

# **Draft decision**

## **Endeavour Energy distribution determination**

## 2015-16 to 2018-19

## **Attachment 16: Alternative control services**

November 2014



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AER reference: 54420

## Note

This attachment forms part of the AER's draft decision on Endeavour 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
- Attachment 14 Control mechanisms
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## **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  |  |
| ССР                              | Consumer Challenge Panel   |  |
| CESS                             | capital expenditure sharing scheme                                     |  |
| СРІ                              | 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 Endeavour Energy's alternative control services: ancillary network services, metering and public lighting.

As discussed in our Stage 1 Framework and Approach 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.<sup>1</sup> 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 Framework and Approach, with one exception. In our metering decision, we reclassify the residual metering 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 Framework and Approach 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 Endeavour 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.1.

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

- Section16.5 Ancillary Network Services
- Section 16.6 Metering
- Section 16.7– Public lighting

### 16.2 Proposal

We received separate proposals from Endeavour Energy for public lighting, metering and ancillary network services. They adopted the alternative control service classification for these services and the use of price caps on individual services as the control mechanism as set out in our Stage 1 Framework and Approach paper.

Figure 16-1 shows Endeavour 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. Source: AER analysis; Endeavour Energy, *Response to reset regulatory information notice (consolidated)*, May 2014.

Figure 16-2 compares that expenditure as a percentage of Endeavour Energy's total expenditure for all direct control services.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> AER, Stage 1 Framework and Approach paper Ausgrid, Endeavour Energy and Essential Energy, p. 8.

<sup>&</sup>lt;sup>2</sup> Direct control services are made up of standard control services and alternative control services.



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









### 16.3 AER's assessment approach

The rules 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.<sup>3</sup> Our decision on the form of control mechanism for alternative control services must be in accordance with our framework and approach paper.<sup>4</sup> The formulae that give effect to the form of control must be as set out in the framework and approach paper unless we consider that unforeseen circumstances justify a departure.<sup>5</sup>

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.<sup>6</sup> 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 rules.

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.

### 16.4 Inter relationships

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 to 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.

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 period. However, from a fairness perspective the businesses proposed that the amount should be

<sup>&</sup>lt;sup>3</sup> NER, clause 6.2.6(b).

<sup>&</sup>lt;sup>4</sup> NER, clause 6.12.1(12).

<sup>&</sup>lt;sup>5</sup> NER, clause 6.12.3(c1).

<sup>&</sup>lt;sup>6</sup> NER, clause 6.2.6(b) & (d).

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 ensure that charges 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) 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 Revenue 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 six per cent of Endeavour Energy's total regulated revenue.

In the 2009–14 regulatory control period ancillary network services were classified by us as standard control services and were given the name 'miscellaneous' services and 'monopoly' services by Endeavour Energy. The fees and labour rates for these services were originally set by the Independent Pricing and Regulatory Tribunal (IPART) in 1999. Since that time, the fees have been indexed by inflation (in 2009 labour escalation was also taken into account).<sup>7</sup>

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 so over the course of the next regulatory control period. We noted that there were time constraints preventing a detailed assessment of the pricing of miscellaneous and monopoly services across all the NSW distributors and ActewAGL at the time. It was decided to look more closely at miscellaneous and monopoly services pricing for the 2014–2019 regulatory control period.

<sup>&</sup>lt;sup>7</sup> AER, Final Decision New South Wales distribution determination 2009–10 to 2014–14, p.p. 57-58.

The miscellaneous fees which have now been re-classified as ancillary network services include:

- Special meter read
- Special meter read for transfer
- Meter test
- Supply of conveyancing information desk inquiry
- Supply of conveyancing information field test
- Off-peak conversion
- Disconnection visit
- Disconnection at meter box
- Disconnection at pole top / pillar box
- Ratification of illegal connection
- Re-connection outsider normal business hours.

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

- Administration fee
- Design information fee
- Design certification fee
- Design re-certification fee
- 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.

The current fees for monopoly services 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 fee based services. That is a fee has been determined based on the cost of providing the service (labour rates) and the average time taken to perform the service. For these services the fee is fixed and applies irrespective of the actual time taken on site to perform it varies from the benchmark set in this decision.

By contrast, quoted services are those which are once off and specific 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.

#### 16.5.1 Draft Decision

#### Fee based services

Our draft decision is to not approve Endeavour Energy's proposed fees for ancillary network services. We consider the proposed fees are higher than fees based on maximum benchmark labour rates and overhead which we consider more appropriately reflect efficient costs.

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

| Current miscellaneous<br>service                     | Current<br>fees (2014–<br>15) | Endeavour<br>proposed | (proposed cf<br>current, per<br>cent) | AER draft<br>decision | (draft cf proposed,<br>per cent) |
|--|-------------------------------|-----------------------|---------------------------------------|-----------------------|----------------------------------|
| Special meter read                                   | 45.1                          | 33.77                 | -25.1                                 | 33.45                 | -0.9                             |
| Special meter read for transfer                      | 45.1                          | 33.77                 | -25.1                                 | 33.45                 | -0.9                             |
| Meter test   | 74.83                         | 607.33                | 711.6                                 | 401.39                | -33.9                            |
| Supply of conveyancing<br>information – desk inquiry | 37.93                         | 76.25                 | 101.0                                 | 59.27                 | -22.3                            |
| Supply of conveyancing<br>information – field test   | 74.83                         | 76.25                 | 1.9                                   | 59.27                 | -22.3                            |
| Off-peak conversion                                  | 60.48                         | 115.04                | 90.2                                  | 111.5                 | -3.1                             |
| Disconnection visit                                  | 45.1                          | 69.29                 | 53.6                                  | 69.29                 | 0.0                              |
| Disconnection at meter box                           | 90.2                          | 208.68                | 131.4                                 | 63.94                 | -69.4                            |

#### Table 16-1 Endeavour Energy proposed fees and AER draft decision fees (\$2014–15)

| Disconnection at pole top /<br>pillar box     | 151.7  | 430.78 | 184.0 | 417.96 | -3.0 |
|---|--------|--------|-------|--------|------|
| Rectification of illegal connection           | 226.53 | 569.25 | 151.3 | 535.2  | -6.0 |
| Reconnection outside<br>normal business hours | 97.38  | 78.25  | -19.6 | 78.25  | 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 to be performed. Our draft decision for Endeavour 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 quotation ancillary network service.

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

| Classification       | Draft Decision maximum labour rate - includes on-cost and overhead |
|----------------------|--|
| Admin                | 88.98  |
| Technical specialist | 142.49   |
| EO 7/Engineer        | 165.75   |
| Field worker R4      | 112.65   |
| Senior Engineer      | 169.40   |

Source: Marsden Jacob.

#### Form of control – Fee based services

The our draft decision is to apply a price cap for 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:

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:

 $\overline{P}_i^{'}$  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

 $p_i'$  is the price of service i in year *t*.

 $CPI_{t}$  is the percentage increase in the consumer price index 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.

 $X_i^i$  is the value of X for the year t in the regulatory control period, as set out in Table 16-3.

#### Table 16-3 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 Opex Attachment. By adopting the labour escalation rate as X factor we are allowing for increases in labour cost in addition to CPI over the next regulatory period.

 $\overline{P}_i^1$  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

 $A_i^r$  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.

#### Form of control – quoted services

#### 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 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 including on-costs and overhead as set out in Table 16-4.

# Table 16-4 AER draft decision on Endeavour Energy maximum labour charge rates, quoted services

| Classification         | Draft Decision maximum labour rate - includes on-cost and overhead |
|------------------------|--|
| Admin                  | 88.98  |
| Technical specialist   | 142.49   |
| EO 7/Engineer          | 165.75   |
| Field worker R4        | 112.65   |
| Senior Engineer        | 169.40   |
| 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 (for discussion on the escalation factor see our Opex rate of change

#### 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.

Attachment).

### 16.5.2 Proposal

Endeavour Energy has adopted the classification of services as per our Framework and Approach Paper Stage 1. Endeavour Energy does not propose any changes to the form of control formulae.<sup>8</sup>

Endeavour Energy has proposed price increases for their ancillary network services which are currently titled as monopoly and miscellaneous services.

It should be noted that the prices for many of these services were originally set by IPART in our 1999 determination. Since that time, costs have been indexed to inflation every five years and not reviewed in detail. As such, many of these services have been historically under-costed and subsidised by our standard control services. The change in classification recognises this issue and our goal has been to fully cost and separate these non-standard services.<sup>9</sup>

Endeavour Energy has also proposed 17 new services. Appendix A.1.1 sets out Endeavour Energy's proposed prices for ancillary network services.

Endeavour Energy calculated the proposed fees for its services in the first year of the regulatory control period using one of three methodologies described below. For the subsequent years of the regulatory control period Endeavour Energy has proposed increases in the fee of five per cent per annum.

1. Historical averages

<sup>&</sup>lt;sup>8</sup> Endeavour Energy, Regulatory Proposal, p. 26.

<sup>&</sup>lt;sup>9</sup> Endeavour Energy, Regulatory Proposal, p. 144.

Under this approach Endeavour Energy extracted three years of historical data (direct operating cost data) to identify the types of employees involved in each of the ancillary network services.

For each of the three years, the total operating costs (predominantly labour) were divided by labour hours to derive an average hourly rate. This was then combined with the standard hours for each activity to achieve the individual unit rates within each category.

2. Bottom up approach

Under this approach Endeavour Energy identified the type of employee who carried out the service, an average hourly rate was determined and an estimate provided for the average time it took to carry out that service.

3. Operating costs divided by volumes

Under this approach Endeavour Energy estimated total operating costs associated with a particular service. To determine the unit rates for these services the total direct operating costs were divided by the appropriate volume driver.

#### 16.5.3 Submissions

We received submissions from AGL and Origin Energy that the fees proposed for ancillary network services are too high when compared with fees for equivalent services provided interstate. In particular AGL commented that the fees for de-energisation and re-energisation move in and move out meter reads and meter tests were too high.<sup>10</sup> AGL submits that Endeavour (and Essential's) proposed fees should align more closely with special read fees in other states.<sup>11</sup>

Further 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.<sup>12</sup>

Regarding meter tests AGL submits that:

- 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

<sup>&</sup>lt;sup>10</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.

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

<sup>&</sup>lt;sup>12</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 30.

 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.<sup>13</sup>

Origin supports AGL and submits that:

- It is unclear why testing a meter should cost over \$500 (in addition to the cost of sending personnel to the site)<sup>14</sup>
- No transition period for customers. This would lead to increased customer complaints for retailers to handle<sup>15</sup>
- The cost could deter customers from getting their meter tested until the disputed amount exceeds \$600<sup>16</sup>
- A significant proportion of customers will see the fee as punitive and refuse to pay. This would drive bad debts for retailers.<sup>17</sup>

AGL also questions the introduction of network tariff change request fees. AGL submits that it is inappropriate for a fee to be charged for a *network tariff change request– invalid request*. Retailers have no visibility as to whether a request will be valid; a customer should not be penalised because this function sits with their distributor rather than the retailer (to assess such a request).<sup>18</sup>

AGL submits that the network tariff change request sits with the distributor. Customers should not be charged because their distributor has not placed them on the correct network tariff.<sup>19</sup>

For *network tariff change request–site establishment* AGL submits 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.<sup>20</sup>

AGL submits that there is currently no fee for this attendance to perform a statutory right where access is prevented. Additionally, this fee is not clearly defined, and how and why it would be charged has not been justified.<sup>21</sup>

#### 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 overhead. We consider these are two key inputs in determining an efficient level of fees for ancillary network services. In doing so

AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 31.
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Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p. 38. Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p. 38.

<sup>&</sup>lt;sup>15</sup> Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p. 38.

<sup>&</sup>lt;sup>16</sup> Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p. 38.

<sup>&</sup>lt;sup>17</sup> Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p. 38.

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

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

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

<sup>&</sup>lt;sup>21</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 31.

regard was had to efficient benchmarks for such services developed by our consultant, Marsden Jacob Associates (Marsden Jacob).

Given the large number of services proposed by Endeavour Energy we focused our review on the services most frequently requested by consumers. In considering the fees for these 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 Endeavour Energy include:

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

For the remaining services we 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.

### 16.5.5 Reasons for draft decision

We do not approve Endeavour Energy's proposed fees for ancillary network services. We consider the proposed fees exceed those based on maximum benchmark labour rates and overhead which we consider efficient for providing the service.

We reviewed Endeavour Energy's proposed fees for ancillary network services and the methodologies used by Endeavour Energy to calculate these fees. Endeavour Energy did not propose a standardised set of labour rates as part of their initial proposal but rather developed the majority of the ancillary network service fees using actual historic opex results. Endeavour Energy submit that they adopted this methodology as they had the detailed cost information available and therefore could develop fees based on actual results rather than business assumptions.<sup>22</sup>

Based on our analysis of Endeavour 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. The methodologies proposed by Endeavour Energy did not identify which type of labour performs each service, or the time taken to

<sup>&</sup>lt;sup>22</sup> Endeavour Energy response to AER information request 027, 17 September 2014.

perform the service. We consider these to be key inputs in developing fees for ancillary network services.

#### Labour rates

We requested that Endeavour Energy map each service to one of the following labour categories:

- Admin R1
- Technical specialist R2
- Engineer / senior engineering officer R3
- Field worker R4
- Senior engineering officer R5.

By creating this mapping we were able to compare efficient benchmark labour rates (including oncosts and overhead) developed by Marsden Jacob against the rates proposed by Endeavour Energy as derived using historical costs. We found that the proposed fees proposed were higher than the fees that would apply based on maximum efficient benchmark labour rates.<sup>23</sup>

Endeavour Energy's proposed total labour rates including on-costs and overheads exceeded the maximum benchmark rates developed by Marsden Jacob.

Our consultant 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
- 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.

Endeavour Energy submit that,

<sup>&</sup>lt;sup>23</sup> For some services Endeavour Energy was not able to map the service to a labour category, but have noted that the rate consists of multiple sub-services, each with significantly different labour types and rates. This applies to the following services:

Access permits

<sup>-</sup> Excluded distribution services

<sup>-</sup> Clearance to work

<sup>-</sup> Meter test fee.

If we were to adopt these high level blended labour rates cross subsidisation is likely to result between fees.<sup>23</sup>

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.<sup>24</sup> We used these rates to determine whether the proposed fees for fee based ancillary network services reflect the underlying cost of an efficient labour rate. To do this we used Marsden Jacob's maximum labour rates including on-costs and overhead. While it may be appropriate for Endeavour Energy to charge lower than the maximum labour rates for fee based ancillary network services, by adopting the maximum amount we consider we are providing the distributor with a reasonable opportunity to recover efficient costs at least its efficient costs. This allows for some potential differences between the services provided and costs faced by Endeavour Energy.

For quoted services we consider it more appropriate to adopt the rate determined by Marsden Jacob for the individual businesses. By doing so we are using the businesses proposed rates where appropriate (i.e. fall within Marsden Jacob's 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.

Endeavour Energy's proposed raw labour rates fell within the benchmark maximum recommended by Marsden Jacob as set out in Table 16-6 except for Administration support service.

| Category  | Description                     | Hays benchmark | Marsden Jacob Associates |
|-----------|---------------------------------|----------------|--------------------------|
| Admin     | Office Support service delivery |                |                          |
|           | Administration Support          | 19 07 to 29 46 | May 20.00                |
| , cannin  | Administration Support          | 10.27 10 30.40 | Max. 39.00               |
|           | Administration                  |                |                          |
|           |                                 |                |                          |
|           | Electrical worker               |                |                          |
|           | Technical Specialist            |                |                          |
| Technical | Technical Specialist            | 31.25 to 57.69 | Max.<br>59.00            |
|           | Indoor technical officer        |                |                          |
|           | Outdoor technical officer       |                |                          |
|           |                                 |                |                          |
| Engineer  | Project Officer Design Section  | 36.06 to 72.12 | Max. 69.00               |

## Table 16-6 Benchmarked raw labour rates (excluding basic leave entitlements, on-costs and overhead (\$2014–15)

<sup>&</sup>lt;sup>24</sup> Marsden Jacob Associates 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 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 report. Minimum and maximum ranges were developed from the data by Marsden Jacob for each category and combined with additional standard assumptions on on-costs to form benchmark rates used in their assessment (see Marsden Jacob report).

|                    | EO 7/Engineer                                      |                |            |
|--------------------|--|----------------|------------|
|                    | Engineer   |                |            |
|                    | Engineering Officer                                |                |            |
|                    |  |                |            |
|                    | Electrical worker - labourer                       |                |            |
|                    | Electrical Apprentice                              |                |            |
| Field              | Field Worker                                       | 31 25 to 48 08 | Max 47.00  |
| Worker             | Field Worker                                       | 51.25 10 46.06 | Wax. 47.00 |
|                    | Line Worker 9                                      |                |            |
|                    | Field Worker                                       |                |            |
|                    |  |                |            |
|                    | Senior Engineer                                    |                |            |
| Senior<br>Engineer | Senior Technical officer / Engineer Design section | 48.08 to 81.73 | Max. 82.00 |
|                    | Senior Engineer                                    |                |            |

Source: Marsden Jacob analysis.

Endeavour Energy's overhead rate exceeded the maximum average overhead recommended by Marsden Jacob of 65 per cent for ancillary network services.

Table 16-7Table 16-7summarises the total labour rates (including all on-costs and overheads) recommended to us by Marsden Jacob.

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

| Category  | Description                     | Marsden Jacob Associates |
|-----------|---------------------------------|--------------------------|
|           |                                 |                          |
|           | Office Support service delivery |                          |
| Admin     | Administration Support          | May 80.06                |
|           | Administration Support          | Max. 69.06               |
|           | Administration                  |                          |
|           |                                 |                          |
|           | Electrical worker               |                          |
| Technical | Technical Specialist            | May 440.04               |
|           | Technical Specialist            | Max. 142.81              |
|           | Indoor technical officer        |                          |

| able 16-7 Benchmarked total labour rates | s, including on-costs and overheads | (\$2014-15) |
|--|-------------------------------------|-------------|
|--|-------------------------------------|-------------|

|                    | Outdoor technical officer                          |             |
|--------------------|--|-------------|
|                    |  |             |
|                    | Project Officer Design Section                     |             |
| Engineer           | EO 7/Engineer                                      | May 477 50  |
| 9                  | Engineer   | Max. 177.52 |
|                    | Engineering Officer                                |             |
|                    |  |             |
|                    | Electrical worker - labourer                       |             |
| Field<br>Worker    | Electrical Apprentice                              |             |
|                    | Field Worker                                       | May 122.90  |
|                    | Field Worker                                       | Wax. 133.00 |
|                    | Field Worker                                       |             |
|                    | Line Worker 9                                      |             |
|                    |  |             |
| Quality            | Senior Technical officer / Engineer Design section |             |
| Senior<br>Engineer | Senior Engineer                                    | Max. 210.96 |
|                    | Senior Engineer                                    |             |

Source: Marsden Jacob analysis.

#### Times taken to perform the service

The times taken to perform the service are another key input into deriving ancillary network services fees. Endeavour 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. Endeavour Energy's times taken to perform the services were found to within benchmark times for these services, except for meter test<sup>25</sup>.

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

#### Special meter reads

<sup>&</sup>lt;sup>25</sup> Endeavour Energy proposed a time of 3.75 hours to perform this service. Marsden Jacob Associates recommended a benchmark time of 3 hours.

Endeavour Energy has proposed a fee of \$33.77 for special meter reads. This is about 25 per cent less than the current fee of \$45.10. Based on benchmark labour rates Marsden Jacob recommended a fee of \$33.45. AGL submits that Endeavour Energy's proposed fees should align more closely with special read fees in other states.<sup>26</sup>

Endeavour Energy's proposed special meter read fee is more than double the fees charged by the Victorian distribution businesses (except Powercor). However the reason the fees for special meter reads in Victoria are lower (around \$11) 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.

Our draft decision is to accept the benchmark rate recommended by Marsden Jacob of \$33.45 for special meter reads.

#### Meter test

Endeavour Energy proposed to increase meter tests fees from the current \$74.30 to \$607.33, or more than 700 per cent. This is higher than meter test fees charged by other distribution businesses. We note that in Victoria there is a separate meter test fee for single phase and multiphase. United Energy and AusNet Services fees are \$55.25 and \$155.55 for single phase meter testing. For multi-phase the fees are \$85.94 and \$209.19 respectively. Citipower's and Powercor's fees are between \$360 and \$370 for single phase and around \$473 for multiphase.

AGL submit that this significant fee increase is unjustified and that meter testing is often required in resolving Ombudsman disputes; retailers often absorb this cost. AGL also comments that 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.<sup>27</sup>

Origin supports AGL and submits that it is unclear why testing a meter should cost over \$500 (in addition to the cost of sending personnel to the site).<sup>28</sup> Origin also submits that there is no transition period for customers. This would lead to increased customer complaints for retailers to handle.<sup>29</sup> The cost could deter customers from getting their meter tested until the disputed amount exceeds \$600<sup>30</sup> and a significant proportion of customers will see the fee as punitive and refuse to pay. This would drive bad debts for retailers.<sup>31</sup>

For Endeavour Energy if the meter test is undertaken on premises serviced by more than one meter associated with the NMI the following applies:

if the meter test reveals that all of the meters associated with the NMI are operating satisfactorily, the distributor will only levy one charge for the provision of the service, or

<sup>26</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32. 27

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

Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p. 38. 29

Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p. 38. 30

Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p.38 31

Origin, Submission to NSW Electricity Distributors' Regulatory Proposals, 8 August 2014, p.38

 if the meter test reveals that one or more of the meters associated with the NMI are not operating satisfactorily, the distributor will not levy any charge for the provision of the service.

Endeavour Energy's proposed a single meter test fee which represents the average time taken to perform the service. Endeavour Energy has not distinguished between different meter types. This approach is for simplicity and because data was not available to disaggregate the fee by meter type.<sup>32</sup>

Marsden Jacob's recommended rate for meter testing for Endeavour Energy is \$401.39. This is based on the benchmark efficient time taken by ActewAGL (2 hours) and Essential Energy (3.4 hours less an allowance of 0.4 hours for the difference in travel time). Marsden Jacob's recommend that the time taken to conduct meter tests during business hours be reduced to three hours for Endeavour.<sup>33</sup>

In response to further information requests, Endeavour has broken down the rates but these are confidential. Endeavour Energy proposed 3.00 hours testing time, compared to 3.17 hours approved for Citipower and administrative time of 0.75 hours compared to 0.42 hours for Citipower. This equates to an overall difference in time taken of 10 minutes compared to a smaller, exclusively urban distributor. The difference in the fee is therefore primarily driven by the different labour costs between the jurisdictions.<sup>34</sup>

Our benchmark analysis shows that the rate recommended by Marsden Jacob of \$401.39 benchmarks best against interstate distribution businesses, noting that Endeavour Energy does not distinguish between single phase and multiphase meter tests.<sup>35</sup> The draft decision is to accept the benchmark rate recommended by Marsden Jacob. This rate is based on efficient labour rates and times as reviewed as Marsden Jacob and also reflects the rates of Victorian distributors which we consider to be based on efficient costs. Unlike other distribution businesses which distinguish

Meter accuracy test - single phase additional in Meter accuracy test - multiphase - \$472.59

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

<sup>&</sup>lt;sup>32</sup> Endeavour Energy response to information request 030

<sup>&</sup>lt;sup>33</sup> Marsden Jacob Associates, report.

<sup>&</sup>lt;sup>34</sup> Endeavour Energy, response to AER information request 030, p. 3.

<sup>&</sup>lt;sup>35</sup> 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 additional meter - \$277.70

Meter accuracy test - CT - \$461.68 (continued)

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

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

- Disconnections (Meter box) includes reconnections (current price \$\$90, proposed price \$208.68)
- Disconnections (Meter Load Tail) includes reconnections (proposed price \$252.49)
- Reconnections / Disconnections (site visit) (current price \$45, proposed \$69.29)
- Disconnections (Pole top / Pillar box) includes reconnections (current price \$152, proposed \$430.78)
- Disconnections at Pole top / Pillar box site visit (current price \$45, proposed price \$183.87)

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.<sup>36</sup>

With respect to Network tariff change request - vacant property reconnect / disconnect AGL submit 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 disconnection. AGL submit 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.<sup>37</sup>

The disconnection / re-connection fee covers both disconnection and reconnection. The fee is only applied to the disconnection, not the reconnection. Endeavour Energy submits that this double charge is the current practice and to maintain this approach of only charging a fee at the point of disconnection, means that half the fee is essentially a pre-payment.<sup>38</sup>

Endeavour Energy further submits that the payment can cover multiple customers but this is very rare in their experience. This may occur if the disconnection occurs for one customer, but a different customer moves in and needs the power put back on. Endeavour Energy generally avoids this occurrence as it does not typically disconnect a customer on a move-out/final read. Endeavour Energy only tends to disconnect where a customer has not paid their bills or for those sites where access has proven difficult and the retailer requests physical de-energisation. Whilst Endeavour Energy does not specifically track this event, at a high level Endeavour Energy estimates that it would

 <sup>&</sup>lt;sup>36</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 30.
 <sup>37</sup> AGL NGW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy

AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.
 Bedenson Francesco (200 p. 4)

<sup>&</sup>lt;sup>38</sup> Endeavour Energy, response to AER information request 030, p. 4.

be less than one per cent of cases where there is disconnection for one customer and another customer moves in to take over the site. $^{39}$ 

Endeavour Energy's proposed prices are higher than disconnection fees charged by other Victorian distribution businesses. However the reason the fees for disconnections in Victoria are lower is because most residential customers have smart meters and the disconnection can be done remotely. This is not the case in NSW where smart meters do not exist for all households. If we compare Endeavour Energy's proposed disconnection fee to fees charged in Tasmania and Queensland where smart meters have not been rolled out to the same extent as in Victoria we find that Endeavour Energy's proposed fees are consistent with these interstate charges.<sup>40</sup>

Our draft decision is to accept the fees recommended by Marsden Jacob for the following disconnection 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 Endeavour Energy's proposed times taken to perform disconnection services.

Our draft decision for disconnection services is:

- Disconnections (Meter box) includes reconnections is \$63.94
- Disconnections (Meter Load Tail) includes reconnections is \$241.68
- Reconnections / Disconnections (site visit) is \$69.29
- Disconnections (Pole top / Pillar box) includes reconnections is \$417.96
- Disconnections at Pole top / Pillar box site visit is \$167.39.

#### Site establishment

For network tariff change request - site establishment AGL submits that this fee should not be imposed unless it is a new connection fee that should be passed to the customer by the Accredited 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.<sup>41</sup>

Endeavour Energy have clarified that the site establishment fee is for the issue of a meter by a distribution business and its co-ordination with AEMO for the purpose of establishing a NMI in MSATS for new premises or for existing premises for which requires a new NMI and for checking and updating network load data.

Endeavour Energy apply the site establishment fee to all new connections to the network where there is a need to establish market data and metering information that is required for the market. This includes situations such as knock down and rebuilds where an existing installation is removed and the associated NMI made extinct in the market. The new connections to the network require a NMI to allow them to be registered in the market. The site establishment fee is charged to the level 2 ASP who recovers the cost from their customer.<sup>42</sup>

<sup>&</sup>lt;sup>39</sup> Endeavour Energy, response to AER information request 030, p. 4.

 <sup>&</sup>lt;sup>40</sup> The disconnection fee charged by Aurora is \$53.77, Energex is \$54.93 and \$70.30 (for site visit)/ Ergon disconnection fee for short rural is \$102.24 and \$592.66 for long rural.
 <sup>41</sup> ACL NEW/ Electric Distribution Description Proceeding 2014 42 - ACL submission to the Australian Energy.

AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.
 42

<sup>&</sup>lt;sup>42</sup> Endeavour Energy, response to AER information request 030, p. 4.

Where existing sites are modified / changed by increase in load the existing NMI is retained. However, where a connection to the network is removed as a result of a proposed development and the existing NMI's are made extinct in the market, new NMI's are required in accordance with the NMI allocation procedure.<sup>43</sup>

#### Network tariff change request

AGL also questions the introduction of network tariff change request fees. AGL submits that it is inappropriate for a fee to be charged for a network tariff change request – invalid request. Retailers have no visibility as to whether a request will be valid; a customer should not be penalised because this function sits with their distributor rather than the retailer (to assess such a request).<sup>44</sup>

Our draft decision is to not accept Endeavour 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.<sup>45</sup> We agree with AGL 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".<sup>46</sup>

#### De-energisation / re-energisation—pillar/pole (failed)

AGL queried why an incomplete Disconnection/Reconnection—Pillar/Pole would be anything more than a regular site visit charge. It also queried the circumstances in which this service would not be completed. We requested further information from distributors on this issue. The distributors submitted that Disconnection/Reconnection – Pillar/Pole may not occur due to reasons including:

- safety of the installation or the distributor's employee
- late cancellation by the retailer
- access being prevented so that the work cannot be carried out.<sup>47</sup>

AGL queried why Endeavour Energy's proposed fee for a Disconnection Reconnection Pillar/Pole Site Visit (\$430.78) varies from the fee it proposed for a Disconnection Site Visit (\$69.29). We understand this is because a minimum of two employees must be on site to complete the work (compared to only one employee for a standard connection).<sup>48</sup> The proposed fee also covers reconnections. Based on Marsden Jacob's analysis and the distributors' submissions, we approve a fee of \$417.96 for Disconnection/Reconnection—Pillar/Pole – Site Visit as efficient.

## 16.6 Metering

Our draft decision on Endeavour 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.

<sup>&</sup>lt;sup>43</sup> Endeavour Energy, response to AER information request 030, p. 4.

<sup>&</sup>lt;sup>44</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.

 <sup>&</sup>lt;sup>45</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.

 <sup>&</sup>lt;sup>46</sup> AGL, NSW Electricity Distribution Networks Regulatory Proposals: 2014–19 – AGL submission to the Australian Energy Regulator, 8 August 2014, p. 32.
 <sup>47</sup> Forential Fo

<sup>&</sup>lt;sup>47</sup> Essential Energy, Essential Energy's response – Ancillary Service Fee Questions 20 October 2014, 20 October 2014, p.1; and Ausgrid's response to the AER's information request of 17 October 2014, 17 October 2014, p.1.

<sup>&</sup>lt;sup>48</sup> Essential Energy, *Essential Energy's response – Ancillary Service Fee Questions 20 October 2014*, 20 October 2014, p.1

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.<sup>49</sup>

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.<sup>50</sup>

Our draft decision establishes a regulatory framework for the 2015-19 regulatory 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 Endeavour Energy's proposal to charge an exit fee to leaving customers to recover residual capital costs. Instead residual capital costs will be classified as a standard control service and recovered from the general network customer base.

#### 16.6.1 Draft decision

Our draft decision maintains our framework and approach alternative control service classification for type 5 and 6 metering provision, maintenance, reading, and data services.<sup>51</sup> We further maintain that the control mechanism for alternative control metering services will be caps on the prices of individual services.<sup>52</sup>

We accept Endeavour Energy's proposal to charge capital costs upfront for new or upgraded connections upfront. However, we do not accept the particular price caps proposed. Our draft decision is to also accept Endeavour Energy's proposal to have the same annual charges for new and existing customers. However, we consider that it would be more appropriate to have a separate schedule of annual charges for new and existing customers. The annual charge for existing customers should include capital cost recovery, but new customers (who have made an upfront capital contribution) should not have to make such a payment as part of their annual charge.

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

We generally accept Endeavour Energy's building block approach as the basis for establishing annual metering charges. We do not, however, accept Endeavour Energy's proposed capital expenditure building block. Our draft decision accepts \$8.1 million in capital expenditure for annual metering charges and substitutes that amount for Endeavour Energy's proposed \$21.1 million (\$2014-15).

<sup>&</sup>lt;sup>49</sup> 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).

AEMC, Expanding competition in metering and related services in the National Electricity Market, Consultation Paper, 17 April 2014.
 April 2014.

 <sup>&</sup>lt;sup>51</sup> 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.
 <sup>52</sup> AER, Stage 1 Framework and Approach – NSW electricity distribution network providers, March 2013, p. 32. A type 6 meter is a manually read interval meter.

<sup>&</sup>lt;sup>52</sup> AER, Stage 1 Framework and Approach – NSW electricity distribution network providers, March 2013, p. 43.

In assessing the metering operating expenditure building block, our base year analysis used historical averages of multiple years rather than Endeavour Energy's proposed single historic year. In addition to looking at revealed costs, we made a benchmarking adjustment because Endeavour Energy should be at least as efficient as comparable network businesses in the national electricity market. Our cost assessment led us to approve \$67.9 million in operating expenditure for annual metering charges and substitute that amount for the proposed \$103.4 million (\$2014-15). We also considered the opening metering RAB value as at 1 July 2014. Our decision is to accept an opening RAB value that is \$100,000 less than proposed of \$27.2 million (\$nominal).

Based on our cost assessment, we reject Endeavour Energy's proposed price caps for annual charges and new/upgraded connections upfront capital charges. Our substitute price caps are set out in Appendix A.1.2.

#### 16.6.2 Proposal

In May 2014, Endeavour 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 Framework and Approach paper. That is, Endeavour Energy classified types 5 and 6 metering provision, maintenance, reading, and data services as alternative control services and proposed price caps on individual services. Figure 16-3 sets out Endeavour Energy's proposed structure of metering tariffs.



Figure 16-3 Endeavour Energy's proposed structure for metering tariffs

## Annual metering services

For each tariff class, Endeavour Energy proposed a price cap for annual metering services. It applied the 'building block' approach to develop proposed prices. This involved forecasting revenue requirement for each of the distribution business' metering related costs, comprising of:

- an operating expenditure building block—meter reading, meter data services and meter maintenance costs
- a capital expenditure building block—the cost of replacing existing meters either reactively or proactively
- the opening metering regulatory asset base (RAB) recovery—the value of the existing metering assets as of 1 July 2014 and excludes replacements and the cost of new meter assets.

Endeavour Energy proposed to accelerate depreciation of the opening RAB so that the entire amount would be recovered by the end of the 2014–15 and 2015–19 regulatory control periods. Endeavour Energy also proposed to apply one year accelerated depreciation for replacement capital expenditure in order to mitigate the risk of further stranded costs. It stated that this will 'help facilitate contestability in the market and avoid the need for exit fees in the long term'.<sup>53</sup> However in the short run (the 2015-19 regulatory period), the proposed accelerated depreciation would have an upward effect on prices for annual metering services compared to having a slower depreciation schedule.

Table 16-8 sets out Endeavour Energy's proposed metering building block revenue requirement. Table 16-9 shows the proposed annual charges for metering services that recover the total proposed revenue.

## Table 16-8Endeavour Energy's proposed metering building block revenue requirement<br/>(\$ m, 2014–15)

|                                 | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 |
|---------------------------------|---------|---------|---------|---------|---------|
| Total operating                 | 19.9    | 20.2    | 20.9    | 21.0    | 21.5    |
| Opening RAB                     | 6.0     | 5.7     | 5.5     | 5.5     | 5.6     |
| Replacement capital expenditure | 3.1     | 4.0     | 3.9     | 3.4     | 4.8     |
| Total proposed revenue          | 29.0    | 29.8    | 30.4    | 29.9    | 31.9    |

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

#### Table 16-9 Endeavour Energy's proposed prices for annual metering services (\$2014-15)

| Tariff class                              | Average price per annum<br>(2014–15 to 2018–19) |
|---|---|
| Residential anytime                       | 25.63   |
| Residential time of use – Type 6 meter    | 47.79   |
| Residential time of use – Type 5 meter    | 177.84  |
| Small business anytime                    | 35.35   |
| Small business time of use – Type 6 meter | 76.93   |
| Small business time of use – Type 5 meter | 194.18  |

 <sup>&</sup>lt;sup>53</sup> Endeavour Energy, Regulatory Proposal, Supporting Attachment 8.07, Endeavour Energy's Approach to Pricing Types 5 & 6 Metering Services, May 2014, p. 6.

| Controlled load | 11.71 |
|-----------------|-------|
| Solar           | 11.71 |

Source: Endeavour Energy, Regulatory proposal, Attachment 0.17 – Metering model and prices, May 2014.

#### New or upgraded connections

Where a customer obtains a meter as a result of a new or upgraded connection, Endeavour Energy proposed caps (or ceilings) on the prices it can charge. From 1 July 2015, the proposed prices would be charged as an upfront capital contribution.

The change in Endeavour Energy's capital contribution policy for new and upgraded connections is intended to promote competition. If implemented, 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 16-10 sets out the proposed new or upgraded connection prices. The figures shown are for the 2014–15 year. They will be adjusted each year for CPI.

# Table 16-10Endeavour Energy's averaged proposed new or upgraded meter prices in the<br/>2015–19 regulatory control period (\$2014–15)

| Meter description   | \$2014-15 |
|---|-----------|
| Accumulation meters   |           |
| A single phase accumulation meter                               | 41.85     |
| A single phase accumulation combination meter                   | 180.74    |
| A three phase accumulation meter                                | 114.20    |
| Interval meters   |           |
| A single phase interval (time of use capable) meter             | 335.80    |
| A single phase interval (time of use capable) combination meter | 381.47    |
| A three phase interval (time of use capable) meter              | 458.99    |

Source: Endeavour Energy, Regulatory proposal, Attachment 0.17 – Metering model and prices, May 2014.

#### **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 recover residual capital costs 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 cost component relates to the 'administrative requirement to change records to reflect the changed status [of customers], and the processing costs of relaying this information'.<sup>54</sup> Endeavour Energy proposed a bottom-up calculation as the basis of this cost, which estimated time taken to complete the task multiplied by the labour rate of an administration staff member.

Table 16-11 sets out the proposed exit fee.

| Table 16-11 | Endeavour    | Energy's | proposed | metering | service | exit | fee | for | Туре | 5 | and | 6 |
|-------------|--------------|----------|----------|----------|---------|------|-----|-----|------|---|-----|---|
|             | services (\$ | 2014-15) |          |          |         |      |     |     |      |   |     |   |

|                         | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 |
|-------------------------|---------|---------|---------|---------|---------|
| Opening RAB<br>recovery | 16.89   | 13.64   | 10.42   | 7.14    | 3.69    |
| Administration cost     | 50.49   | 50.49   | 50.49   | 50.49   | 50.49   |
| Proposed exit fee       | 67.39   | 64.14   | 60.92   | 57.63   | 54.19   |

Source: Endeavour Energy, *Regulatory proposal, supporting attachment 8.07, Endeavour Energy's Approach to Pricing Types 5 & 6 Metering Services*, May 2014, p. 9. Converted to \$2014-15.

### 16.6.3 Assessment approach

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

### Annual metering services

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

In assessing the proposed capital expenditure, we reviewed Endeavour Energy's 'unit costs' and 'volume forecasts'. More specifically, we assessed Endeavour 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 Endeavour Energy must perform to install a new or replaced meter.

From 1 July 2015, Endeavour 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 the placeholder year must be retained into 2014–15.<sup>55</sup> 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, Endeavour 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 Endeavour Energy's proposed capital expenditure building block for annual metering services. However the 'true-up' of

Endeavour Energy, Regulatory proposal, supporting attachment 8.07, Endeavour Energy's Approach to Pricing Types 5
 & 6 Metering Services, May 2014, p. 9.
 Endeavour Energy's Approach to Pricing Types 5

<sup>&</sup>lt;sup>55</sup> NER, clauses 6.15.2(7).

any differences between the capital costs Endeavour 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 Endeavour Energy's proposed operating expenditure. Such expenditure refers to the operating, maintenance and other non-capital costs, including labour, incurred in the provision of metering services. As the expenditure associated with these types of activities is largely recurrent in nature, we considered Endeavour 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 rules, 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<sup>56</sup> 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 an efficiency adjustment to Endeavour Energy's base annual operating expenditure 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.<sup>57</sup> Instead we used the proposed customer number forecasts for our analysis. 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. As such, we will assess whether metering customer forecasts are reasonable in our final decision which may in turn affect the capital and operating expenditure building blocks.

For both capital and operating expenditure, we had regard to factors in chapter 6 of the rules. Namely the capital and operating expenditure objectives and criteria.<sup>58</sup> 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

<sup>&</sup>lt;sup>56</sup> 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.

<sup>&</sup>lt;sup>57</sup> 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.

<sup>&</sup>lt;sup>58</sup> NER, clause 6.5.7.

- the costs a prudent operator would incur
- whether the proposed cost inputs are reasonable.<sup>59</sup>

In assessing Endeavour Energy's proposed opening metering asset base, we reviewed how Endeavour 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 Endeavour 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 Endeavour 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 capital costs**

We had to make a decision regarding the classification and control mechanism for residual capital costs as it was not explicitly considered in our framework and approach paper.<sup>60</sup> 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 rules. We had particular regard to:

 How the classification/control mechanism may influence the potential for competition in unregulated metering

Stakeholders raised concern that large exit fees will inhibit competitive entry into an unregulated metering market<sup>61</sup>

- A method that provides administrative simplicity for customers, Endeavour 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 national electricity law which include providing a distributor with a reasonable opportunity to recover at least its efficient costs.<sup>62</sup>

<sup>&</sup>lt;sup>59</sup> NER, clause 6.5.7(c).

<sup>&</sup>lt;sup>60</sup> NER, clauses 6.12.3 (b) (cl). We may depart from the classification and control mechanism decisions made in our framework and approach paper 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 framework and approach paper (March 2013) which was released prior to SCER metering rule change request (October 2013).

<sup>&</sup>lt;sup>61</sup> 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.

<sup>&</sup>lt;sup>62</sup> NEL, Revenue and Pricing Principles, 7A (2).

We did not separately assess the basis of residual capital costs. We made a decision regarding the metering RAB amount 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.

#### 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 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

Our reasons for not accepting Endeavour Energy's proposed charges for annual metering services, new or upgraded connections, and the exit fee are discussed in this section.

### Annual metering services

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

- capital expenditure
- operating expenditure
- opening metering RAB.

This has led us to reject Endeavour Energy's proposed annual metering service charges. Our alternative price caps are set out in Appendix A.1.

#### Capital expenditure building block

We accept \$8.1 in capital expenditure for annual metering services and substitute that amount with Endeavour Energy's proposed \$21.1 million (\$2014–15). Table 16-12 sets out Endeavour Energy's proposed capital expenditure and our substitute, for each cost category.

# Table 16-12 Proposed and AER approved capital expenditure for metering annual services (\$million 2014–15)

|                             | Proposed | Adjustment<br>(unit costs) | Adjustment<br>(volume forecast) | Draft decision |
|-----------------------------|----------|----------------------------|---------------------------------|----------------|
| New or upgraded connections | 1.8      | 0.0                        | 0.0                             | 1.8            |
| Replacements                | 19.3     | 0.0                        | 13.0                            | 6.3            |
| Total                       | 21.1     | 0.0                        | 13.0                            | 8.1            |

Source: Endeavour Energy, Regulatory proposal, supporting attachment 8.07, Endeavour Energy's Approach to Pricing Types 5 & 6 Metering Services, May 2014, p. 6.

Unit costs

We have not made a unit costs adjustment to Endeavour Energy's proposed capital expenditure. Our analysis found that Endeavour Energy's material unit costs are likely to be lower than what it proposed. However, the effect of this on its total capital expenditure was insignificant and, as such, no adjustment has been made. We are satisfied that Endeavour Energy's non-material unit costs are reasonable.

Endeavour Energy is in the process of transferring its metering hardware procurement processes to Networks NSW. This process has yet to be finalised so Endeavour Energy used its existing supplier contracts as the basis of its forecast.<sup>63</sup>

We engaged Marsden Jacob to assist us in our assessment of Endeavour 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'.<sup>64</sup> These rates were sourced from online advertised prices and through direct engagement with major suppliers.<sup>65</sup> Marsden Jacob took into consideration volume discounts which would reasonably be expected to apply to metering hardware purchases made by Endeavour Energy.<sup>66</sup>

Table 16-13 set out Endeavour 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 our consultant's observations.

| Description   | Forecast | Markets rates            | AER substitute |
|---|----------|--------------------------|----------------|
| Туре 6  |          |                          |                |
| Single phase accumulation meter                             | 18.69    | 18.69–20.00              | 18.69          |
| Single phase accumulation combination meter                 | 153.73   | Insufficient information | 153.73         |
| Three phase accumulation meter                              | 88.51    | 86.50-100.00             | 86.50          |
| Туре 5  |          |                          |                |
| Single phase interval (time of use capable) meter           | 302.38   | 63.72–100.00             | 63.72          |
| Single phase, dual element, direct connected interval meter | 346.45   | Max 150.00               | 150.00         |
| Three phase interval (time of use capable) meter            | 421.28   | Max 220                  | 220.00         |

# Table 16-13Endeavour Energy's forecast material unit costs, Marsden Jacob's observed<br/>market rates, and our substitute forecast (2014–15)

Source: Marsden Jacob, Consultant report to the AER on Alternative Control Services, October 2014, p. 33.

Marsden Jacob found that the majority of Endeavour Energy's material unit costs are within the current market rates for metering hardware.<sup>67</sup> Notwithstanding this, we do not consider Endeavour

Endeavour Energy, Response to AER information request, AER Endeavour Energy 026, 19 September, 2014, pp. 6–7.

<sup>&</sup>lt;sup>64</sup> Marsden Jacob Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.2.1.

<sup>&</sup>lt;sup>65</sup> Marsden Jacob Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.2.1.

<sup>&</sup>lt;sup>66</sup> Marsden Jacob Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.2.1.

<sup>&</sup>lt;sup>67</sup> Marsden Jacob Associates, Consultant report to the AER on Alternative Control Services, October 2014, section 2.2.1.
Energy's forecast material unit costs to reasonably reflect the efficient costs of a prudent operator.<sup>68</sup> We have reached this conclusion on the basis that:

- Networks NSW is running Endeavour Energy's metering procurement from 2015–16 onwards
- the procurement process that Networks NSW is running for Endeavour 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 Essential 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.<sup>69</sup> It is for that reason we consider the unit prices negotiated on the behalf of Endeavour Energy are likely to be closer to the bottom end of the market rates Marsden Jacob observed, not, as Endeavour Energy forecast, merely within the range of the current market rates.

Additionally, we consider it to be significant that Networks NSW is yet to finalise its procurement processes. The consultant Endeavour Energy engaged to review its metering proposal, Energeia, considered this to be significant too. Energeia stated that 'the reasonableness of a meter price forecast is typically demonstrated by the existence of a metering contract'.<sup>70</sup> We agree and conclude that until Networks NSW finalises its procurement activities we cannot observe the substance of the proposed unit costs. Nor can we be satisfied that contracts ultimately have passed all probity tests and were entered into on a competitive, arm's length basis. Again, the Victorian smart meter process is instructive, since we only approved metering capital and operating costs for the five Victorian distributors if they had been in accordance with a competitive tender process, among other things.

For those reasons, our draft decision is that Endeavour Energy's forecast material unit costs are overstated. Notwithstanding this, we have not made any adjustments to the proposed capital expenditure on that basis. Given our findings regarding Endeavour Energy's replacement volumes, any adjustment to the distribution business' unit costs would be immaterial. We will, however, revisit Endeavour Energy's proposed unit costs for the final decision.

In addition to assessing Endeavour Energy's material unit costs, Marsden Jacob reviewed NSW distributors' forecast non-material costs (i.e. labour costs). These refer to the expenditure required to install, handle and manage the logistics associated with putting a new or upgraded meter into service.

Marsden Jacob was satisfied with how Endeavour Energy developed its forecast for non-material costs.<sup>71</sup> Specifically, Endeavour Energy applied a 'bottom up' approach. This involved 'estimating the number of labour hours needed to undertake meter handling activities and the annual labour rate associated with provided these services'.<sup>72</sup>

Marsden Jacob concluded that Endeavour Energy's proposed non–material costs were reasonable. We agree with this position and have not made any reductions to the distribution business' proposed capital expenditure in relation to non–material costs.

<sup>&</sup>lt;sup>68</sup> NER, clause 6.5.7(c)(1)–(2).

<sup>&</sup>lt;sup>69</sup> 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.

 <sup>&</sup>lt;sup>70</sup> Energeia, Review of Endeavour Energy's metering tariffs, Attachment 8.06 to Endeavour Energy's regulatory proposal, May 2014, p. 27.
 <sup>71</sup> May deal, base base of the transmittent to the AED on Alternative Control Control Control of the section 2.0.2

<sup>&</sup>lt;sup>71</sup> Marsden Jacob Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.2.2.

<sup>&</sup>lt;sup>72</sup> Marsden Jacob Associates, *Consultant report to the AER on Alternative Control Services*, October 2014, section 2.2.2.

#### Forecast volumes

We accept Endeavour Energy's forecast new or upgraded connections forecast for 2014–15 and its forecast replacement volumes. Table 16-14 sets out these forecasts per meter.

# Table 16-14 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 | 22,234   | 22,234         |
| Reactive replacements       | 17,417   | 17,417         |
| Proactive replacements      | 130,077  | 21,406         |

Source: Endeavour Energy, NSW ACT Electricity DNSPs reset RIN templates - Consolidated information (Public), May 2014.

We accept Endeavour Energy's new or upgraded connections forecast. To derive its forecast, Endeavour Energy 'took the actual number of meters in 2013–14 from standing data and [multiplied that] by an adjustment factor derived [from] actual historic and forecast customer numbers'.<sup>73</sup> We are satisfied that this is a reasonable approach to developing an estimate for new or upgraded connection, and on that basis accept the forecast 22 234 meters.

We accept Endeavour Energy's forecast volumes for reactive replacements. Reactive replacements are made in response to full functionality failures caused by, for example, physical damage. We consider equipment damage, which drives reactive replacements, to be statistically random and as such, historical failures are a good indicator of future performance. We accordingly accept Endeavour Energy's forecast volume of replacement replacements of 17 417 meters. It equates to 3 483 meters per year which is in line with the historical average of 3 570 meters (2009–10 to 2013–14).

We took a different approach to assessing the forecast volumes that Endeavour Energy's proposed for proactive replacements. For proactive replacements, historical data is not relevant. These replacements are driven by sample testing of meter populations. This is to test their functionality and accuracy against various regulatory requirements.

In particular, Endeavour Energy must ensure that each of its metering installations is maintained in accordance with the metrology procedure submitted to, and obtained approval by, the Australian Energy Market Operator (AEMO).<sup>74</sup> This metrology procedure requires Endeavour Energy to comply with certain 'Australian Standards' for testing the in–service performance of meters.<sup>75</sup> In the event of a sample of meters failing these tests, the NER requires Endeavour Energy to 'arrange for the accuracy of affected meters to be restored in a time frame agreed with AEMO'.<sup>76</sup> Where certain thresholds are not met, this requires replacement of the entire population of a make and model of meters.

Table 16-15 provides a high level summary of Endeavour Energy's sample testing, to identify proactive meter replacements. It shows that in addition to including meters which have failed sample testing, Endeavour Energy has included makes and models which it considers likely to fail in the 2014–15 and 2015–19 regulatory control period.

<sup>&</sup>lt;sup>73</sup> Endeavour Energy, *Response to AER information request, AER Endeavour 011*, 8 August 2014, p. 4.

<sup>&</sup>lt;sup>74</sup> NER, clause 7.2.5 and S7.3.1.

<sup>&</sup>lt;sup>75</sup> Australian Standard, 1284.13.

<sup>&</sup>lt;sup>76</sup> NER, clause 7.6.2.

#### Table 16-15 Endeavour Energy's sample testing against regulatory requirements

| Meter make and model               | Scheduled replacement | Meter population |
|------------------------------------|-----------------------|------------------|
| Failed                             |                       |                  |
| SD three phase WC (up to 6 series) | 2014-15 to 2015-16    | 1682             |
| M1 single phase WC 61–65           | 2016–17               | 452              |
| SDM three phase WC 96–00           | 2016–17               | 3995             |
| Calmu three phase WC               | 2016–17               | 684              |
| Calmu three phase CT               | 2016–17               | 4                |
| Sprint three phase WC              | 2016–17               | 187              |
| Subtotal                           |                       | 21 406           |
| Likely to fail                     |                       |                  |
| WF3 1p WC                          | 13–14                 | 84 401           |
| SDM 1p WC 96–00                    | 13–14                 | 250              |
| SDM 3p WC 66-85                    | 14–15                 | 23 484           |
| HMT 1p WC                          | 15–16                 | 7 898            |
| SDM 3p CT 51–00                    | 15–16                 | 1 471            |
| SD 3p WC (6 series above)          | 16–17                 | 11 515           |
| BAZ 1p WC                          | 17–18                 | 51 158           |
| WF2 1p WC                          | 17–18                 | 11 992           |
| SD 3p CT                           | 17–18                 | 127              |
| SDM 2p WC 76–80                    | 17–18                 | 592              |
| SDM 2p WC 86–95                    | 17–18                 | 52               |
| SDM 3p WC 91–95                    | 17–18                 | 382              |
| Subtotal                           |                       | 108 671          |
| Total                              |                       | 130 077          |

Source: Endeavour Energy, Metering replacement compliance discussion paper, in response to information request, AER Endeavour 011, 8 August 2014, p. 4.

We consider Endeavour Energy's proactive forecast of 130 077 meters to be overstated. It includes 108 671 meters which have yet to fail compliance testing. For these meters, Endeavour Energy acknowledged that the forecast 'is only based on assumptions on the current engineering judgment for Endeavour Energy's meter population that are likely to fail in the near future'.<sup>77</sup> We do not consider this to be sufficient justification and so we substitute the forecast 130 077 replacements with an amount equal to the number of meters which have actually failed compliance testing (21 406). In its revised regulatory proposal, we expect Endeavour Energy to provide additional information explaining why it considers part, or all, of the remaining 108 671 meters should be replaced.

Though our substitute forecast is a significant (negative) step change, Endeavour Energy's forecast is historically high. To put into context, Energeia, the consultant Endeavour Energy engaged to assess its metering proposal, observed that the distributor's total proactive forecast is about 50 per cent more than its average annual proactive meter replacements in the 2009–14 regulatory control period.<sup>78</sup>

#### Operating expenditure building block

We substitute Endeavour Energy's proposed operating expenditure building block of \$103.4 million for annual metering services with \$67.9 million (\$2014–15). This is a 34 per cent reduction from the proposed amount. Though significant, it reflects the same downwards trend as our adjustment to Endeavour Energy's proposed operating expenditure for standard control services. And while we would not necessarily expect a uniform reduction across metering and network services, there are strong commonalities as it is the same organisation 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 for annual metering services does better reflect the distribution business' efficient metering operating expenditure requirements than proposed.

Figure 16-4 shows Endeavour Energy's actual and proposed operating expenditure compared against our substitute forecast. We consider our substitute forecast to reasonably reflect the operating expenditure Endeavour Energy requires in the 2014–15 and 2015–19 regulatory control periods.

<sup>&</sup>lt;sup>77</sup> Endeavour Energy, *Metering replacement compliance discussion paper*, *Response to information request, AER Endeavour 011,* August 2014, p. 4.

<sup>&</sup>lt;sup>78</sup> Energeia, *Review of Endeavour Energy's proposed metering tariff arrangements*, April 2014, p. 29.



# Figure 16-4 Endeavour Energy's proposed operating expenditure for Type 5 and 6 metering services (\$ million, 2014–15)



#### Base expenditure

We found that Endeavour Energy's base operating expenditure should be lower than the amount the distribution business used to develop its forecast. We arrived at this conclusion by looking at the base from two different perspectives. These were Endeavour Energy's historical operating expenditure *and* its performance against benchmarking results. By contrast, Endeavour Energy developed its base using historical expenditure only.<sup>79</sup>

With regard to our assessment of historical expenditure, we consider Endeavour Energy's base should be at least as efficient as its costs in previous years. To assess this, we observed Endeavour 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 Endeavour 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 from 2008–09 to 2012–13, we observed a base expenditure of \$17.3 million (\$2014–15). This is less than Endeavour Energy's proposed average annual operating expenditure allowance of \$20.7 million (\$2014–15).

However, we observed that in the 2014–19 regulatory control period, Endeavour Energy proposed to spend on average, \$22 per customer (\$2014–15) in operating expenditure. This is slightly higher than its historical expenditure from 2008–09 to 2012–13, which averaged \$20 per customer (\$2014–15). This indicates the increase is not just driven by customer growth, but also implies a forecast loss of efficiency.

<sup>&</sup>lt;sup>79</sup> Energeia, *Review of Endeavour Energy's proposed metering tariff arrangements, April 2014, p. 38.* 

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 Endeavour Energy's proposed operating expenditure per customer against other non-Victorian distribution businesses in the national electricity market.

When comparing Endeavour 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 16-5 shows the results of our benchmarking.



Figure 16-5 Benchmarking of operating expenditure per customer (\$ 2014–15)

Source: AER analysis based on data from economic benchmarking RIN responses

Our benchmarking shows that Endeavour Energy's proposed operating expenditure does not reasonably reflect its likely future requirements. We would expect Endeavour Energy to require no more operating expenditure per customer than a distribution business with a similar, or less, dense network. This, nonetheless, is not the case with Endeavour Energy's proposed metering operating expenditure requirement.

We consider Energex to be a relevant comparator for Endeavour Energy because the Queensland distribution business has a similar (in fact, lower) customer density. Yet, on a per customer basis we observed that Endeavour Energy's proposed operating expenditure is more than Energex's reported operating expenditure. In the 2014–15 and 2015–19 regulatory control periods, Endeavour Energy proposes to spend \$22 per customer. Energex, however, spends \$14 per customer. Further we would expect, if anything, for Energex to have a higher per customer metering operating expenditure than Endeavour Energy. This is because Energex has a less dense network

Our benchmarking results, therefore, show that Endeavour Energy's proposed operating expenditure to be overstated. To more reasonably reflect a relatively more efficient business running a network with Endeavour Energy's characteristics, we substitute the proposed base operating expenditure with an amount equal to Energex's per customer spend. This is just a relative efficiency adjustment as it is based on Energex's revealed costs alone, without actually assessing the efficiency of its base

operating expenditure which we will undertake when making the Queensland 2015–2020 electricity distribution determination.

We are therefore satisfied that although our substitute is less than what Endeavour Energy proposed, it will provide the distribution business with a reasonable opportunity to recover its efficient costs.

Our draft decision is to substitute \$14 per customer for Endeavour Energy's proposed amount of \$22 per customer. Table 16-16 shows the effect of our draft decision. Over the 2014–15 and 2015–19 regulatory control periods, our substitute base leads to a reduction in Endeavour Energy's proposed operating expenditure of \$35.5 million (\$2014–15).

| Regulatory year     | Proposed base<br>(\$22 per customer) | Substitute base<br>(\$14 per customer) | Difference |
|---------------------|--------------------------------------|--|------------|
| 2014–15             | 10.0                                 | 42.0                                   | 0.7        |
| (923 022 customers) | 19.9                                 | 13.2                                   | -0.7       |
| 2015–16             | 20.2                                 | 12.4                                   | 6.7        |
| (934 240 customers) | 20.2                                 | 13.4                                   | -0.7       |
| 2016–17             | 20.0                                 | 12.6                                   | 7.3        |
| (945 825 customers) | 20.9                                 | 13.0                                   | -7.5       |
| 2017–18             | 21.0                                 | 13.8                                   | _7.2       |
| (958 037 customers) | 21.0                                 | 10.0                                   | 1.2        |
| 2018–19             | 21.5                                 | 14.0                                   | -7.5       |
| (971 948 customers) | 21.0                                 |  | 7.0        |
| Total               | 103.4                                | 67.9                                   | -35.5      |
| Source: ??          |                                      |  |            |

| Table 16-16 Propos | ed and substitute | operating expendit | ure base (\$M. 2014–15) |
|--------------------|-------------------|--------------------|-------------------------|
| 14010 10 10 100000 | va ana casonato   |                    |                         |

We acknowledge that there may be exogenous factors other than customer density which explain why Endeavour Energy's operating expenditure per customer is higher than Energex'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 consider whether we should apply any step changes to the base operating expenditure we have determined as efficient for Endeavour 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 the opposite. They are applied because costs in the base will not, or are unlikely to, be incurred in the forecast period.

Endeavour Energy state they have not applied a step change and the increase in forecast operating expenditure 'is a real increase driven by increases in the forecast volume of work'<sup>80</sup> in the 2014-19 regulatory period.

Notwithstanding this, we consider that it should apply a negative step change to account for ancillary metering services as from 1 July 2015 will be reclassified to ancillary network services. Therefore, historic ancillary metering service costs should be excluded from base opex as a negative step change to accurately determine Endeavour Energy's future metering operating expenditure allowance. We have not quantified the amount of this negative step change in our draft decision, but will apply it in our final decision.

We should note that Endeavour Energy will still recover its costs for ancillary metering services. But as with all ancillary network services, this will occur as an upfront payment from a customer to Endeavour Energy, rather than via the annual metering services charge.

#### Trend (2014–15 and 2015–19)

We trended forward our base, minus the negative step change for special meter reads, to derive our substitute operating expenditure forecast. In the 2014–15 and 2015–19 regulatory control periods, this arrives at a substitute forecast of \$67.9 million (\$2014–15).

Our substitute is substantially less than Endeavour Energy's proposed \$103.4 million (\$2014–15). However, we consider it to better reflect the distribution business' likely future requirements. This is because, compared to Endeavour Energy, we applied a more comprehensive forecasting methodology which included the use of benchmarking.

#### Opening metering regulatory asset base

We do not accept the opening metering RAB as at 1 July 2014 of \$22.7 million (\$ nominal) as separated by Endeavour Energy from the RAB for standard control services. We recalculated the amount due to changes in the roll forward model for standard control services. However, the impact is less than \$100 000 and therefore the opening metering RAB is still \$22.7 million (\$ nominal).

We do not accept the remaining and standard asset lives proposed by Endeavour Energy. Endeavour Energy proposed an accelerated depreciation approach with the aim of recovering the residual value of all existing meters over 5 years and any replacement meters (that is, replacements not initiated by a customer) in one year. 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 and prevent replacement assets entering 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 provides within 5 years. At that time, under Endeavour Energy's proposal, all existing and replacement 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 Endeavour Energy's existing metering assets as at 1 July 2014 to 23 years to allow a consistent roll forward of the life from the value approved for 1 July 2009 at the 2009 determination. We have also amended the standard asset life

<sup>&</sup>lt;sup>80</sup> Endeavour Energy, *Response to information request, AER Endeavour Energy 026*, 19 September 2014, p. 9.

for replacement meters to 15 years. This life is shorter than the life of 25 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 Endeavour 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 distributor 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. At the end of the 2014-19 period, the amount of 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.

#### New or upgraded connections

We accept Endeavour Energy's proposal to charge for new and upgraded connections up front because it sends efficient signals for future decision making. However, we do not accept Endeavour Energy's proposed price caps for new and upgraded connections, which from 1 July 2015 will be recovered as an upfront charge to customers.

Endeavour 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 Endeavour Energy's proposed price caps on 'unit costs' only.

Our reasons for not accepting the material unit costs Endeavour Energy proposed are the same as those set out in our assessment of Endeavour Energy's capital expenditure building block 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. However on the advice of Marsden Jacob, we consider the non-material unit costs to be reasonable and therefore, accept them as inputs into our draft decision price caps.

#### Exit fee

Augrid's proposed exit fee had two components: residual capital costs ('opening RAB recovery') and administration costs. We reject both components. Our reasons are discussed in the following sections.

#### **Residual capital costs**

We accept Endeavour Energy's 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 residual metering costs becoming stranded as customers leave (because they will stop paying the annual charge).

We accept Endeavour Energy is entitled to recover these residual capital 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 distributors do not record information about asset type or age at the customer level. Secondly, we are not satisfied that the amount distributors 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 distributors have not faced competitive pressures.<sup>81</sup> 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 distributors 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 Endeavour Energy to recover residual capital costs through general network tariffs i.e. smeared across the general customer base. In practice, regulated metering customers will pay for metering assets as part of their annual charges. This will ensure that the annual charges are, to the extent possible, transparent and cost reflective. If a customer chooses to switch to an unregulated metering provider, the remaining portion of metering assets attributable to that customer that risks becoming stranded is moved back into the standard control RAB. Due to information 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.

<sup>&</sup>lt;sup>81</sup> Further, we are unable to assess the ex-post prudency/efficiency of actual capital expenditure.

We consider our alternative approach better meets the criteria outlined in 1.6.3 of this attachment:

- Impact on competition our approach does not involve directly charging leaving customers for residual capital 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 Endeavour 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 Endeavour 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. Limited cross subsidies to recover just the residual metering costs is considered 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<sup>82</sup> 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.

In regard to our obligation to ensure 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 Endeavour Energy's proposal to charge a high exit fee). We make this decision on the

<sup>&</sup>lt;sup>82</sup> AEMC, Draft National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014, clauses 6.18.5 (f) and 6.18.5 (g)(3).

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 distributors should be allowed to recover administration costs at all.<sup>83</sup>

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

Endeavour 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 Endeavour 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 (\$46.3 million<sup>84</sup>) implies that if all customers were to exit in the five year period, Endeavour Energy would have to hire an additional 29 dedicated full time staff per year to handle customer transfers to substantiate its proposed costs.<sup>85</sup> This seems implausible given the relatively simple administrative task involved to process a customer exiting.

Indeed, Endeavour Energy forecast metering customer numbers to grow overall over the period so it is not evident that they expect many customers to churn in the upcoming period. As such, it may be possible that current levels of administrative staff have enough capacity to perform this additional administrative task without the business incurring further costs.

As it is not clear that Endeavour Energy expect to hire additional staff to perform this task, we do not accept Endeavour Energy's administration costs. This means that an exit fee will not apply in Endeavour Energy's circumstances.

 <sup>&</sup>lt;sup>83</sup> 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.

<sup>&</sup>lt;sup>84</sup> This calculation is based on Endeavour Energy's administration cost component (\$50.49) of its proposed exit fee multiplied by the existing number of type 5/6 metering customers (2013-14 type 5/6 customer number which is based on forecast customer numbers as of 30 June 2014) to get \$46.3 million. All dollars are in \$2014/15.

<sup>&</sup>lt;sup>85</sup> This calculation is based on Endeavour Energy's proposed administrative labour hourly rate (inclusive of wages, on-costs and overheads) of \$151.48 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, Endeavour Energy would still have to hire an additional 15 dedicated staff members per year to build up the proposed \$46.3 million in administration costs. All dollars are in \$2014/15.

#### 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.

 $\overline{p}_i^t \ge p_i^t$ 

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:

 $\overline{P}_i^i$  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.

 $p_i^{t}$  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

### 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. Endeavour Energy serves 29 public lighting customers, including 23 local councils, with over 196,000 installed lights.<sup>86</sup>

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

A key element of all decision on this topic is the contestability or otherwise of public lighting services, and which of those services are regulated by us.

<sup>&</sup>lt;sup>86</sup> Endeavour Energy, Regulatory Proposal, p.133.

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 whether the asset was either installed by the distribution network service provider or gifted to them and the type of asset (pole, luminaire model).

#### 16.7.1 Draft Decision

Our draft decision is to not approve Endeavour Energy's proposed public lighting prices. This is because we do not accept the weighted average cost of capital proposed by Endeavour Energy, and a bulk replacement program of 3 years for some of its lamps or the labour escalator.

In considering Endeavour Energy's proposal we had regard to the following key inputs:

- The bulk light replacement rate
- Lamp spot failure rates
- Labour rates

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

- a 4 year bulk replacement program for all lamps. Currently Endeavour Energy has a 4 year cycle for high pressure sodium lamps with wattages of 150, 250 and 400. For all other lamps it is three years.
- a WACC of 7.15 cent instead of the proposed 8.83 per cent
- a useful life of 20 years for LED luminaires instead of the proposed 12 years
- labour escalators consistent with our decision (opex chapter)

By applying our benchmarks instead of those proposed, Endeavour Energy's public lighting charges decrease on average by 6 per cent in 2015-16 from the previous year. Prices for the remaining years will be adjusted according to our price cap form of control.

The schedule of public lighting charges we approve is set out in appendix A.1.

#### Form of price control

The form of price control for public lighting charges is as per our Stage 1 Framework and Approach Paper.<sup>87</sup>

$$\overline{p}_i^t \ge p_i^t$$
 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:

 $p_i^{i}$  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.1.3.

 $p_i^{t}$  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. 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

Endeavour Energy propose a decrease in public lighting charges to councils of 13 per cent in 2015-16.

Endeavour Energy has proposed a top down approach to public lighting services.

In reviewing feedback from our public lighting customers we identified that our customers were generally happy with our compliance of the Public Lighting Code and the outturn service that they receive from us. On the basis the outcome of the public lighting activities matches customer expectations applying a top

<sup>&</sup>lt;sup>87</sup> 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.

down pricing approach seeks to ensure that the activities and resultant costs incurred in delivering the service required by the customer is maintained. If however feedback from our customers had not been supportive of the existing service levels (and therefore the resources Endeavour utilises to deliver the service would necessarily change) Endeavour would have been required to develop a bottom up costing model to allow the cost total to be varied in line with the expected resource / activity changes necessary to deliver the desired service outcomes of our customers.<sup>88</sup>

Endeavour Energy submit that the major drivers of the price decrease proposed by Endeavour Energy are:

- the efficient maintenance program based on four year bulk replacement program for lamps and lamp failure rate of for 2015–19
- a reduction in corporate overheads from scale efficiencies
- savings for councils from the impact of depreciation of pre 2009 assets.

In summary Endeavour Energy's tariff structure is set out in Table 16-17

#### Table 16-17 Endeavour Energy public lighting tariff structure

| Tariff | Installation date    | Capital provision | Maintenance<br>responsibility     | Replacement<br>responsibility   |
|--------|----------------------|-------------------|-----------------------------------|---|
| Rate 1 | prior to 1 July 2009 | Endeavour Energy  | Endeavour Energy                  | Endeavour Energy  |
| Rate 2 | prior to 1 July 2009 | Customer          | Endeavour Energy                  | Endeavour Energy  |
| Rate 3 | after 30 June 2009   | Endeavour Energy  | Endeavour Energy                  | Endeavour Energy  |
| Rate 4 | after 30 June 2009   | Customer          | Endeavour Energy                  | Endeavour Energy  |
| Rate 6 | N/A                  | Customer          | Endeavour Energy manages the lamp | Endeavour Energy<br>Customer Photo cell<br>and Fuse. Rest of<br>maintenance by the<br>customer. |

Source: Endeavour Energy.

#### 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 ensure that depreciation,

<sup>&</sup>lt;sup>88</sup> Endeavour Energy, Response to AER Information Request 027, 17 September 2014.

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.

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.

Endeavour's top down approach to public lighting differs from the current approach and the approach adopted by both Essential Energy and Ausgrid. In assessing Endeavour's approach we have had to ask for further information regarding labour rates, spot replacements and failure rates as these were not explicit in Endeavour Energy's proposal.

Our review of Endeavour Energy has been to consider the proposed charges and further information in response to our information requests.

#### 16.7.4 Submissions

Councils made the following submissions on Endeavour Energy's proposal.<sup>89</sup>

Hawkesbury Council:

 Welcomes keeping price increases to CPI, but notes the high starting costs base due to substantial investment in previous years and that the AER should closely investigate these base figures.

Wollongong Council:

• Supports proposal for price increases of no more than 2.5 per cent.

Camden Council's consultant, the Trans-Tasman Energy Group contends:

<sup>89</sup> Hawkesbury Council Submission of 7 August 2014, Wollongong Council Submission of 7 August 2014, Camden Council Submission of 8 August 2014, Endeavour Energy Supplies Councils Submission, 7 August 2014.

- the proposal is unnecessarily complex and that in future a simplified proposal that can be easily understood and verified ought to be developed.
- that the public lighting service classification should be changed to a negotiated service, so that councils can receive more information.
- that excessive profits well above expected industry norms are being earned.
- that 2011-12 capex should be the \$5.55 million reported in its CAM, not the proposed \$6.8 million capex.
- the AER should reject the inclusion of tax charges in the proposal
  - and further that as the tax asset base has depreciated down to \$1.6 million, the asset base of \$28.6 million is not justified and the proposed capital charges are not cost reflective
- proposed LED luminaire tariffs are not cost reflective and should be rejected and moreover emerging lighting technologies should be classified as a negotiated service
- charges should be reduced as a result of the repeal of the carbon tax
- there is an assumption that for tariff classes 1 to 4, luminaires will automatically be replaced at the end of their useful life, but Councils should be given the opportunity to change to tariff class 6 and own and maintain the replacement luminaire.

The minutes of Endeavour Energy's meetings with councils indicate a general level of satisfaction from councils in relation to the service provided and consultation being undertaken by Endeavour Energy.<sup>90</sup>

#### 16.7.5 Reasons for draft decision

The draft decision is to not approve Endeavour Energy's proposed public lighting prices. This is because we do not accept the weighted average cost of capital of 8.83 per cent proposed by Endeavour Energy, a bulk replacement program of 3 years for some of its lamps or the labour escalator.

In relation to setting public lighting charges, we consider a four year bulk lamp replacement program that applies in Victoria as the appropriate benchmark.

Endeavour Energy's proposed lamp failure rate assumptions are considered efficient. The proposed failure rates reflect the benchmarks that are being achieved by efficient distributors across the NEM. 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).<sup>91</sup>

Endeavour Energy has achieved and is again proposing for the forthcoming regulatory control period lower failure rates across its lamps of 4.46 per cent which is in line with Victorian distributors. 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.

<sup>&</sup>lt;sup>90</sup> Endeavour Energy, Regulatory Proposal, Attachment 8.02A3F Minutes of Council Meetings (CONFIDENTIAL).

<sup>&</sup>lt;sup>91</sup> AER, Energy Efficient Public Lighting Charges - Victoria, Final Decision, pp. 33-36, February 2009.

#### Table 16-18 Endeavour Energy Failure Rates

|                               | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|-------------------------------|---------|---------|---------|---------|---------|---------|
| Total number of public lights | 184,455 | 186,519 | 189,519 | 192,208 | 195,630 | 198,907 |
| Total number of lamp failures | 12,622  | 10,431  | 9,353   | 8,980   | 8,928   | 8,730   |
| Failure per cent              | 6.84    | 5.59    | 4.94    | 4.67    | 4.56    | 4.39    |

Source: Endeavour Energy, Response to AER Information Request 027, 17 September 2014.

Endeavour Energy proposed the following labour escalators. We do not accept the proposed labour escalators and have instead applied the following labour escalators as per our attachment opex rate of change.

#### Table 16-19 NSW Labour Escalators (percentage)

|                           | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---------------------------|---------|---------|---------|---------|---------|---------|
| Endeavour Energy Proposed | Na      | 1.20    | 1.60    | 2.10    | 2.10    | 2.00    |
| Draft Decision            | 0.58    | 0.89    | 0.87    | 1.40    | 1.62    | 1.44    |

Source: AER analysis.

Our consideration of Camden Council's submission includes the following observations:

- We agree that model simplification is a worthy pursuit. Endeavour Energy simplified the pricing model from that used in the 2009–14 regulatory control period and it will enable customers to calculate prices and assist councils in making decisions about public lighting. It is not clear what additional modifications the council sought
- Public lighting will remain an alternative control service and that the decision on classification does not impact upon the amount of information that is or can be provided by distributors to councils
- That the concern about excess profits is misplaced. We do not set profits, rather revenues and prices
- There will be no impact from the carbon tax repeal, as the tax did not apply to electricity distributors, so there are no savings to be passed onto local municipalities
- Gifted public lighting assets (entered into the asset base at zero cost) still incur a tax payment because the distributor earns revenue from the provision of services associated with the asset, so incurring a tax liability. Regulated revenue recovery is permissible for this taxation payment.
- Propose a 12 year life for LED luminaries compared to 20 year useful life for all other luminaire types. Whilst this is emerging technology, evidence suggests a long life of 15 to 20 years or

longer for this technology.<sup>92</sup> This is also consistent with Ausgrid's proposed life of 20 years for LED luminaries. We consider a useful life of 20 years to be appropriate

 We agree that luminaries should not automatically be replaced like for like at the end of their useful life and that councils and distributors have always been free to come up with an agreed approach to asset replacements that satisfies both parties' interest.

We have also given some weight to council minutes that expressed satisfaction with Endeavour Energy's charging. Our decision in relation to Endeavour Energy's proposals will decrease public lighting prices and council's bills by 6 per cent over and above that proposed by Endeavour Energy.

#### **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.

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 Endeavour 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.

<sup>&</sup>lt;sup>92</sup> Institute of Public Works Engineering Australia (IPWEA) Towards more sustainable street lighting, Practice Note 11 2014, p.11.

# A Appendix 1

## A.1 Alternative Control services

### A.1.1 Ancillary Network Services

Table 16-20 Ancillary network services – Endeavour Energy – draft determination

| Service  | Driver   | Fee type | Current<br>price<br>(\$2014–<br>15) | Proposed price<br>(\$2014–15) | AER draft<br>decision<br>(\$2014–<br>15) | % (draft cf<br>proposed) |
|--|----------|----------|-------------------------------------|-------------------------------|--|--------------------------|
|  |          |          |                                     |                               |  |                          |
| Administration fee                                 |          |          |                                     |                               |  |                          |
| Subdivision - URD - Underground - 1-5 lots         | Per Job  | Fee      | 193                                 | 633.45                        | 356.24                                   | -43.8                    |
| Subdivision - URD - Underground - 6-10 lots        | Per Job  | Fee      | 258                                 | 791.82                        | 445.30                                   | -43.8                    |
| Subdivision - URD - Underground - 11-40 lots       | Per Job  | Fee      | 322                                 | 1,108.55                      | 623.42                                   | -43.8                    |
| Subdivision - URD - Underground - 41+ lots         | Per Job  | Fee      | 387                                 | 1,266.91                      | 712.48                                   | -43.8                    |
| Subdivision - Non Urban - Underground - 1-5 lots   | Per Job  | Fee      | 193                                 | 475.09                        | 267.18                                   | -43.8                    |
| Subdivision - Non Urban - Underground - 6-10 lots  | Per Job  | Fee      | 258                                 | 633.45                        | 356.24                                   | -43.8                    |
| Subdivision - Non Urban - Underground - 11-40 lots | Per Job  | Fee      | 322                                 | 791.82                        | 445.30                                   | -43.8                    |
| Subdivision - Non Urban - Underground - 41+ lots   | Per Job  | Fee      | 387                                 | 950.18                        | 534.36                                   | -43.8                    |
| Subdivision - Non Urban - Overhead - 1-5 poles     | Per Job  | Fee      | 193                                 | 633.45                        | 356.24                                   | -43.8                    |
| Subdivision - Non Urban - Overhead - 6-10 poles    | Per Job  | Fee      | 258                                 | 791.82                        | 445.30                                   | -43.8                    |
| Subdivision - Non Urban - Overhead - 11+ poles     | Per Job  | Fee      | 387                                 | 1,425.27                      | 801.54                                   | -43.8                    |
| Subdivision - Industrial & Commercial - Per Hour   | Per Hour | Quote    | 64                                  | 158.36                        | 89.06                                    | -43.8                    |

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| Connection of Load - URD  | Per Hour | Quote | 64  | 158.36   | 89.06    | -43.8 |
|---|----------|-------|-----|----------|----------|-------|
| Connection of Load - Industrial & Commercial                      | Per Hour | Quote | 64  | 158.36   | 89.06    | -43.8 |
| Connection of Load - Non Urban - Underground                      | Per Hour | Quote | 64  | 158.36   | 89.06    | -43.8 |
| Connection of Load - Non Urban - Overhead - 1-5 poles             | Per Job  | Fee   | 193 | 633.45   | 356.24   | -43.8 |
| Connection of Load - Non Urban - Overhead - 6-10 poles            | Per Job  | Fee   | 258 | 950.18   | 534.36   | -43.8 |
| Connection of Load - Non Urban - Overhead - 11+ poles             | Per Job  | Fee   | 387 | 1,266.91 | 712.48   | -43.8 |
|   |          |       |     |          |          |       |
| Other - Asset Relocation - Per Hour                               | Per Hour | Quote | 64  | 158.36   | 89.06    | -43.8 |
| Other - Public Lighting - Per Hour                                | Per Hour | Quote | 64  | 158.36   | 89.06    | -43.8 |
|   |          |       |     |          |          |       |
| Design information fee  |          |       |     |          |          |       |
| Subdivision - URD - Underground - 1-5 lots                        | Per Job  | Fee   | 159 | 586.51   | 428.43   | -27.0 |
| Subdivision - URD - Underground - 6-10 lots                       | Per Job  | Fee   | 239 | 782.01   | 571.24   | -27.0 |
| Subdivision - URD - Underground - 11-40 lots                      | Per Job  | Fee   | 398 | 1,368.52 | 999.67   | -27.0 |
| Subdivision - URD - Underground - 41+ lots                        | Per Job  | Fee   | 478 | 1,759.53 | 1,285.29 | -27.0 |
| Subdivision - Non Urban - Per Hour                                | Per Hour | Quote | 80  | 195.50   | 142.81   | -27.0 |
| Subdivision - Industrial & Commercial - Per Hour                  | Per Hour | Quote | 80  | 195.50   | 142.81   | -27.0 |
|   |          |       |     |          |          |       |
| Connection of Load - Industrial & Commercial - <= 200A/Phase (LV) | Per Hour | Quote | 80  | 195.50   | 142.81   | -27.0 |
| Connection of Load - Industrial & Commercial - <= 700A/Phase (LV) | Per Hour | Quote | 80  | 195.50   | 142.81   | -27.0 |
| Connection of Load - Industrial & Commercial - > 700A/Phase (LV)  | Per Hour | Quote | 80  | 195.50   | 142.81   | -27.0 |

| Connection of Load - Industrial & Commercial - HV Customer     | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
|--|----------|-------|----|--------|--------|-------|
| Connection of Load - Industrial & Commercial - Transmission    | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Multi-Dwelling - <= 5 units               | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Multi-Dwelling - <= 20 units              | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Multi-Dwelling - <= 40 units              | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Multi-Dwelling - > 40 units               | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - I&C - <= 200A/Phase (LV)      | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - I&C - <= 700A/Phase (LV)      | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - I&C - > 700A/Phase (LV)       | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - I&C - HV Customer             | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - I&C - Transmission            | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - Multi-Dwelling - <= 5 units   | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - Multi-Dwelling - <= 20 units  | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - Multi-Dwelling - <= 40 units  | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - Multi-Dwelling - > 40 units   | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Connection of Load - Non Urban - Single Residential - Per Hour | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
|  |          |       |    |        |        |       |
| Asset Relocation - Engineer                                    | Per Hour | Quote | 96 | 195.50 | 142.81 | -27.0 |
| Asset Relocation - Designer                                    | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |
| Public Lighting - Engineer                                     | Per Hour | Quote | 96 | 195.50 | 142.81 | -27.0 |
| Public Lighting - Designer                                     | Per Hour | Quote | 80 | 195.50 | 142.81 | -27.0 |

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#### Design certification fee

| Subdivision - URD - Underground - 1-5 lots                        | Per Job  | Fee   | 80.00  | 401.11   | 285.62 | -28.8 |
|---|----------|-------|--------|----------|--------|-------|
| Subdivision - URD - Underground - 6-10 lots                       | Per Job  | Fee   | 159.09 | 601.66   | 428.43 | -28.8 |
| Subdivision - URD - Underground - 11-40 lots                      | Per Job  | Fee   | 239.09 | 1,002.77 | 714.05 | -28.8 |
| Subdivision - URD - Underground - 41+ lots                        | Per Job  | Fee   | 318.18 | 1,203.33 | 856.86 | -28.8 |
| Subdivision - Non Urban - Underground - 1-5 lots                  | Per Job  | Fee   | 80.00  | 200.55   | 142.81 | -28.8 |
| Subdivision - Non Urban - Underground - 6-10 lots                 | Per Job  | Fee   | 159.09 | 601.66   | 428.43 | -28.8 |
| Subdivision - Non Urban - Underground - 11-40 lots                | Per Job  | Fee   | 239.09 | 802.22   | 571.24 | -28.8 |
| Subdivision - Non Urban - Underground - 41+ lots                  | Per Job  | Fee   | 318.18 | 802.22   | 571.24 | -28.8 |
| Subdivision - Non Urban - Overhead - 1-5 poles                    | Per Job  | Fee   | 80.00  | 401.11   | 285.62 | -28.8 |
| Subdivision - Non Urban - Overhead - 6-10 poles                   | Per Job  | Fee   | 159.09 | 601.66   | 428.43 | -28.8 |
| Subdivision - Non Urban - Overhead - 11+ poles                    | Per Job  | Fee   | 239.09 | 1,002.77 | 714.05 | -28.8 |
| Subdivision - Industrial & Commercial - Underground - 1-10 lots   | Per Job  | Fee   | 159.09 | 601.66   | 428.43 | -28.8 |
| Subdivision - Industrial & Commercial - Underground - 11-40 lots  | Per Job  | Fee   | 239.09 | 802.22   | 571.24 | -28.8 |
| Subdivision - Industrial & Commercial - Underground - 41 + lots   | Per Job  | Fee   | 478.18 | 1,203.33 | 856.86 | -28.8 |
| Subdivision - Industrial & Commercial - Overhead - 1-5 poles      | Per Job  | Fee   | 80.00  | 401.11   | 285.62 | -28.8 |
| Subdivision - Industrial & Commercial - Overhead - 6-10 poles     | Per Job  | Fee   | 159.09 | 601.66   | 428.43 | -28.8 |
| Subdivision - Industrial & Commercial - Overhead - 11+ poles      | Per Job  | Fee   | 239.09 | 1,002.77 | 714.05 | -28.8 |
|   |          |       |        |          |        |       |
| Connection of Load - Industrial & Commercial - <= 200A/Phase (LV) | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |

| Connection of Load - Industrial & Commercial - <= 700A/Phase (LV) | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
|---|----------|-------|--------|----------|--------|-------|
| Connection of Load - Industrial & Commercial - > 700A/Phase (LV)  | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Industrial & Commercial - HV Customer        | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Industrial & Commercial - Transmission       | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Multi-Dwelling - <= 5 units                  | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Multi-Dwelling - <= 20 units                 | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Multi-Dwelling - <= 40 units                 | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Multi-Dwelling - > 40 units                  | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Non Urban - Underground - Per Hour           | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Connection of Load - Non Urban - Overhead - 1-5 poles             | Per Job  | Fee   | 80.00  | 401.11   | 285.62 | -28.8 |
| Connection of Load - Non Urban - Overhead - 6-10 poles            | Per Job  | Fee   | 159.09 | 601.66   | 428.43 | -28.8 |
| Connection of Load - Non Urban - Overhead - 11+ poles             | Per Job  | Fee   | 239.09 | 1,002.77 | 714.05 | -28.8 |
| Connection of Load - Indoor Substation - Per Hour                 | Per Job  | Fee   | 96.36  | 200.55   | 142.81 | -28.8 |
|   |          |       |        |          |        |       |
| Asset Relocation - Engineer                                       | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Asset Relocation - Designer                                       | Per Hour | Quote | 80.00  | 200.55   | 142.81 | -28.8 |
| Public Lighting - Engineer  | Per Hour | Quote | 96.36  | 200.55   | 142.81 | -28.8 |
| Public Lighting - Designer  | Per Hour | Quote | 80.00  | 200.55   | 142.81 | -28.8 |
|   |          |       |        |          |        |       |
| Design re-certification fee                                       |          |       |        |          |        |       |
| Subdivision - Industrial & Commercial - Per Hour                  | Per Hour | Quote | 80.00  | 200.55   | 142.81 | -28.8 |

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| Subdivision - Non Urban - Per Hour                                      | Per Hour | Quote | 80.00  | 200.55 | 142.81 | -28.8 |
|---|----------|-------|--------|--------|--------|-------|
| Subdivision - URD - Per Hour  | Per Hour | Quote | 80.00  | 200.55 | 142.81 | -28.8 |
|   |          |       |        |        |        |       |
| Connection of Load - Industrial & Commercial - Per Hour                 | Per Hour | Quote | 96.36  | 200.55 | 142.81 | -28.8 |
| Connection of Load - Non Urban - Per Hour                               | Per Hour | Quote | 96.36  | 200.55 | 142.81 | -28.8 |
| Connection of Load - URD - Per Hour                                     | Per Hour | Quote | 96.36  | 200.55 | 142.81 | -28.8 |
|   |          |       |        |        |        |       |
| Asset Relocation - Engineer   | Per Hour | Quote | 96.36  | 200.55 | 142.81 | -28.8 |
| Asset Relocation - Designer   | Per Hour | Quote | 80.00  | 200.55 | 142.81 | -28.8 |
| Public Lighting - Engineer  | Per Hour | Quote | 96.36  | 200.55 | 142.81 | -28.8 |
| Public Lighting - Designer  | Per Hour | Quote | 80.00  | 200.55 | 142.81 | -28.8 |
|   |          |       |        |        |        |       |
| Notification of Arrangement   |          |       |        |        |        |       |
| Subdivision - Industrial & Commercial - Per NOA                         | Per Job  | Fee   | 192.73 | 344.94 | 178.12 | -48.4 |
| Subdivision - Non Urban - Per NOA                                       | Per Job  | Fee   | 192.73 | 344.94 | 178.12 | -48.4 |
| Subdivision - URD - Per NOA   | Per Job  | Fee   | 192.73 | 344.94 | 178.12 | -48.4 |
| Subdivision - Industrial & Commercial - Per hour for early notification | Per Hour | Quote | 63.64  | 172.47 | 89.06  | -48.4 |
| Subdivision - Non Urban - Per hour for early notification               | Per Hour | Quote | 63.64  | 172.47 | 89.06  | -48.4 |
| Subdivision - URD - Per hour for early notification                     | Per Hour | Quote | 63.64  | 172.47 | 89.06  | -48.4 |
|   |          |       |        |        |        |       |

#### Compliance certificate

| Connection of Load - Industrial & Commercial - Per Compliance Cert     | Per Job  | Fee   | 192.73 | 344.94 | 178.12 | -48.4 |
|--|----------|-------|--------|--------|--------|-------|
| Connection of Load - Non Urban - Per Compliance Cert                   | Per Job  | Fee   | 192.73 | 517.40 | 267.18 | -48.4 |
| Connection of Load - URD - Per Compliance Cert                         | Per Job  | Fee   | 192.73 | 344.94 | 178.12 | -48.4 |
| Connection of Load - Industrial & Commercial - Per hour for early cert | Per Hour | Quote | 63.64  | 172.47 | 89.06  | -48.4 |
| Connection of Load - Non Urban - Per hour for early cert               | Per Hour | Quote | 63.64  | 172.47 | 89.06  | -48.4 |
| Connection of Load - URD - Per hour for early cert                     | Per Hour | Quote | 63.64  | 172.47 | 89.06  | -48.4 |
|  |          |       |        |        |        |       |
| Inspection of service work (level 1)                                   |          |       |        |        |        |       |
| Subdivision - URD - Underground - Per Lot (1 - 10) - Grade A           | Per Job  | Fee   | 40     | 92.94  | 71.41  | -23.2 |
| Subdivision - URD - Underground - Per Lot (11 - 50) - Grade A          | Per Job  | Fee   | 24     | 55.76  | 42.84  | -23.2 |
| Subdivision - URD - Underground - Per Lot (51 +) - Grade A             | Per Job  | Fee   | 8      | 18.59  | 14.28  | -23.2 |
| Subdivision - URD - Underground - Per Lot (1 - 10) - Grade B           | Per Job  | Fee   | 96     | 213.76 | 164.23 | -23.2 |
| Subdivision - URD - Underground - Per Lot (11 - 50) - Grade B          | Per Job  | Fee   | 56     | 130.11 | 99.97  | -23.2 |
| Subdivision - URD - Underground - Per Lot (51 +) - Grade B             | Per Job  | Fee   | 32     | 74.35  | 57.12  | -23.2 |
| Subdivision - URD - Underground - Per Lot (1 - 10) - Grade C           | Per Job  | Fee   | 200    | 464.69 | 357.03 | -23.2 |
| Subdivision - URD - Underground - Per Lot (11 - 50) - Grade C          | Per Job  | Fee   | 120    | 260.22 | 199.93 | -23.2 |
| Subdivision - URD - Underground - Per Lot (51 +) - Grade C             | Per Job  | Fee   | 56     | 120.82 | 92.83  | -23.2 |
| Subdivision - URD - Underground - Per Hour + 44 travel time            | Per Hour | Quote | 80     | 185.87 | 142.81 | -23.2 |
| Subdivision - Non Urban - Underground - Per Lot (1 - 10) - Grade A     | Per Job  | Fee   | 40     | 92.94  | 71.41  | -23.2 |
| Subdivision - Non Urban - Underground - Per Lot (11 - 50) - Grade A    | Per Job  | Fee   | 24     | 55.76  | 42.84  | -23.2 |
| Subdivision - Non Urban - Underground - Per Lot (51+) - Grade A        | Per Job  | Fee   | 8      | 18.59  | 14.28  | -23.2 |

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| Subdivision - Non Urban - Underground - Per Lot (1 - 10) - Grade B             | Per Job | Fee | 96  | 223.05   | 171.37   | -23.2 |
|--|---------|-----|-----|----------|----------|-------|
| Subdivision - Non Urban - Underground - Per Lot (11 - 50) - Grade B            | Per Job | Fee | 56  | 120.82   | 92.83    | -23.2 |
| Subdivision - Non Urban - Underground - Per Lot (51+) - Grade B                | Per Job | Fee | 32  | 74.35    | 57.12    | -23.2 |
| Subdivision - Non Urban - Underground - Per Lot (1 - 10) - Grade C             | Per Job | Fee | 200 | 473.98   | 364.17   | -23.2 |
| Subdivision - Non Urban - Underground - Per Lot (11 - 50) - Grade C            | Per Job | Fee | 120 | 278.81   | 214.22   | -23.2 |
| Subdivision - Non Urban - Underground - Per Lot (51+) - Grade C                | Per Job | Fee | 56  | 130.11   | 99.97    | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (1 - 5) - Grade A                | Per Job | Fee | 48  | 111.52   | 85.69    | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (6 - 10) - Grade A               | Per Job | Fee | 40  | 92.94    | 71.41    | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (11 +) - Grade A                 | Per Job | Fee | 32  | 74.35    | 57.12    | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole Sub - Grade A                    | Per Job | Fee | 280 | 631.97   | 485.55   | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (1 - 5) - Grade B                | Per Job | Fee | 96  | 223.05   | 171.37   | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (6 - 10) - Grade B               | Per Job | Fee | 80  | 185.87   | 142.81   | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (11 +) - Grade B                 | Per Job | Fee | 56  | 120.82   | 92.83    | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole Sub - Grade B                    | Per Job | Fee | 560 | 1,301.12 | 999.67   | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (1 - 5) - Grade C                | Per Job | Fee | 176 | 371.75   | 285.62   | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (6 - 10) - Grade C               | Per Job | Fee | 159 | 343.87   | 264.20   | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole (11 +) - Grade C                 | Per Job | Fee | 120 | 260.22   | 199.93   | -23.2 |
| Subdivision - Non Urban - Overhead - Per Pole Sub - Grade C                    | Per Job | Fee | 704 | 1,579.93 | 1,213.89 | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (1 - 5) - Grade A  | Per Job | Fee | 48  | 111.52   | 85.69    | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (6 - 10) - Grade A | Per Job | Fee | 40  | 92.94    | 71.41    | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (11 +) - Grade A   | Per Job | Fee | 32  | 74.35    | 57.12    | -23.2 |

| Subdivision - Industrial & Commercial - Overhead - Per Pole Sub - Grade A           | Per Job | Fee | 280 | 650.56   | 499.84   | -23.2 |
|---|---------|-----|-----|----------|----------|-------|
| Subdivision - Industrial & Commercial - Overhead - Per Pole (1 - 5) - Grade B       | Per Job | Fee | 96  | 204.46   | 157.09   | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (6 - 10) - Grade B      | Per Job | Fee | 80  | 185.87   | 142.81   | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (11 +) - Grade B        | Per Job | Fee | 56  | 130.11   | 99.97    | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole Sub - Grade B           | Per Job | Fee | 560 | 1,301.12 | 999.67   | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (1 - 5) - Grade C       | Per Job | Fee | 176 | 408.92   | 314.18   | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (6 - 10) - Grade C      | Per Job | Fee | 159 | 369.89   | 284.19   | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole (11 +) - Grade C        | Per Job | Fee | 120 | 278.81   | 214.22   | -23.2 |
| Subdivision - Industrial & Commercial - Overhead - Per Pole Sub - Grade C           | Per Job | Fee | 704 | 1,635.70 | 1,256.73 | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (1 - 10) - Grade A    | Per Job | Fee | 40  | 92.94    | 71.41    | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (11 - 50) - Grade A   | Per Job | Fee | 40  | 92.94    | 71.41    | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (51+) - Grade A       | Per Job | Fee | 40  | 92.94    | 71.41    | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (1 - 10) - Grade<br>B | Per Job | Fee | 96  | 223.05   | 171.37   | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (11 - 50) - Grade B   | Per Job | Fee | 96  | 223.05   | 171.37   | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (51+) - Grade B       | Per Job | Fee | 96  | 223.05   | 171.37   | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (1 - 10) - Grade C    | Per Job | Fee | 200 | 464.69   | 357.03   | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (11 - 50) - Grade C   | Per Job | Fee | 200 | 464.69   | 357.03   | -23.2 |
| Subdivision - Industrial & Commercial - Underground - Per Lot (51+) - Grade C       | Per Job | Fee | 200 | 464.69   | 357.03   | -23.2 |

| Connection of Load - URD - Underground - Per hour (Inspector) + travel time                        | Per Hour | Quote | 80  | 185.87   | 142.81   | -23.2 |
|--|----------|-------|-----|----------|----------|-------|
| Connection of Load - URD - Underground - Per hour (Engineer) + travel time                         | Per Hour | Quote | 96  | 185.87   | 142.81   | -23.2 |
| Connection of Load - Non Urban - Underground - Per hour (Inspector) + travel time                  | Per Hour | Quote | 80  | 185.87   | 142.81   | -23.2 |
| Connection of Load - Non Urban - Underground - Per hour (Engineer) + travel time                   | Per Hour | Quote | 96  | 185.87   | 142.81   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (1 - 5) - Grade A                             | Per Job  | Fee   | 48  | 111.52   | 85.69    | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (1 - 5) - Grade B                             | Per Job  | Fee   | 96  | 223.05   | 171.37   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (1 - 5) - Grade C                             | Per Job  | Fee   | 176 | 408.92   | 314.18   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (6 - 10) - Grade A                            | Per Job  | Fee   | 40  | 92.94    | 71.41    | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (6 - 10) - Grade B                            | Per Job  | Fee   | 80  | 185.87   | 142.81   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (6 - 10) - Grade C                            | Per Job  | Fee   | 159 | 369.89   | 284.19   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (11 +) - Grade A                              | Per Job  | Fee   | 32  | 74.35    | 57.12    | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (11 +) - Grade B                              | Per Job  | Fee   | 56  | 130.11   | 99.97    | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole (11 +) - Grade C                              | Per Job  | Fee   | 120 | 278.81   | 214.22   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole Sub - Grade A                                 | Per Job  | Fee   | 280 | 631.97   | 485.55   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole Sub - Grade B                                 | Per Job  | Fee   | 560 | 1,301.12 | 999.67   | -23.2 |
| Connection of Load - Non Urban - Overhead - Per Pole Sub - Grade C                                 | Per Job  | Fee   | 704 | 1,579.93 | 1,213.89 | -23.2 |
| Connection of Load - Industrial & Commercial - Underground - Per Hour<br>(Inspector) + travel time | Per Hour | Quote | 80  | 185.87   | 142.81   | -23.2 |
| Connection of Load - Industrial & Commercial - Underground - Per Hour (Engineer) + travel time     | Per Hour | Quote | 96  | 185.87   | 142.81   | -23.2 |

| Connection of Load - Industrial & Commercial - Overhead - Per Pole (1 - 5) - Grade A   | Per Job  | Fee   | 48  | 111.52   | 85.69    | -23.2 |
|--|----------|-------|-----|----------|----------|-------|
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (1 - 5) - Grade B   | Per Job  | Fee   | 96  | 213.76   | 164.23   | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (1 - 5) - Grade C   | Per Job  | Fee   | 176 | 408.92   | 314.18   | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (6 - 10) - Grade A  | Per Job  | Fee   | 40  | 92.94    | 71.41    | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (6 - 10) - Grade B  | Per Job  | Fee   | 80  | 185.87   | 142.81   | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (6 - 10) - Grade C  | Per Job  | Fee   | 159 | 369.89   | 284.19   | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (11+) - Grade A     | Per Job  | Fee   | 32  | 74.35    | 57.12    | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (11+) - Grade B     | Per Job  | Fee   | 56  | 130.11   | 99.97    | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole (11+) - Grade C     | Per Job  | Fee   | 120 | 278.81   | 214.22   | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole Sub - Grade A       | Per Job  | Fee   | 280 | 650.56   | 499.84   | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole Sub -<br>Grade B    | Per Job  | Fee   | 560 | 1,301.12 | 999.67   | -23.2 |
| Connection of Load - Industrial & Commercial - Overhead - Per Pole Sub - Grade C       | Per Job  | Fee   | 704 | 1,635.70 | 1,256.73 | -23.2 |
|  |          |       |     |          |          |       |
| Asset Relocation - Asset Relocation - Underground - Per Hour (Inspector) + travel time | Per Hour | Quote | 80  | 185.87   | 142.81   | -23.2 |

| Asset Relocation - Asset Relocation - Underground - Per Hour (Engineer) + travel time | Per Hour      | Quote | 96  | 185.87   | 142.81   | -23.2 |
|---|---------------|-------|-----|----------|----------|-------|
| Public Lighting - Public Lighting - Underground - Per Hour (Inspector) + travel time  | Per Hour      | Quote | 80  | 185.87   | 142.81   | -23.2 |
| Public Lighting - Public Lighting - Underground - Per Hour (Engineer) + travel time   | Per Hour      | Quote | 96  | 185.87   | 142.81   | -23.2 |
|   |               |       |     |          |          |       |
| Inspection of works outside normal working hours                                      |               |       |     |          |          |       |
| Administration Fee  | Per Job       | Fee   | n/a | 92.94    | 92.94    | 0.0   |
| Overtime Hours Rate   | Per Hour      | Quote | n/a | 139.41   | 139.41   | 0.0   |
| Access Permits  | Per AA or ATW | Fee   | n/a | 3,294.07 | 2,108.48 | -36.0 |
|   |               |       |     |          |          |       |
| Reinspection Fee (Level 1 & Level 2 work)   | Per Hour      | Quote | n/a | 176.70   | 142.81   | -19.2 |
|   |               |       |     |          |          |       |
| Inspection of service work (Level 2 work)   |               |       |     |          |          |       |
| Per NOSW - A Grade  | Per NOSW      | Fee   | 20  | 59.85    | 49.98    | -16.5 |
| Per NOSW - B Grade  | Per NOSW      | Fee   | 33  | 102.59   | 85.69    | -16.5 |
| Per NOSW - C Grade  | Per NOSW      | Fee   | 96  | 341.97   | 285.62   | -16.5 |
|   |               |       |     |          |          |       |
| Provision of Access Fee (Standby)   |               |       |     |          |          |       |
| Normal Time - 1 x Visit - Open / Close - 1 hour - Per Job                             | Per Job       | Fee   | 64  | 137.90   | 116.51   | -15.5 |
| Normal Time - 1 x Visit - Open / Isolate & CSO to close - 1 hour - Per Job            | Per Job       | Fee   | 144 | 306.48   | 258.95   | -15.5 |
| Normal Time - 2 x Visit - Open / Close & no isolation - 2 hours - Per Job             | Per Job       | Fee   | 128 | 275.80   | 233.05   | -15.5 |
| Normal Time - 2 x Visit - Open / Isolate / Close - 2 hours - Per Job                  | Per Job       | Fee   | 288 | 612.97   | 517.96   | -15.5 |

| Overtime - 1 x Visit - Open / Close - 1 hour - Per Job   | Per Job        | Fee | 112    | 241.33   | 203.90   | -15.5 |
|--|----------------|-----|--------|----------|----------|-------|
| Overtime - 1 x Visit - Open / Isolate & CSO to close - 1 hour - Per Job                        | Per Job        | Fee | 252    | 536.35   | 453.16   | -15.5 |
| Overtime - 2 x Visit - Open / Close & no isolation - 2 hours - Per Job                         | Per Job        | Fee | 224    | 482.66   | 407.84   | -15.5 |
| Overtime - 2 x Visit - Open / Isolate / Close - 2 hours - Per Job                              | Per Job        | Fee | 504    | 1,072.69 | 906.43   | -15.5 |
|  |                |     |        |          |          |       |
| Access permits   |                |     |        |          |          |       |
| Subdivision - URD - Per Lot  | Per Lot        | Fee | n/a    | 76.08    | 76.08    | 0%    |
| All Other - Industrial & Commercial - Per access authorisation (AA) or authority to work (ATW) | Per AA or ATW  | Fee | n/a    | 3,294.07 | 2,108.48 | -36.0 |
| All Other - Non Urban - Per access authorisation (AA) or authority to work (ATW)               | Per AA or ATW  | Fee | n/a    | 3,294.07 | 2,108.48 | -36.0 |
| All Other - URD - Per access authorisation (AA) or authority to work (ATW)                     | Per AA or ATW  | Fee | n/a    | 3,294.07 | 2,108.48 | -36.0 |
| All Other - Asset Relocation - Per access authorisation (AA) or authority to work (ATW)        | Per AA or ATW  | Fee | n/a    | 3,294.07 | 2,108.48 | -36.0 |
| All Other - Public Lighting - Per access authorisation (AA) or authority to work (ATW)         | Per AA or ATW  | Fee | n/a    | 3,294.07 | 2,108.48 | -36.0 |
|  |                |     |        |          |          |       |
| Substation Commission Fee  |                |     |        |          |          |       |
| Subdivision - URD - Per Lot  | Per Lot        | Fee | 27.27  | 70.74    | 58.21    | -17.7 |
| All Other - Industrial & Commercial - Per Substation   | Per Substation | Fee | 886.36 | 2,051.56 | 1,687.96 | -17.7 |
| All Other - Non Urban - Per Substation   | Per Substation | Fee | 886.36 | 2,051.56 | 1,687.96 | -17.7 |
| All Other - URD - Per Substation   | Per Substation | Fee | 886.36 | 2,051.56 | 1,687.96 | -17.7 |
| All Other - Asset Relocation - Per Substation  | Per Substation | Fee | 886.36 | 2,051.56 | 1,687.96 | -17.7 |

| All Other - Public Lighting - Per Substation  | Per Substation | Fee | 886.36   | 2,051.56 | 1,687.96 | -17.7 |
|---|----------------|-----|----------|----------|----------|-------|
|   |                |     |          |          |          |       |
| Excluded distribution services - Cost of excluded distribution services for<br>interruption avoidance measures for contestable work planned electricity<br>supply interruptions |                |     |          |          |          |       |
| Install & remove HV live line links - One set   | Per Job        | Fee | 2,832.73 | 4,289.04 | 3,281.05 | -23.5 |
| Install & remove HV live line links - Each additional set   | Per Job        | Fee | 1,834.55 | 2,569.50 | 1,978.14 | -23.0 |
| Break & remake HV bonds - One set   | Per Job        | Fee | 2,223.64 | 3,373.88 | 2,574.55 | -23.7 |
| Break & remake HV bonds - Each additional set   | Per Job        | Fee | 1,225.45 | 1,723.72 | 1,327.38 | -23.0 |
| Break & remake LV bonds - One set   | Per Job        | Fee | 1,437.27 | 2,150.07 | 1,640.79 | -23.7 |
| Break & remake LV bonds - Each additional set   | Per Job        | Fee | 695.45   | 919.68   | 710.14   | -22.8 |
| Install & remove LV live line links - One set   | Per Job        | Fee | 1,427.27 | 2,118.21 | 1,615.20 | -23.8 |
| Install & remove LV live line links - Each additional set   | Per Job        | Fee | 684.55   | 887.83   | 684.55   | -22.9 |
| Connect & disconnect generator to LV OH mains - One generator   | Per Job        | Fee | 1,400.00 | 2,057.56 | 1,566.47 | -23.9 |
| Connect & disconnect generator to LV OH mains - Each additional generator   | Per Job        | Fee | 657.27   | 827.17   | 635.82   | -23.1 |
| Connect & disconnect generator to a padmount / indoor substation - One generator  | Per Job        | Fee | 1,103.64 | 2,057.56 | 1,566.47 | -23.9 |
| Connect & disconnect generator to a padmount / indoor substation - Each additional gen  | Per Job        | Fee | 480.00   | 827.17   | 635.82   | -23.1 |
|   |                |     |          |          |          |       |
| Excluded distribution services - Cost of excluded distribution services to terminate cable at zone substations and first joint out from the zone substation                     |                |     |          |          |          |       |
| Zone substation access and supervision for installation of cable(s) for one feeder  | Per Job        | Fee | 1,760.00 | 3,236.02 | 2,468.58 | -23.7 |

| Protection setting  | Per Job              | Fee | 2,416.36 | 4,597.25 | 3,643.21 | -20.8 |
|---|----------------------|-----|----------|----------|----------|-------|
| Testing cable prior to commissioning  | Per Job              | Fee | 2,848.18 | 4,915.26 | 3,898.67 | -20.7 |
| 11kV Zone substation circuit breaker cable termination  | Per Job              | Fee | 2,061.82 | 3,906.34 | 3,007.05 | -23.0 |
| 22kV Zone substation circuit breaker cable termination  | Per Job              | Fee | 2,132.73 | 4,063.48 | 3,133.28 | -22.9 |
| 11kV Padmount/Indoor substation cable termination   | Per Job              | Fee | 2,190.00 | 4,263.57 | 3,294.01 | -22.7 |
| 22kV Padmount/Indoor substation cable termination   | Per Job              | Fee | 2,714.55 | 5,241.35 | 4,079.46 | -22.2 |
| 11kV Pole top termination (UGOH) and bonding to OH  | Per Job              | Fee | 3,180.91 | 5,112.59 | 3,976.03 | -22.2 |
| 22kV Pole top termination (UGOH) and bonding to OH  | Per Job              | Fee | 3,338.18 | 5,765.95 | 4,500.87 | -21.9 |
| 11kV Straight through joint   | Per Job              | Fee | 2,190.00 | 4,191.94 | 3,236.46 | -22.8 |
| 22kV Straight through joint   | Per Job              | Fee | 2,280.00 | 4,391.34 | 3,396.64 | -22.7 |
|   |                      |     |          |          |          |       |
| Excluded distribution services - traffic control  |                      |     |          |          |          |       |
| Traffic Management to install & remove, break & remake, connect & disconnect excluded distribution services | Per Job              | Fee | 2,257.27 | 4,699.48 | 3,775.08 | -19.7 |
| Traffic Management to test, terminate and joint excluded distribution services                              | Per Job              | Fee | 2,078.18 | 4,308.41 | 3,460.94 | -19.7 |
|   |                      |     |          |          |          |       |
| Authorisation   |                      |     |          |          |          |       |
| Authorisation - Renewal   | Per<br>Authorisation | Fee | 159      | 533.82   | 407.70   | -23.6 |
| Authorisation - New   | Per<br>Authorisation | Fee | 159      | 583.24   | 446.03   | -23.5 |
|   |                      |     |          |          |          |       |
| Site Establishment Fee  | Per new NMI          | Fee | 139      | 45.19    | 45.19    | 0.0   |

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| Conveyancing Information  | Per Inquiry | Fee   | n/a     | 76.52  | 59.27  | -22.5 |
|---|-------------|-------|---------|--------|--------|-------|
|   |             |       |         |        |        |       |
| Planning Studies  |             |       |         |        |        |       |
| Carrying out planning studies and analysis relating to distribution (including subtransmission and dual function assets) connection applications - SIMPLE JOBS  | Per Hour    | Quote | new fee | 189.00 | 177.52 | -6.1  |
| Carrying out planning studies and analysis relating to distribution (including subtransmission and dual function assets) connection applications - COMPLEX JOBS | Per Hour    | Quote | new fee | 234.32 | 210.96 | -10.0 |
|   |             |       |         |        |        |       |
| Connection offer service  |             |       |         |        |        |       |
| Connection Offer Service (Basic)  | Per Offer   | Fee   | new fee | 32.18  | 23.50  | -27.0 |
| Connection Offer Service (Standard)   | Per Offer   | Fee   | new fee | 235.89 | 182.60 | -22.6 |
|   |             |       |         |        |        |       |
| Customer Interface co-ordination for contestable works  | Per Hour    | Quote | new fee | 202.04 | 166.23 | -17.7 |
|   |             |       |         |        |        |       |
| Investigation, review & implementation of remedial actions associated with<br>ASP's connection work   | Per Hour    | Quote | new fee | 185.77 | 142.81 | -23.1 |
|   |             |       |         |        |        |       |
| Preliminary Enquiry Service   |             |       |         |        |        |       |
| Preliminary Enquiry Service - SIMPLE JOBS   | Per Hour    | Quote | new fee | 164.83 | 89.06  | -46.0 |
| Preliminary Enquiry Service - COMPLEX JOBS  | Per Hour    | Quote | new fee | 294.49 | 210.96 | -28.4 |
|   |             |       |         |        |        |       |
| Services involved in obtaining deeds of agreement   | Per Hour    | Quote | new fee | 180.60 | 142.81 | -20.9 |
|   |             |       |         |        |        |       |
| Off Peak Conversions   | Per Job        | Fee   | n/a     | 115.04   | 111.5    | -3.1                               |
|--|----------------|-------|---------|----------|----------|------------------------------------|
|  |                |       |         |          |          |                                    |
| Clearance to Work  | Per Job        | Fee   | n/a     | 2,495.63 | 2,108.55 | -15.5                              |
|  |                |       |         |          |          |                                    |
| Rectification works  |                |       |         |          |          |                                    |
| Tiger Tails (Hourly Rate)  | Per Hour       | Quote | n/a     | 142.32   | 133.80   | -6.0                               |
| Tiger Tails (Materials Rate) weekly rental for each 2.5m                 | Per Tiger Tail | Quote | n/a     | 4.44     | 4.44     | 0.0                                |
| High Load Escorts (Hourly Rate + materials)                              | Per Hour       | Quote | n/a     | 142.32   | 133.80   | -6.0                               |
| Provision of service crew / additional crew (Additional person per crew) | Per Hour       | Quote | n/a     | 142.32   | 133.80   | -6.0                               |
| Rectification of illegal connections                                     | Per Job        | Fee   | n/a     | 569.25   | 535.20   | -6.0                               |
|  |                |       |         |          |          |                                    |
| Meter Test Fee - Per Request   | Per Job        | Fee   | n/a     | 607.33   | 401.39   | -33.9                              |
|  |                |       |         |          |          |                                    |
| Reconnections / Disconnections   |                |       |         |          |          |                                    |
| Disconnections (Meter Box) - Includes Reconnection                       | Per Disco      | Fee   | n/a     | 208.68   | 63.94    | -69.4                              |
| Disconnections (Meter Load Tail) - Includes Reconnection                 | Per Disco      | Fee   | n/a     | 252.49   | 241.68   | -4.3                               |
| Reconnections/Disconnections (Site Visit))                               | Per Visit      | Fee   | n/a     | 69.29    | 69.29    | 0.0                                |
| Disconnections (Pole Top / Pillar Box) - Includes Reconnection           | Per Job        | Fee   | n/a     | 430.78   | 417.96   | -3.0                               |
| Disconnections at Pole Top / Pillar Box - Site Visit                     | Per Job        | Fee   | n/a     | 183.87   | 144.74   | -21.3                              |
|  |                |       |         |          |          |                                    |
| Network tariff change request  | Per Job        | Fee   | new fee | 84.40    | 0        | This service<br>is not<br>approved |
|  |                |       |         |          |          |                                    |

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| Special Meter Reads                         | Per Job | Fee   | n/a     | 33.77  | 33.45  | -1.0  |
|---|---------|-------|---------|--------|--------|-------|
|   |         |       |         |        |        |       |
| Move in move out meter reads                | Per Job | Fee   | new fee | 33.77  | 33.45  | -1.0  |
|   |         |       |         |        |        |       |
| Recovery of debt collection costs           | Per Job | Fee   | new fee | 22.15  | 16.17  | -27.0 |
|   |         |       |         |        |        |       |
| Type 5-7 Non Standard Meter data Services   | Per Job | Fee   | new fee | 26.21  | 16.06  | -38.7 |
|   |         |       |         |        |        |       |
| Franchise CT Meter Install                  | Per Job | Fee   | new fee | 577.40 | 337.18 | -41.6 |
|   |         |       |         |        |        |       |
| ROLR  | Per Job | Quote | n/a     |        | Quote  |       |
|   |         |       |         |        |        |       |
| Reconnections outside normal business hours | Per Job | Quote | n/a     | 78.25  | 78.25  | 0.0%  |
| Source: AER analysis, Marsden Jacob.        |         |       |         |        |        |       |

### Table 16-21 AER maximum hourly \$2014–15 labour rates (including on-costs and overhead) for quoted services

| Classification       | AER Draft Decision maximum labour rate - includes on-cost and overhead |
|----------------------|--|
| Admin                | 88.98  |
| Technical specialist | 142.49   |
| EO 7/Engineer        | 165.75   |
| Field worker R4      | 112.65   |
| Senior Engineer      | 169.40   |
|                      |  |

Source: Marsden Jacob.

#### Table 16-22 AER draft decision on X factors for each year of the regulatory control period for ancillary network services (percentage)

|          | 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 Opex Attachment. By adopting the labour escalation rate as X factor we are allowing for increases in labour cost in addition to CPI over the next regulatory period.

## A.1.2 Metering Services



|   | Proposed                        | Draft decision |         |         |         |         |  |  |
|---|---------------------------------|----------------|---------|---------|---------|---------|--|--|
|   | Average (2014-15<br>to 2018-19) | 2014–15        | 2015–16 | 2016–17 | 2017–18 | 2018–19 |  |  |
| Residential<br>Anytime                  | 25.63                           | 13.92          | 14.14   | 13.91   | 13.68   | 13.45   |  |  |
| Residential TOU -<br>Type 6 Meter       | 47.79                           | 28.34          | 28.58   | 28.02   | 27.47   | 26.92   |  |  |
| Residential TOU -<br>Type 5 Meter       | 177.84                          | 114.04         | 114.34  | 111.73  | 109.20  | 106.72  |  |  |
| Small Business<br>Anytime               | 35.35                           | 20.17          | 20.40   | 20.03   | 19.67   | 19.31   |  |  |
| Small Business<br>TOU - Type 6<br>Meter | 76.93                           | 47.08          | 47.37   | 46.39   | 45.44   | 44.51   |  |  |
| Small Business<br>TOU - Type 5<br>Meter | 194.18                          | 132.78         | 133.12  | 130.10  | 127.17  | 124.31  |  |  |

| Controlled Load | 11.71 | 4.74 | 4.95 | 4.94 | 4.92 | 4.89 |
|-----------------|-------|------|------|------|------|------|
|                 | 11.71 |      |      |      |      |      |

Source: AER analysis; Endeavour Energy, Regulatory proposal, Attachment 0.17 - Metering model and prices, May 2014.

#### Table 16-24 Endeavour Energy's approved new or upgraded prices (\$ 2014–15)

|   | Proposed | Draft Decision |
|---|----------|----------------|
| Accumulation meters                           |          |                |
| Single phase accumulation meter               | 41.85    | 41.66          |
| Single phase accumulation combination meter   | 180.74   | 180.19         |
| Three phase accumulation meter                | 114.20   | 111.23         |
| Interval meter                                |          |                |
| Single phase interval (TOU) meter             | 335.80   | 87.86          |
| Single phase interval (TOU) combination meter | 381.47   | 176.37         |
| Three phase (TOU) meter                       | 458.99   | 248.18         |

Source: AER analysis; Endeavour Energy, Regulatory proposal, Attachment 0.17 – Metering model and prices, May 2014.

# A.1.3 Public Lighting

Table 16-25 Public Lighting – Endeavour Energy – draft determination

| Tariff Class 1 & 2   |          | Tariff 2 Opex  |          | Total Tariff 1 |
|----------------------|----------|----------------|----------|----------------|
| Туре                 | Proposed | Draft decision | Proposed | Draft decision |
| 1 x 20 W Fluorescent | 46.28    | 44.05          | 46.93    | 44.68          |
| 2 x 20 W Fluorescent | 49.02    | 46.66          | 49.30    | 46.93          |
| 4 x 20 W Fluorescent | 54.51    | 51.88          | 54.51    | 51.88          |
| 2 x 14 W Fluorescent | 45.00    | 42.83          | 45.13    | 42.95          |
| 2 x 24 W Fluorescent | 46.28    | 44.05          | 46.28    | 44.05          |
| 1 x 40 W Fluorescent | 45.02    | 42.85          | 45.08    | 42.91          |
| 2 x 40 W Fluorescent | 46.49    | 44.25          | 46.49    | 44.25          |
| 1 x 42 W Fluorescent | 45.02    | 42.85          | 45.02    | 42.85          |
| 50W Mercury          | 44.17    | 42.04          | 53.95    | 51.56          |
| 80W Mercury          | 44.64    | 42.49          | 47.11    | 44.91          |
| 125W Mercury         | 44.64    | 42.49          | 44.96    | 42.80          |
| 250W Mercury         | 44.64    | 42.49          | 48.96    | 46.68          |
| 2 x 250W Mercury     | 45.73    | 43.53          | 45.73    | 43.53          |
| 400 W Mercury        | 44.64    | 42.49          | 49.61    | 47.31          |
| 50W Sodium           | 45.55    | 43.36          | 45.55    | 43.36          |
| 70W Sodium           | 45.55    | 43.36          | 45.55    | 43.36          |
| 90W Sodium           | 46.24    | 44.01          | 46.24    | 44.01          |

| 100W Sodium                        | 46.24 | 44.01 | 74.67  | 71.74  |
|------------------------------------|-------|-------|--------|--------|
| 120W Sodium                        | 45.38 | 43.20 | 183.03 | 177.15 |
| 150W Sodium                        | 45.38 | 43.20 | 51.69  | 49.34  |
| 250W Sodium                        | 45.62 | 43.42 | 51.58  | 49.22  |
| 2 x 250W Sodium                    | 47.69 | 45.39 | 47.69  | 45.39  |
| 310W Sodium                        | 45.62 | 43.42 | 45.62  | 43.42  |
| 400 W Sodium                       | 45.84 | 43.63 | 48.39  | 46.19  |
| 2 x 400 W Sodium                   | 48.13 | 45.81 | 60.16  | 57.45  |
| 4 x 600W Sodium                    | 52.72 | 50.18 | 52.72  | 50.18  |
| 60 W Incandescent                  | 43.54 | 41.44 | 43.54  | 41.44  |
| 100 W Incandescent                 | 43.54 | 41.44 | 43.54  | 41.44  |
| 500 W Incandescent                 | 43.54 | 41.44 | 43.56  | 41.46  |
| 100 W Metal Halide                 | 52.56 | 50.03 | 53.55  | 50.99  |
| 150 W Metal Halide                 | 58.96 | 56.12 | 61.83  | 58.86  |
| 250 W Metal Halide                 | 48.60 | 46.25 | 54.54  | 52.06  |
| 2 x 250 W Metal Halide             | 53.65 | 51.07 | 71.07  | 67.92  |
| 400 W Metal Halide                 | 45.84 | 43.63 | 46.27  | 44.04  |
| 2 x 400 W Metal Halide             | 48.13 | 45.81 | 71.12  | 68.05  |
| 1000 W Metal Halide                | 45.84 | 43.63 | 45.54  | 43.34  |
| 600 W Sodium                       | 45.84 | 43.63 | 69.02  | 66.14  |
| Pole mounting bracket minor (<=3m) | 10.89 | 10.36 | 12.07  | 11.52  |

| Pole mounting bracket major (>3m) | 10.89 | 10.36 | 17.03 | 16.37 |
|-----------------------------------|-------|-------|-------|-------|
| Outreach Minor (<=2m)             | 10.89 | 10.36 | 13.94 | 13.33 |
| Outreach Major (>2m)              | 10.89 | 10.36 | 13.14 | 12.56 |
| Minor Column (<=9)                | 11.42 | 10.87 | 46.43 | 45.25 |
| Major Column (>=9)                | 11.42 | 10.87 | 98.73 | 96.64 |
| Source: AER analysis.             |       |       |       |       |

| Tariff Class 3                     |          | Asset Value    |          | Maintenance    |          | Total Tariff   |
|------------------------------------|----------|----------------|----------|----------------|----------|----------------|
| Туре                               | Proposed | Draft decision | Proposed | Draft decision | Proposed | Draft decision |
| 2x14W Energy Efficient Fluro - STD | 53.26    | 50.70          | 55.04    | 52.39          | 108.31   | 103.09         |
| 2x24W Energy Efficient Fluro - STD | 56.47    | 53.75          | 56.61    | 53.88          | 113.08   | 107.63         |
| 1x42W Compact Fluorescent - STD    | 45.85    | 43.64          | 55.06    | 52.41          | 100.91   | 96.05          |
| 50W Mercury - STANDARD             | 40.89    | 38.92          | 54.03    | 51.43          | 94.92    | 90.35          |
| 80W Mercury - STANDARD             | 36.89    | 35.11          | 54.60    | 51.97          | 91.49    | 87.08          |
| 70W Sodium - STANDARD              | 42.57    | 40.51          | 55.72    | 53.03          | 98.28    | 93.55          |
| 100W Sodium - STANDARD             | 48.98    | 46.62          | 56.55    | 53.83          | 105.53   | 100.45         |
| 100W Metal Halide - STANDARD       | 50.94    | 48.49          | 64.29    | 61.20          | 115.24   | 109.69         |
| 25W LED                            | 77.95    | 56.06          | 53.77    | 51.18          | 131.73   | 107.24         |
| Suburban 70W HPS c/w D2 PECB - STD | 37.72    | 35.90          | 53.26    | 50.69          | 90.98    | 86.59          |
| 150W Sodium - STANDARD             | 52.63    | 50.09          | 55.51    | 52.84          | 108.14   | 102.93         |
| 150W Metal Halide - STANDARD       | 57.32    | 54.56          | 53.26    | 50.69          | 110.58   | 105.25         |

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| 250W Sodium - STANDARD              | 53.40 | 50.83 | 55.79 | 53.11 | 109.20 | 103.94 |
|-------------------------------------|-------|-------|-------|-------|--------|--------|
| 250W Metal Halide - STANDARD        | 54.23 | 51.62 | 59.44 | 56.58 | 113.67 | 108.19 |
| 400W Sodium - STANDARD              | 57.45 | 54.68 | 56.07 | 53.36 | 113.51 | 108.04 |
| 80W Mercury - AEROSCREEN            | 42.87 | 40.81 | 54.60 | 51.97 | 97.47  | 92.77  |
| Urban A/Screen 42W CFL c/w D2 PECB  | 55.61 | 52.93 | 55.06 | 52.41 | 110.67 | 105.34 |
| 150W Sodium - AEROSCREEN            | 56.43 | 53.71 | 55.51 | 52.84 | 111.94 | 106.55 |
| 150W Metal Halide - AEROSCREEN      | 61.12 | 58.18 | 72.12 | 68.64 | 133.24 | 126.82 |
| 250W Sodium (w/o PECB) - AEROSCREEN | 56.43 | 53.71 | 55.79 | 53.11 | 112.22 | 106.82 |
| 250W Metal Halide - AEROSCREEN      | 57.26 | 54.50 | 59.44 | 56.58 | 116.70 | 111.07 |
| 400W Sodium - AEROSCREEN            | 60.77 | 57.84 | 56.07 | 53.36 | 116.83 | 111.20 |
| 400W Metal Halide - AEROSCREEN      | 61.49 | 58.53 | 59.44 | 56.58 | 120.93 | 115.10 |
| Roadster A/Screen 100W HPS c/w PECB | 52.15 | 49.64 | 56.55 | 53.83 | 108.70 | 103.47 |
| 80W Mercury - POST TOP              | 50.67 | 48.23 | 54.60 | 51.97 | 105.26 | 100.19 |
| B2001 42WCFL c/w D2 PECB green - PT | 80.94 | 77.04 | 53.26 | 50.69 | 134.20 | 127.73 |
| 250W Sodium - FLOODLIGHT            | 76.96 | 73.26 | 55.79 | 53.11 | 132.76 | 126.36 |
| 250W Metal Halide - FLOODLIGHT      | 77.79 | 74.04 | 59.44 | 56.58 | 137.23 | 130.62 |
| 400W Sodium - FLOODLIGHT            | 79.76 | 75.92 | 56.07 | 53.36 | 135.83 | 129.28 |
| 400W Metal Halide - FLOODLIGHT      | 80.49 | 76.61 | 59.44 | 56.58 | 139.93 | 133.18 |
| 150W Sodium - FLOODLIGHT            | 76.26 | 72.59 | 55.51 | 52.84 | 131.77 | 125.42 |
| 150W Metal Halide - FLOODLIGHT      | 80.96 | 77.05 | 72.12 | 68.64 | 153.07 | 145.70 |
| Bracket - Minor <=3m                | 10.17 | 9.68  | 13.31 | 12.67 | 23.49  | 22.35  |

| Bracket - Major >3m                      | 61.34  | 58.39  | 13.31 | 12.67 | 74.66  | 71.06  |
|--|--------|--------|-------|-------|--------|--------|
| Outreach - Minor <=2m                    | 12.44  | 11.84  | 13.31 | 12.67 | 25.75  | 24.51  |
| Outreach - Major >2m                     | 28.33  | 26.96  | 13.31 | 12.67 | 41.64  | 39.63  |
| Pole (Wood) - Minor - DEDICATED SL <=11m | 88.99  | 84.70  | 13.97 | 13.30 | 102.95 | 97.99  |
| Pole (Wood) - Major - DEDICATED SL >11m  | 172.70 | 164.38 | 13.97 | 13.30 | 186.67 | 177.67 |
| Column (Steel) - Minor <=9m              | 295.71 | 281.46 | 13.97 | 13.30 | 309.68 | 294.76 |
| Column (Steel) - Major >9m               | 620.54 | 590.64 | 13.97 | 13.30 | 634.51 | 603.94 |

Source: AER analysis.

| Tariff Class 4                     |          | Asset Value    |          | Maintenance    |          | Total Tariff   |
|------------------------------------|----------|----------------|----------|----------------|----------|----------------|
| Туре                               | Proposed | Draft decision | Proposed | Draft decision | Proposed | Draft decision |
| 2x14W Energy Efficient Fluro - STD | 8.60     | 7.25           | 55.04    | 52.39          | 63.64    | 59.64          |
| 2x24W Energy Efficient Fluro - STD | 9.12     | 7.68           | 56.61    | 53.88          | 65.73    | 61.56          |
| 1x42W Compact Fluorescent - STD    | 7.40     | 6.24           | 55.06    | 52.41          | 62.46    | 58.64          |
| 50W Mercury - STANDARD             | 6.60     | 5.56           | 54.03    | 51.43          | 60.63    | 56.99          |
| 80W Mercury - STANDARD             | 5.95     | 5.02           | 54.60    | 51.97          | 60.55    | 56.98          |
| 70W Sodium - STANDARD              | 6.87     | 5.79           | 55.72    | 53.03          | 62.59    | 58.82          |
| 100W Sodium - STANDARD             | 7.91     | 6.66           | 56.55    | 53.83          | 64.46    | 60.49          |
| 100W Metal Halide - STANDARD       | 8.22     | 6.93           | 64.29    | 61.20          | 72.52    | 68.13          |
| 25W LED                            | 9.31     | 8.01           | 53.77    | 51.18          | 63.08    | 59.19          |
| Suburban 70W HPS c/w D2 PECB - STD | 6.09     | 5.13           | 53.26    | 50.69          | 59.35    | 55.82          |

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| 150W Sodium - STANDARD              | 8.50  | 7.16  | 55.51 | 52.84 | 64.01 | 60.00 |
|-------------------------------------|-------|-------|-------|-------|-------|-------|
| 150W Metal Halide - STANDARD        | 9.25  | 7.80  | 53.26 | 50.69 | 62.51 | 58.49 |
| 250W Sodium - STANDARD              | 8.62  | 7.26  | 55.79 | 53.11 | 64.41 | 60.37 |
| 250W Metal Halide - STANDARD        | 8.75  | 7.38  | 59.44 | 56.58 | 68.19 | 63.95 |
| 400W Sodium - STANDARD              | 9.27  | 7.82  | 56.07 | 53.36 | 65.34 | 61.18 |
| 80W Mercury - AEROSCREEN            | 6.92  | 5.83  | 54.60 | 51.97 | 61.52 | 57.80 |
| Urban A/Screen 42W CFL c/w D2 PECB  | 8.98  | 7.56  | 55.06 | 52.41 | 64.04 | 59.97 |
| 150W Sodium - AEROSCREEN            | 9.11  | 7.68  | 55.51 | 52.84 | 64.62 | 60.51 |
| 150W Metal Halide - AEROSCREEN      | 9.87  | 8.32  | 72.12 | 68.64 | 81.98 | 76.96 |
| 250W Sodium (w/o PECB) - AEROSCREEN | 9.11  | 7.68  | 55.79 | 53.11 | 64.90 | 60.78 |
| 250W Metal Halide - AEROSCREEN      | 9.24  | 7.79  | 59.44 | 56.58 | 68.68 | 64.37 |
| 400W Sodium - AEROSCREEN            | 9.81  | 8.27  | 56.07 | 53.36 | 65.87 | 61.63 |
| 400W Metal Halide - AEROSCREEN      | 9.93  | 8.36  | 59.44 | 56.58 | 69.37 | 64.94 |
| Roadster A/Screen 100W HPS c/w PECB | 8.42  | 7.09  | 56.55 | 53.83 | 64.97 | 60.92 |
| 80W Mercury - POST TOP              | 8.18  | 6.89  | 54.60 | 51.97 | 62.77 | 58.86 |
| B2001 42WCFL c/w D2 PECB green - PT | 13.07 | 11.01 | 53.26 | 50.69 | 66.32 | 61.70 |
| 250W Sodium - FLOODLIGHT            | 12.42 | 10.47 | 55.79 | 53.11 | 68.22 | 63.58 |
| 250W Metal Halide - FLOODLIGHT      | 12.56 | 10.58 | 59.44 | 56.58 | 72.00 | 67.16 |
| 400W Sodium - FLOODLIGHT            | 12.88 | 10.85 | 56.07 | 53.36 | 68.94 | 64.21 |
| 400W Metal Halide - FLOODLIGHT      | 12.99 | 10.95 | 59.44 | 56.58 | 72.43 | 67.53 |
| 150W Sodium - FLOODLIGHT            | 12.31 | 10.37 | 55.51 | 52.84 | 67.82 | 63.21 |

| 150W Metal Halide - FLOODLIGHT           | 13.07 | 11.01 | 72.12 | 68.64 | 85.18 | 79.66 |
|--|-------|-------|-------|-------|-------|-------|
| Bracket - Minor <=3m                     | 2.12  | 1.85  | 13.31 | 12.67 | 15.43 | 14.52 |
| Bracket - Major >3m                      | 12.76 | 11.14 | 13.31 | 12.67 | 26.07 | 23.81 |
| Outreach - Minor <=2m                    | 2.59  | 2.26  | 13.31 | 12.67 | 15.90 | 14.93 |
| Outreach - Major >2m                     | 5.89  | 5.14  | 13.31 | 12.67 | 19.21 | 17.82 |
| Pole (Wood) - Minor - DEDICATED SL <=11m | 18.51 | 16.16 | 13.97 | 13.30 | 32.47 | 29.46 |
| Pole (Wood) - Major - DEDICATED SL >11m  | 35.92 | 31.37 | 13.97 | 13.30 | 49.88 | 44.66 |
| Column (Steel) - Minor <=9m              | 19.25 | 16.81 | 13.97 | 13.30 | 33.22 | 30.11 |
| Column (Steel) - Major >9m               | 36.13 | 31.56 | 13.97 | 13.30 | 50.10 | 44.85 |

Source: AER analysis.