Draft decision

Essential Energy distribution determination

2015–16 to 2018–19

Attachment 16: Alternative control services

November 2014

AUSTRALIAN ENERGY REGULATOR

Inquiries about this document should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001
Tel: (03) 9290 1444
Fax: (03) 9290 1457
Email: AERInquiry@aer.gov.au

AER reference: 54419

Note

This attachment forms part of the AER's draft decision on Essential Energy's 2015–19 distribution determination. It should be read with other parts of the draft decision.

The draft decision includes the following documents:

Overview

Attachment 1 – Annual revenue requirement

Attachment 2 – Regulatory asset base

Attachment 3 – Rate of return

Attachment 4 – Value of imputation credits

Attachment 5 – Regulatory depreciation

Attachment 6 – Capital expenditure

Attachment 7 – Operating expenditure

Attachment 8 – Corporate income tax

Attachment 9 – Efficiency benefit sharing scheme

Attachment 10 – Capital expenditure sharing scheme

Attachment 11 – Service target performance incentive scheme

Attachment 12 – Demand management incentive scheme

Attachment 13 – Classification of services

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Attachment 17 – Negotiated services framework and criteria

Attachment 18 – Connection policy

Contents

Shortened forms

Shortened form	Extended form
AARR	aggregate annual revenue requirement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ASRR	aggregate service revenue requirement
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
CPI-X	consumer price index minus X
DRP	debt risk premium
DMIA	demand management innovation allowance
DMIS	demand management incentive scheme
distributor	distribution network service provider
DUoS	distribution use of system
EBSS	efficiency benefit sharing scheme
ERP	equity risk premium
expenditure assessment guideline	expenditure forecast assessment guideline for electricity distribution
F&A	framework and approach
MRP	market risk premium

Shortened form	Extended form
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
RBA	Reserve Bank of Australia
repex	replacement expenditure
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue pricing principles
SAIDI	system average interruption duration index
SAIFI	system average interruption frequency index
SLCAPM	Sharpe-Lintner capital asset pricing model
STPIS	service target performance incentive scheme
WACC	weighted average cost of capital

16 Alternative control services

This attachment sets out the Australian Energy Regulator's draft decision on Essential Energy's alternative control services: ancillary network services, metering and public lighting.

As discussed in our Stage 1 Framework and Approach (F&A) for the 2014–15 and 2015–19 regulatory control periods, alternative control services are customer specific or customer requested services and so the full cost of the service is attributed to that particular customer.[1] This is in contrast to standard control services where costs are spread across the general network customer base.

16.1 Draft decision

Our draft decision is to classify ancillary network services, metering and public lighting as alternative control services, as proposed in our Stage 1 F&A, with one exception. In our metering decision, we reclassify the residual capital costs as a standard control service. This means that when customers exit regulated metering, the residual capital costs (the capital costs the customer would have paid through annual metering charges had they remained a regulated metering customer) will be recovered from the general customer base through network tariffs.

Our draft decision also maintains our Stage 1 F&A position 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 approve some elements of Essential Energy's proposed fees for ancillary network services, metering and public lighting where the proposed fees exceed the efficient cost of providing the services. Our substitute price caps are set in appendix A.

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

- Section 16.5 – Ancillary Network Services
- Section 16.6 – Metering
- Section 16.7 – Public lighting

16.2 Essential Energy's proposal

We received separate proposals from Essential Energy for ancillary network services, metering and public lighting. Essential Energy accepted that ancillary network services, metering and public lighting should be classified as alternative control services, and subject to a price cap control mechanism, in accordance with our Stage 1 F&A. They nominated specific prices for each service.

Figure 16-1 shows Essential Energy's historical (2008–09 to 2012–13), estimated (2013–14) and proposed annual expenditure (2014–15 to 2018–19). This is for each category of alternative control services. Figure 16-2 compares that expenditure as a percentage of Essential Energy's total expenditure for all direct control services.[2]

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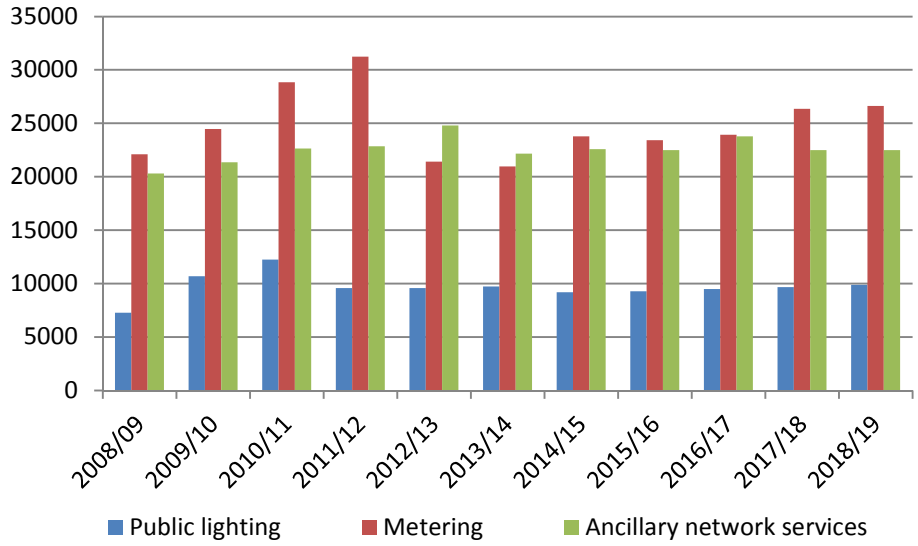
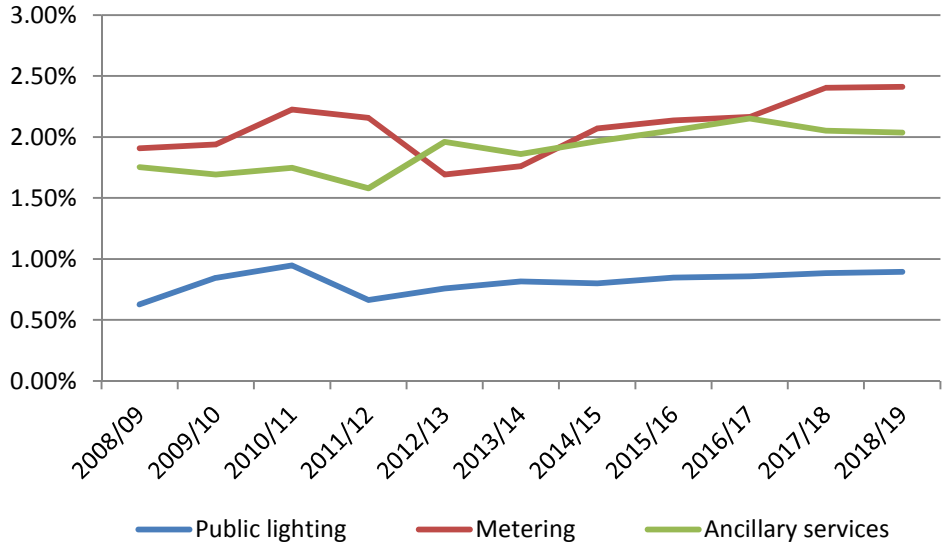
1 AER, *Stage 1 Framework and Approach paper Ausgrid, Endeavour Energy and Essential Energy*, March 2013, p. 8.
2 Direct control services are made up of standard control services and alternative control services.

Figure 16-1 Essential Energy's alternative control services expenditure ($000, 2014–15)



Source: AER analysis; Essential Energy, *Response to reset regulatory information notice (consolidated)*, May 2014.

Figure 16-2 Essential Energy's alternative control expenditure as a percentage of total direct control expenditure (standard and alternative control)



Source: AER analysis; Essential Energy, *Response to reset regulatory information notice (consolidated)*, May 2014.

16.3 AER's 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 distribution determination must state the basis of the control mechanism to apply to alternative control services.[3] Our decision on the form of control mechanism for alternative control services must be in accordance with our Stage 1 F&A.[4] The formulae that give effect to the form of control must be as set out in the F&A unless we consider that unforeseen circumstances justify a departure.[5]

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.[6] The control mechanism for alternative control services may use elements of the building block model for standard control services but there is no 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. For metering and public lighting we used a limited building block analysis for our cost assessment.

Details of our assessment approach are set out in the relevant sections:

Section 16.5.4 – Ancillary network services

Section 16.6.3 – Metering

Section 16.7.4 – Public lighting

16.4 Interrelationships

In the transitional regulatory control period 2014–15 alternative control service charges were increased by CPI of 2.5 per cent from the previous year, regardless of the costs incurred to provide those services.

We will apply a true up for ancillary network service and metering but not for public lighting. We are not applying a true up for public lighting because on average we are reducing the public lighting charges. The mechanism required would be complex and, unlike ancillary network services and metering which have been reclassified from standard control to alternative control services, public lighting is currently and is continuing to be classified as an alternative control service.

Although ancillary network services and metering have changed classification since the 2009–14 regulatory control period, for the purposes of the 2014–15 transitional regulatory control period, the existing classification applied i.e. standard control service. Therefore we had determine whether the true up for ancillary network services and metering should be returned or recovered to the general customer base or alternative control service users.

[3] NER, cl. 6.2.6(b).
[4] NER, cl. 6.12.1(12).
[5] NER, cl. 6.12.3(c1).
[6] NER, cl. 6.2.6(b) & (d).

Ausgrid, Endeavour Energy and Essential Energy all proposed a similar true up mechanism to account for differences between the prices charged for ancillary network services and metering with the actual costs incurred in the transitional regulatory control period. In summary they propose:

- That it would be technically correct to true up under and over recovery via an adjustment of ancillary network service and metering charges in one or more years of the 2015–19 regulatory control period. However, from a fairness perspective the businesses proposed that the amount should be returned or recovered from the customer group that incurred the charges in the transitional year (in this case the general customer base i.e. distribution use of system (DUoS) charges).
- This would also provide charges that are cost reflective for ancillary network services and metering and avoid the situation where a customer in the 2015–19 period has to pay a substantial uplift in charges for unrecovered amounts. The impact of the adjustment would be far more diluted when applied to a large customer base (i.e. DUoS charges).

We agree in general terms with the proposals put forward by the NSW service providers for a true-up of ancillary network services and metering through DUoS charges. We had regard to the following rules in making our decision.

Clause 11.56.3(i) of the NER provides:

> For the purposes of the application of clause 6.15.2(7) of transitional chapter 6, the transitional regulatory control period must be treated as if it were the last regulatory year of the current [ie 2009-2014] regulatory control period of the affected DNSP, and not a separate regulatory control period.

Clause 6.15.2(7) provides:

> (7) costs which have been allocated to a particular service cannot be reallocated to another service during the course of a regulatory control period.

We consider the combination of these provisions means that if costs for a service were attributable to standard control services in the 2009–2014 regulatory control period, then they must be allocated to standard control services in the transitional year. This is regardless of how the service might be classified in the transitional year and how prices might be established. Accordingly any under or over recovered costs associated with metering and ancillary network services in the transitional regulatory control period as a result of prices being adjusted by CPI would need to be recovered or removed from the standard control revenue in the 2014–15 regulatory control period. Our consideration of the mechanics of the true-up is discussed in more detail in the annual revenue requirement attachment 1.

16.5 Ancillary network services

Ancillary network services are non-routine services provided to individual customers on an 'as needs' basis. Ancillary network services comprise about two per cent of Essential Energy's total revenue requirement.

In the 2009–14 regulatory control period, ancillary network services were classified as standard control services and were referred to as 'miscellaneous' services and 'monopoly' services. These services are now referred to as ancillary network services and have been re-classified as alternative control services. The fees and labour rates for these services were originally set by the Independent

Regulatory and Pricing Tribunal (IPART) in 1999. Since that time, the fees have only been indexed by inflation (in 2009 labour escalation was also taken into account).[7]

In our final 2009–14 final decision we accepted that there may be some prices for miscellaneous and monopoly services that are currently not fully cost reflective or may become less cost reflective over time. We decided to look more closely at the pricing of miscellaneous and monopoly services for the 2015–2019 regulatory control period.

The monopoly services which have now been re-classified as ancillary networks services include:

- Administration fees
- Design information fees
- Design certification fees
- Design re-certification fees
- Notification of arrangement
- Compliance Certificate
- Inspection fee
- Inspection fee (outside normal business hours)
- Re-inspection fee (level 1 and level 2 work)
- Inspection of service work (level 2 work)
- Provision of access fee
- Access permits
- Substation commission fee
- Authorisations renewal
- Site establishment fee.

Current monopoly services fees were calculated by multiplying the time taken to provide the service by the hourly labour rate.

For the avoidance of doubt, this draft decision considers ancillary network services (current miscellaneous and monopoly services) for which a fee is calculated to be a fee based service. That is, a fee has been struck based on the cost of providing the service (labour rates) and the average time taken to perform the service. This fee is fixed and applies irrespective of the actual time taken on-site to perform it which may vary from the benchmark set in this decision.

By contrast, quoted services are those which are one-off and specific or unique to a particular customer's request. The cost of this service will depend on the actual (rather than benchmark draft decision) time taken to perform the service.

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[7] AER, *Final Decision New South Wales distribution determination 2009–10 to 2014–14*, pp. 57–58.

16.5.1 Draft decision

Fee based services

Our draft decision is to not approve the majority of Essential Energy's proposed prices for fee based ancillary network services because we do not consider the proposed fees reflect efficient costs.

We approve the fees Essential Energy proposed for the following services as we consider these reflect efficient costs:

- ASP inspection L1 – UG urban
- ASP inspection L1 – OH rural
- ASP inspection L1 – UG urban C&I or rural
- Reconnection/disconnection – out of business hours
- Office fees – debt collection costs – dishonoured transaction
- Office fees – ROLR services.

Table 16-1 below sets out our draft decision for maximum prices for some frequently requested fee based ancillary network services. Appendix A.1.1 sets a full list of our decision on maximum prices for ancillary network services.

Table 16-1: Essential Energy proposed fees and AER draft decision fees, ($2014–15)

Service	Current fees	Essential Energy proposed	(proposed cf current, per cent)	AER draft decision	(draft cf proposed, per cent)
Move In/Move Out Read and Special Read	44.00	83.20	89.1	82.51	-0.8
AMS - meter test - first meter	73.00	458.76	528.4	454.91	-0.8
Conveyancing enquiry	37.00	63.71	72.2	59.27	-7.0
Off-peak conversion	59.00	82.17	39.3	82.51	0.4
Disconnection visit	44.00	94.45	114.7	93.66	-0.8
Reconnect/disconnect completed	88.00	126.05	43.2	124.32	-1.4
Disconnection at pole top / pillar box	148.00	464.82	214.1	460.24	-1.0
Rectification works - general	221.00	377.54	70.8	358.46	-5.1
Reconnection outside normal business hours	95.00	131.97	38.9	131.97	0.0

Note: This is not a full set of all the ancillary network services.

Quoted services

Prices for certain ancillary network services will be determined on a quoted basis. Typically, prices for quoted services are based on quantities of labour and materials with the quantities dependent on the particular task. Our draft decision for Essential Energy's hourly labour rates is set out in Table 16-2 below. These hourly labour rates are maximum rates that should apply for the calculation of charges for ancillary network services offered on a quotation basis.

Table 16-2 AER maximum hourly 2014–15 labour rates (including on-costs and overhead) for quoted services, ($2014–15)

Classification	Essential Energy proposed labour rates - includes on-cost and overhead	AER Draft Decision maximum labour rate - includes on-cost and overhead specific to Essential Energy
Admin	117.50	85.98
Technical specialist	149.02	130.06
	177.50	154.94
EO 7/Engineer	199.67	177.39
Field worker R4	134.93	130.87
	121.98	118.31

Source: Marsden Jacob analysis of DNSP labour rates and on-costs.

Form of control—Fee based services

The draft decision applies a price cap as the form of control to fee based services. Under this form of control a schedule of prices is set for the first year. For the following years the previous year's prices are adjusted by CPI and an X factor. The form of control for fee based ancillary network services is set out below:

$$\overline{p}_i^t \geq p_i^t \qquad \text{i=1,...,n and t=1,..,4,}$$

$$\overline{p}_i^t = \overline{p}_i^{t-1}(1+CPI_t)(1-X_i^t)+A_i^t$$

Where:

$\overline{p}_i^t$ is the cap on the price of service i in year t. However, for 2015–16 this is the price as determined in Appendix A.1.1.

p_i^t is the price of service i in year t.

CPI_t is the percentage increase in the consumer price index. It is calculated as follows:

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the December Quarter immediately preceding the start of regulatory year t;

divided by

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the December Quarter immediately preceding the start of regulatory year t-1;

minus one.

X_i^t is the value of X for the year t in the regulatory control period, as set out in table 16.3 below.

Table 16-3 – AER draft decisions on X factor for each year of the regulatory control period

	2015–16	2016–17	2017–18	2018–19
X factor	-0.54	-0.87	-1.00	-0.89

A_i^t is an adjustment factor. Likely to include, but not limited to adjustments for residual charges when customers choose to replace assets before the end of their economic life. (For ancillary network services we consider the value for A is zero).

$\overline{p}_i^1$ is the cap on the price of service i in the first year of the subsequent regulatory control period. As set out in Appendix A.1.1.

Essential Energy proposed that a pass through provision should be incorporated into the form of control mechanism for alternative control services. Essential Energy submitted that it has used an approach to price setting similar to the building block approach, therefore, the costs of providing alternative control services can be adjusted to account for the impact of pass through events.

However, our form of control mechanisms must be as set out in our F&A.[8] The formulae giving effect to the control mechanisms must be the same as that set out in the F&A, unless we consider that unforeseen circumstances justify a departure.[9] Consequently, we cannot amend the form of control for alternative control services to incorporate a pass through element because these are not unforeseen.

Form of control—quoted services

The draft decision caps input prices as the form of control for quoted services as shown in the following expression:

Price = labour + contractor services + materials

Contractor services (including overheads)—reflects all costs associated with the use of external labour in the provision of the service, including overheads and any direct costs incurred as part of performing the service. The contracted services charge applies the rates under existing contractual

8 NER, cl.6.12.3(c).
9 NER, cl.6.12.3(c1).

arrangements. Direct costs incurred as part of performing the service, for example permits for road closures or footpath access, are passed on to the customer.

Materials (including overheads)—reflects the cost of materials directly incurred in the provision of the service, material storage and logistics on costs and overheads.

Labour is the maximum hourly charge out rate as set out in Table 16-4 AER draft decision on Essential Energy maximum labour charge rates for quoted services. The maximum labour charge out rates includes on-costs and overhead.

Table 16-4 AER draft decision on Essential Energy maximum labour charge rates for quoted services, ($2014–15)

Classification	AER Draft Decision maximum labour rate - includes on-cost and overhead
Admin	85.98
Technical specialist	130.06
	154.91
EO 7/Engineer	177.39
Field worker R4	130.87
	118.31

Source: Marsden Jacob.

The following Table 16-5 sets out the escalation rates for each year that can apply to the labour rates set out in Table 16-4 above (for discussion on the escalation factor see opex rate of change, attachment 7.

Table 16-5 AER draft decision on labour escalation factor to apply to maximum labour charge-out rates for quoted services

	2015–16	2016–17	2017–18	2018–19
Labour escalation factor	0.54	0.87	1.00	0.89

Source: AER analysis.

16.5.2 Proposal

Essential Energy provides some services on a per service basis and others on a per hour basis.[10]

Fee based services

Essential Energy submitted that costs charged on a per services basis are closely correlated to the number of services provided. The number of services performed drive these costs – time taken to perform the service is also an input.[11] Essential Energy will apply a CPI increase to these charges each year.[12]

[10] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 5.
[11] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 5.
[12] Essential Energy, *Regulatory proposal, Attachment 8.10 – Charges for Ancillary Network Services*, May 2014, p. 3.

Essential Energy submitted that its labour costs incorporate statutory on-costs and the time taken to perform a service.[13] Other operating costs include materials. Overheads are applied to base labour, fleet and materials costs as per the AER's Cost Allocation Methodology (CAM).[14] A financing charge is applied to account for the time value of money.[15]

Essential Energy's cost build-up approach develops a unit price for each ancillary network service.[16] Essential Energy did this by:

- calculating an hourly rate for each relevant employee class, having regard to the base rate plus statutory on-costs, multiplied by the applicable time taken. This determined a direct unit cost for each task[17]
- developing estimates for the time taken to perform various tasks[18]
- applying the forecast unit rate to the volumes forecast for the 2014–19 regulatory period to calculate direct operating expenditure for each ancillary network service[19]
- applying a standardised plant or fleet cost to the estimated time taken (for some services).[20]
- applying costs for stores, materials and other costs to applicable services[21]
- applying overheads to direct costs based on our CAM, and a finance charge to account for the timing difference of payments.[22]

Quoted services

Essential Energy proposes to charge for its other ancillary network services at the hourly rates shown in Table 16-6.

Table 16-6 Essential Energy – proposed labour rates, ($2013–14)

Labour class	Hourly rate	Overtime hourly rate
Admin R1	113.22	151.52
Design R2a	143.59	192.16
Inspector R2b	171.03	219.01
Engineer R3	192.38	247.59
Field worker R4	130.01	164.11

Source: Essential Energy, *Regulatory proposal, Attachment 8.10 – Charges for Ancillary Network Services*, May 2014, p. 4.
* Essential Energy proposes to apply an overtime hourly rate for services outside the hours of 7.30am and 4pm.

[13] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 6.
[14] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 6.
[15] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 6.
[16] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 7.
[17] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 7.
[18] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 7.
[19] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 7.
[20] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 7.
[21] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 7.
[22] Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 7.

Compliance with the control mechanism

Essential Energy proposes to apply price caps on the charges of individual services to all alternative control services. Essential Energy states that it has adopted our approach to the proposed form of control and will demonstrate compliance with the control formulae through the annual pricing proposal process.

Essential Energy proposes that the pass through provisions in the rules should apply to alternative control services and should form part of the basis of our form of control.[23]

16.5.3 Submissions

De-energisation and re-energisation:

AGL submitted that in South Australia, Queensland, and Victoria:

- There are separate de-energisation and re-energisation fees. This provides greater transparency for customers and retailers
- Separating fees makes additional services available
- To ensure that customers moving into a property that was disconnected are not disadvantaged, a general move-in fee is charged. This covers the cost of a move-in read, plus any re-energisation work.[24]

De-energisation/re-energisation – pillar/pole (failed):

AGL submitted that:

- This fee is inappropriate and it is unclear in what circumstances a pole-top disconnection should fail
- It is unclear why the fee is so high – this is technically a site visit.

De-energisation/re-energisation – pillar/pole (completed):

AGL submitted that if disconnection is for non-payment of debt, the customer would be placed further into debt. And, it would discourage retailers and distributors from disconnecting a customer for debt when the customer's debt is growing (and there is limited likelihood of recovering the debt).[25]

Attendance to perform a statutory right where access is prevented:

AGL submitted that there is currently no fee for this service. Additionally, this fee is not clearly defined, and how and why it would be charged has not been justified.[26]

Meter test:

AGL submitted that:

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23 Essential Energy, *Regulatory proposal, Attachment 8.8 – Ancillary Network Services Proposal*, May 2014, p. 9.

24 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 30.

25 AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 30.

26 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 31.

- this significant fee increase is unjustified
- meter testing is often required in resolving Ombudsman disputes; retailers often absorb this cost
- other states have different meter test fees to account for variability in the type of meter testing required
- residential sites tend to have single phase meters – these should be less expensive to test compared to multiphase meters. Having a range of meter test fees may be more appropriate. It would also reduce costs for residential customers.[27]

Move-in move-out meter reads:

AGL submitted that Essential Energy's proposed fees are too high compared to interstate.[28]

Network tariff change request – network tariff change request:

AGL submitted that this function sits with the distributor. Customers should not be charged because their distributor has not placed them on the correct network tariff.[29]

Network tariff change request – off peak conversion:

AGL submitted that there are significant variances in the service fees for what appears to be a similar process without any clear explanation.[30] Additionally, there are significant variances in the service fees for what appears to be a similar process without any clear explanation.[31]

Network tariff change request – site establishment:

AGL submitted that this fee should not be imposed unless it is a new connection fee that should be passed to the customer by the Alternative Service Provider (ASP). If it is for an existing site where a new NMI needs to be allocated, there is no activity performed to warrant such a fee and it should not be approved.[32]

Network tariff change request – special meter reading:

AGL supported Ausgrid's proposed special meter reads. However, Endeavour and Essential Energy's proposed fees should align more closely with special read fees in other states.[33]

Network tariff change request – vacant property reconnect/disconnect:

AGL submitted that:

- this proposed fee is too high

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27 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 31.
28 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
29 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
30 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
31 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
32 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
33 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.

- a high fee makes it difficult to disconnect vacant sites and may result in illegal usage if a new occupant moves into a previously vacant site that has not been disconnected due to the price of disconnection
- retailers absorbing the costs of illegal use increases the cost ultimately paid by customers
- this fee should be split. A customer should not be prepaying to reconnect if they do not know when or if they will reconnect. Additionally, it is not appropriate to charge one customer a reconnection fee when it is likely to be an entirely different customer that reconnects.[34]

16.5.4 Assessment approach

For ancillary network services we consider it is important to review each of the services with specific focus on the key inputs in determining the price for the service.

In assessing ancillary network services we focused on labour rates and the overhead. We consider these are the two key inputs in determining an efficient level of fees for ancillary network services. In doing so regard was had to efficient benchmarks for such services developed by our consultant, Marsden Jacobs and Associates (Marsden Jacob).

Given the large number of services proposed by Essential Energy we focused our review on the services most frequently requested by consumers. In considering the fees for these frequently requested services we also took into account the times taken to perform the service, as this is another key input into the final fee. The most frequently requested services we focused on for Essential Energy include:

- Special meter read
- Meter test (business hours)
- Supply of conveyancing information (desk inquiry)
- Off-peak conversion
- Disconnection site visit
- Disconnection at meter box
- Disconnection at pole top / pillar box
- Reconnections
- Access permits.

For the remaining services we accepted the times taken but compared the labour rates and overhead against the maximum benchmark rates established by Marsden Jacob.

As an additional test, we also benchmarked the proposed fees against similar services in Victoria where applicable.

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[34] AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.

16.5.5 Reasons for draft decision

We approve the fees Essential Energy proposed for the following services only:

- Rate based:
  - ASP inspection L1 – UG urban
  - ASP inspection L1 – OH rural
  - ASP inspection L1 – UG urban C&I or rural
- Fee based:
  - Reconnection/disconnection – out of business hours
  - Office fees – debt collection costs – dishonoured transaction
  - Office fees – ROLR services.

We approve Essential Energy's proposed fees for these ancillary network services, because we consider the underlying labour rates and overheads fall within the benchmark total labour rates (including on-costs and overheads) developed by our consultant, Marsden Jacob. Table 16-7 to Table 16-9 below set out the benchmark labour rates.

We reject all of Essential Energy's other proposed fees. We reviewed Essential Energy's proposed fees for all other ancillary network services and the methodologies Essential Energy used to calculate these fees. Based on our analysis of Essential Energy's proposed methodologies we consider the main concern is the cost inputs into the methodologies. Where there are inefficiencies in actual historical costs these will be carried through in the derivation of proposed fees.

Labour rates

Essential Energy use the following labour categories to build-up prices for its ancillary network services:

- Administration R1
- Indoor technical officer R2a
- Outdoor technical officer R2b
- Engineering officer R3
- Field worker R4.

Table 16-7 shows maximum benchmark rates developed by Marsden Jacob which we have used to review Essential Energy's proposed charges for fee based services.

Table 16-7 Essential Energy labour rates, ($2014–15)

Category	Description	AER maximum benchmark rates
Admin	Administration	89.06
Technical	Indoor technical officer	142.81
Technical	Outdoor technical officer^	142.81
Engineer	Engineering officer^	177.52
Field Worker	Field Worker^	133.80
Field Worker	Line Worker^	133.80

Source: Marsden Jacob.

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

- Administration
- Technical services
- Engineers
- Field workers and
- Senior engineers.

Using these categories Marsden Jacob developed benchmark labour rates based on Hays 2014 energy sector salary data against which the efficiency of the proposed labour rates could be assessed.

In assessing the reasonableness of labour rates, Marsden Jacob 'normalised' the rates provided by each business. Our position is to accept the Marsden Jacob recommended efficient benchmark labour rates, overhead and times taken to perform frequently requested services which we consider to be well–reasoned.[35]

[35] Marsden Jacob developed benchmark rates from Hays 2014 Salary data applicable to the energy sector. The Hays salary reports draws on information from 2500 companies across Australia and New Zealand. Relevant distribution network businesses which were listed as being included in the survey were ActewAGL, Jemena and CitiPower. The Hays rates provided both low and a high indicative labour rate (excluding superannuation) for a range of job titles. Marsden Jacob Associates reviewed approximately 66 different job titles, 37 of which were found to be directly relevant to the benchmark labour categories used in the Marsden Jacob Associates report. Minimum and maximum ranges were

We used these rates to determine whether the proposed fees for ancillary network services reflect the underlying cost of an efficient labour rate. To do this we used the Marsden Jacob maximum labour rates including on-costs and overhead. While it may be appropriate for Essential Energy to charge lower than the maximum labour rates for fee based ancillary network services, by adopting the maximum amount we consider we are being conservative. This allows for some potential differences between the services provided and costs faced by Essential Energy.

For quoted services we consider it more appropriate to adopt the rate determined by Marsden Jacob for the individual businesses.

For quoted services we consider it is more appropriate to use the individual business rate. By doing so, we are using the businesses' proposed rates where appropriate (i.e. fall within Marsden Jacob maximum efficient rates) or Marsden Jacob's recommended rates (as applicable) for each of raw labour rates, on-costs and overheads. We conclude this is a more efficient pricing structure for quoted services.

Table 16-8 shows raw labour rates recommended by Marsden Jacob and which were used by us to make the draft decision.

Table 16-8 Benchmarked raw labour rates (excluding basic leave entitlements, on-costs and overhead ($2014–15)

Category	Description	Hays benchmark	Marsden Jacob
Admin	Office Support service delivery	18.27 to 38.46	Max. 39.00
	Administration Support		
	Administration Support		
	Administration		
Technical	Electrical worker	31.25 to 57.69	Max. 59.00
	Technical Specialist		
	Technical Specialist		
	Indoor technical officer		
	Outdoor technical officer		

developed from the data by Marsden Jacobs for each category and combined with additional standard assumptions on oncosts to form benchmark rates used in their assessment (see Marsden Jacobs and Associates report).

Category	Description	Hays benchmark	Marsden Jacob
	Project Officer Design Section		
Engineer	EO 7/Engineer	36.06 to 72.12	Max. 69.00
	Engineer		
	Engineering Officer		
	Electrical worker - labourer		
	Electrical Apprentice		
Field Worker	Field Worker	31.25 to 48.08	Max. 47.00
	Field Worker		
	Line Worker 9		
	Field Worker		
	Senior Engineer		
Senior Engineer	Senior Technical officer / Engineer Design section	48.08 to 81.73	Max. 82.00
	Senior Engineer		

Source: Marsden Jacob.

Table 16-9 summarises the total labour rates (including all on-costs and overheads) for each of the distribution businesses by category and Marsden Jacob's recommended total labour rate.

Marsden Jacob built up a recommended rate on an individual distribution business basis making use of either the businesses' proposed rates or their derived maximum rates (as applicable) for each of raw labour rates, on-costs and overheads.

Table 16-9 Benchmarked total labour rates, including on-costs and overheads ($2014–15)

Category	Description	Marsden Jacob

Category	Description	Marsden Jacob
Admin	Office Support service delivery	Max. 89.06
	Administration Support	
	Administration Support	
	Administration	
Technical	Electrical worker	Max. 142.81
	Technical Specialist	
	Technical Specialist	
	Indoor technical officer	
	Outdoor technical officer	
Engineer	Project Officer Design Section	Max. 177.52
	EO 7/Engineer	
	Engineer	
	Engineering Officer	
Field Worker	Electrical worker – labourer	Max. 133.80
	Electrical Apprentice	
	Field Worker	
	Field Worker	
	Field Worker	
	Line Worker 9	

Category	Description	Marsden Jacob
Senior Engineer	Senior Technical officer / Engineer Design section	Max. 210.96
	Senior Engineer	
	Senior Engineer	

Source: Marsden Jacob analysis.

Times taken to perform the service

Time taken is another key input into deriving ancillary network services fees. Essential Energy's proposed times taken to perform nine of the most frequently requested ancillary network services, as listed below, were also reviewed by Marsden Jacob. Essential Energy's times taken to perform the services were found to fall within benchmark times for these services, except for meter test[36].

- Special meter read
- Meter test
- Supply of conveyancing information (desk inquiry)
- Off-peak conversion
- Disconnection site visit
- Disconnection at meter box
- Disconnection at pole top / pillar box
- Reconnections
- Access permits.

In reviewing ancillary network services we also focused on those services for which we received submissions. In particular we received submissions from AGL and Origin regarding special meter reads, meter tests and disconnections.

Special meter reads

Essential Energy has proposed a fee of $83.20 for special meter reads. This is significantly higher than the current fee of $44.00. Based on benchmark labour rates, Marsden Jacob recommended a fee of $82.51. AGL submitted that Essential Energy's proposed fees should align more closely with special read fees in other states.[37]

Special meter read fees in Victoria are lower (around $11). This is because residential customers have smart meters which can be read remotely. This is not the case in NSW, where most residential customers have manually read accumulation meters, not smart meters. Additionally, we accept

[36] Endeavour Energy proposed a time of 3.75 hours to perform this service. Marsden Jacob recommended a benchmark time of 3 hours.

[37] AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.

Marsden Jacob's comment that the relatively high time taken by Essential Energy to perform special meter reads is likely to be reasonable, given additional distances likely to be covered for this network.

Our draft decision is to accept the benchmark rate recommended by Marsden Jacob of $82.51 for special meter reads.

Network tariff change request

We do not approve Essential Energy's proposed 'network tariff change – invalid request' charge. We agree with AGL's submission that it is inappropriate for a fee to be charged if a network tariff change request is invalid.[38] AGL submitted that "the retailer has no visibility as to whether the request will be valid, a customer should not be penalised because this function sits with the distributor rather than the retailer to assess such a request".[39] Customers should not be charged because their distributor has not placed them on the correct network tariff.[40]

Meter test

In response to our further information request, Essential Energy submitted that the charge for meter test fees is moving to cost reflective rates and cross subsidisation is being removed.[41] Essential Energy also submitted that this fee would be charged to customers who request a meter test and excludes metering installation types 1 to 4 (which is an unregulated distribution service).[42] Additionally, if the meter test is done on premises serviced by more than one meter associated with the NMI, then:

- if the meter test reveals that all of the meters associated with the NMI are operating satisfactorily, Essential Energy will only levy one charge for the provision of the service, and
- if the meter test reveals that one or more of the meters associated with the NMI are not operating satisfactorily, Essential Energy will not levy any charge for the provision of the service.[43]

Essential Energy will charge for testing of additional meters as time and plant are involved, but would not include a travel component.[44]

Essential Energy also provided the following summary of the costs involved in the meter test service:[45]

- Number of staff required to provide service: 1

We consider that the fee recommended by Marsden Jacob of $454.91 ($2014–15) benchmarks well against interstate distribution businesses, noting that Essential Energy does not distinguish between single phase and multiphase meter tests.[46] The draft decision accepts the benchmark rate

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38 AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.
39 AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.
40 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
41 Essential Energy, response to AER information request 028, p. 1.
42 Essential Energy, response to AER information request 028, p. 2.
43 Essential Energy, response to AER information request 028, p. 2.
44 Essential Energy, response to AER information request 028, p. 2.
45 Essential Energy, response to AER information request 028, p. 2.
46 Citipower meter test services and fees include:
Meter accuracy test - single phase - $361.18
Meter accuracy test - single phase additional meter - $161.25
Meter accuracy test - multiphase - $472.59

recommended by Marsden Jacob. This rate is based on efficient labour rates and times as reviewed by them and also reflects the rates of Victorian distributors, which we consider to be based on efficient costs. Unlike the Victorian distribution businesses which distinguish between single phase and multiphase meter tests this rate would apply to both and in this case we assume there is some cross subsidisation between single phase and multiphase meter testing.

Disconnect/Reconnect

Essential Energy has proposed a number of disconnection / reconnection services. These include:

- Reconnect/Disconnect – site visit (current price $44.00, proposed price $93.66)
- Reconnect/Disconnect – Completed (current price $88, proposed price $126.05)
- Reconnect/Disconnect – Technical (current price $88, proposed price $126.00)
- Reconnect/Disconnect – Pillar or Pole Completed (current price $148, proposed price $464.82)
- Vacant Premise – Disconnect/Reconnect (current $88, proposed $126.03).

AGL submitted that in South Australia, Queensland, and Victoria there are separate de-energisation and re-energisation fees. This provides greater transparency for customers and retailers. AGL also comments that separating fees makes additional services available. To ensure that customers moving into a property that was disconnected are not disadvantaged, a general move-in fee is charged. This covers the cost of a move-in read, plus any re-energisation work.[47]

With respect to vacant property reconnect / disconnect, AGL submitted that this proposed fee is too high. A high fee makes it difficult to disconnect vacant sites and may result in illegal usage if a new occupant moves into a previously vacant site that has not been disconnected due to the price of

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Meter accuracy test - multiphase additional meter - $277.70
Meter accuracy test - CT - $461.68

Powercor meter test services and fees include:
Meter accuracy test - single phase - $369.90
Meter accuracy test - single phase additional meter - $151
Meter accuracy test - multiphase - $473.69
Meter accuracy test - multiphase additional meter - $255.22
Meter accuracy test - CT - $464.33

SPAusnet meter test services include:
Single phase - $155.55
Single phase each additional meter - $53.62
Multiphase - $209.19
Multiphase each additional meter - $69.72

United Energy meter test services include:
Single phase - $55.25
Single phase each additional meter - $49.10
Multiphase - $85.94
Multiphase each additional meter - $79.80

Aurora meter test service fees include:
Single phase - $294.89
Multiphase - $589.78
Meter test CT - $655.31
Meter test after hours - $786.37
Meter test wasted visit - $98.30

[47] AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 30.

disconnection. AGL submitted that the fee should be split. A customer should not be prepaying to reconnect if they do not know when or if they will reconnect. Additionally, it is not appropriate to charge one customer a reconnection fee when it is likely to be an entirely different customer that reconnects.[48]

In response to our further information request, Essential Energy submitted that part of this fee is a prepayment. The fee is charged at the point of disconnection – it is not charged at the point of reconnection. This fee is intended to cover the costs of disconnecting a customer for a short time period. For example, people who own a vacant holiday home may want to avoid a service availability charge. Essential Energy submitted that this fee would not be used for move-in/move-out situations. Essential Energy proposed a fee of $126.03 per connection for a reconnection/disconnection of a vacant premise. We have decided on a fee of $124.98 for this service. We determined this by accepting the time Essential Energy has taken to perform this service and multiplying it by the appropriate maximum labour rate (including on-costs and overheads) provided by Marsden Jacob.

Victorian distributors' disconnection fees may be lower, due to more customers having smart meters, which can remotely disconnected. This is not the case in NSW where smart meters do not exist for households.

Our draft decision is to accept the fees recommended by Marsden Jacob for the following disconnection and reconnection services. In recommending these rates Marsden Jacob applied its benchmark labour rates and reviewed the time taken to perform the service. They did not recommend changing Essential Energy's proposed times taken to perform disconnection services.

Our draft decision for disconnection and reconnection services is:

- Reconnect/Disconnect – site visit: $93.66
- Reconnect/Disconnect – Completed: $124.32
- Reconnect/Disconnect – Technical: $124.32
- Reconnect/Disconnect – Pillar or Pole Completed: $460.24
- Vacant Premise – Disconnect/Reconnect $93.66.

Site establishment

AGL submitted that this fee should not be imposed unless it is a new connection fee that should be passed to the customer by the ASP. AGL submitted that if it is for an existing site where a new NMI needs to be allocated, there is no activity performed to warrant such a fee and it should not be approved.[49]

In response to our further information request, Essential Energy submitted that it anticipates charging this fee consistent with current practice and the definition we provided in our Stage 1 F&A.[50] Essential Energy's current processes do not allow for a site establishment fee to be charged unless there is ASP involvement – Essential Energy expects this to continue.[51] Essential Energy submitted that a

[48] AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
[49] AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 32.
[50] Essential Energy, *Response to AER information request 028*, p. 2.
[51] Essential Energy, *Response to AER information request 028*, p. 2.

new NMI could be charged for an existing site and a fee charged in some circumstances (for example where a house burns down and the NMI is made extinct in the market).[52] We accept Essential Energy's submission that in some circumstances (such as where a house burns down and the NMI is made extinct) it is reasonable for a site establishment fee to be charged for an existing site.

Attendance to perform a statutory right where access is prevented:

AGL submitted that there is currently no fee for this service.[53] It also submitted that this fee is not clearly defined, and how and why it would be charged has not been justified.[54] We requested a further description of this service from Essential Energy. Essential Energy responded by submitting that the majority of access issues are resolved through negotiation with customers.[55] However, a minority of customers hinder access to their property through personal confrontation, or barriers.[56] This service normally involves legal assistance in notifying customers to enable a return visit by a technician.[57] This fee is not intended to be levied merely due to difficult access during routine meter readings. It is intended for situations where long term access issues arise (generally due to a hostile customer). Therefore, we consider that this service fee is clearly defined and is justifiable.

16.6 Metering

Our draft decision on Essential Energy's metering proposal is made in the context of ongoing policy reform. We have based our assessment on the rules in place at the time of this draft decision, but have had regard to the likelihood of policy reform in the future.

Currently, competition in metering is limited to large customers in the national electricity market while regulated distribution network service providers have the sole responsibility to provide small customers with metering services.[58]

The Australian Energy Market Commission (AEMC) is presently in the process of making a rule change that would expand competition in metering and related services to help facilitate a market led roll out of advanced metering technology. This in turn would enable the uptake of demand side participation products and services.[59]

In our draft decision we have sought to create a regulatory framework for the 2015–19 regulatory control period which will be robust enough to handle the transition to competition once the rule change takes effect. This involves having transparent standalone prices for all new/upgraded meter connections and annual charges. To avoid creating a regulatory barrier to competitive entry, we did not accept Essential Energy's proposal to charge an exit fee to leaving customers to recover residual metering costs. Instead residual metering costs will be classified as a standard control service and recovered from the general network customer base.

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52 Essential Energy, *Response to AER information request 028*, p. 2.
53 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 31.
54 AGL, *NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator*, 8 August 2014, p. 31.
Essential Energy, *Essential Energy's response – Ancillary Service Fee Questions 20 October 2014*, 20 October 2014, p. 1.
56 Essential Energy, *Essential Energy's response – Ancillary Service Fee Questions 20 October 2014*, 20 October 2014, p. 1.
57 Essential Energy, *Essential Energy's response – Ancillary Service Fee Questions 20 October 2014*, 20 October 2014, p. 1.
58 NER clause 7.2.3(a). Small customers refers to any customer with less than 160MWh annual consumption (effectively all residential and small business customers fall into this category).
59 AEMC, *Expanding competition in metering and related services in the National Electricity Market, Consultation Paper,* 17 April 2014 .

16.6.1 Draft decision

Our draft decision is to maintain our F&A alternative control service classification for type 5 and 6 metering provision, maintenance, reading, and data services.[60] We further maintain that the control mechanism for alternative control metering services will be caps on the prices of individual services.[61]

We accept Essential Energy's proposal to recover the capital costs of new/upgraded connections as upfront payments made from a customer to Essential Energy. We also accept its proposal to have a separate annual charge for new and upgraded customers, in recognition that they have already paid for the capital costs of their metering installations.

We reject Essential Energy's proposed exit fee. Specifically, we do not accept that Essential Energy should recover residual metering costs through an exit fee. Our alternative is to classify residual metering costs (the metering RAB component of annual charges that the customer would have paid had they remained a regulated metering customer) as a standard control service and recover these through network tariffs. While we accept in principle that Essential Energy should recover incremental administrative costs through an exit fee, we do not consider that Essential Energy demonstrated they will face incremental administration costs. As such, we do not accept that an exit fee should apply.

We generally accepted Essential Energy's building block approach as the basis for establishing annual metering charges but not the proposed values of particular building blocks:

- We do not accept Essential Energy's proposed capital expenditure building block. Our draft decision allows $50.3 million in capital expenditure for annual metering charges instead of Essential Energy's proposed $51.5 million ($2014–15)
- In assessing the metering operating expenditure building block, our base year analysis used historical averages of multiple years rather than Essential Energy's proposed single historic year. In addition to looking at revealed costs, we also use made a benchmarking adjustment because Essential Energy should be at least as efficient as comparable network businesses in the NEM. Our cost assessment led us to approve $120.2 million in operating expenditure[62] for annual metering charges and substitute that amount for the proposed $131.3 million ($2014–15)
- We also considered the opening metering RAB value as at 1 July 2014. Our decision is to accept $115.1 million as the opening RAB value rather than the proposed $118.2 million ($nominal).

Based on our cost assessment of the individual building blocks, we rejected Essential Energy's proposed price caps for annual charges. Our substitute price caps are set out in appendix 16.7.5A.1.2.

16.6.2 Proposal

In May 2014, Essential Energy submitted its metering proposal for the 2014–15 and 2015–19 regulatory control periods. It accepted the proposed service classification and control mechanism outlined in our Stage 1 F&A.[63] That is, Essential Energy classified types 5 and 6 metering provision,

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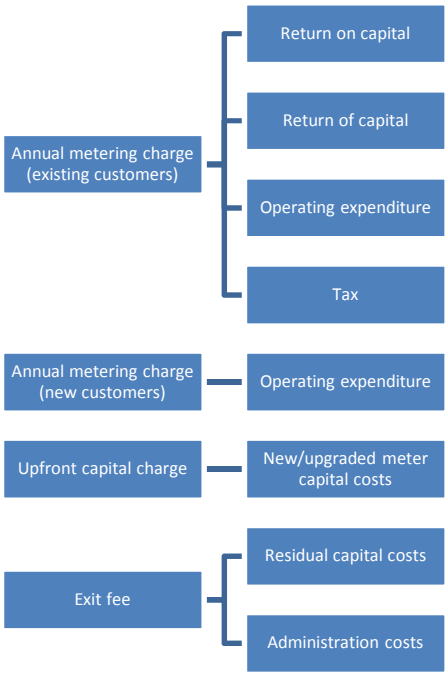
60 AER, *Stage 1 Framework and Approach – NSW electricity distribution network providers*, March 2013, p. 32. A type 6 meter is an accumulation meter. A type 5 meter is a manually read interval meter.
61 AER, *Stage 1 Framework and Approach – NSW electricity distribution network providers*, March 2013, p. 43.
62 Exclusive of debt raising costs.
63 AER, *Stage 1 Framework and Approach – NSW electricity distribution network providers*, March 2013, p. 32.

maintenance, reading, and data services as alternative control services and proposed price caps on individual services. [64]

Figure 16-3 sets out Essential Energy's proposed structure of metering tariffs.

Figure 16-3 Essential Energy's proposed structure of metering tariffs



Annual metering services

For each tariff class, Essential Energy proposed a price cap for annual metering services. It built up the costs that constitute the annual metering service charges by applying a 'building block' approach. This involved forecasting the revenue requirement for each of Essential Energy's metering cost categories and then translating this into price caps.

From 1 July 2015, Essential Energy proposed to recover different annual charges from existing and new/upgraded customers. It proposed that existing customers will pay for Essential Energy's ongoing operating and replacement expenditure plus the recovery of historical capital expenditure in the regulatory asset base for metering. Essential Energy also proposed that new or upgraded customers will only pay for maintenance, reading and data services. This is in recognition from 1 July 2015 customers will pay for the capital cost of a new/upgraded meter upfront, at the time of installation. To 'help facilitate contestability in the market and avoid Essential Energy having stranded assets with no opportunity for cost recovery'[65] it proposed accelerated depreciation of the existing metering asset base.

Table 16-10 sets out Essential Energy's proposed metering building block requirement. Table 16-11 shows proposed annual charges for metering services that recover the total proposed revenue.

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64 Essential Energy, *Regulatory proposal,* May 2014, p. 120.
65 Essential Energy, *Regulatory Proposal, Attachment 8.4 Types 5 and 6 Metering Services Proposal,* p. 8.

Table 16-10 Essential Energy's proposed metering building block revenue requirement ($m, 2014–15)

	2014–15	2015–16	2016–17	2017–18	2018–19
Return on capital	10.4	9.8	8.9	7.9	6.9
Return of capital	14.4	16.2	18.1	20.6	24.9
Operating expenditure	25.3	25.9	26.3	26.8	27.3
Tax	3.6	5.0	6.5	5.9	6.9
Total proposed revenue	**53.7**	**56.9**	**59.8**	**61.1**	**66.0**

Source: Essential Energy, *Regulatory proposal, Attachment 8.6 – Type 5 and 6 metering services PTRM, May 2014.* Converted to $2014-15.

Table 16-11 Essential Energy's proposed prices for annual metering services ($2014–15)

Tariff class	Average price per annum (2014–15 to 2018–19)
Existing customers	
Residential anytime	52.00
Residential time of use	60.54
Small business anytime	52.00
Small business time of use	60.54
Controlled load	20.17
Solar (gross meter only)	57.48
New customers from 2015–16 onwards	
Anytime customers	15.32
Time of use customers	20.41
Controlled load	4.89
Solar additions (assuming single phase 2 element)	19.96

Source: Essential Energy, Regulatory proposal, Attachment 8.5 – Metering charges model, June 2014. Converted to $2014–15.

New or upgraded connections

Where Essential Energy installs a meter for a new or upgraded connection at a customer's premises, Essential Energy proposed caps (or ceilings) on the prices it can charge. In the 2014–15 placeholder year the cost of such installations will be recovered as part of the annual metering services charge.

From 1 July 2015, however, new or upgraded connections will require a customer to make a full upfront capital contribution.[66]

The change in Essential Energy's capital contribution policy for new and upgraded connections is intended to promote competition. More specifically, it may level the competitive playing field for new and upgraded meters. This is by shifting how the capital costs for new and upgraded meters are recovered, from the annual metering services charge, where costs are smeared across all customers, to an upfront payment which new entrants to the market can compete with on price.

Table 16-12 sets out Essential Energy's proposed charges for new and upgraded meters. For ease of reference, average prices for the 2015–19 regulatory control period are shown.

Table 16-12 Essential Energy's averaged proposed new or upgraded meter prices in the 2015–19 regulatory control period ($ 2014–15)

Meter description	Price
Single phase accumulation	36.47
Three phase accumulation	137.77
Single phase time of use	101.49
Single phase 2 element (time of use)	238.69
Three phase time of use	334.23
Three phase current transformer	475.88

Source: Essential Energy, *Regulatory proposal, Attachment 8.7 – Charges for type 5 and 6 metering services, May 2014.* Converted to $2014–15.

Exit fee

In anticipation of the AEMC's metering rule change that would permit customer switching to competitive metering providers, Endeavour Energy proposed an exit fee to recoup the portion of unrecovered metering capital expenditure attributable to the leaving customer. The exit fee consists of 'opening RAB recovery' and 'administration cost' components. More specifically:

- the opening RAB recovery component is the net present value of the total opening RAB recovery amount the customer would have paid through their annual charges had they remained a regulated metering customer. In effect, Endeavour Energy propose that all type 5 and 6 customers pay their contribution towards RAB recovery regardless of whether they churn or not – either gradually through annual charges or through the exit fee
- the administration component relates to the 'the requirement to change records to reflect the changed status [of customers], the return of the meter and the processing costs of relaying this information'.[67] Essential Energy proposed a bottom-up calculation as the basis of this cost, which

[66] Endeavour Energy, *Regulatory proposal*, May 2014, p. 121.
[67] Essential Energy, *Regulatory proposal, Attachment 8.4, Types 5 and 6 metering services proposal*, May 2014, p. 13.

estimated time taken to complete the task multiplied by the labour rate of an administration staff member.

Table 16-13 sets out Essential Energy's proposed exit fee.

Table 16-13 Essential Energy's proposed metering service exit fee for Type 5 and 6 services ($ 2014–15)

	2014–15	2015–16	2016–17	2017–18	2018–19
Stranded asset costs	82.72	71.74	61.43	53.23	44.51
Administration costs	55.70	56.36	57.53	58.71	59.91
Total exit fee	138.42	128.11	118.96	111.94	104.42

Source: *Essential Energy, Regulatory proposal, Attachment 0.17 – Metering model and prices, May 2014.* Converted to $2014–15.

16.6.3 Assessment approach

Our assessment approach was tailored to each of Essential Energy's proposed price caps.

Annual metering services

We assessed Essential Energy's proposed capital and operating expenditure building blocks and opening metering regulatory asset base.

In assessing the proposed capital expenditure, we reviewed Essential Energy's 'unit costs' and 'volume forecasts'. More specifically, we assessed Essential Energy's proposed 'material' and 'non–material' unit costs and the forecast volume of 'reactive' and 'proactive' replacements. Material costs relate to the hardware used to provide metering services. Non–material costs relate to the activities (labour) which Essential Energy must perform to install a new or replaced meter.

From 1 July 2015, Essential Energy's customers will incur an upfront payment recovering the capital cost of meters installed at 'new or upgraded connections'. The commencement date for the upfront payment (1 July 2015) is the earliest available under the rules. They provide that the existing cost allocation approach leading up to placeholder year must be retained into 2014–15.[68] In the case of new or upgraded connections, the capital cost of the meters must be recovered under the general network charge for standard control services. But from 1 July 2015, Essential Energy may change its capital contribution policy so that such costs are recovered directly from customers.

New or upgraded connections in 2014–15 formed part of our assessment of Essential Energy's proposed capital expenditure building block for annual metering services. However the 'true–up' of any differences between the capital costs Essential Energy recovered in the 2014–15 placeholder year with our assessment of what we consider to be prudent and efficient will actually be recovered under the general network service charge.

We took a different approach to assessing Essential Energy's proposed operating expenditure. Such expenditure refers to the operating, maintenance and other non–capital costs, including labour,

[68] NER, cl. 6.15.2(7).

incurred in the provision of metering services. As the expenditure associated with these types of activities is largely recurrent in nature, we considered Essential Energy's historical costs as a useful starting point to establish a base to forecast future costs. We also used benchmarking to assess the relative efficiency of the base year compared with comparable network businesses in the national electricity market.

While not required under the NER, we chose to use benchmarking to keep a consistent approach with how we assessed standard control services operating expenditure. The benchmarking approach we used to assess base operating expenditure for metering is a simpler version than what we used to assess standard control operating expenditure. This reflects the generally lighter handed regulatory approach to alternative control services compared with standard control services and the fact that we had less tools available. For example, our econometric modelling results we used to assess standard control operating expenditure were based on data for network services and therefore do not strictly apply to metering services. We used a partial performance indicator for our benchmarking method, comparing annual metering operating expenditure per customer across non-Victorian network businesses[69] in the national electricity market. We adjusted the benchmarking results for customer density which is a network characteristic that is an exogenous influence on operating expenditure requirements.

After making efficiency adjustments to Essential Energy's base annual operating expenditure requirement and accounting for any (positive or negative) step changes, we trended forward that amount over the 2014–15 and 2015–19 regulatory control periods. This is known as the 'base, step and trend' approach.

For our draft decision, we did not assess metering customer number forecasts. Instead we used the proposed customer number forecasts for our analysis.[70] This is because we expect the AEMC's draft rule change on competition in metering (to be released March 2015) will influence forecasts of metering customers, such as the rate of take-up of new contestable meters. As such, we will assess whether metering customer forecasts are reasonable in our final decision which may in turn affect the operating expenditure building block.

For both capital and operating expenditure, we had regard to factors in chapter 6 of the NER. Namely the capital and operating expenditure objectives and criteria.[71] Though these considerations relate to standard, as opposed to alternative, control services, they are helpful and relevant in providing a general framework for assessing a building block expenditure forecast. Among other things, when considering a distribution business' forecast, the capital and operating expenditure objectives and criteria state we should consider:

- the efficient costs required
- the costs a prudent operator would incur
- whether the proposed cost inputs are reasonable.[72]

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69 Victorian distributors rolled out advanced metering technology in the last regulatory period. These costs are not comparable to other distributors which have type 5 and 6 meters.

70 To be consistent in our analysis, the customer numbers we used for benchmarking and trending forward was the sum of residential and non-residential customers not on a demand tariff (provided in the economic benchmarking and regulatory RIN responses) as a proxy for type 5 and 6 metering customers.

71 NER, cl. 6.5.7.

72 NER, cl. 6.5.7(c).

In assessing Essential Energy's proposed opening metering asset base, we reviewed how Essential Energy had separated its proposed opening metering regulatory asset base (RAB) as at 1 July 2014, from the RAB for standard control services. We also considered the remaining asset lives Essential Energy proposed and had regard to the opening of competition to metering services.

New or upgraded connections

To assess the reasonableness of the proposed charges from 1 July 2015, we analysed Essential Energy's unit costs. We did not consider the forecast volumes of new or upgraded connections for the 2015–19 regulatory control period; they have no bearing on the quantum of the upfront charge.

Exit fee

Residual metering costs

We had to make a decision regarding the classification and control mechanism for residual metering costs as it was not explicitly considered in our Stage 1 F&A.[73] Our classification decision is made with regard to the factors set out in clauses 6.2.2(c) and 6.2.5 (c) of the NER. We had particular regard to:

- How the classification/control mechanism may influence the potential for competition in unregulated metering
- Concern raised by stakeholders that exit fees, particularly as high as Endeavour Energy proposed, will inhibit competitive entry into an unregulated metering market[74]
- A method that provides administrative simplicity for customers, Essential Energy and the AER where possible
- The extent to which costs can be directly attributable to individual customers in order to minimise cross subsidies.

In addition to the classification and control mechanism factors, we had regard to the revenue and pricing principles in the NEL which include providing a distributor with a reasonable opportunity to recover at least its efficient costs.[75]

We did not separately assess the basis of residual metering costs. We made a separate decision regarding the metering RAB value and then considered how to recover any residual amount that risks becoming stranded if a customer leaves, which we dealt with through our classification and control mechanism decision.

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73 NER, cll. 6.12.3 (b) (cl). We may depart from the classification and control mechanism decisions made in our Stage 1 F&A if we consider there have been unforeseen circumstances. The unforeseen circumstance in this case was that there previously was no stranding risk because customers had no choice to exit regulated metering. As such, we did not consider residual metering costs in our Stage 1 F&A (March 2013) which was released prior to SCER metering rule change request (October 2013).

74 Consumer Challenge Panel, *Updated submission on NSW DNSPs regulatory proposals 2014-19*, 15 August 2014, pp. 36-7
Vector Limited, *Submission on AER Issues paper on NSW electricity distribution regulatory proposals*, 8 August 2014, p. 4.
ERAA, *Submission on Issues paper NSW electricity distribution regulatory proposals*, 8 August 2014, p. 2.
Origin Energy, *Submission on NSW electricity distributors regulatory proposal (attachment 1)* - 8 August 2014, p. 33.
AGL, *Submission on NSW electricity distribution networks regulatory proposals*, 8 August 2014, p. 21.
PIAC, *Submission on NSW electricity distribution network price determination*, 8 August 2014, p. 105.

75 NEL, Revenue and Pricing Principles, s. 7A (2).

Administration costs

We maintained the classification and control mechanism for the administration cost component as an alternative control service with a price cap for the individual service. Therefore our assessment was focused on whether the proposed bottom-up basis for calculating an administration fee resulted in an expenditure forecast that reflects the efficient costs a prudent operator would incur and whether the proposed inputs are reasonable.

16.6.4 Reasons for draft decision

Annual metering services

Our draft decision is to not accept Essential Energy's total proposed building block requirement for annual metering services. More specifically, we accept a building block approach to setting charges but do not accept the following components of Essential Energy's proposal:

- the capital and operating expenditure
- the opening metering RAB.

Capital expenditure building block

We accept $50.3 million in capital expenditure for the 2014–15 and 2015–19 regulatory control periods and substitute that amount for Essential Energy's proposed $51.5 million ($2014–15). Table 16-14 sets out Essential Energy's proposed capital expenditure and our substitute, for each cost category.

Table 16-14 Proposed and substitute capital expenditure for metering annual services ($ m 2013–14)

	Proposed	Adjustment (unit costs)	Adjustment (volume forecast)	Draft decision
New or upgraded connections (2014–15 only)	2.47	–0.60	0.00	1.88
Replacements	49.07	–0.64	0.00	48.42
Total	51.54	–1.24	0.00	50.30

Source: Essential Energy, *Regulatory proposal, Attachment 8.7 – Charges for type 5 and 6 metering services, May 2014.* Converted to $2014–15.

Unit costs

Essential Energy is in the process of transferring its metering hardware procurement processes to Networks NSW. This process has yet to be finalised so Essential Energy used its existing supplier contracts as the basis of the forecast.[76] In that regard, the proposed hardware prices are unlikely to reflect actual costs.

We engaged Marsden Jacob to assist us in our assessment of Essential Energy's forecast material unit costs. This involved the consultant considering the 'maximum rate that should be applied for each meter hardware category based on consideration of the rates applied across the business and a comparison against current market rates'.[77] These rates were sourced from online advertised prices

[76] Essential Energy, Response to information request, AER Essential 023m 19 September 2014, p. 2.
[77] Marsden Jacobs Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.1.1.

and through direct engagement with major suppliers.[78] Marsden Jacobs took into consideration volume discounts which would reasonably be expected to apply to metering hardware purchases made by Essential Energy.[79]

Table 16-15 set out Essential Energy's forecast material unit costs and Marsden Jacob's' observations on current market rates. It also shows our substitute material unit forecast, which for each meter is the floor price of Marsden Jacob's observations.

Table 16-15 Essential Energy's forecast material unit costs, Marsden Jacob Associates' observed market rates, and our substitute forecast (2014–15)

Description	Forecast	Markets rates	AER substitute
Type 6			
Single phase accumulation meter	22.90	18.69–20.00	18.69
Three phase accumulation combination meter	86.50	86.50–100.00	86.50
Type 5			
Single phase interval (time of use capable) meter	63.72	63.72–100.00	63.72
Single phase, dual element, direct connected interval meter	149.86	126.00–150	126.00
Three phase interval (time of use) meter	209.84	189.27–220.00	189.27
Three phase (current transformer)	298.78	200.00–400.00	200.00

Source: Marsden Jacobs Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.1.1.

Marsden Jacobs found that some of Essential Energy's material unit costs are within the current market rates for metering hardware.[80] Notwithstanding this, we do not consider Essential Energy's forecast material unit costs to reasonably reflect the efficient costs of achieving the capital expenditure objectives or the costs of a prudent operator.[81] We have reached this conclusion on the basis that:

- Networks NSW is running Essential Energy's metering procurement from 2015–16 onwards
- the procurement process that Networks NSW is running for Essential Energy has not been finalised.

The transfer of meter procurement responsibilities to Networks NSW ought to deliver cost savings per unit of installation. This is because Networks NSW is running Ausgrid's and Endeavour Energy's metering procurement activities from 2015–16 onwards too. The combining of all the NSW distributors' purchasing power in such a way should lead to substantial volume discounts from manufacturers and installation vendors. This was the experience with the Victorian smart meter rollout.[82] It is for that reason we consider the unit prices negotiated on the behalf of Essential Energy

78 Marsden Jacobs Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.1.1.
79 Marsden Jacobs Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.1.1.
80 Marsden Jacobs Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.1.1.
81 NER, cll. 6.5.7(c)(1)–(2).
82 Commercial in confidence contracts and data was provided by the five Victorian distribution network service providers to the AER in 2009 and 2011, for the purposes of the AER making its determination on the businesses' advanced metering infrastructure budgets and charges applications 2009–11 and 2012–15.

are likely to be closer to the bottom end of the market rates Marsden Jacob observed, not, as Essential Energy forecast, merely within the range of the current market rates.

We also requested Marsden Jacob assess Essential Energy's non–material costs. These refer to expenditure required to install, handle and manage the logistics associated with putting a new meter into service. Table 16-16 compares Essential Energy's proposed non–material costs against the unit prices our consultant observed. Our substitute forecast for each category of capital expenditure is shown as well.

Table 16-16 Essential Energy's new meter non–material unit costs (2014–15)

	Proposed	Draft decision
Non–material costs	39.38	24.09

Source: Marsden Jacobs Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.1.2

Marsden Jacob benchmarked the non–material costs for installing new meters against the other NSW distribution businesses and ActewAGL. From this analysis, it recommended that the AER only accept non–material unit costs which are equal to or below $24.09 ($2014–15). This was based on the likely labour rate for technicians and the expected time for installing new units.[83] We accept this recommendation and have applied it to our draft decision on Essential Energy's proposed capital expenditure building block.

Forecast volumes

We accept Essential Energy's forecast new or upgraded connections for 2014–15 and the distribution business' forecast replacement volumes. Table 16-17 sets out these forecasts per meter.

Table 16-17 Proposed and approved volumes of meters for new and upgraded connections, reactive replacements, and proactive replacements (per meter)

	Proposed	Draft decision
New or upgraded connections (2014–15 only)	31 165	31 165
Replacements	191 830	191 830

We accept Essential Energy's new or upgraded connections forecast for 2014–15. It was based on historical growth in meters, which we consider to be a reasonable basis to develop the forecast.

With respect to replacements, the distributor's forecast was based on compliance tests against its regulatory obligations. In particular, Essential Energy must maintain each of its metering installations in accordance with the metrology procedure submitted to, and obtained approval from, the Australian Energy Market Operator (AEMO).[84] This metrology procedure requires distributors to comply with certain 'Australian Standards' for testing the in–service performance of meters.[85] In the event of a

[83] Marsden Jacobs Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.1.2.
[84] NER, cll.7.2.5 and S7.3.1.
[85] Australian Standard, 1284.13.

sample of meters failing these tests, the NER requires distributors 'arrange for the accuracy of affected meters to be restored in a time frame agreed with AEMO'.[86] Where certain thresholds are not met, this requires replacement of the entire population of a make and model of meters.

In total, Essential Energy has proposed 191,830 meters. We were provided with Essential Energy's asset management plan for metering on a confidential basis. On reviewing that plan, we are satisfied that the meters Essential Energy has proposed for replacement in the 2014–15 and 2015–16 regulatory years have failed compliance tests. It is prudent therefore for the entire population to be replaced for Essential Energy to meet its regulatory obligations.

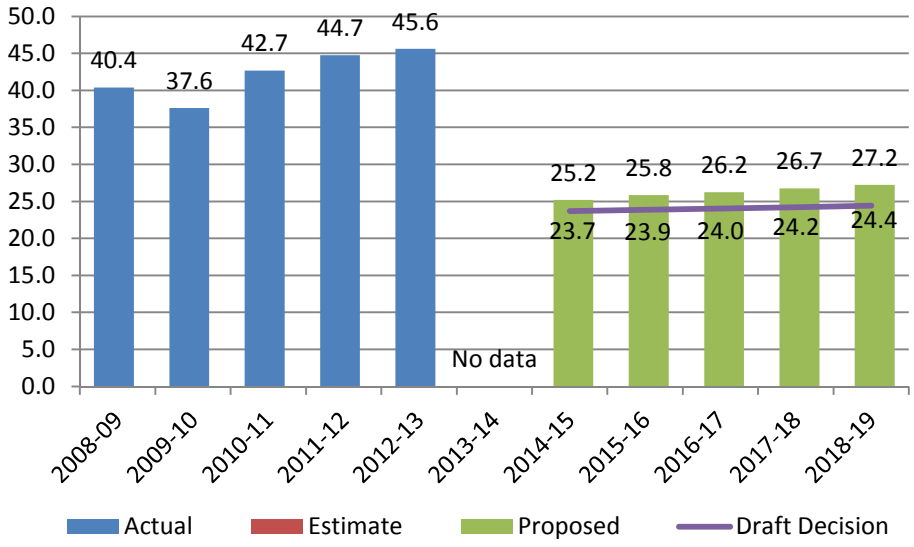
Operating expenditure building block

We approve $120.2 million in operating expenditure for annual metering services and substitute that amount for Essential Energy's proposed $131.3 million ($2014–15). This is an 8 per cent reduction from the proposed amount. However, our draft decision is based on an efficiency adjustment, rather than step change for special meter reads as Essential Energy proposed.

Our benchmarking adjustment reflects the same downwards trend as our adjustment to Essential Energy's proposed operating expenditure for standard control services. While we would not necessarily expect a uniform reduction across metering and network services, there are strong commonalities as it is the same organisation (Essential Energy) with the same labour force. We are therefore satisfied that despite not using the full suite of benchmarking tools that we applied to standard control operating expenditure assessment, our draft decision on Essential Energy's operating expenditure for annual metering services does better reflect the distribution business' efficient metering operating expenditure requirements than proposed.

Figure 16-3 shows Essential Energy's actual, estimate and proposed operating expenditure compared to our substitute. We consider our substitute forecast to reasonably reflect the operating expenditure Essential Energy requires in the 2014–15 and 2015–19 regulatory control periods.

Figure 16-3 Essential Energy's proposed operating expenditure for Type 5 and 6 metering services ($ million, 2014–15)



[86] NER, cl. 7.6.2.

Source: Actual (economic benchmarking RIN response), Proposed (Essential Energy, *Attachment 8.7: Charges for type 5 and 6 meters*, June 2014), Draft Decision (AER analysis).

Base expenditure

We found that the base operating expenditure ought to be lower than the amount Essential Energy used to develop its forecast. We arrived at this conclusion by looking at the base from two different perspectives. These were Essential Energy's historical operating expenditure and its performance against economic benchmarking. By contrast, Essential Energy developed its base using historical expenditure only.

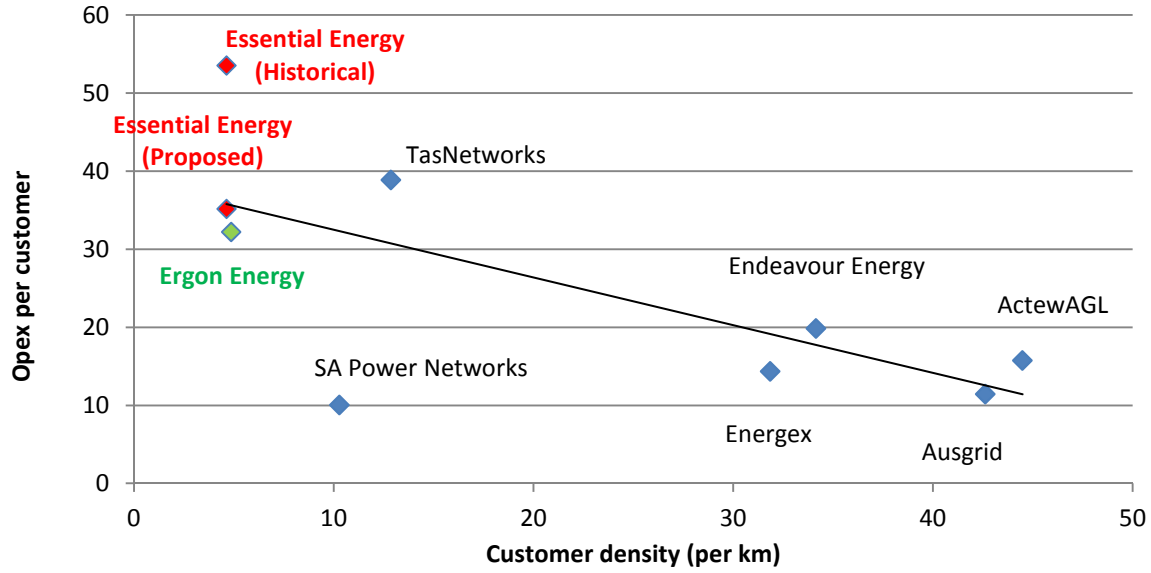
With regard to our assessment of historical expenditure, we consider Essential Energy's base should be at least as efficient as its costs in previous years. To assess this, we observed Essential Energy's operating expenditure in the last five years for which we have actual data (2008–09 to 2012–13). This is different to what Essential Energy did, in that it selected a single year (2012–13) as its base. We decided against this approach. Given that we do not apply an efficiency benefit sharing scheme to alternative control services, we consider an average of multiple years to be a better measure of a business' efficient base; it avoids any incentive to 'load' a single base year with expenditure going forward.

Using an historical average of metering operating expenditure data from the economic benchmarking RIN responses from 2008–09 to 2012–13, we observed a base expenditure of $42.2 million which is lower than if we used a single base year of $45.6 million ($2014–15).

However, consistent with our approach for standard control services, we further examined the proposed base from another perspective by applying benchmarking. To do this we used a partial performance indicator which compared Essential Energy's proposed operating expenditure per customer against other non-Victorian distribution businesses in the national electricity market.

When comparing Essential Energy's proposed operating expenditure to its peers, we normalised our results by accounting for customer density. We calculated this as the number of customers a distribution business has per kilometre of line length. We took customer density into account because, all things equal, businesses with a low customer density are likely to require higher operating expenditures. For example, this could be because of longer travel times to service customers. Figure 16-4 shows the results of our economic benchmarking.

Figure 16-4 Operating expenditure per customer ($2014–15)



Essential Energy's proposed operating expenditure per customer for the 2014–15 and 2015–19 regulatory control periods performs well against its historical results. However Essential have stated that this is due to a step change for special meter reads, rather than efficiency forecasts. We therefore still consider it necessary to make an efficiency adjustment based on benchmarking results to the base operating expenditure requirement (before applying step changes).

More specifically, we consider Ergon Energy to be a relevant comparator for Essential Energy because the Queensland distribution business has a similar customer density. Notwithstanding this, on a per customer basis we observed that Essential Energy's proposed operating expenditure is more than Ergon Energy's reported operating expenditure. In the 2014–15 and 2015–19 regulatory control periods, Essential Energy proposes to spend $35 per customer ($2014–15). Ergon Energy, however, reported to us that it spends $32 per customer ($2014–15).This is even though the Queensland distributor has about the same customer density as Essential Energy.

Our benchmarking results, therefore, shows that Essential Energy's proposed operating expenditure to be overstated. To more reasonably reflect a relatively more efficient business running a network with Essential Energy's characteristics, we substitute the proposed base operating expenditure with an amount equal to Ergon Energy's per customer spend. This is just based on Ergon Energy's revealed costs, without actually assessing the efficiency of its base operating expenditure which we will undertake when making the Queensland 2015–2020 electricity distribution determination.

Our approach to assessing Essential Energy's metering operating expenditure leads us to accepting $32 per customer to be efficient because it is the amount Ergon Energy spends with a network with a similar density. We substitute it for Essential Energy's proposed amount of $35 per customer. Over the 2014–15 and 2015–19 regulatory control periods, our substitute base leads to a reduction in Essential Energy's proposed operating expenditure by $11.0 million (2014–15).

We acknowledge that there may be exogenous factors other than customer density which explain why Essential Energy's operating expenditure per customer is higher than Ergon Energy's. However, these were not apparent to us and so we have not taken any into account for the purpose of identifying an efficient base.

Step changes

We considered whether we should apply any step changes to the base operating expenditure we have determined as efficient for Essential Energy.

Step changes may be positive or negative. Positive step changes are applied when costs are likely to be incurred in the forecast period, but are not captured in the base. Negative step changes are applied because costs in the base will not, or are unlikely to be, incurred in the forecast period.

Essential Energy proposed a negative step change for changes in classification, particularly special meter reads which have become an ancillary network service.[87] We accept in principle that this step change to account for changes in classification should apply. We have not quantified the amount of this negative step change in our draft decision, but will apply it in our final decision.

Trend (2014–15 and 2015–19)

We trended forward our base, without applying the step change at the draft decision stage, to derive our substitute operating expenditure forecast. In the 2014–15 year and 2015–19 regulatory control period, this arrives at a substitute forecast of $120.2 million ($2014–15).

Our substitute is marginally less than Essential Energy's proposal. However, our cut based on a benchmarking efficiency adjustment rather than Essential Energy's proposed step change. Our final decision which will include the step change for classification changes will therefore further reduce Essential Energy's metering operating expenditure.

Regulatory asset base

We do not accept the opening metering RAB as at 1 July 2014 of $118.2 million ($nominal) as separated by Essential Energy from the RAB for standard control services (SCS). We have determined an opening metering RAB of $115.1 million ($nominal) instead.[88] The separate amount had to be recalculated due to changes in the roll forward model for standard control services as discussed in attachment 2.

We do not accept the remaining and standard asset lives proposed by Essential Energy. Essential Energy proposed an accelerated depreciation approach with the aim of recovering the residual value of all existing meters and any replacement meters (that is, replacements not initiated by a customer) over 7 years. With the opening of competition in the provision of metering services, this was intended to remove legacy assets as quickly as possible from the metering RAB.

However, we do not consider that this accelerated depreciation is efficient. It is unlikely that all meters will be provided by alternative service providers within 7 years. At that time, under Essential Energy's proposal, the meters will be fully depreciated but still providing services. This is not an efficient long term outcome. We consider that the metering asset lives should continue to reflect the technical lives of the meters.

Accordingly, we have changed the remaining asset life for Essential Energy's existing metering assets as at 1 July 2014 to 19.7 years to allow a consistent roll forward of the life from the value approved for

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87 Essential Energy, *Information request response, AER Essential Energy 023*, 22 September 2014, p. 4.

88 These adjustments also extend to the tax inputs but the impact is insignificant and therefore not elaborated on here. Refer to the metering PTRM of the draft decision.

1 July 2009 at the 2009 determination.[89] We have also amended the standard asset life for replacement meters to 15 years.[90] [91] This life is shorter than the life of 25.9 years approved at the 2009 determination, but that asset class included other assets such as load control, and more recent decisions have put the standard asset lives to be between 15–25 years depending on the mix of meter types expected to be installed. Newer electronic meters can have a technical life of between 10–20 years, and are the most readily available and therefore the most likely to be installed by Essential Energy. We consider 15 years to be reasonable in the circumstances.

In addition, we have determined that where a customer switches service providers during the 2014–19 period, we will allow the DNSP to continue to recover the return on, and return of, capital on the existing and replacement assets through an annual addition to DUOS charges. Thus, the service provider does not under recover metering costs (the operation of this adjustment mechanism is discussed further in attachment 14). At the end of the 2015-19 period, the residual capital costs (due to customers switching) will be known. We may then consider accelerating the depreciation of these residual metering assets. Reporting requirements will be developed for the final decision so such assets can be identified and the residual value of the metering RAB determined.

We accept that all new meters for growth or replacement initiated by a customer be recovered upfront from customers.

New or upgraded connections

We do not accept Essential Energy's proposed price caps for new and upgraded connections, which from 1 July 2015 will be recovered as an upfront charge to customers.

Essential Energy did not include a forecast volume of new and upgraded connections for the 2015–19 regulatory control period. Because the charge will be recovered as a 'capital contribution' from 1 July 2015, we consider this to be appropriate. We have therefore based our assessment of Essential Energy's proposed price caps on 'unit costs' only.

Our reasons for not accepting Essential Energy's proposed material unit costs are the same as those set out in our assessment of Essential Energy's capital expenditure for the annual metering service charge. We consider the procurement process Networks NSW is running should arrive at substantial efficiencies which we are not satisfied have been reflected in the proposed material unit costs.

On the advice of Marsden Jacob, we consider the non–material unit costs to be above what we expect an efficient business to require. In particular, Marsden Jacob observed that Essential Energy's non–material cost for new or upgraded connections was $39.38 per installation ($2014–15). It recommended that the AER substitute that unit cost with $25.00 ($2014–15). We accept this recommendation. It is based on benchmarking of the NSW distribution businesses' material unit costs and an assessment of the methodology Essential Energy applied to develop its forecast.

Exit fee

Essential Energy proposed exit fee had two components: residual metering costs and administration costs. We reject both components. Our reasons are discussed in the following sections.

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89 These adjustments also extend to the tax inputs but the impact is insignificant and therefore not elaborated on here. Refer to the metering PTRM of the draft decision.

90 A small amount of equity raising costs is depreciated using the standard asset life for equity raising costs as discussed in the depreciation attachment.

91 These adjustments also extend to the tax inputs but the impact is insignificant and therefore not elaborated on here. Refer to the metering PTRM of the draft decision.

Residual metering costs

We accept Essential Energy proposal to include metering RAB recovery in the annual charge for existing customers as this supports the transition to competition. It gives customers and potential entrants a transparent signal of the avoidable cost if they were to switch to unregulated meter. However, having metering RAB recovery in the annual charge means there is a risk of stranded metering costs if customers leave (because they will stop paying the annual charge).

We accept Essential Energy is entitled to recover these residual metering costs but we do not accept their proposed method of recovery through an exit fee.

We consider the economically efficient investment signal to switch to unregulated metering would be to set individual exit fees based on the remaining economic value of the meter. The remaining economic value would vary with the capability of the meter (the meter type) and remaining life (the age) of the meter. This would ensure that an existing meter would only be replaced if the new meter delivers sufficient additional economic value to cover its own cost and cover any remaining economic value of the existing regulated meter.

While at a theoretical level this option has merit, at a practical level it is infeasible for a range of reasons. Firstly there are information constraints: most distribution businesses do not record information about asset type or age at the customer level. Secondly, we are not satisfied that the amount distribution businesses are entitled to recover (based on actual costs) corresponds to the remaining economic value of a meter. This is because regulated metering costs may not be efficient, as DNSPs have not faced competitive pressures.[92] Finally, we are concerned that it may be inappropriate to charge customers different exit fees that would vary with meter type and age because such investment decisions were made by distribution businesses independently of customer choice.

We therefore looked for an alternative approach and tested various options with stakeholders at our metering workshop on 11 September 2014. We explored the possibility of having more granular exit fees based on meter type, the impact of accelerated depreciation and classifying some metering costs as standard control. There was general consensus that :

- lump sum charges by way of exit fees to recover residual capital costs would deter competitive entry
- an alternative to lump sum charges would be to re-bundle some portion of metering costs as standard control, but at the same time, any such decision should not distort annual metering charges. There was a general concern with maintaining annual charge as cost reflective of actual metering costs as possible by not opting for re-bundling options that would distort these charges by for example, re-bundling certain types of meters such as those already installed in the earlier regulatory control period.

Our draft decision is therefore to allow Essential Energy to recover residual metering costs through general network tariffs i.e. smeared across the general customer base. In practice, regulated metering customers will pay for metering capital costs as part of their annual charges. This will provide annual charges that are transparent and cost reflective. If a customer chooses to switch to an unregulated metering provider, the remaining portion of metering capital costs attributable to that customer that risks becoming stranded is moved back into the standard control services RAB. Due to information

[92] Further, we are unable to assess the ex-post prudency/efficiency of actual capital expenditure.

constraints, this portion will be an average amount each customer owes, rather than varying by the particular meter assets at the customer's premise which will vary with meter type and age.

The adjustment of moving residual metering costs back into standard control RAB would happen on an annual basis through a B-factor adjustment (see attachment 14 for how it would operate).

There is a risk that if many customers churn in the same year, the impact on DUoS tariffs may be large. To mitigate this possible price volatility, we propose to introduce a tolerance limit which would cap how much extra revenue may be added to DUoS tariffs on an annual basis (any amount above the annual tolerance level would be recovered in subsequent years). See attachment 14 for the mechanics of how this tolerance level would work.

We consider our alternative approach better meets the criteria outlined in 16.6.3 of this attachment:

- Impact on competition–our approach does not involve directly charging leaving customers for residual metering costs through a lump sum exit fee which stakeholders identified as a significant barrier to competitive entry
- Administrative simplicity–
  - Simple for switching customers because they do not incur exit fees based on decisions regarding cost and meter type that they did not have any choice in originally
  - Makes use of existing information that Essential Energy has, rather than requesting further calculations on the remaining economic or technical life of individual metering assets which would be burdensome to determine
  - Requires limited additional work for Essential Energy and the AER in making b-factor adjustments and managing the tolerance levels on an annual basis.
- Minimise cross subsidies – our approach does involve some cross subsidies because when a customer leaves, the proportion of the metering RAB they would have paid through their annual charges is put back into standard control RAB and recovered through the general network customer base.

  We are satisfied that this is appropriate overall, as future metering costs are signalled directly to specific customers through having a reasonably cost reflective annual charge and charging new meter assets upfront. We consider limited cross subsidies to recover just the residual metering costs is reasonable as these relate to existing meters which are sunk costs that customers did not originally have choice in incurring.

  This is analogous to the approach taken by the AEMC on the distribution pricing rule change where future costs are signalled to customers, but residual network costs are to be recovered in a way that minimises distortions[93] which may also lead to some cross subsidies.

  Any concern with residual cross subsidies is mitigated by the fact that there are likely to be collective benefits from switching to advanced metering technologies such as better demand side participation which may help lower overall network costs for all customers.

[93] AEMC, Draft National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014, clauses 6.18.5 (f) and 6.18.5 (g)(3).

In regard to our obligation to provide reasonable opportunity to recover at least efficient costs, our alternative approach is revenue neutral compared with the proposed exit fee approach.

We acknowledge that our decision to classify residual capital costs as a standard control service leads to lower exit fees and risks relatively increased levels of meter switching. We do not know what the actual efficient exit fee should be for each customer, but given that these are all functioning meters, it is likely that there is some remaining economic life and therefore the efficient fee would be a positive amount. Our alternative approach therefore risks faster entry than otherwise i.e. some meters being replaced even though they have significant remaining economic value, because our alternative exit fee (based on incremental administrative costs) will be below the efficient exit fee.

However, on balance, we prefer to err on the side of faster entry rather than too low entry (the risk if we accept Essential Energy's proposal to charge a high exit fee). We make this decision on the basis that it is the clear intent of policy makers to see a competitive metering market develop in the NEM. We also consider that it will help further the national electricity objective because advanced metering solutions facilitate the move towards cost reflective tariffs which are fundamental to achieve efficient use of and investment in distribution networks.

Administration cost

Stakeholder submissions raised concern that the proposed administration charges seemed excessively high and questioned whether Essential Energy should be allowed to recover administration costs at all.[94]

We accept in principle that Essential Energy should be allowed charge an exit fee based on incremental administrative costs incurred to process a customer transfer. However, as Essential Energy did not adequately demonstrate they will incur incremental administrative costs, we are led to reject an exit fee based on administrative costs.

Essential Energy proposed administrative costs were calculated as estimated time taken multiplied by labour rate—but this approach does not demonstrate that such costs are incremental.

To demonstrate that Essential Energy will face incremental costs, we consider that it would have to show a reasonable forecast of additional staff they expect to hire over the regulatory period to process customer transfers.

For example, the proposed administration charge revenue ($46.1 million[95]) implies that if all customers to exit in a five year period, Essential Energy would have to hire an additional 38 dedicated full time staff per year to handle customer transfers to substantiate its proposed costs.[96] This seems implausible given the relatively simple administrative task involved to process a customer exiting.

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94 Energy Australia, *Submission on NSW electricity distribution revenue proposals*, 8 August 2014, p 5
Vector Limited, *Submission on AER Issues paper on NSW electricity distribution regulatory proposals*, 8 August 2014, p 9
Energy Retailers Association of Australia, *Submission on Issues paper NSW electricity distribution regulatory proposals*, 8 August 2014, p 3

95 This calculation is based on Essential Energy's average proposed administration cost component ($57.64) multiplied by number of 800,000 (approximate number of NMIs from Essential Energy's regulatory proposal). All dollars in $2014-15.

96 This calculation is based on Essential Energy's proposed administrative labour hourly rate of $115.28 and assumes staff are paid to work 8 hours days, 5 days a week. Even if the churn rate was slower, say, over a 10 year period, Essential Energy would still have to hire an additional 19 dedicated staff members per year to build up the proposed $46.1 million in administration costs it would recover over that period. All dollars are in $2014/15.

Indeed, Essential Energy 'has not forecast any material take up in Type 4 meters associated with the AEMC metering contestability rule change during the forecast period'[97] which would indicate they do not expect to hire additional staff to perform this task. As such, it may be possible that current levels of administrative staff have enough capacity to perform the expected low volume of additional administrative work in the 2015-19 regulatory period due to processing customer transfer without the business incurring further costs.

As Essential Energy has not demonstrated the incremental cost they expect to incur, we do not accept Essential Energy's administration costs. This means that an exit fee will not apply in Essential Energy's circumstances.

16.6.5 Control mechanism for metering

Our draft decision is to apply a price cap for the form of control to metering services. Under this form of control a schedule of prices is set for the first year. For the following year's the previous year's prices are adjusted by CPI and an X factor. The form of control for metering services is set out below.

$$\overline{p}_i^t \geq p_i^t \qquad \text{i=1,...,n and t=1,2,3,4}$$

$$\overline{p}_i^t = \overline{p}_i^{t-1}(1+CPI_t)(1-X_i^t)$$

Where:

$\overline{p}_i^t$ is the cap on the price of service i in year t. However, for 2015–16 this is the price as determined in appendix A.

p_i^t is the price of service i in year *t*.

CPI_t is the percentage increase in the consumer price index. It is calculated as follows:

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the December Quarter immediately preceding the start of regulatory year t;

divided by

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the December Quarter immediately preceding the start of regulatory year t–1;

minus one.

X_i^t x is zero

[97] Essential Energy, *AER Information Request 010*, August 2014, p. 4.

16.7 Public Lighting

Public lighting services include the design, financing, procurement and construction of public lighting installations, as well as their on-going maintenance and operation. Essential Energy's franchise area has approximately 150,000 street lights serving more than 100 councils. Essential Energy services 95 per cent of the NSW geographic footprint covering 809,444 square kilometres.

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

Under clause 2 of the *Code of practice–contestable works*, installation works are contestable. These works involve new or increased capacity connection and are customer funded.

Maintenance of public lighting is not a contestable activity under the *Code of practice–contestable works*. For public lighting assets owned by a distribution business, like-for-like replacements—either initiated by the distribution business or on request from a customer—and maintenance are not contestable. Government policy change would be required to make this contestable.

Assets installed on a contestable basis are gifted to the distribution network service provider and entered into their asset base at zero value. Once the asset is gifted to the distribution network service provider, the distribution business becomes the owner of the asset and is responsible for the on-going maintenance and replacement of the asset. Maintenance charges for assets gifted to the service provider therefore do not include costs to recover capital.

Charges are set according to when the assets were installed, whether the asset was installed by the distribution network service provider or gifted to them and the type of asset.

16.7.1 Draft Decision

We do not approve Essential Energy's proposed public lighting charges because we consider some of the inputs into determining the level of charges do not reflect those of an efficient service provider. In particular we had regard to the following key inputs:

- The bulk light replacement rate
- Spot replacements per day
- Lamp spot failure rates
- Labour rates
- Overheads.

In reviewing these inputs we consider the following benchmarks to be appropriate:

- a 4 year bulk replacement program for lamps instead of the proposed 3 years
- failure rates for the major lamp types of between 4 and 6 per cent per annum instead of a proposed average of 7.9 per cent
- 3 lamp spot replacements per day instead of the proposed 1.5 replacements per day
- divisional and corporate overhead/indirect costs of 25 per cent instead of the proposed 41.25 per cent

- a real pre-tax WACC of 5.06 per cent instead of the proposed 7.09 per cent.

In reviewing the failure rates for lamps we had particular regard to those luminaire types which are most common. Table 16-18 shows these.

Table 16-18 AER Draft Decision Failure Rates, (per cent)

Luminaire Type	Proposed failure rates	Draft Decision failure rates
Fluorescent 42	7.7	6.0
High Pressure Sodium 70	9.55	5.0
High Pressure Sodium 250	9.55	5.0
Mercury Vapour 80	4.47	4.0
High Pressure Sodium 150	9.55	5.0

Source: Essential Energy, Regulatory Proposal, Attachment 8.1: Public Lighting Proposal, p. 17.

By applying our benchmarks instead of those proposed, Essential Energy's public lighting charges increase on average by 3.8 per cent in 2015–16 from the previous year.

The schedule of public lighting charges we approve is set out in appendix A.1.2.

The form of price control for public lighting charges is as per our Stage 1 F&A.[98]

$$\overline{p}_i^t \geq p_i^t \qquad \text{i=1,...,n and t=1,..,4,}$$

$$\overline{p}_i^t = \overline{p}_i^{t-1}(1+CPI_t)(1-X_i^t)+A_i^t$$

Where:

$\overline{p}_i^t$ is the cap on the price of service i in year t. However, for 2015–16 this is the price as determined in Appendix A.1.2.

p_i^t is the price of service i in year t.

CPI_t is the percentage increase in the consumer price index. It is calculated as follows:

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the December Quarter immediately preceding the start of regulatory year t;

divided by

[98] AER *Stage 1 Framework and Approach Paper - Ausgrid, Endeavour Energy and Essential Energy Transitional regulatory control period 1 July 2014 to 30 June 2015 - Subsequent regulatory control period 1 July 2015 to 30 June 2019*. March 2013.

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the December Quarter immediately preceding the start of regulatory year t-1;

minus one.

X_i^t is the value of X for the year t in the regulatory control period. There are no X-factors for public lighting.

A_i^t is an adjustment factor. Likely to include, but not limited to adjustments for residual charges when customers choose to replace assets before the end of their economic life.

16.7.2 Proposal

Essential Energy proposes an average increase of 60 per cent in the financial year 2015–16 in public lighting charges.[99] Essential Energy submitted that this is a move to cost reflective prices as existing charges are significantly below cost reflective levels.[100,101] Essential Energy also proposes to simplify its tariff schedules.

Proposed changes to key inputs used to develop public lighting charges

In developing its charges, Essential Energy proposed changes to the key inputs used for calculating public lighting charges. Essential Energy submitted that it has made these changes to reflect current costs.[102] In particular it put forward that the proposed tariffs are based on the approved 2010 charging models with the following material adjustments:

- Materials costs have been updated to current contract rates
- Labour rates have been adjusted to current industrial rates
- Corporate and Divisional overheads have been adjusted to the current rates as detailed in the cost allocation methodology
- The allowance for labour and plant for bulk luminaire maintenance has been updated to align with current contract rates achieved through open tender
- The allowance for elapsed time to complete spot maintenance has been updated to reflect the low volume of tasks per mobilisation and demobilisation
- The allowance for travel time has been updated to reflect the actual light density.[103]

99 Essential Energy, Attachment 8.1 Public Lighting Proposal, p. 5.
100 Essential Energy, Attachment 8.1 Public Lighting Proposal, p. 14.
101 Essential Energy submitted that it made a loss on its street lighting business for each year 2010–11 to 2013–14 of $13,7m in 2010–11, 8.47 in 2011–12, 5.7 in 2012–13 and 7.9 in $2013–14, Attachment 8.1, p. 15.
102 Essential Energy, Attachment 8.1 Public Lighting Proposal, p. 13.
103 Essential Energy, Attachment 8.1 Public Lighting Proposal, p. 21.

Table 16-19 Proposed changes to key inputs

Component	Current value	Proposed value
On cost materials rate (per cent)	30	7.94
On cost labour rate (per cent)	130.93	56.95
On cost plant rate (per cent)	30	30
Division and Corporate overheads (per cent)	0	41.25
WACC (per cent)	8.07	7.09
Elevated Work Platform rate ($)	62.17	53.84
Standard labour rate ($)	34.54	38.76
Pole maintenance frequency (years)	4.5	4.0
Timber pole maintenance costs ($)	9.98	13.35
Bulk lamp replacement frequency (years)	4	3
Approximate average defect rate (per cent)	3.6	7.9
Contract bulk unit rate ($)	16.88	28.66

Source: Essential Energy, *Regulatory proposal*, May 2014, Attachment 8.1, p. 4.

Proposed changes to pricing schedule

Essential Energy proposes to introduce a new component based pricing schedule, applicable to tariff classifications. However, different rates will apply in line with the parameters determined for:

- Pre 2009 assets
- Post 2009 assets
- Post 2014 assets.

Essential Energy submitted that the component model will provide street lighting maintenance services in a less complicated manner, by breaking the charge into three components, with the light (lamp), bracket and pole charged separately and reducing the number of tariffs required.

Essential Energy submitted that currently a customer invoice looks like:

- MV 400 watt on steel pole (1 of 4) Qty 4
- MV 400 watt on timber pole (1 of 3) Qty 3
- MV 400 watt on timber pole (1 of 2) Qty 2
- MV 400 watt on steel pole (1 of 1) Qty 1.

Under the componentised model the invoice would look more like:

- MV 400 watt Qty 10
- Steel pole Qty 2
- Timber pole Qty 2
- 3.5 meter outreach Qty 10.[104]

Essential Energy's proposed pricing structure is summarised in the table below. There will be a new annuity related tariff where the installation is funded by Essential Energy that will apply to post 30 June 2015 assets.[105]

Table 16-20 Essential Energy public lighting tariff structure

Tariff	Installation date	Capital provision	Maintenance Responsibility	Replacement responsibility
Rate 1	prior to 1 July 2009	Essential Energy	Essential Energy	Negotiable
Rate 2	prior to 1 July 2009	Customer	Essential Energy	Essential Energy
Rate 3	July 2009 to June 2015	Essential Energy	Essential Energy	Negotiable
Rate 4	after 30 June 2009	Customer	Essential Energy	Negotiable
Rate 5	June 2015 to June 2019	Essential Energy	Essential Energy	Negotiable
Rate 99	Was Tariff 6	Customer	Customer	Negotiable

Source: Essential Energy, *Regulatory proposal*, May 2014, Attachment 8.1, p. 34.

16.7.3 Assessment Approach

In our 2009–10 to 2013–14 decision we decided it was important to develop two schedules of prices, one for assets constructed prior to 1 July 2009 and another for those assets constructed after 30 June 2009. This was due to the limited information on the age of assets constructed before 1 July 2009. Accordingly public lighting charges are set to recover capital charges for pre 2009 assets, capital charges for post 2009 assets and maintenance charges for both pre 2009 assets and post 2009 assets.

The capital charges for the pre 2009 assets were developed using a building block approach. Those are depreciated in accordance with the building block model. This model rolls forward the regulatory asset base (RAB) with allowance for depreciation, indexation and assets that are written off. It calculates the return of capital for each public lighting customer as well as the residual values of components that are replaced before the end of their economic life. There is no additional capital expenditure component. We have reviewed the capital charges model to check that depreciation, asset lives and weighted average cost of capital (WACC) have been correctly applied as per our 2009–14 decision. We have made no further changes to the inputs or assumptions underlying these models which were comprehensively addressed in our 2009–14 determination.

[104] Essential Energy, *Regulatory Proposal*, May 2014, Attachment 8.1 Public Lighting Proposal, p. 22.
[105] Essential Energy, *Regulatory Proposal*, May 2014, Attachment 8.1 Public Lighting Proposal, p. 13.

Capital charges for post 30 June 2009 assets are determined using an annuity capital charge approach, which this draft decision continues with.

This model derives an annuity charge for each asset, taking into account the capital cost, expected service life and the WACC.

In reviewing post 30 June 2009 capital charges we have focussed on the major light types used by New South Wales distributors; the Mercury Vapour 80, Compact Fluorescent 42 and High Pressure Sodium's (70, 150 and 250 watt).

We have identified the maintenance charges as being the major driver for the proposed increases in public lighting charges. In this review we focused our attention on the following key maintenance inputs and to benchmarked these against the Victorian distribution businesses:

- The bulk light replacement rate
- Spot replacements per day
- Lamp spot failure rates
- Labour rates and
- Overhead.

16.7.4 Submissions

Most of the submissions we received on public lighting were in response to Essential Energy's public lighting proposal and mainly referred to two reports. The reports were Strategic Lighting Partner and Energy and Management Services reports on behalf of councils.[106]

Councils submissions raised the following issues with Essential Energy's proposal:

- lack of consultation and transparency in dealings with Essential Energy
- lack of consultation and notice given in relation to the significant proposed price increases of up to 122 per cent for 2015–16 that are not justified
- amendments in bulk replacement program from 4 to 3 years not being an efficient outcome:
  - current 4 year target not currently being met
  - the additional costs for a 3 year replacement cycle not necessary and will not be efficient
  - newer longer lasting street lights will not need to be replaced as often.
- failure to complete bulk replacement program
- question the high pressure sodium (HPS) 70 lamps high failure rate of 13.94 per cent

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[106] Strategic Lighting Partners report (on behalf of Central NSW Regional Organisation of Councils) August 2014,
Energy and Management Services report (on behalf of various councils), August 2014,
Richmond Valley Council Submission, 7 August 2014,
Eurobodalla Council Submission, 7 August 2014Leeton Shire Council Submission, 28 July 2014.

- report council changed bulbs and discovered bulk lamps had not been changed as frequently as claimed contributing to ongoing failure rates
- question the increase in the corporate overhead from 0 to 41 per cent.

In response to these submissions, and at our request, Essential Energy held a public lighting forum in Sydney on 24 September 2014 at which it discussed common issues raised by councils. An outcome of this meeting is the recognition by Essential Energy that it will need to have on-going discussions with councils regarding its operation of the lighting system and associated charges. Essential Energy committed to setting up a group to meet on a six monthly basis with the aim of negotiating better outcomes for both Essential Energy and the councils.

16.7.5 Reasons for draft decision

We do not approve Essential Energy's proposed public lighting charges average increase of 62 per cent in 2015–16 and 3.3 per cent per annum increase in the remaining four years. Our draft decision is for an average increase of five per cent in 2015–16. Prices for the remaining years will be adjusted according to our price cap form of control.

We approve Essential Energy's new component based pricing schedule. We consider this will simplify street lighting charges for both Essential Energy and the councils and making pricing for street lighting more transparent.

In making our decision we focused on maintenance charges as we found these to be the major source of uplift in public lighting charges.

Capital charges

We found minor errors in Essential Energy's pre–2009 capital charge model that were not consistent with the approach adopted in our 2009–10 to 2013–14 decision. These errors were discussed with and corrected by Essential Energy who submitted an updated model to us.[107] The WACC was also updated to reflect our draft decision. Both measures have led to a marginal reduction in charges.

We did not make any changes to the pre–2009 capital charge model except to apply our WACC.

Essential Energy applied the standard asset lives and implied depreciation rates as per our 2009–10 to 2013–14 decision. These are set out in Table 16-21 below.

Table 16-21 Essential Energy's proposed asset lives and depreciation

	Standard asset life (years)	Depreciation (per cent)
Luminaire	20	5
Bracket[108]	35	2.9
Support	35	2.9
Connection	20	5

Source: Essential Energy, *Regulatory proposal*, May 2014, Attachment 8.1, p. 7.

[107] Essential Energy, revised models submitted on 15 September 2014.
[108] Note that in the AER 2009–10 to 2013–14 decision the assumed asset life for pre July 2009 brackets is 20 years.

Maintenance charges

The major drivers of the price increase in Essential Energy's proposed maintenance charges are:

- a three year bulk replacement program for lamps (instead of the 4 year bulk light replacement program for 150W, 250W and 400W HPS, compact fluorescent and fluorescent lamps, 5 year program for twin arc lights and 3 year for all other)
- assumed average failure rates for 2015–19 of 7.9 per cent, based on actual 2012–13 failure rates (instead of the average rate of 3.6 per cent as approved in 2009–10)
- achieving 1.5 lamp spot replacements per day (instead of the 18.5 approved in 2009–10)
- the application of a 41 per cent divisional and corporate overhead cost applied on top of its public lighting charges (instead of 0 per cent currently applied).

Essential Energy has proposed the failure rates outlined in Table 16-22. The actual failure rates represent the failures they report experiencing for 2012–13. The proposed failure rate of 9.55 per cent for the high pressure sodium lights represents an average figure of the actual failure rates experienced across the high pressure sodium lights. Our draft decision failure rates are based on assessment of manufactures claimed failure rates and actual failure rates for different light types being achieved across the NEM. We have taken into account that observed failure rates can often be higher in the field than what is claimed by manufactures. Consequently, we agree that the lighting failure rates should be increased from those in the AER's 2009 determination.

Table 16-22 Essential Energy proposed failure rates

Luminaire Type	Number of Luminaires	Proposed failure rates (per cent)	Actual failure rates (per cent)	Draft Decision Failure Rates (per cent)
Fluorescent 42	55,060	7.7	7.7	6.0
High Pressure Sodium 70	28,570	9.55	13.94	5.0
High Pressure Sodium 250	22,496	9.55	6.01	5.0
Mercury Vapour 80	20,635	4.47	4.37	4.0
High Pressure Sodium 150	9398	9.55	6.65	5.0

Source: Essential Energy, *Regulatory Proposal*, Attachment 8.1 Public Lighting Proposal, Table 9, p.17 and SLOUS Opex Model.

Essential Energy's proposed high lamp failure rate assumptions and earlier bulk lamp replacement program of 3 years are not considered efficient, given the expected life of lamps and technological advancements that are improving lamp life. The proposed failure rates and bulk lamp replacement programs do not reflect standards that are being achieved by efficient distributors elsewhere in the national market.

Endeavour Energy has achieved and is again proposing for the 2015–18 regulatory control period lower failure rates across its lamps of 4.46 per cent compared to Essential Energy (proposing 7.9 per

cent).[109] Victorian distributors are also achieving the lower failure rates in line with those proposed by Endeavour Energy. The MV80 in Victoria has an assumed failure rate of 15 per cent over four years (3.75 per cent per annum) and the T5 lamps an 8.6 per cent failure rate over four years (2.15 per cent per annum).[110]

Councils questioned the high pressure sodium (HPS70) lamps extraordinary high assumed failure rate of 14 per cent and argued that the bulk replacement cycle, rather than being shortened to 3 years, should be reanalysed using full life cycle costs with a view to extending the cycle rather than shortening it.[111]

The AER's 2009–10 to 2013–14 determination on public lighting charges established that a 4 year cycle was appropriate for 150W, 250W and 400W high pressure sodium, compact fluorescent and fluorescent lamps, a 5 year program for twin arc lights and 3 year program for all other lamp types. Essential Energy state that due to the mixture of lighting types and technologies across its footprint it was decided to standardise to a 3 year bulk light replacement cycle. If a mixture of cycles was adopted it is likely that there would be no reduction in cost.[112] We agree that a standardised bulk light replacement program across all light types is more efficient as all lights can be changed at one time. However we consider the proposed 3 year bulk lamp replacement program proposed by Essential Energy is not consistent with the efficient application of 4 year bulk lamp replacement programs by Victorian distributors and Endeavour Energy. As old luminaires are replaced with newer longer life technology that a 4 year replacement cycle is more appropriate. Consistent with improved technology we would also expect reductions in failure rates.[113] Armidale Dumaresq Council submitted:

> Essential Energy is persisting with a pricing structure that reflects the costs of maintaining current technology. However, with the roll out of LED's expected within the next calendar year, there does not seem to be a recognition that a more reliable luminaire may reduce the costs of maintenance.[114]

Essential Energy reported the following bulk lamp replacements had been achieved in the 2010–15 regulatory control period in Table 16-23 below and that "due to a contract issue the bulk lamp replacement did not operate in 2013–14 however is due to recommence in October 2014". The achieved lamp replacements are below that of a 4 year bulk lamp replacement program.

Richmond Council's submission stated the council changed bulbs and discovered bulk lamps had not been changed as frequently as claimed and that this is contributing to ongoing failure rates.[115]

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109 Endeavour Energy, Response to AER Information Request 27, 17 September 2014.
110 AER, *Energy Efficient Public Lighting Charges - Victoria, Final Decision*, February 2009, pp. 33-36.
111 Energy and Management Services report (on behalf of various councils), August 2014 p. 5.
112 Essential Energy, sheet prepared for ROC meeting Friday 19-9-2014.
113 Failure rates for LED lights are considerable lower than older light sources.
114 Energy and Management Services report (on behalf of various councils), August 2014.
115 Richmond Valley Council submission, 7 August 2014, p. 2.

Table 16-23 Bulk lamp replacement achieved, 2009–2014

Year	achieved bulk lamp replacements	number to achieve 4 year bulk replacement
2009-10	7419	35,961
2010-11	31,482	36,324
2011-12	26,055	36,674
2012-13	20,551	37,323
2013-14	2	37,696
Total	85,239	183,979

Source: Essential Energy, Response to AER Information Request No. 28, 29 September 2014, p. 3 and AER analysis.

Essential Energy's proposed 1.5 lamp spot replacements per day is not considered efficient. This number was based on a simple average of the number of spot defects a depot can repair per day. We have calculated this to be 3 spot defects per day if a weighted average[116] is used. Strategic Lighting Partners report (on behalf of various councils) contends Essential Energy actually appears to be over performing on the speed of repair and therefore needlessly over spending. Data analysed from the councils of Temora, Tumut, Junee and Lockhart shows that more than half of the repairs had response times of a day or less. If this analysis is representative across Essential Energy's area, this would be costing much more than an "efficient maintenance" service should cost, especially in light of the observation that "It is rare that we will be called to attend more than one light in any one trip.

The benchmark for rural and remote Victorian distributors is 12 spot replacements per day.[117] We consider 3 replacements per day for Essential Energy is an appropriate benchmark taking into account the unique geographic nature of its network and the evidence presented by Essential Energy.[118]

The use of corporate overheads to inflate true costs needs to be evaluated in any regulatory review. Essential Energy's proposal to apply a 41 per cent divisional and corporate overhead cost on top of its public lighting charges is not considered efficient. We have not seen overheads for distribution businesses set at such high rates and the evidence from other jurisdictions calls into question the quantum of overheads Essential Energy sought. We consider an efficient benchmark is the application of a 25 per cent indirect charge as applied in Victoria and as proposed by Ausgrid. WE have adopted this for Essential Energy.

The proposed and draft decision labour escalators are set out in Table 16-24. The reasons for the draft decision labour rates are discussed in full in (see opex, attachment 7).

116 The weighted average is based on the number of Council lights per depot.
117 For high pressure sodium lamp150 and 250 watts.
118 Essential Energy, *Regulatory Proposal*, May 2014, Attachment 8.1, Appendix 3 - Defects per Depot per mobilisation.

Table 16-24 NSW Labour Escalators, per cent

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Essential Energy Proposed	0.0	0.12	1.19	2.07	2.06	2.04
Draft Decision	0.58	0.89	0.87	1.40	1.62	1.44

Source: AER analysis.

We accepted Essential Energy's proposed rates for:

- elevated work platform–$53.84
- standard labour rate–$38.76
- timber pole maintenance costs–$13.35
- Contract bulk unit rate– $28.66.

We consider these to be consistent with Victorian benchmarks.

Our decision in relation to Essential Energy's proposals will lessen public lighting price increases and councils bills from the proposed average increase of 60 per cent to 4 per cent in 2015–16.

Service Standards

The NSW Public Lighting Code sets out minimum levels of service from distributors and protections for Councils for Public Lighting in NSW.

In relation to service standards we consider that there is a trade-off between the prices paid by councils and the service provided by distributors. In addressing customers complaints Essential Energy is proposing to improve its consultation. We have no power to amend the Code.

Whilst the NSW Public Lighting Code sets standards for distributors to adhere to, it is only voluntary. We see our role as setting a minimum level of protection. Negotiation between councils and Essential Energy can secure lower prices than those set by our determinations but councils must recognise that the trade-off will be a lower level of service offered by their distributor. Or a higher price for a tailored level of service.

During our review Essential Energy has consulted with councils and aims in future to achieve a better balance between the level of service and price. This was noted at the Sydney public lighting forum held on 24 September 2014.[119] Councils are encouraged to seek solutions with their distributor directly as this will provide robust outcomes that a regulatory solution may not necessarily be able to replicate.

[119] Notes of the speakers' presentations at the forum are available from Essential Energy and have been distributed to attendees.

A Appendix

A.1 Approved charges for alternative control services

A.1.1 Ancillary Network Services

Table 16-25: Ancillary network services – Essential Energy – draft determination

Service	Current price ($2014–15)		Proposed price ($2014–15)		AER draft decision ($2014–15)	% (draft cf prop)
DESIGN FEES						
Design cert. - UG urban						
Up to 5 Lots	80.00	/ application	298.04	/ application	285.61	-4.2
6 to 10 Lots	159.09	/ application	447.06	/ application	428.41	-4.2
11-40 Lots	239.09	/ application	745.10	/ application	714.02	-4.2
Over 40 Lots	318.18	/ application	894.12	/ application	856.82	-4.2
Design cert - OH rural						
1 to 5 Poles	80.00	/ application	298.04	/ application	285.61	-4.2
6 to 10 Poles	159.09	/ application	447.06	/ application	428.41	-4.2
11 or more poles	239.09	/ application	745.10	/ application	714.02	-4.2
Design cert. - UG C&I or rural						
1 to 5 Poles	159.09	/ application	447.06	/ application	428.41	-4.2
6 to 10 Poles	239.09	/ application	596.08	/ application	571.22	-4.2

Service		Current price ($2014–15)		Proposed price ($2014–15)		AER draft decision ($2014–15)	% (draft cf prop)
	11 or more poles	478.18	/ application	894.12	/ application	856.82	-4.2
Design Certification - other							
	R3 time	80.00	/ hour	149.02	/ hour	142.80	-4.2
	R3 time	96.36	/ hour				
Design rechecking							
	R2 time	80.00	/ hour	149.02	/ hour	142.80	-4.2
	R3 time	96.36	/ hour	199.65	/ hour	177.52	-11.1
Design info. - UG urban							
	Up to 5 Lots	159.09	/ application	447.06	/ application	428.41	-4.2
	6 to 10 Lots	239.09	/ application	596.08	/ application	571.22	-4.2
	11-40 Lots	398.18	/ application	1,043.14	/ application	999.63	-4.2
	Over 40 Lots	478.18	/ application	1,341.19	/ application	1,285.24	-4.2
Design info. - other							
	R2 time	80.00	/ hour	149.02	/ hour	142.80	-4.2
ASP FEES							
Authorisation of ASPs - Initial							
	Initial Authorisations	159	/ authorisation	826.19	/ authorisation	561.51	-32.0
	Authorisation Renewals	159	/ authorisation	400.97	/ authorisation	284.98	-28.9

Service		Current price ($2014–15)		Proposed price ($2014–15)		AER draft decision ($2014–15)	% (draft cf prop)
Authorisation Training							
	Authorisation Training	n.a.	/ authorisation	311.03	/ authorisation	118.98	-61.8
Remedial action of ASPs							
	Remedial action of ASPs	n.a.	/ hour	177.49	/ hour	167.96	-5.4
MISC FEES - SITE ESTABLISHMENT FEES							
Conveyancing Enquiry							
	Conveyancing Enquiry	37	/ application	63.71	/ application	59.27	-7.0
Site establishment							
	Per NMI	139	/ application	88.12	/ application	66.79	-24.2
CONNECTION RELATED FEES							
Customer interface coordination for contestable works							
	Customer i/face coord - basic	n.a	/ application	177.50	/ application	167.96	-5.4
	Customer i/face coord - complex	n.a	/ application	199.65	/ application	177.52	-11.1
Preliminary enquiry service							
	Prelim. enquiry service - basic	n.a	/ hour	177.50	/ hour	167.96	-5.4
	Prelim. enquiry service - complex	n.a	/ hour	199.65	/ hour	177.52	-11.1
Connection offer service (basic or standard)							

Service		Current price ($2014–15)		Proposed price ($2014–15)		AER draft decision ($2014–15)	% (draft cf prop)
	Conn. offer service - basic	n.a	/ application	29.38	/ application	22.26	-24.2
	Conn. offer service - standard	n.a	/ hour	149.02	/ hour	142.80	-4.2
Connection/relocation process facilitation							
	Conn. / reloc. process facilitation	n.a	/ hour	149.02	/ hour	142.80	-4.2
Planning studies							
	Connection planning studies	n.a	/ hour	199.65	/ hour	177.52	-11.1
Services involved in obtaining deeds of agreement							
	Deeds of agreement studies	n.a	/ hour	199.65	/ hour	177.52	-11.1
MIMO READ FEES							
Vacant Premise reconnect/disconnect							
	Per connection	88	/ application	126.03	/ application	124.98	-0.8
Vacant Premise r/d (site visit only)							
	Per visit	n.a.	/ application	94.45	/ application	93.66	-0.8
Move In/Move Out Read and Special Read							
	Per reading	44	/ application	83.20	/ application	82.51	-0.8
DISCONNECTION & RECONNECTION FEES							
Reconnect/Disconnect (site visit)							

Service	Current price ($2014–15)		Proposed price ($2014–15)		AER draft decision ($2014–15)	% (draft cf prop)
Site Visit	44	/ application	94.45	/ application	93.66	-0.8
Reconnect/Disconnect Completed						
Reconnect/Disconnect Completed	88	/ application	126.05	/ application	124.32	-1.4
Reconnect/Disconnect - Technical						
Reconnect/Disconnect - Technical	88	/ application	126.00	/ application	124.32	-1.3
Reconnect/Disconnect - Pillar or Pole Completed						
Reconnect/Disconnect - Pillar or Pole Completed	148	/ application	464.82	/ application	460.24	-1.0
Reconnect/Disconnect - Out of Business Hours						
Reconnect/Disconnect - Out of Business Hours	95	/ application	131.97	/ application	131.97	0.0
OFFICE FEES						
Access - Standby						
Access - Standby	64	/ hour	177.50	/ hour	167.96	-5.4
Notice of Arrangement						
Notice of Arrangement	193	/ application	298.05	/ application	285.61	-4.2
Network tariff change						
Network tariff change	161.11	/ application	166.86	/ application	126.46	-24.2
Debt Collection Costs - dishonoured trans.						
Debt Collection Costs - dishonoured trans.	n.a.	/ application	31.13	/ application	31.13	0.0

Service		Current price ($2014–15)		Proposed price ($2014–15)		AER draft decision ($2014–15)	% (draft cf prop)
ROLR Services							
	ROLR Services	n.a.	/ application	58.88	/ application	58.88	0.0
FIELD RELATED SERVICES							
AMS - Meter Test							
	First Meter	73	/ application	458.76	/ application	454.91	-0.8
	Each Additional Meter	73	/ application	337.32	/ application	334.49	-0.8
AMS - Franchise CT Meter Install							
	AMS - Franchise CT Meter Install	n.a.	/ application	1,153.33	/ application	978.00	-15.2
Off Peak Conversion Fee							
	Off Peak Conversion Fee	59	/ application	82.17	/ application	82.51	0.4
Rectification Works - General							
	Rectification Works - General	221	/ hour	377.54	/ hour	358.46	-5.1
High Load Escorts							
	High Load Escorts	n.a.	/ hour	177.50	/ hour	167.96	-5.4
Temporary Supply							
	Install and remove HV LL Links	n.a.	/ application	3,549.97	/ application	3,359.22	-5.4
	Break and remake HV bonds	n.a.	/ application	2,662.48	/ application	2,519.41	-5.4
	Break and remake LV bonds	n.a.	/ application	2,129.98	/ application	2,015.53	-5.4

Service		Current price ($2014–15)		Proposed price ($2014–15)		AER draft decision ($2014–15)	% (draft cf prop)
	Connect and disconnect generator to OH mains	n.a.	/ application	2,129.98	/ application	2,015.53	-5.4
	Connect and disconnect MG to LV board in Kiosk	n.a.	/ application	1,419.99	/ application	1,343.69	-5.4
Attendance (statutory)							
	Attendance (statutory)	n.a.	/ hour	134.93	/ hour	133.80	-0.8

Table 16-26 Ancillary network services – Essential Energy – draft determination – Inspection & CW related fees, ($2014–15)

INSPECTIONS & CW Related Fees										
				Proposed fee			AER draft determination			(draft cf proposed, per cent))
ASP inspection L1 - UG urban		Class A	Class B	Class C	class A	class B	class C	class A	class B	class C
First 10 Lots	/ application	88.75	213.00	443.75	88.75	201.55	443.75	0.0	-5.4	0.0
11-40 Lots	/ application	88.75	124.25	248.50	88.75	117.57	248.50	0.0	-5.4	0.0
Over 40 Lots	/ application	17.75	71.00	118.33	17.75	67.18	118.33	0.0	-5.4	0.0
ASP inspection L1 - OH rural										
1-5 poles	/ application	106.50	213.00	355.00	106.50	201.55	355.00	0.0	-5.4	0.0
6-10 poles	/ application	88.75	177.50	328.38	88.75	167.96	328.38	0.0	-5.4	0.0
11 or more poles	/ application	71.00	124.25	248.50	71.00	117.57	248.50	0.0	-5.4	0.0
ASP inspection L1 - UG C&I or rural										
First 10 Lots	/ application	88.75	213.00	443.75	88.75	201.55	443.75	0.0	-5.4	0.0
Next 40 Lots	/ application	88.75	213.00	443.75	88.75	201.55	443.75	0.0	-5.4	0.0
Remainder	/ application	88.75	213.00	443.75	88.75	201.55	443.75	0.0	-5.4	0.0
ASP inspection L1 - C&I developments										
ASP inspection L1 - C&I developments	/ hour		177.50			167.96			-5.4	
ASP inspection L1 - AR or SL										
ASP inspection L1 - AR or SL	/ hour		177.50			167.96			-5.4	
ASP inspection L2										
A Grade	/ application		44.37			41.99			-5.4	

INSPECTIONS & CW Related Fees				
B Grade	/ application	74.55	70.54	-5.4
C Grade	/ application	213.00	201.55	-5.4
ASP reinspection				
ASP reinspection	/ hour	177.50	167.96	-5.4
Substation Commissioning - UG Urban				
Per Lot	/ application	2,595.49	2,307.75	-11.1
Substation Commissioning - Other				
Per substation	/ application	2,595.49	2,307.75	-11.1
Access Permits - UG urban				
Per Lot	/ application	2,795.14	2,485.27	-11.1
Access Permits - other				
Max per access permit	/ application	2,795.14	2,485.27	-11.1
Admin - UG urban				
Up to 5 Lots	/ application	470.03	356.22	-24.2
6-10 Lots	/ application	587.53	445.28	-24.2
11-40 Lots	/ application	822.55	623.39	-24.2
Over 40 Lots	/ application	940.05	712.44	-24.2
Admin - OH rural				
Up to 5 poles	/ application	470.03	356.22	-24.2
6-10 poles	/ application	587.53	445.28	-24.2

INSPECTIONS & CW Related Fees				
11 or more poles	/ application	1,057.56	801.50	-24.2
Admin - other				
Max fee at six hours	/ application	705.04	534.33	-24.2

Table 16-27: AER draft decision on maximum labour charge rates for quoted services, ($2014–15)

Classification	AER Draft Decision maximum labour rate - includes on-cost and overhead specific to Essential Energy
Admin	85.98
Technical specialist	130.06 154.91
EO 7/Engineer	177.39
Field worker R4	130.87 118.31
Senior Engineer	

Table 16-28 AER draft decision on X factors for each year of the regulatory control period

	2015–16	2016–17	2017–18	2018–19
X factor	–0.54	–0.87	–1.00	–0.89

Note: these x factors are consistent with the AER draft decision on labour escalation factors as set out in the Opex Attachment. By adopting the labour escalation rate as the X factor we are allowing for increases in labour costs in addition to CPI over the next regulatory period.

A.1.2 Metering

Table 16-29 Essential Energy's approved annual metering charges for existing customers ($2014–15)

	2014–15	2015–16	2016–17	2017–18	2018–19
Residential Anytime	32.23	33.74	34.70	33.94	34.53
Residential TOU	40.75	42.22	43.19	42.50	43.12
Small Business anytime	32.23	33.74	34.70	33.94	34.53
Small Business TOU	40.75	42.22	43.19	42.50	43.12
Controlled Load	11.17	11.88	12.31	11.94	12.19
Solar (Gross meter only)	39.42	40.75	41.64	41.02	41.60
Residential Anytime	32.23	33.74	34.70	33.94	34.53

Table 16-30 Essential Energy's approved annual metering charges for new customers (no RAB) ($2014–15)

	2015–16	2016–17	2017–18	2018–19
Anytime Customers	14.69	14.70	14.86	14.96
TOU Customers	19.71	19.73	19.97	20.12
Controlled Load	4.63	4.63	4.67	4.69
Solar Additions (assume single phase 2 element)	19.30	19.32	19.57	19.72

Table 16-31 Essential Energy's approved prices for new or upgraded meters ($2014–15)

Single Phase Accumulation	29.55
Three Phase Accumulation	119.67
Single Phase TOU	86.02
Single Phase 2 element (TOU)	184.50
Three Phase TOU	284.54
Three Phase CT	301.51

A.1.3 Public Lighting

Table 16-32 Public Lighting – Essential Energy – draft determination

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
				proposed	draft decision	proposed	draft decision
FLU0010-ST-0990-001-B	1	STEEL POLE	1	110.81	87.49	47.03	37.56
FLU0050-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	37.16	27.65
FLU0050-ST-0740-001-B	1	SHARED OR NO POLE	2	30.73	24.26	37.16	27.65
FLU0060-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	39.00	29.01
FLU0060-ST-0810-001-B	1	WOOD POLE	1	65.72	51.89	49.81	39.82
FLU0060-ST-0990-001-B	1	STEEL POLE	1	110.81	87.49	48.88	38.89
FLU0080-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	42.68	31.82
FLU0100-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	37.16	27.65
FLU0130-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	36.26	26.94
FLU0130-ST-0740-001-B	1	SHARED OR NO POLE	2	30.73	24.26	36.26	26.94
FLU0130-ST-0810-001-B	1	WOOD POLE	1	65.72	51.89	47.07	37.75
FLU0130-ST-0990-001-B	1	STEEL POLE	1	110.81	87.49	46.14	36.82
FLU0130-ST-1000-001-B	1	STEEL POLE	2	119.37	94.25	41.20	31.88
FLU0140-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	37.21	27.66
FLU0140-ST-0810-001-B	1	WOOD POLE	1	65.72	51.89	48.02	38.47
FLU0190-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	37.21	27.72
FLU0240-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	36.26	26.94

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
FLU0350-ST-1620-001-B	1	SHARED OR NO POLE	1	24.69	19.49	50.16	37.48
HPS0010-ST-0040-001-B	1	SHARED OR NO POLE	1	23.75	18.75	56.40	36.13
HPS0010-ST-0360-001-B	1	STEEL POLE	1	112.39	88.73	66.28	46.00
HPS0010-TA-0090-001-B	1	SHARED OR NO POLE	1	25.13	19.84	55.30	39.85
HPS0010-TA-0140-001-B	1	WOOD POLE	1	68.69	54.23	66.11	50.66
HPS0010-TA-0170-001-B	1	STEEL POLE	1	113.78	89.83	65.17	49.72
HPS0010-TA-1210-001-B	1	WOOD POLE	2	80.21	63.33	60.70	45.26
HPS0020-ST-0040-001-B	1	SHARED OR NO POLE	1	23.75	18.75	55.14	35.09
HPS0020-ST-0350-001-B	1	WOOD POLE	1	67.30	53.13	65.95	45.89
HPS0020-ST-0360-001-B	1	STEEL POLE	1	112.39	88.73	65.02	44.96
HPS0020-ST-0730-001-B	1	STEEL POLE	2	122.53	96.74	60.08	40.02
HPS0020-ST-0750-001-B	1	SHARED OR NO POLE	3	44.03	34.76	55.14	35.09
HPS0020-ST-0890-001-B	1	SHARED OR NO POLE	2	33.89	26.75	55.14	35.09
HPS0020-ST-0910-001-B	1	WOOD POLE	2	77.44	61.14	60.55	40.49
HPS0020-TA-0090-001-B	1	SHARED OR NO POLE	1	25.13	19.84	57.12	41.18
HPS0020-TA-0140-001-B	1	WOOD POLE	1	68.69	54.23	67.93	51.99
HPS0020-TA-0170-001-B	1	STEEL POLE	1	113.78	89.83	67.00	51.05
HPS0070-ST-0040-001-B	1	SHARED OR NO POLE	1	23.75	18.75	55.14	35.09
HPS0090-ST-0050-001-B	1	SHARED OR NO POLE	1	41.12	32.47	76.30	46.21
HPS0090-ST-0220-001-B	1	WOOD POLE	1	84.68	66.85	87.11	57.02

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0090-ST-0310-001-B	1	STEEL POLE	1	118.44	93.51	86.18	56.09
HPS0090-ST-0690-001-B	1	STEEL POLE	2	134.64	106.30	81.24	51.15
HPS0090-ST-0710-001-B	1	STEEL POLE	3	150.83	119.08	79.59	49.51
HPS0090-ST-0980-001-B	1	WOOD POLE	2	100.87	79.64	81.71	51.62
HPS0090-ST-1010-001-B	1	SHARED OR NO POLE	2	57.32	45.25	76.30	46.21
HPS0090-ST-1360-001-B	1	R/BOUT COLUMN	3	227.92	179.94	79.59	49.51
HPS0090-TA-0050-001-B	1	SHARED OR NO POLE	1	41.12	32.47	76.43	54.57
HPS0090-TA-0220-001-B	1	WOOD POLE	1	84.68	66.85	87.24	65.38
HPS0090-TA-0310-001-B	1	STEEL POLE	1	118.44	93.51	86.30	64.44
HPS0090-TA-0690-001-B	1	STEEL POLE	2	134.64	106.30	81.37	59.51
HPS0090-TA-1010-001-B	1	SHARED OR NO POLE	2	57.32	45.25	76.43	54.57
HPS0090-TA-1370-001-B	1	R/BOUT COLUMN	4	244.11	192.72	78.90	57.04
HPS0100-ST-0230-001-B	1	WOOD POLE	1	84.84	66.98	88.47	57.92
HPS0100-ST-0430-001-B	1	STEEL POLE	3	151.33	119.47	80.95	50.40
HPS0100-ST-0610-001-B	1	SHARED OR NO POLE	1	47.81	37.75	77.66	47.11
HPS0100-ST-1070-001-B	1	WOOD POLE	1	91.37	72.13	88.47	57.92
HPS0110-ST-0060-001-B	1	SHARED OR NO POLE	1	41.29	32.60	77.66	47.08
HPS0110-ST-0230-001-B	1	WOOD POLE	1	84.84	66.98	88.47	57.89
HPS0110-ST-0320-001-B	1	STEEL POLE	1	118.61	93.64	87.53	56.95
HPS0110-ST-0390-001-B	1	STEEL POLE	2	134.97	106.56	82.59	52.02

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0110-ST-0470-001-B	1	STEEL POLE	4	167.69	132.39	80.13	49.55
HPS0110-ST-0550-001-B	1	R/BOUT COLUMN	3	228.41	180.33	80.95	50.37
HPS0110-ST-0590-001-B	1	R/BOUT COLUMN	4	244.77	193.25	80.13	49.55
HPS0110-ST-0610-001-B	1	SHARED OR NO POLE	1	47.81	37.75	77.66	47.08
HPS0110-ST-0760-001-B	1	WOOD POLE	2	101.20	79.90	83.06	52.48
HPS0110-ST-0930-001-B	1	WOOD POLE	3	117.56	92.81	81.26	50.68
HPS0110-ST-0960-001-B	1	SHARED OR NO POLE	2	57.65	45.51	77.66	47.08
HPS0110-ST-1070-001-B	1	WOOD POLE	1	91.37	72.13	88.47	57.89
HPS0110-ST-1120-001-B	1	STEEL POLE	1	125.13	98.79	87.53	56.95
HPS0110-ST-1160-001-B	1	WOOD POLE	2	114.25	90.20	83.06	52.48
HPS0110-ST-1450-001-B	1	R/BOUT COLUMN	4	270.86	213.84	80.13	49.55
HPS0110-TA-0060-001-B	1	SHARED OR NO POLE	1	41.29	32.60	76.87	54.92
HPS0110-TA-0230-001-B	1	WOOD POLE	1	84.84	66.98	87.68	65.73
HPS0110-TA-0320-001-B	1	STEEL POLE	1	118.61	93.64	86.75	64.79
HPS0110-TA-0390-001-B	1	STEEL POLE	2	134.97	106.56	81.81	59.85
HPS0110-TA-0590-001-B	1	R/BOUT COLUMN	4	244.77	193.25	79.34	57.39
HPS0110-TA-0960-001-B	1	SHARED OR NO POLE	2	57.65	45.51	76.87	54.92
HPS0110-TA-1120-001-B	1	STEEL POLE	1	125.13	98.79	86.75	64.79
HPS0110-TA-1450-001-B	1	R/BOUT COLUMN	4	270.86	213.84	79.34	57.39
HPS0140-ST-0070-001-B	1	SHARED OR NO POLE	1	45.97	36.30	77.66	47.08

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0140-ST-0330-001-B	1	STEEL POLE	1	123.29	97.34	87.53	56.95
HPS0140-ST-0400-001-B	1	STEEL POLE	2	144.34	113.95	82.59	52.02
HPS0140-ST-1030-001-B	1	SHARED OR NO POLE	2	67.02	52.91	77.66	47.08
HPS0160-ST-0070-001-B	1	SHARED OR NO POLE	1	45.97	36.30	81.27	49.47
HPS0160-ST-0240-001-B	1	WOOD POLE	1	89.53	70.68	92.08	60.28
HPS0160-ST-0330-001-B	1	STEEL POLE	1	123.29	97.34	91.14	59.34
HPS0160-ST-0620-001-B	1	SHARED OR NO POLE	1	44.27	34.95	81.27	49.47
HPS0160-ST-0770-001-B	1	WOOD POLE	2	110.57	87.29	86.67	54.87
HPS0170-ST-0070-001-B	1	SHARED OR NO POLE	1	45.97	36.30	81.27	49.63
HPS0170-ST-0240-001-B	1	WOOD POLE	1	89.53	70.68	92.08	60.44
HPS0170-ST-0330-001-B	1	STEEL POLE	1	123.29	97.34	91.14	59.50
HPS0170-ST-0400-001-B	1	STEEL POLE	2	144.34	113.95	86.21	54.56
HPS0170-ST-0600-001-B	1	R/BOUT COLUMN	4	263.51	208.04	83.74	52.10
HPS0170-ST-0620-001-B	1	SHARED OR NO POLE	1	44.27	34.95	81.27	49.63
HPS0170-ST-0660-001-B	1	SHARED OR NO POLE	2	63.60	50.21	81.27	49.63
HPS0170-ST-0770-001-B	1	WOOD POLE	2	110.57	87.29	86.67	55.03
HPS0170-ST-0900-001-B	1	WOOD POLE	2	120.44	95.09	86.67	55.03
HPS0170-ST-1030-001-B	1	SHARED OR NO POLE	2	67.02	52.91	81.27	49.63
HPS0170-ST-1080-001-B	1	WOOD POLE	1	94.46	74.58	81.27	49.63
HPS0170-ST-1130-001-B	1	STEEL POLE	2	154.21	121.75	86.21	54.56

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0170-ST-1170-001-B	1	STEEL POLE	1	128.23	101.24	91.14	59.50
HPS0170-ST-1250-001-B	1	WOOD POLE	3	146.42	115.60	84.87	53.23
HPS0170-TA-0070-001-B	1	SHARED OR NO POLE	1	45.97	36.30	84.69	60.68
HPS0170-TA-0240-001-B	1	WOOD POLE	1	89.53	70.68	95.50	71.49
HPS0170-TA-0330-001-B	1	STEEL POLE	1	123.29	97.34	94.56	70.55
HPS0170-TA-0400-001-B	1	STEEL POLE	2	144.34	113.95	89.63	65.62
HPS0170-TA-0600-001-B	1	R/BOUT COLUMN	4	263.51	208.04	87.16	63.15
HPS0170-TA-1080-001-B	1	WOOD POLE	1	94.46	74.58	84.69	60.68
HPS0180-ST-0860-001-B	1	R/BOUT COLUMN	3	257.27	203.12	102.54	65.62
HPS0180-ST-0870-001-B	1	R/BOUT COLUMN	4	283.25	223.63	101.72	64.80
HPS0180-ST-1490-001-B	1	R/BOUT COLUMN	2	231.29	182.60	104.18	67.27
HPS0250-ST-0120-001-B	1	SHARED OR NO POLE	1	77.54	61.22	91.96	56.80
HPS0250-ST-0840-001-B	1	R/BOUT COLUMN	3	257.27	203.12	95.25	60.09
HPS0250-ST-0850-001-B	1	R/BOUT COLUMN	2	231.29	182.60	96.90	61.74
HPS0250-ST-1050-001-B	1	R/BOUT COLUMN	4	283.25	223.63	94.43	59.27
INC0030-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	19.47	15.82
INC0040-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	19.47	15.82
INC0050-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	19.47	15.82
INC0100-ST-0810-001-B	1	WOOD POLE	1	65.72	51.89	31.54	27.94
INC0100-ST-0990-001-B	1	STEEL POLE	1	110.81	87.49	30.60	27.01

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
LPS0030-ST-0040-001-B	1	SHARED OR NO POLE	1	23.75	18.75	65.74	42.58
LPS0030-ST-0350-001-B	1	WOOD POLE	1	67.30	53.13	76.55	53.39
LPS0030-ST-0360-001-B	1	STEEL POLE	1	112.39	88.73	75.61	52.45
LPS0030-ST-0890-001-B	1	SHARED OR NO POLE	2	33.89	26.75	65.74	42.58
LPS0040-ST-0050-001-B	1	SHARED OR NO POLE	1	41.12	32.47	67.57	43.86
LPS0040-ST-0220-001-B	1	WOOD POLE	1	84.68	66.85	78.38	54.67
LPS0040-ST-0310-001-B	1	STEEL POLE	1	118.44	93.51	77.44	53.74
LPS0050-ST-0060-001-B	1	SHARED OR NO POLE	1	41.29	32.60	69.56	45.24
LPS0050-ST-0230-001-B	1	WOOD POLE	1	84.84	66.98	80.37	56.05
LPS0050-ST-0320-001-B	1	STEEL POLE	1	118.61	93.64	79.43	55.12
LPS0060-ST-0060-001-B	1	SHARED OR NO POLE	1	41.29	32.60	93.68	58.69
MHR0060-ST-0060-001-B	1	SHARED OR NO POLE	1	41.29	32.60	66.24	48.19
MHR0060-ST-0320-001-B	1	STEEL POLE	1	118.61	93.64	76.11	58.07
MHR0060-ST-0610-001-B	1	SHARED OR NO POLE	1	47.81	37.75	66.24	48.19
MHR0060-ST-1070-001-B	1	WOOD POLE	1	91.37	72.13	77.05	59.00
MHR0060-ST-1120-001-B	1	STEEL POLE	1	125.13	98.79	76.11	58.07
MHR0070-ST-0060-001-B	1	SHARED OR NO POLE	1	41.29	32.60	66.48	48.37
MHR0070-ST-0320-001-B	1	STEEL POLE	1	118.61	93.64	76.36	58.25
MHR0070-ST-0620-001-B	1	SHARED OR NO POLE	1	44.27	34.95	66.48	48.37
MHR0070-ST-1080-001-B	1	WOOD POLE	1	94.46	74.58	66.48	48.37

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MHR0070-ST-1130-001-B	1	STEEL POLE	2	154.21	121.75	71.42	53.31
MHR0070-ST-1170-001-B	1	STEEL POLE	1	128.23	101.24	76.36	58.25
MVA0010-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	39.27	31.01
MVA0010-ST-0740-001-B	1	SHARED OR NO POLE	2	30.73	24.26	39.27	31.01
MVA0010-ST-0810-001-B	1	WOOD POLE	1	65.72	51.89	50.08	41.82
MVA0010-ST-0990-001-B	1	STEEL POLE	1	110.81	87.49	49.15	40.89
MVA0020-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	37.13	29.37
MVA0020-ST-0740-001-B	1	SHARED OR NO POLE	2	30.73	24.26	37.13	29.37
MVA0020-ST-0810-001-B	1	WOOD POLE	1	65.72	51.89	47.94	40.18
MVA0020-ST-0990-001-B	1	STEEL POLE	1	110.81	87.49	47.01	39.25
MVA0020-ST-1000-001-B	1	STEEL POLE	2	119.37	94.25	42.07	34.31
MVA0020-ST-1260-001-B	1	WOOD POLE	2	74.28	58.65	42.54	34.78
MVA0080-ST-0010-001-B	1	SHARED OR NO POLE	1	22.17	17.50	37.46	29.57
MVA0080-ST-0810-001-B	1	WOOD POLE	1	65.72	51.89	48.27	40.38
MVA0080-ST-0820-001-B	1	SHARED OR NO POLE	3	39.29	31.02	37.46	29.57
MVA0080-ST-0990-001-B	1	STEEL POLE	1	110.81	87.49	47.34	39.45
MVA0080-ST-1000-001-B	1	STEEL POLE	2	119.37	94.25	42.40	34.51
MVA0170-ST-0020-001-B	1	SHARED OR NO POLE	1	41.75	32.96	47.48	38.54
MVA0190-ST-0020-001-B	1	SHARED OR NO POLE	1	41.75	32.96	50.14	40.59
MVA0190-ST-0200-001-B	1	WOOD POLE	1	85.31	67.35	60.95	51.40

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MVA0190-ST-0290-001-B	1	STEEL POLE	1	119.08	94.01	60.01	50.47
MVA0190-ST-0370-001-B	1	STEEL POLE	2	135.90	107.29	55.08	45.53
MVA0190-ST-0940-001-B	1	SHARED OR NO POLE	2	58.58	46.25	50.14	40.59
MVA0220-ST-0030-001-B	1	SHARED OR NO POLE	1	41.94	33.11	61.21	48.98
MVA0220-ST-0210-001-B	1	WOOD POLE	1	85.49	67.49	72.02	59.79
MVA0220-ST-0300-001-B	1	STEEL POLE	1	119.26	94.15	71.09	58.85
MVA0220-ST-0380-001-B	1	STEEL POLE	2	136.26	107.58	66.15	53.92
MVA0220-ST-0950-001-B	1	SHARED OR NO POLE	2	58.94	46.54	61.21	48.98
MVA0250-ST-0300-001-B	1	STEEL POLE	1	119.26	94.15	60.06	50.51
FLU0010-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.16	27.68
FLU0010-ST-0990-002-B	2	STEEL POLE	1	-	-	47.03	37.56
FLU0040-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.16	27.62
FLU0050-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.16	27.65
FLU0050-ST-0990-002-B	2	STEEL POLE	1	-	-	47.03	37.53
FLU0060-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	39.00	29.01
FLU0060-ST-0740-002-B	2	SHARED OR NO POLE	2	-	-	39.00	29.01
FLU0060-ST-0810-002-B	2	WOOD POLE	1	-	-	49.81	39.82
FLU0060-ST-0830-002-B	2	SHARED OR NO POLE	4	-	-	39.00	29.01
FLU0060-ST-0990-002-B	2	STEEL POLE	1	-	-	48.88	38.89
FLU0060-ST-1000-002-B	2	STEEL POLE	2	-	-	43.94	33.95

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
FLU0070-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	40.84	30.43
FLU0080-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	42.68	31.82
FLU0080-ST-0990-002-B	2	STEEL POLE	1	-	-	52.56	41.70
FLU0100-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.16	27.65
FLU0100-ST-0990-002-B	2	STEEL POLE	1	-	-	47.03	37.53
FLU0100-ST-1000-002-B	2	STEEL POLE	2	-	-	42.10	32.59
FLU0130-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	36.26	26.94
FLU0130-ST-0740-002-B	2	SHARED OR NO POLE	2	-	-	36.26	26.94
FLU0130-ST-0810-002-B	2	WOOD POLE	1	-	-	47.07	37.75
FLU0130-ST-0990-002-B	2	STEEL POLE	1	-	-	46.14	36.82
FLU0130-ST-1000-002-B	2	STEEL POLE	2	-	-	41.20	31.88
FLU0140-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.21	27.66
FLU0140-ST-0740-002-B	2	SHARED OR NO POLE	2	-	-	37.21	27.66
FLU0140-ST-0830-002-B	2	SHARED OR NO POLE	4	-	-	37.21	27.66
FLU0140-ST-0990-002-B	2	STEEL POLE	1	-	-	47.08	37.53
FLU0140-ST-1260-002-B	2	WOOD POLE	2	-	-	42.61	33.06
FLU0220-ST-0990-002-B	2	STEEL POLE	1	-	-	46.14	36.82
FLU0240-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	36.26	26.94
FLU0240-ST-0810-002-B	2	WOOD POLE	1	-	-	47.07	37.75
FLU0240-ST-0990-002-B	2	STEEL POLE	1	-	-	46.14	36.82

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
FLU0250-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.21	27.72
FLU0350-ST-1620-002-B	2	SHARED OR NO POLE	1	-	-	50.16	37.48
FLU0350-ST-1660-002-B	2	WOOD POLE	1	-	-	60.97	48.29
FLU0350-ST-1700-002-B	2	STEEL POLE	1	-	-	60.04	47.36
HPS0010-ST-0040-002-B	2	SHARED OR NO POLE	1	-	-	56.40	36.13
HPS0010-ST-0350-002-B	2	WOOD POLE	1	-	-	67.21	46.94
HPS0010-ST-0360-002-B	2	STEEL POLE	1	-	-	66.28	46.00
HPS0010-ST-0890-002-B	2	SHARED OR NO POLE	2	-	-	56.40	36.13
HPS0010-ST-0910-002-B	2	WOOD POLE	2	-	-	61.81	41.53
HPS0010-TA-0090-002-B	2	SHARED OR NO POLE	1	-	-	55.30	39.85
HPS0010-TA-0140-002-B	2	WOOD POLE	1	-	-	66.11	50.66
HPS0010-TA-0170-002-B	2	STEEL POLE	1	-	-	65.17	49.72
HPS0020-ST-0040-002-B	2	SHARED OR NO POLE	1	-	-	55.14	35.09
HPS0020-ST-0350-002-B	2	WOOD POLE	1	-	-	65.95	45.89
HPS0020-ST-0360-002-B	2	STEEL POLE	1	-	-	65.02	44.96
HPS0020-ST-0730-002-B	2	STEEL POLE	2	-	-	60.08	40.02
HPS0020-ST-0750-002-B	2	SHARED OR NO POLE	3	-	-	55.14	35.09
HPS0020-ST-0880-002-B	2	STEEL POLE	4	-	-	57.61	37.55
HPS0020-ST-0890-002-B	2	SHARED OR NO POLE	2	-	-	55.14	35.09
HPS0020-ST-0910-002-B	2	WOOD POLE	2	-	-	60.55	40.49

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0020-TA-0090-002-B	2	SHARED OR NO POLE	1	-	-	57.12	41.18
HPS0020-TA-0140-002-B	2	WOOD POLE	1	-	-	67.93	51.99
HPS0020-TA-0170-002-B	2	STEEL POLE	1	-	-	67.00	51.05
HPS0070-ST-0040-002-B	2	SHARED OR NO POLE	1	-	-	55.14	35.09
HPS0070-ST-0350-002-B	2	WOOD POLE	1	-	-	65.95	45.89
HPS0070-ST-0360-002-B	2	STEEL POLE	1	-	-	65.02	44.96
HPS0080-ST-0050-002-B	2	SHARED OR NO POLE	1	-	-	54.89	35.00
HPS0080-ST-0310-002-B	2	STEEL POLE	1	-	-	64.77	44.88
HPS0090-ST-0050-002-B	2	SHARED OR NO POLE	1	-	-	76.30	46.21
HPS0090-ST-0220-002-B	2	WOOD POLE	1	-	-	87.11	57.02
HPS0090-ST-0310-002-B	2	STEEL POLE	1	-	-	86.18	56.09
HPS0090-ST-0690-002-B	2	STEEL POLE	2	-	-	81.24	51.15
HPS0090-ST-0710-002-B	2	STEEL POLE	3	-	-	79.59	49.51
HPS0090-ST-0720-002-B	2	STEEL POLE	4	-	-	78.77	48.68
HPS0090-ST-0980-002-B	2	WOOD POLE	2	-	-	81.71	51.62
HPS0090-ST-1010-002-B	2	SHARED OR NO POLE	2	-	-	76.30	46.21
HPS0090-ST-1360-002-B	2	R/BOUT COLUMN	3	-	-	79.59	49.51
HPS0090-ST-1370-002-B	2	R/BOUT COLUMN	4	-	-	78.77	48.68
HPS0090-TA-0050-002-B	2	SHARED OR NO POLE	1	-	-	76.43	54.57
HPS0090-TA-0220-002-B	2	WOOD POLE	1	-	-	87.24	65.38

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0090-TA-0310-002-B	2	STEEL POLE	1	-	-	86.30	64.44
HPS0100-ST-0060-002-B	2	SHARED OR NO POLE	1	-	-	77.66	47.11
HPS0100-ST-0230-002-B	2	WOOD POLE	1	-	-	88.47	57.92
HPS0100-ST-0320-002-B	2	STEEL POLE	1	-	-	87.53	56.98
HPS0100-ST-0390-002-B	2	STEEL POLE	2	-	-	82.59	52.04
HPS0100-ST-0610-002-B	2	SHARED OR NO POLE	1	-	-	77.66	47.11
HPS0100-ST-1070-002-B	2	WOOD POLE	1	-	-	88.47	57.92
HPS0100-ST-1120-002-B	2	STEEL POLE	1	-	-	87.53	56.98
HPS0100-ST-1160-002-B	2	WOOD POLE	2	-	-	83.06	52.51
HPS0110-ST-0060-002-B	2	SHARED OR NO POLE	1	-	-	77.66	47.08
HPS0110-ST-0230-002-B	2	WOOD POLE	1	-	-	88.47	57.89
HPS0110-ST-0320-002-B	2	STEEL POLE	1	-	-	87.53	56.95
HPS0110-ST-0390-002-B	2	STEEL POLE	2	-	-	82.59	52.02
HPS0110-ST-0430-002-B	2	STEEL POLE	3	-	-	80.95	50.37
HPS0110-ST-0470-002-B	2	STEEL POLE	4	-	-	80.13	49.55
HPS0110-ST-0510-002-B	2	R/BOUT COLUMN	2	-	-	82.59	52.02
HPS0110-ST-0550-002-B	2	R/BOUT COLUMN	3	-	-	80.95	50.37
HPS0110-ST-0590-002-B	2	R/BOUT COLUMN	4	-	-	80.13	49.55
HPS0110-ST-0610-002-B	2	SHARED OR NO POLE	1	-	-	77.66	47.08
HPS0110-ST-0650-002-B	2	SHARED OR NO POLE	2	-	-	77.66	47.08

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0110-ST-0760-002-B	2	WOOD POLE	2	-	-	83.06	52.48
HPS0110-ST-0960-002-B	2	SHARED OR NO POLE	2	-	-	77.66	47.08
HPS0110-ST-0970-002-B	2	SHARED OR NO POLE	4	-	-	77.66	47.08
HPS0110-ST-1070-002-B	2	WOOD POLE	1	-	-	88.47	57.89
HPS0110-ST-1120-002-B	2	STEEL POLE	1	-	-	87.53	56.95
HPS0110-ST-1140-002-B	2	STEEL POLE	2	-	-	82.59	52.02
HPS0110-ST-1160-002-B	2	WOOD POLE	2	-	-	83.06	52.48
HPS0110-ST-1380-002-B	2	R/BOUT COLUMN	3	-	-	80.95	50.37
HPS0110-ST-1450-002-B	2	R/BOUT COLUMN	4	-	-	80.13	49.55
HPS0110-TA-0060-002-B	2	SHARED OR NO POLE	1	-	-	76.87	54.92
HPS0110-TA-0230-002-B	2	WOOD POLE	1	-	-	87.68	65.73
HPS0110-TA-0320-002-B	2	STEEL POLE	1	-	-	86.75	64.79
HPS0110-TA-0590-002-B	2	R/BOUT COLUMN	4	-	-	79.34	57.39
HPS0110-TA-1070-002-B	2	WOOD POLE	1	-	-	87.68	65.73
HPS0120-ST-0860-002-B	2	R/BOUT COLUMN	3	-	-	95.52	60.75
HPS0120-ST-1490-002-B	2	R/BOUT COLUMN	2	-	-	97.17	62.39
HPS0140-ST-0070-002-B	2	SHARED OR NO POLE	1	-	-	77.66	47.08
HPS0140-ST-0330-002-B	2	STEEL POLE	1	-	-	87.53	56.95
HPS0160-ST-0070-002-B	2	SHARED OR NO POLE	1	-	-	81.27	49.47
HPS0160-ST-0240-002-B	2	WOOD POLE	1	-	-	92.08	60.28

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0160-ST-0330-002-B	2	STEEL POLE	1	-	-	91.14	59.34
HPS0160-ST-0400-002-B	2	STEEL POLE	2	-	-	86.21	54.40
HPS0160-ST-0620-002-B	2	SHARED OR NO POLE	1	-	-	81.27	49.47
HPS0160-ST-1130-002-B	2	STEEL POLE	2	-	-	86.21	54.40
HPS0160-ST-1170-002-B	2	STEEL POLE	1	-	-	91.14	59.34
HPS0170-ST-0070-002-B	2	SHARED OR NO POLE	1	-	-	81.27	49.63
HPS0170-ST-0240-002-B	2	WOOD POLE	1	-	-	92.08	60.44
HPS0170-ST-0270-002-B	2	R/BOUT COLUMN	3	-	-	84.56	52.92
HPS0170-ST-0330-002-B	2	STEEL POLE	1	-	-	91.14	59.50
HPS0170-ST-0400-002-B	2	STEEL POLE	2	-	-	86.21	54.56
HPS0170-ST-0440-002-B	2	STEEL POLE	3	-	-	84.56	52.92
HPS0170-ST-0480-002-B	2	STEEL POLE	4	-	-	83.74	52.10
HPS0170-ST-0560-002-B	2	R/BOUT COLUMN	3	-	-	84.56	52.92
HPS0170-ST-0600-002-B	2	R/BOUT COLUMN	4	-	-	83.74	52.10
HPS0170-ST-0620-002-B	2	SHARED OR NO POLE	1	-	-	81.27	49.63
HPS0170-ST-0660-002-B	2	SHARED OR NO POLE	2	-	-	81.27	49.63
HPS0170-ST-0770-002-B	2	WOOD POLE	2	-	-	86.67	55.03
HPS0170-ST-1030-002-B	2	SHARED OR NO POLE	2	-	-	81.27	49.63
HPS0170-ST-1080-002-B	2	WOOD POLE	1	-	-	81.27	49.63
HPS0170-ST-1130-002-B	2	STEEL POLE	2	-	-	86.21	54.56

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0170-ST-1170-002-B	2	STEEL POLE	1	-	-	91.14	59.50
HPS0170-TA-0600-002-B	2	R/BOUT COLUMN	4	-	-	87.16	63.15
HPS0180-ST-0870-002-B	2	R/BOUT COLUMN	4	-	-	101.72	64.80
HPS0190-ST-1470-002-B	2	R/BOUT COLUMN	1	-	-	127.10	85.20
HPS0250-ST-0120-002-B	2	SHARED OR NO POLE	1	-	-	91.96	56.80
HPS0250-ST-1050-002-B	2	R/BOUT COLUMN	4	-	-	94.43	59.27
INC0030-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	19.47	15.82
INC0030-ST-0810-002-B	2	WOOD POLE	1	-	-	30.28	26.63
INC0030-ST-0820-002-B	2	SHARED OR NO POLE	3	-	-	19.47	15.82
INC0030-ST-0990-002-B	2	STEEL POLE	1	-	-	29.34	25.69
INC0050-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	19.47	15.82
INC0050-ST-0810-002-B	2	WOOD POLE	1	-	-	30.28	26.63
INC0080-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	20.73	17.13
INC0090-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	20.73	17.13
INC0100-ST-0740-002-B	2	SHARED OR NO POLE	2	-	-	20.73	17.13
INC0110-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	20.73	17.13
INC0160-ST-0620-002-B	2	SHARED OR NO POLE	1	-	-	19.47	15.88
LPS0030-ST-0040-002-B	2	SHARED OR NO POLE	1	-	-	65.74	42.58
LPS0030-ST-0360-002-B	2	STEEL POLE	1	-	-	75.61	52.45
LPS0030-ST-0890-002-B	2	SHARED OR NO POLE	2	-	-	65.74	42.58

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
LPS0040-ST-0050-002-B	2	SHARED OR NO POLE	1	-	-	67.57	43.86
LPS0040-ST-0220-002-B	2	WOOD POLE	1	-	-	78.38	54.67
LPS0040-ST-0310-002-B	2	STEEL POLE	1	-	-	77.44	53.74
LPS0050-ST-0060-002-B	2	SHARED OR NO POLE	1	-	-	69.56	45.24
LPS0060-ST-0060-002-B	2	SHARED OR NO POLE	1	-	-	93.68	58.69
LPS0060-ST-0230-002-B	2	WOOD POLE	1	-	-	104.49	69.50
LPS0060-ST-0320-002-B	2	STEEL POLE	1	-	-	103.55	68.57
LPS0060-ST-0390-002-B	2	STEEL POLE	2	-	-	98.62	63.63
LPS0060-ST-0590-002-B	2	R/BOUT COLUMN	4	-	-	96.15	61.16
LPS0060-ST-0960-002-B	2	SHARED OR NO POLE	2	-	-	93.68	58.69
LPS0090-ST-0070-002-B	2	SHARED OR NO POLE	1	-	-	93.68	58.69
MHR0010-ST-0040-002-B	2	SHARED OR NO POLE	1	-	-	53.57	39.33
MHR0010-ST-0360-002-B	2	STEEL POLE	1	-	-	63.45	49.20
MHR0010-ST-0730-002-B	2	STEEL POLE	2	-	-	58.51	44.27
MHR0030-ST-0050-002-B	2	SHARED OR NO POLE	1	-	-	66.24	48.30
MHR0030-ST-0310-002-B	2	STEEL POLE	1	-	-	76.11	58.17
MHR0030-ST-0690-002-B	2	STEEL POLE	2	-	-	71.17	53.23
MHR0030-ST-0710-002-B	2	STEEL POLE	3	-	-	69.53	51.59
MHR0060-ST-0060-002-B	2	SHARED OR NO POLE	1	-	-	66.24	48.19
MHR0060-ST-0320-002-B	2	STEEL POLE	1	-	-	76.11	58.07

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MHR0060-ST-0390-002-B	2	STEEL POLE	2	-	-	71.17	53.13
MHR0060-ST-0590-002-B	2	R/BOUT COLUMN	4	-	-	68.71	50.66
MHR0060-ST-0610-002-B	2	SHARED OR NO POLE	1	-	-	66.24	48.19
MHR0060-ST-0650-002-B	2	SHARED OR NO POLE	2	-	-	66.24	48.19
MHR0060-ST-1070-002-B	2	WOOD POLE	1	-	-	77.05	59.00
MHR0060-ST-1120-002-B	2	STEEL POLE	1	-	-	76.11	58.07
MHR0060-ST-1160-002-B	2	WOOD POLE	2	-	-	71.64	53.60
MHR0070-ST-0060-002-B	2	SHARED OR NO POLE	1	-	-	66.48	48.37
MHR0070-ST-0320-002-B	2	STEEL POLE	1	-	-	76.36	58.25
MHR0070-ST-0390-002-B	2	STEEL POLE	2	-	-	71.42	53.31
MHR0070-ST-0470-002-B	2	STEEL POLE	4	-	-	68.95	50.84
MHR0070-ST-0620-002-B	2	SHARED OR NO POLE	1	-	-	66.48	48.37
MHR0070-ST-0660-002-B	2	SHARED OR NO POLE	2	-	-	66.48	48.37
MHR0070-ST-1080-002-B	2	WOOD POLE	1	-	-	66.48	48.37
MHR0070-ST-1170-002-B	2	STEEL POLE	1	-	-	76.36	58.25
MHR0100-ST-0120-002-B	2	SHARED OR NO POLE	1	-	-	70.85	51.59
MVA0010-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	39.27	31.01
MVA0010-ST-0810-002-B	2	WOOD POLE	1	-	-	50.08	41.82
MVA0010-ST-0990-002-B	2	STEEL POLE	1	-	-	49.15	40.89
MVA0010-ST-1000-002-B	2	STEEL POLE	2	-	-	44.21	35.95

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MVA0020-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.13	29.37
MVA0020-ST-0740-002-B	2	SHARED OR NO POLE	2	-	-	37.13	29.37
MVA0020-ST-0810-002-B	2	WOOD POLE	1	-	-	47.94	40.18
MVA0020-ST-0820-002-B	2	SHARED OR NO POLE	3	-	-	37.13	29.37
MVA0020-ST-0990-002-B	2	STEEL POLE	1	-	-	47.01	39.25
MVA0020-ST-1000-002-B	2	STEEL POLE	2	-	-	42.07	34.31
MVA0020-ST-1260-002-B	2	WOOD POLE	2	-	-	42.54	34.78
MVA0020-ST-1460-002-B	2	STEEL POLE	3	-	-	40.42	32.66
MVA0080-ST-0010-002-B	2	SHARED OR NO POLE	1	-	-	37.46	29.57
MVA0080-ST-0740-002-B	2	SHARED OR NO POLE	2	-	-	37.46	29.57
MVA0080-ST-0810-002-B	2	WOOD POLE	1	-	-	48.27	40.38
MVA0080-ST-0990-002-B	2	STEEL POLE	1	-	-	47.34	39.45
MVA0190-ST-0020-002-B	2	SHARED OR NO POLE	1	-	-	50.14	40.59
MVA0190-ST-0200-002-B	2	WOOD POLE	1	-	-	60.95	51.40
MVA0190-ST-0290-002-B	2	STEEL POLE	1	-	-	60.01	50.47
MVA0190-ST-0370-002-B	2	STEEL POLE	2	-	-	55.08	45.53
MVA0190-ST-0450-002-B	2	STEEL POLE	4	-	-	52.61	43.06
MVA0190-ST-0780-002-B	2	WOOD POLE	2	-	-	55.54	46.00
MVA0190-ST-0940-002-B	2	SHARED OR NO POLE	2	-	-	50.14	40.59
MVA0220-ST-0030-002-B	2	SHARED OR NO POLE	1	-	-	61.21	48.98

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MVA0220-ST-0210-002-B	2	WOOD POLE	1	-	-	72.02	59.79
MVA0220-ST-0300-002-B	2	STEEL POLE	1	-	-	71.09	58.85
MVA0220-ST-0380-002-B	2	STEEL POLE	2	-	-	66.15	53.92
MVA0220-ST-0460-002-B	2	STEEL POLE	4	-	-	63.68	51.45
MVA0220-ST-0790-002-B	2	WOOD POLE	2	-	-	66.62	54.38
MVA0220-ST-0950-002-B	2	SHARED OR NO POLE	2	-	-	61.21	48.98
MVA0260-ST-0250-002-B	2	WOOD POLE	1	-	-	66.44	55.64
MVA0290-ST-1040-002-B	2	SHARED OR NO POLE	2	-	-	84.73	67.17
FLU0350-ST-1620-003-B	3	SHARED OR NO POLE	1	56.23	35.50	50.16	37.48
FLU0350-ST-1630-003-B	3	SHARED OR NO POLE	2	74.03	48.03	50.16	37.48
FLU0350-ST-1660-003-B	3	WOOD POLE	1	168.61	105.34	60.97	48.29
FLU0350-ST-1670-003-B	3	WOOD POLE	2	186.41	117.88	55.57	42.89
FLU0350-ST-1700-003-B	3	STEEL POLE	1	256.50	161.46	60.04	47.36
FLU0350-ST-1710-003-B	3	STEEL POLE	2	274.29	174.00	55.10	42.42
FLU0355-ST-1980-003-B	3	SHARED OR NO POLE	1	56.20	35.47	48.98	31.96
FLU0355-ST-2060-003-B	3	STEEL POLE	1	256.46	161.44	58.86	41.83
HPS0010-TA-0090-003-B	3	SHARED OR NO POLE	1	65.51	41.56	55.30	39.85
HPS0010-TA-0140-003-B	3	WOOD POLE	1	177.89	111.41	66.11	50.66
HPS0010-TA-0170-003-B	3	STEEL POLE	1	265.78	167.53	65.17	49.72
HPS0020-ST-0040-003-B	3	SHARED OR NO POLE	1	62.22	39.23	55.14	35.09

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0020-ST-0350-003-B	3	WOOD POLE	1	174.60	109.07	65.95	45.89
HPS0020-ST-0360-003-B	3	STEEL POLE	1	262.48	165.20	65.02	44.96
HPS0020-ST-0730-003-B	3	STEEL POLE	2	286.26	181.47	60.08	40.02
HPS0020-ST-0890-003-B	3	SHARED OR NO POLE	2	86.00	55.50	55.14	35.09
HPS0020-TA-0090-003-B	3	SHARED OR NO POLE	1	65.51	41.56	57.12	41.18
HPS0020-TA-0140-003-B	3	WOOD POLE	1	177.89	111.41	67.93	51.99
HPS0020-TA-0170-003-B	3	STEEL POLE	1	265.78	167.53	67.00	51.05
HPS0090-ST-0050-003-B	3	SHARED OR NO POLE	1	98.65	63.97	76.30	46.21
HPS0090-ST-0220-003-B	3	WOOD POLE	1	211.03	133.81	87.11	57.02
HPS0090-ST-0310-003-B	3	STEEL POLE	1	276.85	175.39	86.18	56.09
HPS0090-ST-0690-003-B	3	STEEL POLE	2	315.01	201.85	81.24	51.15
HPS0090-TA-0220-003-B	3	WOOD POLE	1	211.03	133.81	87.24	65.38
HPS0090-TA-0310-003-B	3	STEEL POLE	1	276.85	175.39	86.30	64.44
HPS0110-ST-0060-003-B	3	SHARED OR NO POLE	1	99.04	64.24	77.66	47.08
HPS0110-ST-0230-003-B	3	WOOD POLE	1	211.42	134.09	88.47	57.89
HPS0110-ST-0320-003-B	3	STEEL POLE	1	277.25	175.67	87.53	56.95
HPS0110-ST-0390-003-B	3	STEEL POLE	2	315.79	202.41	82.59	52.02
HPS0110-ST-0590-003-B	3	R/BOUT COLUMN	4	541.89	352.03	80.13	49.55
HPS0110-ST-0610-003-B	3	SHARED OR NO POLE	1	114.53	75.23	77.66	47.08
HPS0110-ST-0760-003-B	3	WOOD POLE	2	249.96	160.83	83.06	52.48

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0110-ST-0960-003-B	3	SHARED OR NO POLE	2	137.58	90.98	77.66	47.08
HPS0110-ST-1070-003-B	3	WOOD POLE	1	226.91	145.07	88.47	57.89
HPS0110-ST-1120-003-B	3	STEEL POLE	1	292.73	186.65	87.53	56.95
HPS0110-TA-0060-003-B	3	SHARED OR NO POLE	1	99.04	64.24	76.87	54.92
HPS0110-TA-0230-003-B	3	WOOD POLE	1	211.42	134.09	87.68	65.73
HPS0110-TA-0320-003-B	3	STEEL POLE	1	277.25	175.67	86.75	64.79
HPS0170-ST-0070-003-B	3	SHARED OR NO POLE	1	110.16	72.13	81.27	49.63
HPS0170-ST-0240-003-B	3	WOOD POLE	1	222.54	141.98	92.08	60.44
HPS0170-ST-0330-003-B	3	STEEL POLE	1	288.37	183.55	91.14	59.50
HPS0170-ST-0620-003-B	3	SHARED OR NO POLE	1	106.11	69.26	81.27	49.63
HPS0170-ST-1130-003-B	3	STEEL POLE	2	361.46	234.80	86.21	54.56
HPS0170-ST-1170-003-B	3	STEEL POLE	1	300.08	191.87	91.14	59.50
MHR0060-ST-0060-003-B	3	SHARED OR NO POLE	1	99.04	64.24	66.24	48.19
MHR0060-ST-0320-003-B	3	STEEL POLE	1	277.25	175.67	76.11	58.07
MHR0060-ST-0610-003-B	3	SHARED OR NO POLE	1	114.53	75.23	66.24	48.19
MHR0060-ST-1120-003-B	3	STEEL POLE	1	292.73	186.65	76.11	58.07
MHR0070-ST-0620-003-B	3	SHARED OR NO POLE	1	106.11	69.26	66.48	48.37
MVA0020-ST-0010-003-B	3	SHARED OR NO POLE	1	58.48	36.57	37.13	29.37
MVA0020-ST-0810-003-B	3	WOOD POLE	1	170.86	106.41	47.94	40.18
MVA0020-ST-0990-003-B	3	STEEL POLE	1	258.74	162.54	47.01	39.25

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MVA0190-ST-0020-003-B	3	SHARED OR NO POLE	1	100.15	65.03	50.14	40.59
MVA0190-ST-0200-003-B	3	WOOD POLE	1	212.53	134.87	60.95	51.40
MVA0190-ST-0290-003-B	3	STEEL POLE	1	278.35	176.45	60.01	50.47
FLU0130-ST-0010-004-B	4	SHARED OR NO POLE	1	-	-	36.26	26.94
FLU0240-ST-0010-004-B	4	SHARED OR NO POLE	1	-	-	36.26	26.94
FLU0350-ST-1620-004-B	4	SHARED OR NO POLE	1	-	-	50.16	37.48
FLU0350-ST-1630-004-B	4	SHARED OR NO POLE	2	-	-	50.16	37.48
FLU0350-ST-1640-004-B	4	SHARED OR NO POLE	3	-	-	50.16	37.48
FLU0350-ST-1650-004-B	4	SHARED OR NO POLE	4	-	-	50.16	37.48
FLU0350-ST-1660-004-B	4	WOOD POLE	1	-	-	60.97	48.29
FLU0350-ST-1670-004-B	4	WOOD POLE	2	-	-	55.57	42.89
FLU0350-ST-1700-004-B	4	STEEL POLE	1	-	-	60.04	47.36
FLU0350-ST-1710-004-B	4	STEEL POLE	2	-	-	55.10	42.42
FLU0350-ST-1720-004-B	4	STEEL POLE	3	-	-	53.45	40.77
FLU0350-ST-1730-004-B	4	STEEL POLE	4	-	-	52.63	39.95
FLU0355-ST-1980-004-B	4	SHARED OR NO POLE	1	-	-	48.98	31.96
FLU0355-ST-2060-004-B	4	STEEL POLE	1	-	-	58.86	41.83
HPS0010-TA-0090-004-B	4	SHARED OR NO POLE	1	-	-	55.30	39.85
HPS0010-TA-0140-004-B	4	WOOD POLE	1	-	-	66.11	50.66
HPS0010-TA-0170-004-B	4	STEEL POLE	1	-	-	65.17	49.72

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0020-ST-0040-004-B	4	SHARED OR NO POLE	1	-	-	55.14	35.09
HPS0020-ST-0350-004-B	4	WOOD POLE	1	-	-	65.95	45.89
HPS0020-ST-0360-004-B	4	STEEL POLE	1	-	-	65.02	44.96
HPS0020-ST-0730-004-B	4	STEEL POLE	2	-	-	60.08	40.02
HPS0020-ST-0880-004-B	4	STEEL POLE	4	-	-	57.61	37.55
HPS0020-ST-0890-004-B	4	SHARED OR NO POLE	2	-	-	55.14	35.09
HPS0020-ST-0910-004-B	4	WOOD POLE	2	-	-	60.55	40.49
HPS0020-TA-0090-004-B	4	SHARED OR NO POLE	1	-	-	57.12	41.18
HPS0020-TA-0140-004-B	4	WOOD POLE	1	-	-	67.93	51.99
HPS0020-TA-0170-004-B	4	STEEL POLE	1	-	-	67.00	51.05
HPS0090-ST-0050-004-B	4	SHARED OR NO POLE	1	-	-	76.30	46.21
HPS0090-ST-0220-004-B	4	WOOD POLE	1	-	-	87.11	57.02
HPS0090-ST-0310-004-B	4	STEEL POLE	1	-	-	86.18	56.09
HPS0090-ST-0690-004-B	4	STEEL POLE	2	-	-	81.24	51.15
HPS0090-ST-0710-004-B	4	STEEL POLE	3	-	-	79.59	49.51
HPS0090-ST-0720-004-B	4	STEEL POLE	4	-	-	78.77	48.68
HPS0090-ST-0980-004-B	4	WOOD POLE	2	-	-	81.71	51.62
HPS0090-ST-1010-004-B	4	SHARED OR NO POLE	2	-	-	76.30	46.21
HPS0090-ST-1360-004-B	4	R/BOUT COLUMN	3	-	-	79.59	49.51
HPS0090-TA-0050-004-B	4	SHARED OR NO POLE	1	-	-	76.43	54.57

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0090-TA-0310-004-B	4	STEEL POLE	1	-	-	86.30	64.44
HPS0110-ST-0060-004-B	4	SHARED OR NO POLE	1	-	-	77.66	47.08
HPS0110-ST-0230-004-B	4	WOOD POLE	1	-	-	88.47	57.89
HPS0110-ST-0320-004-B	4	STEEL POLE	1	-	-	87.53	56.95
HPS0110-ST-0390-004-B	4	STEEL POLE	2	-	-	82.59	52.02
HPS0110-ST-0430-004-B	4	STEEL POLE	3	-	-	80.95	50.37
HPS0110-ST-0470-004-B	4	STEEL POLE	4	-	-	80.13	49.55
HPS0110-ST-0550-004-B	4	R/BOUT COLUMN	3	-	-	80.95	50.37
HPS0110-ST-0590-004-B	4	R/BOUT COLUMN	4	-	-	80.13	49.55
HPS0110-ST-0610-004-B	4	SHARED OR NO POLE	1	-	-	77.66	47.08
HPS0110-ST-0650-004-B	4	SHARED OR NO POLE	2	-	-	77.66	47.08
HPS0110-ST-0760-004-B	4	WOOD POLE	2	-	-	83.06	52.48
HPS0110-ST-0960-004-B	4	SHARED OR NO POLE	2	-	-	77.66	47.08
HPS0110-ST-0970-004-B	4	SHARED OR NO POLE	4	-	-	77.66	47.08
HPS0110-ST-1070-004-B	4	WOOD POLE	1	-	-	88.47	57.89
HPS0110-ST-1120-004-B	4	STEEL POLE	1	-	-	87.53	56.95
HPS0110-ST-1160-004-B	4	WOOD POLE	2	-	-	83.06	52.48
HPS0110-ST-1380-004-B	4	R/BOUT COLUMN	3	-	-	80.95	50.37
HPS0110-ST-1450-004-B	4	R/BOUT COLUMN	4	-	-	80.13	49.55
HPS0110-TA-0060-004-B	4	SHARED OR NO POLE	1	-	-	76.87	54.92

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0110-TA-0230-004-B	4	WOOD POLE	1	-	-	87.68	65.73
HPS0110-TA-0320-004-B	4	STEEL POLE	1	-	-	86.75	64.79
HPS0110-TA-0590-004-B	4	R/BOUT COLUMN	4	-	-	79.34	57.39
HPS0120-ST-0860-004-B	4	R/BOUT COLUMN	3	-	-	95.52	60.75
HPS0170-ST-0070-004-B	4	SHARED OR NO POLE	1	-	-	81.27	49.63
HPS0170-ST-0240-004-B	4	WOOD POLE	1	-	-	92.08	60.44
HPS0170-ST-0270-004-B	4	R/BOUT COLUMN	3	-	-	84.56	52.92
HPS0170-ST-0330-004-B	4	STEEL POLE	1	-	-	91.14	59.50
HPS0170-ST-0400-004-B	4	STEEL POLE	2	-	-	86.21	54.56
HPS0170-ST-0440-004-B	4	STEEL POLE	3	-	-	84.56	52.92
HPS0170-ST-0480-004-B	4	STEEL POLE	4	-	-	83.74	52.10
HPS0170-ST-0560-004-B	4	R/BOUT COLUMN	3	-	-	84.56	52.92
HPS0170-ST-0600-004-B	4	R/BOUT COLUMN	4	-	-	83.74	52.10
HPS0170-ST-0620-004-B	4	SHARED OR NO POLE	1	-	-	81.27	49.63
HPS0170-ST-0660-004-B	4	SHARED OR NO POLE	2	-	-	81.27	49.63
HPS0170-ST-0900-004-B	4	WOOD POLE	2	-	-	86.67	55.03
HPS0170-ST-1030-004-B	4	SHARED OR NO POLE	2	-	-	81.27	49.63
HPS0170-ST-1130-004-B	4	STEEL POLE	2	-	-	86.21	54.56
HPS0170-ST-1170-004-B	4	STEEL POLE	1	-	-	91.14	59.50
HPS0190-ST-1470-004-B	4	R/BOUT COLUMN	1	-	-	127.10	85.20

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0250-ST-1050-004-B	4	R/BOUT COLUMN	4	-	-	94.43	59.27
MHR0010-ST-0040-004-B	4	SHARED OR NO POLE	1	-	-	53.57	39.33
MHR0010-ST-0360-004-B	4	STEEL POLE	1	-	-	63.45	49.20
MHR0060-ST-0060-004-B	4	SHARED OR NO POLE	1	-	-	66.24	48.19
MHR0060-ST-0320-004-B	4	STEEL POLE	1	-	-	76.11	58.07
MHR0060-ST-0390-004-B	4	STEEL POLE	2	-	-	71.17	53.13
MHR0060-ST-0610-004-B	4	SHARED OR NO POLE	1	-	-	66.24	48.19
MHR0070-ST-0060-004-B	4	SHARED OR NO POLE	1	-	-	66.48	48.37
MHR0070-ST-0320-004-B	4	STEEL POLE	1	-	-	76.36	58.25
MHR0070-ST-0620-004-B	4	SHARED OR NO POLE	1	-	-	66.48	48.37
MHR0070-ST-1170-004-B	4	STEEL POLE	1	-	-	76.36	58.25
MHR0100-ST-0120-004-B	4	SHARED OR NO POLE	1	-	-	70.85	51.59
MVA0010-ST-0010-004-B	4	SHARED OR NO POLE	1	-	-	39.27	31.01
MVA0010-ST-0990-004-B	4	STEEL POLE	1	-	-	49.15	40.89
MVA0020-ST-0010-004-B	4	SHARED OR NO POLE	1	-	-	37.13	29.37
MVA0020-ST-0740-004-B	4	SHARED OR NO POLE	2	-	-	37.13	29.37
MVA0020-ST-0810-004-B	4	WOOD POLE	1	-	-	47.94	40.18
MVA0020-ST-0990-004-B	4	STEEL POLE	1	-	-	47.01	39.25
MVA0020-ST-1000-004-B	4	STEEL POLE	2	-	-	42.07	34.31
MVA0190-ST-0020-004-B	4	SHARED OR NO POLE	1	-	-	50.14	40.59

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MVA0190-ST-0200-004-B	4	WOOD POLE	1	-	-	60.95	51.40
MVA0190-ST-0290-004-B	4	STEEL POLE	1	-	-	60.01	50.47
MVA0190-ST-0570-004-B	4	R/BOUT COLUMN	4	-	-	52.61	43.06
MVA0220-ST-0030-004-B	4	SHARED OR NO POLE	1	-	-	61.21	48.98
MVA0220-ST-0210-004-B	4	WOOD POLE	1	-	-	72.02	59.79
FLU0350-ST-1620-005-B	5	SHARED OR NO POLE	1	93.82	76.39	50.16	37.48
HPS0010-ST-0040-005-B	5	SHARED OR NO POLE	1	92.24	75.05	56.40	36.13
HPS0010-ST-0360-005-B	5	STEEL POLE	1	251.97	201.08	66.28	46.00
HPS0020-ST-0040-005-B	5	SHARED OR NO POLE	1	92.24	75.05	55.14	35.09
HPS0020-ST-0350-005-B	5	WOOD POLE	1	206.46	165.17	65.95	45.89
HPS0020-ST-0360-005-B	5	STEEL POLE	1	251.97	201.08	65.02	44.96
HPS0020-ST-0730-005-B	5	STEEL POLE	2	286.76	229.91	60.08	40.02
HPS0020-ST-0750-005-B	5	SHARED OR NO POLE	3	161.82	132.71	55.14	35.09
HPS0020-ST-0890-005-B	5	SHARED OR NO POLE	2	127.03	103.88	55.14	35.09
HPS0020-ST-0910-005-B	5	WOOD POLE	2	241.25	194.00	60.55	40.49
HPS0070-ST-0040-005-B	5	SHARED OR NO POLE	1	92.24	75.05	55.14	35.09
HPS0090-ST-0050-005-B	5	SHARED OR NO POLE	1	121.92	98.98	76.30	46.21
HPS0090-ST-0220-005-B	5	WOOD POLE	1	236.14	189.10	87.11	57.02
HPS0090-ST-0310-005-B	5	STEEL POLE	1	260.54	208.35	86.18	56.09
HPS0090-ST-0690-005-B	5	STEEL POLE	2	303.90	244.45	81.24	51.15

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0090-ST-0710-005-B	5	STEEL POLE	3	347.26	280.56	79.59	49.51
HPS0090-ST-0980-005-B	5	WOOD POLE	2	279.50	225.20	81.71	51.62
HPS0090-ST-1010-005-B	5	SHARED OR NO POLE	2	165.28	135.08	76.30	46.21
HPS0090-ST-1360-005-B	5	R/BOUT COLUMN	3	470.86	378.07	79.59	49.51
HPS0090-TA-0050-005-B	5	SHARED OR NO POLE	1	121.92	98.98	76.43	54.57
HPS0090-TA-0220-005-B	5	WOOD POLE	1	236.14	189.10	87.24	65.38
HPS0090-TA-0310-005-B	5	STEEL POLE	1	260.54	208.35	86.30	64.44
HPS0090-TA-0690-005-B	5	STEEL POLE	2	303.90	244.45	81.37	59.51
HPS0090-TA-1010-005-B	5	SHARED OR NO POLE	2	165.28	135.08	76.43	54.57
HPS0090-TA-1370-005-B	5	R/BOUT COLUMN	4	514.22	414.17	78.90	57.04
HPS0100-ST-0230-005-B	5	WOOD POLE	1	236.29	189.22	88.47	57.92
HPS0100-ST-0430-005-B	5	STEEL POLE	3	347.71	280.94	80.95	50.40
HPS0110-ST-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	77.66	47.08
HPS0110-ST-0230-005-B	5	WOOD POLE	1	236.29	189.22	88.47	57.89
HPS0110-ST-0320-005-B	5	STEEL POLE	1	260.69	208.48	87.53	56.95
HPS0110-ST-0390-005-B	5	STEEL POLE	2	304.20	244.71	82.59	52.02
HPS0110-ST-0470-005-B	5	STEEL POLE	4	391.22	317.17	80.13	49.55
HPS0110-ST-0550-005-B	5	R/BOUT COLUMN	3	471.31	378.45	80.95	50.37
HPS0110-ST-0590-005-B	5	R/BOUT COLUMN	4	514.82	414.68	80.13	49.55
HPS0110-ST-0760-005-B	5	WOOD POLE	2	279.80	225.46	83.06	52.48

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0110-ST-0930-005-B	5	WOOD POLE	3	323.31	261.69	81.26	50.68
HPS0110-ST-0960-005-B	5	SHARED OR NO POLE	2	165.58	135.34	77.66	47.08
HPS0110-TA-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	76.87	54.92
HPS0110-TA-0230-005-B	5	WOOD POLE	1	236.29	189.22	87.68	65.73
HPS0110-TA-0320-005-B	5	STEEL POLE	1	260.69	208.48	86.75	64.79
HPS0110-TA-0390-005-B	5	STEEL POLE	2	304.20	244.71	81.81	59.85
HPS0110-TA-0590-005-B	5	R/BOUT COLUMN	4	514.82	414.68	79.34	57.39
HPS0110-TA-0960-005-B	5	SHARED OR NO POLE	2	165.58	135.34	76.87	54.92
HPS0140-ST-0070-005-B	5	SHARED OR NO POLE	1	132.32	107.80	77.66	47.08
HPS0140-ST-0330-005-B	5	STEEL POLE	1	270.94	217.18	87.53	56.95
HPS0140-ST-0400-005-B	5	STEEL POLE	2	324.71	262.11	82.59	52.02
HPS0140-ST-1030-005-B	5	SHARED OR NO POLE	2	186.08	152.73	77.66	47.08
HPS0160-ST-0070-005-B	5	SHARED OR NO POLE	1	132.32	107.80	81.27	49.47
HPS0160-ST-0240-005-B	5	WOOD POLE	1	246.54	197.92	92.08	60.28
HPS0160-ST-0330-005-B	5	STEEL POLE	1	270.94	217.18	91.14	59.34
HPS0160-ST-0770-005-B	5	WOOD POLE	2	300.31	242.85	86.67	54.87
HPS0170-ST-0070-005-B	5	SHARED OR NO POLE	1	132.32	107.80	81.27	49.63
HPS0170-ST-0240-005-B	5	WOOD POLE	1	246.54	197.92	92.08	60.44
HPS0170-ST-0330-005-B	5	STEEL POLE	1	270.94	217.18	91.14	59.50
HPS0170-ST-0400-005-B	5	STEEL POLE	2	324.71	262.11	86.21	54.56

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0170-ST-0600-005-B	5	R/BOUT COLUMN	4	555.83	449.48	83.74	52.10
HPS0170-ST-0770-005-B	5	WOOD POLE	2	300.31	242.85	86.67	55.03
HPS0170-ST-1030-005-B	5	SHARED OR NO POLE	2	186.08	152.73	81.27	49.63
HPS0170-TA-0070-005-B	5	SHARED OR NO POLE	1	132.32	107.80	84.69	60.68
HPS0170-TA-0240-005-B	5	WOOD POLE	1	246.54	197.92	95.50	71.49
HPS0170-TA-0330-005-B	5	STEEL POLE	1	270.94	217.18	94.56	70.55
HPS0170-TA-0400-005-B	5	STEEL POLE	2	324.71	262.11	89.63	65.62
HPS0170-TA-0600-005-B	5	R/BOUT COLUMN	4	555.83	449.48	87.16	63.15
LPS0030-ST-0040-005-B	5	SHARED OR NO POLE	1	92.24	75.05	65.74	42.58
LPS0030-ST-0350-005-B	5	WOOD POLE	1	206.46	165.17	76.55	53.39
LPS0030-ST-0360-005-B	5	STEEL POLE	1	251.97	201.08	75.61	52.45
LPS0030-ST-0890-005-B	5	SHARED OR NO POLE	2	127.03	103.88	65.74	42.58
LPS0040-ST-0050-005-B	5	SHARED OR NO POLE	1	121.92	98.98	67.57	43.86
LPS0040-ST-0220-005-B	5	WOOD POLE	1	236.14	189.10	78.38	54.67
LPS0040-ST-0310-005-B	5	STEEL POLE	1	260.54	208.35	77.44	53.74
LPS0050-ST-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	69.56	45.24
LPS0050-ST-0230-005-B	5	WOOD POLE	1	236.29	189.22	80.37	56.05
LPS0050-ST-0320-005-B	5	STEEL POLE	1	260.69	208.48	79.43	55.12
LPS0060-ST-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	93.68	58.69
MHR0060-ST-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	66.24	48.19

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
MHR0060-ST-0320-005-B	5	STEEL POLE	1	260.69	208.48	76.11	58.07
MHR0070-ST-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	66.48	48.37
MHR0070-ST-0320-005-B	5	STEEL POLE	1	260.69	208.48	76.36	58.25
FLU0350-ST-1620-005-B	5	SHARED OR NO POLE	1	93.82	76.39	50.16	37.48
HPS0020-ST-0040-005-B	5	SHARED OR NO POLE	1	92.24	75.05	55.14	35.09
HPS0020-ST-0350-005-B	5	WOOD POLE	1	206.46	165.17	65.95	45.89
HPS0020-ST-0360-005-B	5	STEEL POLE	1	251.97	201.08	65.02	44.96
HPS0020-ST-0730-005-B	5	STEEL POLE	2	286.76	229.91	60.08	40.02
HPS0020-ST-0890-005-B	5	SHARED OR NO POLE	2	127.03	103.88	55.14	35.09
HPS0090-ST-0050-005-B	5	SHARED OR NO POLE	1	121.92	98.98	76.30	46.21
HPS0090-ST-0220-005-B	5	WOOD POLE	1	236.14	189.10	87.11	57.02
HPS0090-ST-0310-005-B	5	STEEL POLE	1	260.54	208.35	86.18	56.09
HPS0090-ST-0690-005-B	5	STEEL POLE	2	303.90	244.45	81.24	51.15
HPS0090-TA-0220-005-B	5	WOOD POLE	1	236.14	189.10	87.24	65.38
HPS0090-TA-0310-005-B	5	STEEL POLE	1	260.54	208.35	86.30	64.44
HPS0110-ST-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	77.66	47.08
HPS0110-ST-0230-005-B	5	WOOD POLE	1	236.29	189.22	88.47	57.89
HPS0110-ST-0320-005-B	5	STEEL POLE	1	260.69	208.48	87.53	56.95
HPS0110-ST-0390-005-B	5	STEEL POLE	2	304.20	244.71	82.59	52.02
HPS0110-ST-0590-005-B	5	R/BOUT COLUMN	4	514.82	414.68	80.13	49.55

ANNUALTARIFF_ID	Tariff Type	Dedicated Support Type	No. of Lights	capital charge		opex charge	
HPS0110-ST-0760-005-B	5	WOOD POLE	2	279.80	225.46	83.06	52.48
HPS0110-ST-0960-005-B	5	SHARED OR NO POLE	2	165.58	135.34	77.66	47.08
HPS0110-TA-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	76.87	54.92
HPS0110-TA-0230-005-B	5	WOOD POLE	1	236.29	189.22	87.68	65.73
HPS0110-TA-0320-005-B	5	STEEL POLE	1	260.69	208.48	86.75	64.79
HPS0170-ST-0070-005-B	5	SHARED OR NO POLE	1	132.32	107.80	81.27	49.63
HPS0170-ST-0240-005-B	5	WOOD POLE	1	246.54	197.92	92.08	60.44
HPS0170-ST-0330-005-B	5	STEEL POLE	1	270.94	217.18	91.14	59.50
MHR0060-ST-0060-005-B	5	SHARED OR NO POLE	1	122.07	99.10	66.24	48.19
MHR0060-ST-0320-005-B	5	STEEL POLE	1	260.69	208.48	76.11	58.07
MVA0190-ST-0290-005-B	3	STEEL POLE	1	266.56	213.45	60.01	50.47