.45
1000W High Pressure Sodium	-	-	299.05	107.79
Incandescent 60	-	-	58.96	50.45
Incandescent 75	-	-	58.96	50.45
Incandescent 100	-	-	58.96	50.45
Incandescent 150	-	-	58.96	50.45
Incandescent 200	-	-	58.96	50.45
Incandescent 300	-	-	58.96	50.45
Incandescent 500	-	-	58.96	50.45
Incandescent 1500	-	-	58.96	50.45
55W Low Pressure Sodium	68.02	65.01	131.57	120.39
100W Low Pressure Sodium	68.02	65.01	132.07	120.89
135W Low Pressure Sodium	-	-	167.47	156.03
150W Low Pressure Sodium	-	-	167.47	156.03
310W Low Pressure Sodium	-	-	167.47	156.03
70W Metal Halide	-	-	142.61	130.77
150W Metal Halide	-	-	142.61	130.77
250W Metal Halide	68.02	65.01	142.61	130.77
400W Metal Halide	68.02	65.01	149.42	137.53
1000W Metal Halide	153.58	146.77	299.05	107.79
50W Mercury Vapour	24.95	23.84	82.69	71.53
80W Mercury Vapour	24.95	23.84	70.11	60.38
125W Mercury Vapour	-	-	78.44	67.82
250W Mercury Vapour	68.02	65.01	134.95	86.31
400W Mercury Vapour	68.02	65.01	152.63	87.81

Traditional Luminaire Type	Essential Proposal	Draft Decision	Essential Proposal	Draft Decision
250W HPS Night watch	87.88	83.98	89.81	80.42
400W HPS Night watch	89.90	85.91	97.75	88.45
250W MH Night watch	230.66	224.14	89.81	80.42
400W MH Night watch	234.02	227.40	97.75	88.45

LED Luminaire Type	Essential Proposal	Draft Decision	Essential Proposal	Draft Decision
	Capex - $2019–20	Capex - $2019–20	Opex - $2019–20	Opex – 2019–20
23W LED Gerard Street LED	69.88	67.90	40.64	33.17
17W LED Gerard Street LED	71.85	69.82	40.64	33.17
17W LED Gerard Street LED Aero screen	73.90	71.81	40.64	33.17
17W LED Gerard Street LED Louvered	73.90	71.81	40.64	33.17
22W LED Gerard Street LED	71.85	69.82	40.64	33.17
25W LED GE Evolve	52.21	50.73	47.79	39.46
35W LED Pecan Luminaire	87.26	84.79	40.03	32.63
29W LED Pecan Luminaire – Aero screen	87.26	84.79	39.76	32.40
42W LED Gerard Street LED	141.74	137.74	40.64	33.17
42W LED Pecan Luminaire	141.74	137.74	45.40	37.96
36W LED Pecan Luminaire – Aero screen	141.74	137.74	45.40	37.96
105W LED Aldridge Luminaire	226.66	220.25	45.40	37.96
198W LED Aldridge Standard Distribution	239.91	233.13	48.23	40.59
198W LED Aldridge Forward Distribution	237.40	230.69	48.23	40.59
298W LED Aldridge Luminaire	267.30	259.74	48.23	40.59
100W LED Aldridge Luminaire	238.89	232.14	48.23	40.59
200W LED Aldridge Luminaire	238.89	232.14	48.23	40.59
300W LED Aldridge Luminaire	266.13	258.60	48.23	40.59

D Metering services charges

Table 15-10 Metering X factors for 2019–24, Essential Proposed

Period	2019–20	2020–21	2021–22	2022–23	2023–24
Operating and Maintenance – All Basic Meters	n/a	-3.7466%	-5.6731%	-10.3319%	-10.0137%
Capital Recovery – Meters Installed Pre 30 June 15	n/a	-1.2932%	0.3942%	0.1921%	0.2608%

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

Table 15-11 Metering X factors for 2019–24, AER Draft Decision

Period	2019–20	2020–21	2021–22	2022–23	2023–24
Operating and Maintenance – All Basic Meters	n/a	-1.6357%	-3.7753%	-8.8152%	-7.9868%
Capital Recovery – Meters Installed Pre 30 June 15	n/a	-1.2932%	0.3942%	0.1921%	0.2608%

Table 15-12 Annual Metering Charges for 2019–20 ($nominal), Essential proposed

$2018–19 excl. GST	Operating and Maintenance - All Basic Meters	Capital Recovery - Meters Installed Pre 30 June 15	Operating and Maintenance and Capital Recovery
Residential Anytime	$22.89	$10.04	$32.92
Residential TOU	$34.33	$14.61	$48.94
Small Business anytime	$22.89	$10.04	$32.92
Small Business TOU	$34.33	$14.61	$48.94
Controlled Load	$5.72	$4.57	$10.29

Table 15-13 Annual Metering Charges for 2019–20 ($nominal), AER Draft Decision

$2018–19 excl. GST	Operating and Maintenance - All Basic Meters	Capital Recovery - Meters Installed Pre 30 June 15	Operating and Maintenance and Capital Recovery
Residential Anytime	$21.73	$10.04	$31.77
Residential TOU	$32.60	$14.61	$47.21
Small Business anytime	$21.73	$10.04	$31.77
Small Business TOU	$32.60	$14.61	$47.21
Controlled Load	$ 5.43	$ 4.57	$10.00