PRELIMINARY DECISION
Jemena distribution determination
2016 to 2020

Attachment 16 – Alternative control services

October 2015

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's preliminary decision on Jemena's revenue proposal 2016–20. It should be read with all other parts of the preliminary decision.

The preliminary 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 mechanism

Attachment 15 - Pass through events

Attachment 16 - Alternative control services

Attachment 17 - Negotiated services framework and criteria

Attachment 18 - f-factor scheme

Contents

Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AMI	Advanced metering infrastructure
augex	augmentation expenditure
capex	capital expenditure
CCP	Consumer Challenge Panel
CESS	capital expenditure sharing scheme
CPI	consumer price index
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
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

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

16 Alternative control services

Alternative control services are services provided by distributors to specific customers. They do not form part of the distribution use of system revenue allowance approved by us for each distributor. Rather, distributors recover the costs of providing alternative control services through a selection of prices with most charged on a ‘user pays’ basis. Metering is provided to all electricity customers, but also charged on a per customer basis.

In this attachment, we set out our preliminary decision on the prices Jemena is allowed to charge customers for the provision of ancillary network services, public lighting and metering.

16.1 Ancillary network services

For the purposes of this preliminary decision, we have referred to the service groups previously identified as 'fee based services' and 'quoted services' collectively as a single group called 'ancillary network services'.[1]

Ancillary network services share the common characteristic of being non-routine services provided to individual customers on an as requested basis.[2] The existing fee based services and quoted services groupings describe the basis on which service prices are determined.[3]

We classify ancillary network services as direct control services. Having decided to apply a direct control classification, we must further classify ancillary network services as either standard control or alternative control.[4] We have classified them as alternative control services because they are attributable to individual customers.[5]

16.1.1 Preliminary decision

We do not approve Jemena's prices for ancillary network services. For these services, Jemena's prices exceed prices based on maximum total labour rates (for the distributor’s labour types) and maximum times taken which we consider efficient for providing these services. We also do not accept Jemena's application of tax recovery

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1 AER, *Final framework and approach paper for the Victorian electricity distributors—Regulatory control period commencing 1 January 2016*, 24 October 2014, p. 60.

2 AER, *Final framework and approach paper for the Victorian electricity distributors—Regulatory control period commencing 1 January 2016*, 24 October 2014, p. 60.

3 AER, *Final framework and approach paper for the Victorian electricity distributors—Regulatory control period commencing 1 January 2016*, 24 October 2014, p. 60.

4 AER, *Final framework and approach paper for the Victorian electricity distributors—Regulatory control period commencing 1 January 2016*, 24 October 2014, p. 61.

5 AER, *Final framework and approach paper for the Victorian electricity distributors—Regulatory control period commencing 1 January 2016*, 24 October 2014, p. 61.

in its cost build-up method to establish its ancillary network service prices as it overstates Jemena's tax liabilities. Our reasoning is detailed in section 16.1.4.

Appendix A contains our preliminary decision on the prices Jemena can charge for ancillary network services for the first year of the 2016–20 regulatory control period. Table 16.13 sets out approved prices for fee based services and Table 16.14 sets out the approved labour rates for quoted services. We note these prices are in real 2015 dollar terms and will be escalated into real 2016 dollar terms in Jemena's initial pricing proposal.

We also note the Victorian Department of Economic Development, Jobs, Transport and Resources requested us to ensure that the Victorian distributors charge customers with manually read meters and customers with remote read meters accordingly.[6] Our preliminary decision is satisfied that wherever required, Jemena has developed separate prices for manually read and remotely read metering services. These separate prices are demonstrated in Table 16.13 and Table 16.14 in appendix A.

Form of control

Our preliminary decision applies price caps forms of control to ancillary network services.[7] Figure 16.1 and Figure 16.2 set out the control mechanism formulae for fee based services and quoted services, respectively. They are consistent with the formulae which Jemena agreed on in its regulatory proposal.[8]

Form of control—fee based services

Our preliminary decision applies a price cap form of control to fee based services.[9] Under this form of control, we approve a schedule of prices for the first year (2016) of the regulatory control period. These approved prices are set out in Table 16.13 of appendix A. From 2017 and for each subsequent year, the year t prices are determined by adjusting the previous year's prices by the formula set out in Figure 16.1. The X factors applied in this formula adjust for annual labour price growth.

Figure 16.1 Fee based ancillary network services formula

$$\bar{p}_t^i \geq p_t^i \qquad \text{i=1,...,n and t=2,3,4,5}$$

$$\bar{p}_t^i = \bar{p}_{t-1}^i (1 + CPI_t)(1 - X_t^i)$$

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6 Victorian Department of Economic Development, Jobs, Transport & Resources, *Submission to Victorian electricity distribution pricing review—2016 to 2020*, 13 July 2015, p. 4.

7 AER, *Final framework and approach for the Victorian electricity distributors: Regulatory control period commencing 1 July 2016*, 24 October 2014, pp. 89–93.

8 AER, *Final framework and approach for the Victorian electricity distributors: Regulatory control period commencing 1 July 2016*, 24 October 2014, pp. 89–93; Jemena, *2016–20 Electricity Distribution Price Review Regulatory Proposal—Attachment 11–5—User-requested services explanatory statement*, 30 April 2015, p. 1.

9 AER, *Final framework and approach for the Victorian electricity distributors: Regulatory control period commencing 1 July 2016*, 24 October 2014, pp. 92–93.

Where:

$\bar{p}_t^i$ is the cap on the price of service i in year t

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

CPI_t is the annual percentage change in the ABS consumer price index (CPI) All Groups, Weighted Average of Eight Capital Cities[10] from the June quarter in year t–2 to the June quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–2

minus one.

For example, for the 2017 year, t–2 is the June quarter 2015 and t–1 is the June quarter 2016 and in the 2018 year, t–2 is the June quarter 2016 and t–1 is the June quarter 2017 and so on.

X_t^i is the X factor for service i in year t, as set out in Table 16.1.[11]

Table 16.1 AER preliminary decision on X factors for each year of the 2016–20 regulatory control period (per cent)

	2017	2018	2019	2020
X factor	–0.80	–1.28	–1.48	–1.37

Source: AER analysis.

Note: To be clear, the labour price growth is positive for each year of the regulatory control period. However, in operating as de facto X factors in the price caps, positive labour price growth is presented as a negative value.

Form of control—quoted services

Our preliminary decision applies a formula to determine the cost build-up of services that are priced on a 'quoted' basis.[12] Figure 16.2 sets out the price cap formula and

[10] If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

[11] Our final F&A erroneously stated the X factor in this formula would incorporate annual adjustments for updates to the trailing cost of debt. However, we note these services do not incorporate a cost of capital and therefore the X factors will not be applied in this manner. Rather, consistent with the price caps applied to these services in other jurisdictions, the X factors will adjust for annual labour price growth as set out in Table 16.1.

Table 16.14 in appendix A sets out the approved 2016 labour rates for quoted services.

Figure 16.2 Quoted services formula

$$Price = Labour + Contractor\ Services + Materials$$

Where:

$Labour$ consists of all labour costs directly incurred in the provision of the service which may include labour on-costs, fleet on-costs and overheads. Labour is escalated annually by $(1+\Delta CPI_t)(1-X_t)$, where:

CPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities[13] from the June quarter in year t–2 to the June quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–2

minus one.

For example, for the 2017 year, t–2 is the June quarter 2015 and t–1 is the June quarter 2016 and in the 2018 year, t–2 is the June quarter 2016 and t–1 is the June quarter 2017 and so on.

X_t^i is the X factor for service i in year t, as set out in Table 16.1.[14]

$Contractor\ Services$ reflect all costs associated with the use of external labour including overheads and any direct costs incurred. The contracted services charge applies the rates under existing contractual arrangements. Direct costs incurred are passed on to the customer.

$Materials$ reflect the cost of materials directly incurred in the provision of the service, material storage and logistics on-costs and overheads.

16.1.2 Jemena's proposal

Jemena proposed to use a cost build-up method to establish initial prices (or base prices) for fee based ancillary network services in the first year of the 2016–20

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12 AER, *Final framework and approach for the Victorian electricity distributors: Regulatory control period commencing 1 July 2016*, 24 October 2014, p. 89.

13 If the ABS does not, or ceases to, publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

14 The X factors applied in this formula adjust for annual labour price growth.

regulatory control period.[15] For its quoted services, Jemena proposed total labour rates based on average labour rates plus on-costs and overheads.[16]

Jemena assumed the price caps will operate in the following way for fee based services:

- The initial price (or base price) will be set for each service in the first year of the regulatory control period.
- From year two onwards of the regulatory control period, services will be subject to the price caps using the controls provided in the price cap formulae in Figure 16.1 and Figure 16.2.
- The price cap formula allows prices to be annually adjusted for:
    - inflation
    - real cost escalation.

The result of the above essentially limits the annual movement in prices to an annual adjustment or escalation. This is primarily driven by changes in CPI and other changes to underlying cost drivers for different services.

On 31 August 2015, Jemena provided us with a revised cost build-up of its ancillary network services prices to correct for minor errors.

16.1.3 Assessment approach

We have focused on the key inputs in determining prices for ancillary network services. We considered:

- Jemena's regulatory proposal[17]
- maximum total labour rates we developed for Victoria. Our findings are informed by our consultant, Marsden Jacob Associates', analysis[18]
- labour is the key input in determining an efficient level of prices for ancillary network services. Therefore, we focused on comparing Jemena's proposed total labour rates against maximum total labour rates that we developed. In this preliminary decision 'total labour rates' comprise raw labour rates, on-costs and overheads
- the times taken to perform the services, as this is another key input into the final price.

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15 Jemena, *Regulatory proposal 2016–20, Attachment 11–5: User requested services explanatory statement*, 30 April 2015, p. 1.

16 Jemena *Regulatory proposal 2016–20, Attachment 11–5: User requested services explanatory statement*, 30 April 2015, p. 15.

17 Jemena, *Regulatory proposal 2016–20*, 30 April 2015, pp. 123–134; Jemena, *Regulatory Proposal* 2016–20, *Attachment 11–5: User requested services explanatory statement*, 30 April 2015, pp. 1–28.

18 Marsden Jacob Associates, *Final provision of advice in relation to alternative control services—public version*, 20 October 2014.

We also assessed Jemena's approach to tax recovery from ancillary network services.

We note that Jemena also used contractors in delivering some of its ancillary network services. In assessing these contractor rates we considered:

- the competitiveness of the process in securing the contractor
- our maximum total labour rates
- contractor rates we have previously approved
- contractor rates used by other Victorian distributors.

Our preliminary decision maximum total labour rates apply the following labour components to arrive at a maximum total labour rate (for particular labour types):

- a maximum raw labour rate
- a maximum on-cost rate
- a maximum overhead rate.

As we explain in more detail in section 0, we obtained maximum rates for each of these components. We applied these maximum (component) rates to derive maximum total labour rates. We consider that using our maximum total labour rates to determine appropriate prices for services will provide Jemena with a reasonable opportunity to recover at least the efficient costs it incurs in providing these services. It will promote the efficient provision of electricity services and allow a return commensurate with the regulatory and commercial risks involved for the provision of those services.[19]

Where a distributor's proposed total labour rates exceed our maximum total labour rates—which we consider are efficient—we applied our maximum total labour rates to determine ancillary network service charges.

As a further check of our analysis, we have benchmarked components of the Victorian distributors' proposed labour costs against one another.

16.1.4 Reasons for preliminary decision

16.1.4.1 Maximum total labour rates

We do not accept Jemena's proposed internal total labour rates for 'manage contracts' and 'performance monitoring/reporting'; as they exceed our maximum total labour rates which we consider are efficient. Therefore our preliminary decision has substituted our maximum total labour rates for these inputs in Jemena's build-up method to establish initial prices for fee based services.

However, we do accept Jemena's proposed labour rates for quoted services as they do not exceed our maximum total labour rates. The approved labour rates for quoted

[19] NEL, s.7A and 16.

services are set out in Table 16.14 in appendix A. We also note Jemena engages contractors to deliver some of its ancillary network services. Our assessment on Jemena's contractors is discussed in section 16.1.4.3.

As we set out in section 16.1.3, we compared Jemena's internal total labour rates against our developed maximum (rather than, for example, average) total labour rates. As labour is the major input in determining prices for ancillary network services, we consider it prudent to use maximum total labour rates as an input to assess prices for ancillary network services. Maximum total labour rates act as 'ceilings' on the rates we consider Jemena should pay for the various labour types. Where a distributor reveals rates lower than the maximum total labour rates, we consider those lower rates should be the inputs for deriving ancillary network services prices.

We note the Victorian distributors used different names and descriptions for different labour categories. However, we found that the types of labour used to deliver ancillary network services broadly fell into one of five categories:

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

We note Jemena only uses two types of internal labour in developing its ancillary network service prices. We consider both of these types of labour are included in the administration labour category. Table 16.2 shows the maximum total labour rates we developed for our assessment of Jemena's labour types.

In developing our maximum total labour rates, we assessed raw labour rates, on-costs and overheads separately and derived maximum rates for each component (discussed below). We then applied these maximum rates to produce the maximum total labour rates. It was this maximum rate that was important in our deliberations. The components that make up that maximum were of less relevance and individually did not form the basis of our reasoning.

We used these maximum total labour rates to determine whether Jemena's proposed prices for ancillary network services reflect the underlying cost of an efficient labour rate. We consider this to be a prudent approach. It provides the distribution business with a reasonable opportunity to recover at least its efficient costs. We consider prices based on labour rates higher than the maximum total labour rates would be inefficient.

Table 16.2 Maximum allowed total labour rates

Jemena labour category	AER maximum total labour rates ($2014)
Manage contracts	$91.88
Performance monitoring/reporting	$91.88

Source: AER analysis.

Raw labour rates

In developing maximum raw labour rates (that is, excluding on-costs and overheads), we examined Hays 2014 salary data. The Hays 2014 salary reports draw on information from 2,500 companies across Australia and New Zealand. Relevant distributors in the Hays data who gave permission to be named were ActewAGL, Jemena and CitiPower.[20] The Hays rates draw from a wide pool of labour which the Victorian distributors would likely have access to. We therefore consider these rates provide a good representation of the competitive market rate for appropriate categories of labour.

We reviewed salary information from all Australian cities. However, we only used Victorian salary data to develop our maximum raw labour rates.[21]

For illustrative purposes, we also looked at raw labour rates (across the five benchmark labour categories) for Sydney and Auckland. Labour rates in each category did not vary significantly across these locations. The differences observed probably captured differences between locations including economic conditions, labour laws, and population. For these reasons, we consider that the Victorian rates alone were acceptable to develop maximum labour rates for ancillary network service charges for the Victorian distributors.

To calculate the maximum raw labour rates, we used job titles from Hays' energy specific salary guide.[22] We supplemented this with data from the Hays office support salary guide.[23] This ensured that the 'administration' category was sufficiently covered.

We analysed 66 different job titles and used 36 of these to develop maximum raw labour rates for the five labour categories. Table 16.3 shows the job titles we used to develop maximum labour rates for each of the five labour categories. These 36 labour job titles involved tasks which clearly fell into either the 'administration', 'technical specialist', 'engineer', 'field worker', or 'senior engineer' labour categories. We excluded job titles that were not relevant to electricity distributors such as 'wind farm engineer'.

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[20] A list of contributors to the Hays 2014 salary data who gave permission to be named is available on Hays, *Contributors—Hays 2014 Salary*, accessed 12 February 2015, *Guide* http://www.hays.com.au/salary-guide/HAYS_375078.

[21] Marsden Jacob Associates, *MJA analysis.*

[22] Hays, *The 2014 Hays salary guide: salary & recruiting trends*, 2014.

[23] Hays, *The 2014 Hays salary guide: salary & recruiting trends*, 2014.

Table 16.3 Job titles we used to develop maximum labour rates

Labour category	Job title
Administration	Project secretary / Administrator
	Client liaison (residential)
	Data entry operator
	Records officer
	Administration assistant (12+ months experience)
	Project administration assistant (3+ years experience)
	Project coordinator
Technical specialist	Technician
	Control room operator
	Control room manager
	E&I technician
	Protection technician
	Generator technician
	Operator / manager
	Site engineer
	Planner / scheduler
	OHS supervisor
	OHS manager
Engineer	Design engineer
	Project engineer (EPCM)
	Power systems engineer
	Protection engineer
	Transmission line design engineer
	Asset engineer (3 to 7 years)
	Project engineer
Field worker	Leading hand
	Electrician
	Mechanical fitter
	Line worker
	G&B linesworker
	Cable jointer

Labour category	Job title
	Cable layer
Senior engineer	Senior design engineer
	Principal design engineer
	Senior project engineer (EPCM)
	Commissioning engineer

Source: Marsden Jacob Associates' analysis.

We considered the range of data provided for each labour category across the various job titles. In doing this, we derived salary ranges for each labour category by:

- identifying the lowest salary from all job titles in the labour category
- identifying the highest salary from all job titles in the labour category.

We consider this range represents the full pool of labour (and raw labour rates) that Jemena would have access to in a competitive market. We consider that the maximum raw labour rate for each labour category should be used to develop its maximum total labour rate. We consider this to be a prudent approach. It provides the distribution business with a reasonable opportunity to recover at least its efficient costs, while promoting the efficient provision of services.

Table 16.4 AER maximum raw labour rates

Labour category	AER maximum raw labour rates ($2014)
Manage contracts	38.46
Performance monitoring/reporting	38.46

Source: AER analysis.

On-costs

We consider that a maximum on-cost rate of 44.78 per cent should apply to the Victorian distributors. We calculated this maximum on-cost rate by developing a 'bottom up' estimate of on-costs for the Victorian distributors, with reference to the following factors:

- the superannuation levels included in each distributor's enterprise bargaining agreement
- a conservative estimate of workers compensation premium
- standard payroll tax rates in Victoria
- annual leave loading of 17.5 per cent loading on four weeks annual leave, which equates to 1.35 per cent of total salary.

- a conservative long service leave allowance based on three months leave for every ten years of service, equating to 2.5 per cent per year.
- an assumed rate of 18.18 per cent standard leave (including annual leave, sick leave, and public holidays) for all businesses.
- Victorian State Payroll Tax.[24]

We used this maximum on-cost rate of 44.78 per cent in deriving our maximum total labour rates. It provides the distribution business with a reasonable opportunity to recover at least its efficient costs.

Table 16.5 shows our maximum on-cost rate and the breakdown of that on-cost rate.

Table 16.5 On-cost rate breakdown and maximum, per cent

On-cost rate component	Maximum rates
Standard leave	18.18
Superannuation	10.00
Workers compensation	2.25
Payroll tax	4.85
Annual leave loading	1.35
Long service leave allowance	2.5
Total on-cost rate	**44.78**

Source: AER analysis.

Overheads

Our determination of the maximum overhead rate is informed by Marsden Jacob Associates' report which assessed alternative control services for NSW and ACT distributors. Marsden Jacob Associates recommended a 65 per cent overhead rate maximum in its report.[25] We consider 65 per cent is a conservative estimate for the Victorian distributors which have historically applied an overhead rate of less than 65 per cent to its ancillary network services. Therefore, we consider that a maximum

[24] State Revenue Office of Victoria, *Payroll tax—current rates* (http://www.sro.vic.gov.au/payroll-tax-current-rates), accessed 31 July 2015.

[25] Marsden Jacob Associates, *Provision of advice in relation to alternative control services—advice prepared for the Australian Energy Regulator*, 20 October 2014, p. 5.

overhead rate of 65 per cent would provide the distributors with a reasonable opportunity to recover at least its efficient costs.

16.1.4.2 Tax recovery for capex

We do not accept Jemena's application of tax recovery in its cost build-up method to establish its ancillary network service prices. Jemena considered that a 5.35 per cent tax recovery rate apply to its services that are capital in nature to recover the net income tax liability on fees received.[26] We consider the application of the tax recovery rate and the method used to calculate it overstates Jemena's tax liabilities.

First, we consider the proposed 5.35 per cent rate calculated in Jemena's cost build-up method is only applicable if it is applied to values that are entirely capital costs. Incurred capex generates an increased tax payment because of the timing difference between the increased revenue and capex depreciation for tax purposes. Incurred labour costs (or other opex) do not generate an increased tax liability, since the increase in revenue is offset by an equal increase in tax expense in the same year. However, we note Jemena has applied the tax recovery rate to the total costs of the applicable services including labour costs. As the labour costs account for between 62 and 73 per cent of the total cost of these services, we consider Jemena's application of the tax recovery rate to all costs overstates its tax liabilities for these services.

Second, we note Jemena has made no allowance for the value of imputation credits (gamma) and applied its proposed weighted average cost of capital (WACC) in calculating the tax recovery rate. We have not accepted Jemena's proposed WACC in our preliminary decision which is discussed in attachment 3 — rate of return.

We note adjusting Jemena's tax recovery rate by making an allowance for gamma and applying our preliminary decision WACC reduces the tax rate to 2.66 per cent. Applying this revised tax rate to only the capital costs in Jemena's cost build-up method for ancillary network services means the incremental tax liabilities are negligible.[27]

We consider Jemena is able to absorb these negligible costs because the cost build-up method of ancillary network service prices is not a cost of service approach. Within our methodology, there are opportunities for distributors to deliver the services in a manner that will enable them to keep the difference between actual costs incurred and those costs set out in this decision (the latter of which sets the regulated charge).

16.1.4.3 Contractor rates

We accept the contractor rates Jemena applied in delivering some of its ancillary network services. In assessing these contractor rates we considered:

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[26] Jemena, *Regulatory proposal,* 2016–20*Attachment 11–5: User requested services explanatory statement*, 30 April 2015, p. 6.

[27] Less than one per cent on the total cost of the services. Or in dollar terms, less than $8 for an $840 service.

- our maximum total labour rates
- contractor rates we have previously applied
- contractor rates used by other Victorian distributors.

Our assessment showed Jemena's contractor labour rates were less than our maximum total labour rates. Therefore, we consider the contractor rates to be efficient.

16.1.4.4 Times taken to perform ancillary network services

Jemena's proposed cost build-up method applies its contractor costs as well as multiplying its labour rates and times taken to perform the service to deduce the total direct cost of providing the service. Therefore, in addition to our maximum total labour rate benchmarking, we have also considered the times taken to perform ancillary network services as this is another key input into the final price.

In gaining a better understanding of Jemena's proposed times taken to perform services, we developed benchmarks to compare them against based on the time taken by other distributors. We consider the benchmark time taken demonstrates the efficient time taken by distributors to perform the service. Therefore, where a proposed time exceeds the benchmark time it has not been accepted. This is the same approach we applied for our assessment of fee based services for distributors in other jurisdictions and our analysis has been informed by the Marsden Jacob Associates' benchmarking analysis.

Based on our assessment, we do not accept Jemena's proposed time taken for back office tasks for its connection services and service truck visits. Nor do we accept the proposed time taken to perform the on-site tasks and travel time for its proposed connections services. Our benchmarking against other distributors indicates Jemena's proposed times to perform these services are inefficient.

For the time taken to perform back office tasks for connection services and service truck visits, our benchmarking of other distributors indicates that the times taken are typically less than 60 minutes and in some instances less than 40 minutes. Based on our benchmarking analysis we consider Jemena's proposed back office times of 84.6 minutes for connection services and 72.7 minutes for service truck visits to perform these back office tasks is inefficient.[28] Therefore, we have substituted in a time of 60 minutes which is the time we allowed Jemena for these tasks in our previous decision. We consider 60 minutes is a conservative estimate and will provide Jemena with a reasonable opportunity to recover at least its efficient costs.

For the time taken to perform the on-site tasks and travel time for connections services, our analysis demonstrated that the majority of distributors proposed a time of approximately two hours or less. We note the large rural networks of Powercor and

[28] Jemena, *Regulatory proposal* 2016–20, *Attachment 11–5: User requested services explanatory statement*, 30 April 2015, pp. 4–5.

AusNet Services which have increased travel times compared to the other Victorian distributors were included in the distributors which undertake these tasks in approximately two hours or less time. Therefore, we consider a benchmark time of two hours is a reasonable estimate of time for Jemena to perform these tasks.

Based on our benchmarking analysis we consider Jemena's proposed time of almost three hours to perform the on-site tasks and travel time for connection services and tasks is inefficient. Therefore, we have substituted in the benchmark total time of two hours (including travel time) to perform these tasks. We consider two hours is a conservative estimate and will provide Jemena with a reasonable opportunity to recover at least its efficient costs.

16.1.4.5 Consumer price index escalation

We also note in demonstrating compliance with the price caps over the 2016–20 regulatory control period, Jemena will need to apply annual CPI escalation based on the percentage changes in the ABS June quarter index. This is a change in escalation approach from that applied in the 2011–15 regulatory control period which was based on percentage changes in the ABS September quarter index. The change in timing of the escalation is due to distributors being required to submit their annual pricing proposals a month earlier than they were previously required to do so.[29]

We note that there will be an overlapping issue of the September quarter CPI when the transition to the June quarter CPI occurs (this will occur in the distributors 2017 annual pricing proposals). This is because the CPI for the September quarter 2015 will be reflected in both 2016 and 2017 prices. However, we consider this is only a transitional issue and will not have a material impact on the Jemena's prices or revenue.

16.1.4.6 Labour price growth

We do not accept the proposed labour price growth applied by Jemena in its cost build-up method for ancillary network services. Consequently, we have substituted in our preliminary decision labour price growth which is set out in Table 16.1. Our preliminary decision on labour price growth is discussed in attachment 7 — operating expenditure.

16.2 Public Lighting

16.2.1 Preliminary decision

We do not approve the proposed public lighting charges because we have determined;

- a real pre-tax WACC of 4.13 per cent instead of the proposed 5.72 per cent
- reduced traffic management costs

[29] NER, cl. 6.18.2(a).

- increased number of bulk changes, repairs and patrols per day
- reduced the failure rate for the T5 (2x14W) light to 11.5 per cent between bulk change from the proposed 25.6 per cent
- labour escalation of 0.80 per cent in 2016-17
- a capex overhead of 0 per cent instead of the proposed 25 per cent
- account management costs of $0 instead of the proposed $150,000 in 2016
- amendments to the proposed public lighting model as detailed below

In all other respects we have approved the proposal.

Classification of the Victorian distributors public lighting services and the reasons for departing from the classification of all dedicated public lighting services as a negotiated service, is discussed in this section and further set out in attachment 13 — Classification of Services.

Form of Control

We are applying caps on the prices of individual services consistent with the current regulatory arrangements in Victoria.

Although the public lighting service is subject to an alternative control classification the control mechanism is implemented through a public lighting model under a building block approach.

Compliance with the control mechanism is to be demonstrated by the Victorian distributors through the annual pricing proposal, by updating the forecast CPI for the actual CPI each year.

16.2.2 Jemena's proposal

Jemena proposed rolling forward the AER's final decision public lighting model for the 2011–15 regulatory control period and adjusted a number of inputs.[30] The key adjustments to the inputs of the public lighting charges model relative to those approved in the 2011 regulatory control period are:

- Escalation factors for labour, materials consistent with those proposed for standard control services.
- The real pre-tax weighted average cost of capital (WACC) has been updated. Consistent with the approach taken in the 2011 regulatory control period, the real pre-tax WACC rate is the same as for standard control services.

[30] Jemena *Regulatory proposal 2016–20, Attachment 11-03: Public Lighting Charges explanatory statement*, April 2015, pp. 2–3.

- Forecast CPI has been applied, to be updated when actual inflation is known. Proportions of minor road lights that fail between bulk changes have been adjusted to reflect Jemena's reported historical failure rates.
- The number of repairs and bulk replacement of lamps that can be performed in a day have been reduced to reflect longer travel times. This is due to congested road conditions, and a greater focus on traffic management at worksites.
- Traffic management costs have increased and have been included for replacement of shared lighting assets.
- Indirect overheads have been applied to asset replacement activities.
- Inclusion of costs for stakeholder management, necessary to respond to public lighting matters for individual councils
- In response to customer requests, Jemena amended their asset replacement policy for minor road luminaries that reach the end of their economic life. Their policy now is to replace old technology minor road luminaires that have failed with energy efficient LED 18W luminaries. Previously, their policy was like-for-like replacement.

16.2.3 AER's assessment approach

We assess the distributor's public lighting proposals by analysing the assumptions used in the build-up of proposed costs and benchmarking these costs and assumptions amongst distributors and against independent data and information. This approach is consistent with the assessment approach used in the New South Wales and Queensland public lighting determinations.[31]

Our primary assessment approach is to benchmark inputs and costs of Victorian distributors against their peers. We have also done this based on the inputs decided in the 2011-15 determination and included in the modelling. In this way we achieve consistency with the approach we adopted for the 2011 determination and by the State regulator before that.[32]

This approach seeks to achieve consistency in assumptions and costs across distributors; nonetheless public lighting prices will always vary somewhat amongst the five Victorian distributors because of each distributor's particular circumstances (size of asset base, geographic patch to cover, mix of luminaire types, among others).[33] We have previously explained this in prior public lighting determinations.[34]

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[31] AER, *Draft decision Ausgrid distribution determination – Attachment 16 – Alternative control services*, November 2014, pp. 16–81.
AER, *Preliminary decision Ergon Energy – Attachment 16 – Alternative control services*, April 2015, pp. 16–56.

[32] Essential Services Commission of Victoria, *Review of Public Lighting Excluded Services, August 2004 Final Decision*, pp. 70–73.

[33] Essential Services Commission of Victoria, *Review of Public Lighting Excluded Services, August 2004 Final Decision,* pp. 70–73.

[34] AER, *2011–15 Victorian Electricity Distribution, Final Decision*, p. 836.

16.2.4 Reasons for preliminary decision

In our preliminary decision for public lighting, we have adopted the same estimate of WACC as for standard control services. The reasons for the real pre-tax WACC are discussed in attachment 3 — Rate of return.

We do not accept the level of opex adjustments being proposed by Jemena and the departures from the assumptions that have used by the State regulator in the 2004 decision and again in our 2011 determination in setting public lighting charges. Jemena's proposed changes represent significant departures from the assumptions used by other distributors. We do not consider they have been justified and nor do they achieve the level of consistency in the build-up of public lighting costs as per other distributors.

We have however accepted some change and amended Jemena's opex assumptions from the 2011 determination by substituting in opex parameters that are being achieved by other distributors. In this way we have continued to maintain a level of consistency between distributors by maintaining these benchmarks. We agree with the Victorian Greenhouse Alliance submission which notes that it is important to maintain a level of consistency of service across distributors and provide an incentive for distributors to operate efficiently.[35]

In relation to Jemena's proposed reductions in the number of bulk changes and repairs per day, we note it reported difficulties in achieving the currently assumed bulk changes and repairs per day. We do not however accept the level of reduction in bulk changes and repairs and patrols per day submitted by Jemena. Instead, we have substituted the bulk changes and repairs per day being achieved by AusNet Services for older light types and applied it to Jemena.

AusNet Services is achieving the lowest number of bulk changes and repairs of the other Victorian distributors and we consider that Jemena should be able to achieve this level of bulk changes and repairs per day for the older light types. For the T5 light we have also substituted in the bulk change and repairs being achieved by Powercor, which we consider Jemena should be able to achieve.

The proposed increase in the failure rate for the T5 (2x14W) to 25.6 per cent between bulk change has not been justified. The Victorian Greenhouse Alliance submission notes that a level of consistency in failure rates should be maintained to ensure distributors operate efficiency.[36] All the other Victorian distributors are continuing with a failure rate for the T5 light of 11.5 per cent; we consider this efficient and have applied it to Jemena.

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[35] Victorian Greenhouse Alliances, *Local Government Response to the Victorian Electricity Distribution Price Review 2016–20*, July 2015, p. 18.

[36] Victorian Greenhouse Alliances, *Local Government Response to the Victorian Electricity Distribution Price Review 2016-20*, July 2015, pp. 18-19.

The proposed increase in traffic management costs is not considered efficient. We do not accept the extent of the proposed increase in traffic management costs from Jemena. We have reduced the proposed traffic management costs by substituting the unit costs for traffic management achieved by CitiPower in 2015, of $5.63 for a SP 150 luminaire and $5.48 a SP 250W luminaire. This allows an increase in costs but not to the extent proposed by Jemena. CitiPower is an urban distributor that we consider faces comparable traffic control issues to that of Jemena. We see no justification for Jemena not being subject to the same criteria.

In relation to the number of patrols per day in urban areas we also the 2,500 proposed by Jemena, as it is not efficient in comparison to other distributors. We substitute in the 3,000 patrols per day being achieved by Powercor, CitiPower and AusNet Services.

The application of a capex overhead of 25 per cent has not been justified and we do not consider it efficient. Public lighting in Victoria has had an opex overhead of 25 per cent applied across all distributors since the 2011 determination, based on Impaq consulting analysis.[37] The Impaq analysis recommended a low case of 7 per cent and a high case of 25 per cent for opex overheads. We continue to consider a 25 per cent opex overhead prudent and efficient. Capex overheads have not previously been applied in setting Victorian public lighting prices and AusNet Services, CitiPower and Powercor have not proposed a capex overhead.

If Jemena want to implement an overhead on its capex, we consider that it should reduce the 25 per cent capex and opex overhead rates so as to not increase the total overheads bucket. We observe that the 25 per cent opex overhead benchmark has been maintained in AusNet Services proposals. We are continuing to apply a 25 per cent opex overhead consistently across all Victorian distributors as the prudent and efficient amount to account for overheads.

Jemena has not provided information or supporting material to justify the inclusion of account management costs and an increase in the average cost of phone calls complaints. Therefore these are not approved.

We accept the proposed Geographical Information System (GIS) costs. Without a GIS system, the Victorian distributors will not be able to track lights within their network. This system is necessary to meet the minimum requirements set out in clauses 2.3.1, 5.1 and 5.2 of the Victorian Public Lighting Code 2005 (the Code), regarding provision of public lighting data to customers.[38]

We have considered the Streetlight Group of Councils (SLG's) claims that GIS costs are a one-off for the establishment of these systems and should not continue to be paid by customers.[39] GIS services costs were included for distributors to establish the

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37 AER, *2011-15 Victorian Electricity Distribution, Draft Decision*, pp. 799–800.

38 Victorian Public Lighting Code, pp. 2, 7–8.

39 Streetlight Group of Councils, *Response to Distributor regulatory proposals and the AER's proposed negotiated distribution service criteria*, July 2015, pp. 9-10.

spatial location of assets and to provide web based access to public lighting customers back in 2004. However, GIS component costs are required for the ongoing maintenance of the Victorian distributor's public lighting data and are ongoing. Accordingly, we maintain the position established in our 2011 determination to allow an annual GIS component cost.

We disagree with SLG's contention that the network use of system charges for unmetered supplies recovers GIS costs. Rather, that charge recovers the costs of energy consumption emitted by the public lighting luminaire only. It does not recover GIS costs which are instead recovered as part of the annual operating, maintenance and replacement charges set out in this section.

We consider the GIS system cost of $113,443 and complaints handling costs of $34,033 (updated from the benchmark costs set in the 2011 determination) are prudent and efficient.

We have made amendments to the proposed public lighting model, including:

- T5 (2 X 14W) & T5 (2 X 24W)
    - Multiply by 0.8 factor bulk lamp changes (which happen every 4 years) to reflect that the 5th cycle does not occur
    - LED 18W
    - Introduced code to calculate price using the opex cost build up provided
- Written down value of public lighting asset base MV 80 Luminaire
    - deleted external reference and let the model do the calculation
- Material premium in poles & brackets capex
    - Jemena have included this in their model and we have approved and included in all distributors' models.

Our preliminary decision approving labour escalation is set out in attachment 7 — operating expenditure. The approved labour escalators are consistent with standard control services.

Preliminary decision prices have also been split out into the replacement (capex) and opex components in the public lighting decision model as requested by stakeholders.[40]

Preliminary decision charges for each luminaire type are set out in Table 16.6.

[40] Streetlight Group of Councils, *Response to Distributor regulatory proposals and the AER's proposed negotiated distribution service criteria*, July 2015, p. 3.

Table 16.6 Public Lighting Charges($ nominal)

	2016	2017	2018	2019	2020
Mercury Vapour 80 watt	48.21	50.12	51.88	52.62	53.86
Sodium High Pressure 150 watt	95.33	99.10	102.61	104.14	106.71
Sodium High Pressure 250 watt	96.51	100.32	103.85	105.40	107.99
55W Ind	60.26	62.65	64.85	65.78	67.33
Fluorescent 20 watt	60.26	62.65	64.85	65.78	67.33
Fluorescent 40 watt	60.26	62.65	64.85	65.78	67.33
Fluorescent 80 watt	60.26	62.65	64.85	65.78	67.33
Mercury Vapour 50 watt	60.26	62.65	64.85	65.78	67.33
Mercury Vapour 125 watt	70.86	73.68	76.27	77.35	79.18
Mercury Vapour 250 watt	92.65	96.30	99.70	101.18	103.67
Mercury Vapour 400 watt	104.23	108.34	112.16	113.83	116.63
Sodium High Pressure 50 watt	119.16	123.88	128.26	130.17	133.38
Sodium Low Pressure 90 watt	101.05	105.05	108.76	110.38	113.11
Sodium High Pressure 100 watt	130.60	135.77	140.57	142.67	146.19
Sodium High Pressure 400 watt	128.36	133.42	138.12	140.18	143.63
Metal Halide 70 watt	123.89	128.82	133.34	135.24	138.43
Metal Halide 150 watt	211.63	220.01	227.79	231.18	236.89
Metal Halide 250 watt	207.50	215.68	223.28	226.60	232.18
Incandescent 100 watt	75.20	78.19	80.94	82.09	84.03
Incandescent 150 watt	94.00	97.74	101.17	102.61	105.03
Sodium High Pressure 250 watt (24 hrs)	150.56	156.49	162.01	164.42	168.46
Metal Halide 100 watt	211.63	220.01	227.79	231.18	236.89
T5 2X14W	32.03	33.94	35.72	36.67	38.01
T5 (2x24W)	36.07	38.23	40.23	41.30	42.81
LED 18W	18.69	20.10	21.45	22.48	23.61
Compact Fluoro 32W	27.62	29.28	30.81	31.63	32.78
Compact Fluoro 42W	31.16	33.02	34.75	35.67	36.97

Source: AER analysis.

Victorian Public Lighting Framework

The framework for public lighting in Victoria is set out in the Victorian Public Lighting Code 2005 (the Code).

Distributor's licences' stipulate that the terms and conditions for providing public lighting services must be consistent with the Code. Importantly, the Code only extends to the provision by distributors of the ongoing operation, maintenance and replacement of public lighting assets that they own (clause 1.3).

The explanatory note in clause 3 of the Code states that the distributor and the public lighting customer may agree that after the construction and commissioning of the assets, ownership of the assets will transfer to the distributor. Where such an agreement is made, the assets become subject to the applicable provisions of the Code. If no agreement is reached, asset ownership remains with the public lighting customer and are not subject to regulation under the Code.

Our decision on public lighting charges is made in accordance with the Code and as such, we are only determining the charges to be levied by distributors for assets that they own.

Service Standards

The Code sets out minimum levels of service from distribution businesses and protections for Councils for Public Lighting in Victoria.

In relation to service standards we consider that there is a trade-off between the prices paid by Councils and the service provided by distribution businesses.

We see our role as setting a minimum level of protection. Councils can seek to negotiate with distributors to secure lower prices than those set by our determination but the Code mandates minimum service standards. Regulated charges are set for these minimums. Councils can negotiate for superior service but the trade-off is likely to be higher charges for a customised service.

Classification of Public Lighting

In the framework and approach we classified dedicated public lights as a negotiated service in response to submissions we received from stakeholders during the framework and approach. A dedicated public light is a light that sits on a dedicated public lighting pole, not shared with electricity distribution assets.

However we departed from this classification in response to the submissions we received on distributor's proposals, arguing against classifying dedicated public lights as a negotiated service.

Classification of the Victorian distributors public lighting services and the reasons for departing from the classification of all dedicated public lighting services as negotiated services are set out in attachment 13 — Classification of Services.

We however remain open towards considering a move towards a negotiated classification for public lighting in the 2021-25 regulatory control period if there is a desire from stakeholders for such a change and other appropriate amendments are made to relevant jurisdictional requirements.

Councils and other stakeholders that want such a change, should use the time before the 2021-25 regulatory control period to consider all of the issues that might be involved, seek to engage with all of the stakeholders involved and submit their proposal with a workable framework for public lighting to become a negotiated service.

16.3 Metering

We are responsible for the economic regulation of the regulated metering services provided by the Victorian distribution businesses.

Type 1–4 (advanced) meters for large customers are competitively provided in Victoria and are therefore unregulated. We regulate all other metering in Victoria.

Since 2009, there has been a derogation in Victoria which has meant that the scope of our regulation has been set under the Advanced Metering Infrastructure Cost Recovery Order-in-Council (the Order) made by the Victorian Government. The Order mandated distributors install advanced remotely read interval meters together with appropriate communications and information technology systems for all small electricity customers in Victoria.

Our Framework and Approach Paper (F&A) introduced the term 'smart meters' to refer to the advanced remotely read interval meters installed under the derogation.[41] From 2009 to 2015, the Order directed the AER to set budgets and charges for the AMI rollout under a prescribed regime instead of the NER.

The rollout of smart meters in Victoria is now effectively complete with almost 2.8 million meters installed across the state.[42] As a result, metering in Victoria is entering a "business-as-usual" phase in the 2016-20 regulatory control period. To facilitate this transition, metering services will now be regulated under the NEL and NER, subject to certain modifications set out in the Order.

The AEMC's expanding competition in metering final rule change will be published in November 2015.[43] As such, some of the details have yet to be confirmed. For jurisdictions that are part of the national metering framework, the new rules are expected to take effect from 1 December 2017. [44] It is not clear at this stage the extent to which the Victorian Government will adopt the national framework.

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41 AER, *Final Framework and Approach for the Victorian Electricity Distributors*, October 2014, p. 48.

42 Victorian Government, Department of Economic Development, Jobs, Transport and Resources http://www.smartmeters.vic.gov.au/about-smart-meters/end-of-rollout, accessed 11 October 2015.

43 AEMC, *Information: Extension of time for final rule on provision of metering services*, 2 July 2015.

44 AEMC, *Information: Extension of time for final rule on provision of metering services*, 2 July 2015.

We make this preliminary decision taking into account the current jurisdictional context. This preliminary decision focuses on facilitating smooth transition from the Order to the NER, noting the national context for introducing competition to metering. We have maintained many of the same elements currently in the Order: a revenue cap and recovering the capital for new and upgraded meters as part of the annual charge. However, the Order requires us to set restoration and exit fees in accordance with the Order and also provides additional factors we may have regard to when determining 2016-20 metering service charges.

In this section of the alternative control services chapter, we explain our decision on 'default' metering services that are common to regulated metering customers:

- Type 5–6 and smart metering services (regulated service only), referred to as annual metering charges (revenue cap)
- Type 5–6 and smart metering exit fees (individual price caps)

Our determination on ancillary metering services (specifically requested services) is set out in the ancillary network services section 16.1 of this chapter.

16.3.1 Preliminary decision

16.3.1.1 Cost allocation

Our preliminary decision is that metering costs should be recovered through alternative control services. We have not accepted Jemena's proposal that some forecast metering opex and capex be recovered through standard control service charges.

As a result, our preliminary decision:

- reallocates $60.9 million ($2015) in metering opex which Jemena included in its standard control services proposal, to alternative control metering services
- reallocates $2.6 million ($2015) in metering capex which Jemena included in its standard control services proposal, to alternative control metering services.

16.3.1.2 Annual metering charges

Our preliminary decision accepts a total revenue requirement of $220.5 million ($ nominal) over the 2016–20 regulatory control period for metering services. It includes the following building blocks:

- forecast capex of $14.4 million ($2015), amounting to 93 percent of Jemena's proposal
- forecast opex of $110.0 million ($2015), amounting to 94 percent of Jemena's proposal
- an opening metering regulatory asset base as at 1 January 2016 of $120.3 million ($nominal)
- with respect to depreciation, standard asset lives of 15 years for metering assets and 7 years for communications, IT and other metering assets

- the same WACC and gamma values for standard control network service. We will also annually adjust for the return on debt.

The above building blocks result in the following approved revenue requirement for metering shown in Table 16.7.

Table 16.7 Preliminary Decision - metering annual revenue requirement 2016–20 regulatory control period ($nominal)

	2015	2016	2017	2018	2019	2020
Depreciation		16.1	16.0	11.1	11.9	12.2
Return on capital		7.2	6.4	5.6	5.1	4.5
Opex[a]		22.6	23.2	23.7	24.3	24.9
Tax		-	-	0.8	2.4	2.4
Unsmoothed revenue requirement		46.0	45.6	41.2	43.7	44.0
X factor (%)[b]		43.01	2.50	2.50	2.50	2.50
Smoothed revenue requirement	75.7	44.2	44.2	44.2	44.1	44.1

Source: AER analysis.

(a) Operating expenditure includes debt raising costs.

(b) The X factor from 2017 to 2020 will be revised to reflect the annual return on debt update. Under the CPI–X framework, the X factor measures the real rate of change in annual expected revenue from one year to the next. A negative X factor represents a real increase in revenue. Conversely, a positive X factor represents a real decrease in revenue.

Our preliminary decision on the approved revenue requirement will result in metering prices decreasing over the 2016–20 regulatory control period. As metering services is subject to a revenue cap, we have not set prices in this preliminary decision. Actual metering prices will be approved during the annual pricing process.

Broadly, however, we expect the price path to follow the X factors included in the table above. That is, a large decrease in 2016 followed by more modest decreases in the following years of the regulatory control period.

16.3.1.3 Form of control for annual metering charges

Our preliminary decision applies a revenue cap form of control to annual metering charges.[45] Under this form of control, annual metering charges revenues are capped for each year of the 2016–20 regulatory control period. Figure 16.3 contains the annual metering charges revenue cap formula.

Under a revenue cap, Jemena's annual metering charges revenue will be adjusted annually to clear (or true-up) any under or over recovery of actual revenue collected. With these arrangements, there is a two year lag between the year in which the under or over recovery of revenue occurs and the year in which adjustments are made to 'clear' the under or over recovery. To account for this lag our method includes net present value adjustments. These adjustments are calculated in the unders and over account detailed in appendix B and applied to the forthcoming annual metering charges revenue through the B factor detailed in Figure 16.3.

Our final F&A stated the revenue cap for any given regulatory year is the maximum allowable revenue for annual metering charges. However, we consider the use of maximum allowable revenue might be confused with maximum allowed revenue which is a defined term in the NER relating to transmission services. To avoid confusion, this preliminary decision uses 'total annual revenue for metering' (or TARM) for clarity.

For each year after the first year of a regulatory control period, side constraints will apply. Consistent with the application of side constraints for standard control services, the permissible percentage increase will be the greater of CPI–X plus 2 per cent or CPI plus 2 per cent. The side constraint formula is set out in Figure 16.4.

Figure 16.3 Annual metering charges revenue cap formula

(1) $TARM_t \geq \sum_{i=1}^{n} \sum_{j=1}^{m} p_t^{ij} q_t^{ij}$ i=1,..,n and j=1,..,m and t=1,..,5

(2) $TARM_t = AR_t + T_t + B_t$ t = 1,2,…,5

(3) $AR_t = AR_{t-1}(1 + \Delta CPI_t)(1 - X_t)$ t = 1,2,…,5

where;

$TARM_t$ is the total annual revenue for annual metering charges in year t.

p_t^{ij} is the price of component 'j' of metering service 'i' in year t.

q_t^{ij} is the forecast quantity of component 'j' of metering service 'i' in year t.

[45] AER, *Final framework and approach for the Victorian electricity distributors: Regulatory control period commencing 1 July 2016*, 24 October 2014, pp. 89–93.

AR_t is the annual revenue requirement for year t. When year t is the first year of the 2016–20 regulatory control period, AR_t is the annual revenue requirement in the annual metering charges Post Tax Revenue Model (PTRM) for year t.

T_t is equal to zero for all years except 2017 and is a once off adjustment to 2017 charges for the unders and overs recoveries relating to Advanced Metering Infrastructure actual revenues and actual costs incurred in 2014 and 2015.

B_t is the sum of annual adjustment factors in year t as calculated in the unders and overs account in appendix B.

AR_{t-1} is the annual revenue requirement for year t–1.

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities[46] from the June quarter in year t–2 to the June quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–2

minus one.

For example, for the 2017 regulatory year, t–2 is June quarter 2015 and t–1 is June quarter 2016 and for the 2018 regulatory year, t–2 is June quarter 2016 and t–1 is June quarter 2017 and so on.

X_t is the X factor for each year of the 2016–20 regulatory control period as determined in the annual metering charges PTRM.

Figure 16.4 Side constraints

$$p_t^i \le p_{t-1}^i(1+\Delta CPI_t)(1-X_t^i)(1+2\%)+T_t^{'}+B_t^{'}$$

where:

p_t^i is the price of annual metering charges service 'i' in year t.

[46] If the ABS does not or ceases to publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

p^{i}_{t-1} is the price of annual metering charges service 'i' in year t–1.

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities[47] from the June quarter in year t–2 to the June quarter in year t–1, calculated using the following method:

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–1

divided by

The ABS CPI All Groups, Weighted Average of Eight Capital Cities for the June quarter in regulatory year t–2

minus one.

For example, for the 2017 regulatory year, t–2 is June quarter 2015 and t–1 is June quarter 2016 and for the 2018 regulatory year, t–2 is June quarter 2016 and t–1 is June quarter 2017 and so on.

X_t is the X factor for each year of the 2016–20 regulatory control period as determined in the annual metering charges PTRM.

$T_t^{'}$ is the annual percentage change for the unders and overs recoveries relating to Advanced Metering Infrastructure actual revenues and actual costs incurred in 2014 and 2015. It is equal to zero for all years except 2017 and is a once off adjustment to 2017 charges.

$B_t^{'}$ is the annual percentage change from the sum of annual adjustment factors in year t as calculated in the unders and overs account in appendix B.

With the exception of the CPI and the X factor, the percentage for each of the other factors above can be calculated by dividing the incremental revenues (as used in the total annual revenue formula) for each factor by the expected revenues for regulatory year t–1 (based on the prices in year t–1 multiplied by the forecast quantities for year t).

16.3.1.4 Metering exit fees

We are required to specify an exit fee for Jemena.[48]

The exit fees we have accepted in this preliminary decision are set out in Table 16.8.

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47 If the ABS does not or ceases to publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

48 NER, cl. 11.17.6.

Table 16.8 Preliminary determination on Jemena's exit fees ($nominal)

Meter type	2016	2017	2018	2019	2020
Single Phase	611.69	571.17	541.91	521.03	504.58
Single Phase, Two Element	613.08	570.53	538.62	516.46	502.57
Three Phase Direct Connect	631.55	593.76	566.44	547.59	533.48
Three Phase Current Transformer	634.37	594.51	564.55	541.89	528.36

Source: AER analysis.

16.3.2 Proposal

16.3.2.1 Cost allocation

Jemena's proposal included metering expenditure across network standard and metering alternative control services.

With respect to opex, Jemena used the base-step-trend approach to develop its forecast. After removing non-recurrent expenditure from the base, it proposed to reallocate $60.9 million ($2015) in metering opex, from alternative to standard control services.[49] Jemena considered that this reallocation should be made because the costs provide distribution services.[50]

With respect to capex, Jemena has allocated IT/communications capex across network standard and metering alternative control services.

16.3.2.2 Annual metering charges

Jemena proposed a revenue cap as the price control for annual metering charges in the 2016–20 regulatory control period. This price control is consistent with our F&A for type 5, 6 and smart metering (regulated service).[51]

To forecast its proposed revenue, Jemena used a building block approach. It built up a revenue forecast by estimating the value of discrete cost categories, or "building blocks". For the 2016–20 regulatory control period, Jemena used this approach to propose:

- a forecast metering alternative control capex of $15.3 million ($2015)[52]. It also included some IT/communications capex related to metering in its forecast standard control capex.

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49 Jemena, *Regulatory Proposal 2016–20, Attachment 8-02*, April 2015, pp. 20–21.

50 Jemena, *Regulatory Proposal 2016–20, Attachment 8-02*, April 2015, pp. 20–21.

51 AER, *Framework and approach: Victorian distribution determination 2016–20*, 24 October 2014, p. 73.

52 Jemena, *Regulatory proposal 2016–20, Attachment 6–08: JEN Post–tax revenue mode – Metering –Public*, April 2015, "PTRM input" tab.

- a forecast alternative control metering opex of $56.2 million. It also included forecast metering standard control opex of $60.9 million ($2015)[53]
- an opening metering regulatory asset base as at 1 January 2016 of $119.8 million ($nominal)[54]
- a standard asset life of 16 years for smart meters and 7 years for communications, IT and other metering assets[55]
- the same WACC and gamma values for standard control network service.[56]

Using its forecast building block components, Jemena calculated its proposed annual revenue requirement for the 2016–20 regulatory control period. This is set out in Table 16.9.

Table 16.9—Proposed metering annual revenue requirement ($nominal)

	2016	2017	2018	2019	2020
Depreciation	22.2	12.82	12.8	9.3	7.8
Return on capital	8.6	7.2	6.5	5.8	5.3
Opex	11.0	11.5	12.2	12.9	13.7
Tax	-	1.18	2.65	2.24	2.11
Adjustments	1.43	-	-	-	-
Unsmoothed revenue requirement	43.2	32.7	34.1	30.3	29.0
X factors (%)	58.8	–1.2	–1.2	–1.2	–1.2
Smoothed revenue requirement	32.0	33.2	34.4	35.7	37.1

Source: Jemena, *Regulatory proposal, Attachment 6–08 JEN Post–tax revenue model – Metering –Public*, April 2015, "X factor" tab.

16.3.2.3 Metering exit fee

Jemena proposed a metering exit fee, set in accordance with the Order, to apply when metering services are no longer provided by Jemena.

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53 Jemena, *Regulatory Proposal 2016–20, Attachment 8.03:- JEN opex forecast model - public*, April 2015, "Output Models" tab.

54 Jemena, *Regulatory proposal 2016–20, Attachment 6–08: JEN Post–tax revenue mode – Metering –Public*, April 2015, "PTRM input" tab.

55 Jemena, *Regulatory proposal 2016–20, Attachment 6–08: JEN Post–tax revenue mode – Metering –Public*, April 2015, "PTRM input" tab.

56 Jemena, *Regulatory proposal 2016–20, Attachment 6–08: JEN Post–tax revenue mode – Metering –Public*, April 2015, "PTRM input" tab.

In its proposal, Jemena interpreted the Order requirements as meaning that it can levy an exit fee for any remote read interval meters installed at premise of a customer who consumes less than 160MWh per annum. This includes meters installed under the Derogation, but also future expenditure on installing new remotely read interval meters or supporting the ongoing operation of existing remotely read interval meters. [57]

Jemena considered an exit fee should include the written down value of the meter, proportion of supporting communication & IT systems and the reasonable and efficient costs of removing the meter.[58] The proposed meter exit fees are set out in Table 16.10.

Table 16.10 Jemena proposed meter exit fees ($ nominal)

Meter type	2016	2017	2018	2019	2020
Single Phase	612.37	650.23	604.42	571.52	541.95
Single Phase, Two Element	613.83	649.35	600.01	565.49	539.34
Three Phase Direct Connect	633.46	680.79	637.20	606.62	579.70
Three Phase Current Transformer	636.43	681.77	634.63	599.05	573.01

Source: Jemena, *Regulatory Proposal 2016–20, Attachment 11.6: Metering Exit Fee Application*, April 2015, p. 10, Table 2.

16.3.2.4 Restoration fee

Jemena did not propose a metering restoration service fee. [59]

16.3.3 Assessment approach

16.3.3.1 Cost allocation

We had regard to Jemena's approved CAM[60] and the wider regulatory context. That is, the future prospect of competition in metering in Victoria and how the allocation of costs across standard and alternative control service may affect competitive entry.

16.3.3.2 Annual metering charge

As an alternative control service, the AER has a greater discretion under the NER in making our assessment compared to standard control services. We have chosen to apply a streamlined version of a building block approach.

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57 Jemena, *Regulatory Proposal 2016–20, Attachment 11.6: Metering Exit Fee Application*, April 2015, p. 133.
58 Jemena, *Regulatory Proposal 2016–20, Attachment 11.6: Metering Exit Fee Application*, April 2015, p. 133.
59 Jemena, *Regulatory Proposal 2016–20*, April 2015, p. 133.
60 Jemena - Cost allocation method - November 2014.

Forecast capex

There are three categories of metering capex: remotely read interval meters, IT and communications.

To assess remotely read interval meter capex, we reviewed unit rates and volumes. We benchmarked proposed meter hardware unit costs across the businesses. We consider this to be appropriate because the Victorian businesses all use the same six meter types and so the costs can be compared. Further, as these are proposed amounts by the businesses themselves, we are confident that these are current, commercially available unit costs in Victoria and therefore are a reasonable benchmark.

We compared the overall amounts of communications/IT capex proposed across the businesses to understand the relative overall amounts of expenditure being proposed. If a business proposed a relatively high amount of metering communications/IT metering capex, we did a further review on an individual project basis.

Forecast opex

We considered Jemena's proposed metering opex by developing our own alternative forecast. To do this we used a top-down 'base–step–trend' approach. This is our preferred approach to assessing most opex categories.[61] In particular, we:

- used the "revealed costs" approach as the starting point
- in contrast to past metering decisions for non–Victorian distribution businesses, decided against the use of benchmarking
- adjusted for any step changes if we were satisfied that a prudent and efficient service provider would require them
- trended forward the base opex (plus any step changes) by considering the forecast changes in output, price and productivity.

Each of these components to our assessment is discussed in more detail below.

Base

We began our assessment of the base by applying the revealed costs approach.[62]

The revealed costs approach uses a network service provider's historical costs to derive a base level of opex. In applying this approach, we sought to identify a level of opex that would be most reflective of future efficient operating costs. When applying the revealed costs approach, we considered if we should select a single, or an average of multiple, years' worth of historical metering opex.

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

62 Victorian Cost Recovery Order In Council, cl. 5K(iv).

The next step we took was to remove any non–recurrent expenditure. To do this we considered the operating environment in the selected base year(s). In particular, we had regard to the extent to which the network service provider had completed its rollout of AMI and, by virtue of this, entered into a business–as–usual operating environment.

Once we were satisfied that non–recurrent expenditure had been removed, we assessed whether the base contained any material inefficiencies. If we observed any, then we applied an efficiency adjustment.

Benchmarking

In past metering decisions we have used data on "opex per customer" as a partial performance indicator to benchmark the relative efficiency of non–Victorian distribution businesses' base opex. We, however, consider that the rollout of AMI services means that circumstances in Victoria are sufficiently different to other regions. In Victoria, metering costs are largely fixed and relate to IT and communications that tend not to vary according to customer numbers. In contrast, a majority of operating costs in the other regions are not fixed. Specifically these relate to 'manual meter reads' – the cost of which does vary according to the number of customer. As such, we have not used benchmarking techniques.

This conclusion should not be taken to exclude the use of benchmarking in other decisions. Additionally, in the future new circumstances or additional data may come to light which makes the use of benchmarking with respect to smart metering a reasonable technique for the AER to apply.

Step changes

We considered whether we should apply any step changes. These are adjustments which increase or decrease a distribution business' efficient expenditure.[63]

As outlined in our *Expenditure Forecast Assessment Guideline*, our approach to step changes is that we will only accept them if they are associated with a new regulatory obligation or a capex/opex trade off.[64]

For step changes arising from new regulatory obligations, we will assess (among other things):

- whether there is a binding (that is, uncontrollable) change in regulatory obligations that affects their efficient forecast expenditure
- when this change event occurs and when it is efficient to incur expenditure to comply with the changed obligation
- what options were considered to meet the change in regulatory obligations

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[63] AER, *Expenditure assessment forecast guideline*, November 2013, p. 9.

[64] AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.

- whether the option selected was an efficient option—that is, whether the distribution business took appropriate steps to minimise its expected cost of compliance from the time there was sufficient certainty that the obligation would become binding.[65]

For capex/opex trade-off step changes, we will assess whether it is prudent and efficient to substitute capex for opex or vice versa.[66]

Trend

We trended forward base opex (plus any step changes) by considering forecast changes in output, price and productivity.

Depreciation

With respect to depreciation, we considered Jemena's proposed standard asset lives and had regard to the opening of competition to metering services.

Opening metering regulatory asset base

In assessing the proposed MAB as at 1 January 2016, we reviewed how Jemena had rolled forward the opening value.

16.3.3.3 Exit fee

When calculation the exit fee required under the Order, the inputs we used were:

- our preliminary decision on Jemena's opening metering RAB value as of 1 January 2016
- the forecast metering capex and opex which we have accepted in this preliminary decision for Jemena's 2016–20 regulatory control period
- in relation to an administration component of the exit fee, our preliminary decision on the real labour cost escalators applicable in Victoria.

We also had regard to the revenue and pricing principles that the distributors should be afforded full cost recovery (see also clause 7.2 of the Order).

16.3.3.4 Interrelationships

We apply the same WACC and gamma values for all direct control services (standard and alternative control services).

Our preliminary decision on Jemena's alternative control metering proposal, therefore, interrelates with our preliminary decisions on rate of return and imputation credits. Please refer to Attachments 3 and 4 for the WACC and gamma values we accept for direct control services, along with our reasons.

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[65] AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.

[66] AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.

16.3.4 Reasons for preliminary decision

16.3.4.1 Cost allocation

This is not a straightforward application of Jemena's approved Cost Allocation Method because of the wider regulatory context related to metering.

We consider some of the key framework issues for Victorian metering in the 2016–20 regulatory control period are:

- facilitating a smooth transition of governance under the Order to regulation under the modified NER
- the possibility of Victoria adopting the competitive metering framework sometime in the future.

The Victorian businesses have all proposed different ways to allocate the costs that were previously regulated under the Order across standard and alternative control services. They have all, to varying extent, allocated some metering related opex to standard control services. AusNet Services, United Energy and Jemena have allocated proportions of metering related IT/communications capex to standard control. As well, AusNet Services has proposed to include past AMI IT/communications assets into the standard control regulatory asset base.

We consider a consistent approach across Victorian service providers is preferable to the allocation of costs that previously were regulated under the Order.

While metering services are not currently subject to competition, given policy developments in this area, it is likely they will be at some point in time.[67] The cost allocation approaches by incumbent providers have the potential to affect competition from new entrants and competition between existing providers in Victoria.

Based on the current guidance from the AEMC, we will be required to develop and publish distribution ring fencing guidelines by 1 December 2016.[68] We consider any cost allocation issues relating to metering costs would be best dealt with in the development of this guideline in accordance with a nationally consistent approach.

In the interim, before these guidelines are developed, our preferred approach is to allocate all costs formerly regulated under the Order to alternative control services. This maintains the status quo until we consider this further through the ring fencing guideline process.

We note that the allocation of costs between standard control services and metering services makes no difference to the assessment of the efficiency of these costs. Further, as both metering services and standard control services are regulated under a

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[67] AEMC, *Draft Rule Determination - National Electricity Amendment (Expanding Competition in Metering and Related Services) 2015*, 26 March 2015.

[68] AEMC, *Information: Extension of time for final rule on provision of metering services*, 2 July 2015.

revenue cap, the ability of the Victorian businesses to recover their efficient costs is not affect.

16.3.4.2 Annual metering charges

Forecast capex

Remotely read interval meters

We approve $7.1 million ($2015) in remotely read interval meters. This includes meter hardware and installation.

Meter hardware unit costs

We accept Jemena's proposed unit costs for single phase single element and three phase meters. For the other four types of meters, our substitute unit costs are based on the lowest forecast unit costs for each meter type submitted by a Victorian business in its proposal.

The fact that another Victorian business has been able to obtain lower unit costs for the same meter types indicates to us that our substitute unit costs are currently commercially available in Victoria and therefore are a reasonable benchmark.

Meter installation unit costs

We do not accept Jemena's proposed meter installation unit costs.

To develop our substitute meter installation unit cost, we have used time taken that we have approved for a new connection multiplied by the proposed field worker hourly labour rate.

Jemena will recover metering installation costs associated with new connections and alteration/additions through ancillary charges. The proposed meter installation costs included in the annual metering capex building block relate to replacements only.

We consider that the time taken for a replacement meter installation should, as an upper limit, take no more time than a new connection service. This is because a new connection involves time to install a meter and other activities as well.

We have not accepted Jemena's proposal that replacement meter installation should vary by meter type. We note that the labour component of a new connection service does not vary by meter type. Further, even if there were some differences in the work involved for various replacement meter installation types, any variation should still be completed within the substitute time taken which we consider to be the upper limit of time taken for a replacement meter installation.

Meter volumes

For the preliminary decision, we have accepted Jemena's metering volume forecasts. We may revisit forecast metering volumes in the final decision if more information becomes available. For example, if the Victorian government confirms whether the derogation will expire or continue.

IT/Communications

To give effect to our cost allocation decision, only IT and communications projects that primarily relate to metering (i.e. attribute 50% or more to alternative control service metering) were assessed as alternative control service metering capex. The rest of the projects were assessed as part of our standard control service capex assessment in attachment 6.

As a result, we have approved:

- IT–$3.0 million ($2015)
- Communications–$4.3 million ($2015).

Forecast opex

We accept $110.0 million ($2015) in opex for annual metering charges. This is equal to approximately 94 percent of Jemena's proposed $117.1 million ($2015).

Base

Our determination on Jemena's base level of metering opex applied the revealed costs approach. We also adjusted for any non–recurrent costs or material inefficiencies. Table 16.11 breaks down each component of our preliminary decision regarding Jemena's base metering opex.

Table 16.11 AER assessment of the base

Component	($m, 2015)
Raw base	24.2
Adjustment for non–recurrent costs	–2.2
Adjustment for material inefficiencies	0.0
Total	22.0

Source: Jemena, *Regulatory Proposal 2016–20, Attachment 8.03 - JEN opex forecast model - public*, April 2015, "Input | Non-SCS Opex" tab.

Using the revealed costs approach, we selected Jemena's actual metering opex in 2014 as our starting point. Jemena's actual metering opex in 2014 was $24.2 million ($2015).

We selected Jemena's actual metering opex in 2014 for two reasons. First, it is the last completed year from which we have audited accounts on Jemena's metering opex. Second, the costs incurred in 2014 should best resemble business–as–usual opex for metering in the forthcoming 2016-20 regulatory control period. This is because Jemena

had been set a target to have completed its rollout of AMI before the commencement of the 2014 year.[69]

When applying the revealed costs approach, we considered if we should select an average of multiple, instead of a single, years' worth of historical metering opex. Such an approach would be consistent with previous AER metering decisions.[70] This is where we used an average of multiple years of a business's actual metering opex to derive the base. In the case of Jemena, the adoption of this approach would involve calculating the base by taking an average of its actual opex in years inclusive of and prior to 2014.

We have decided against using a multi–year approach. In years prior to 2014, Jemena was in the midst of its AMI rollout. In the 2016–20 regulatory control period, however, its metering operations should be in a business–as–usual phase. We therefore decided against using the multiple–year approach since it would capture costs incurred in a different operating environment to that which Jemena will experience in the forecast period.

The next step in our assessment of the base involved considering whether we should make any adjustments for non–recurrent expenditure. With regard to this aspect of our assessment, we note that in the 2016–20 regulatory control period Jemena should be in a business–as–usual phase of delivering smart metering services to customers. This means that any opex incurred in the base year which is strictly related to the roll-out smart metering infrastructure should be regarded as non–recurrent, or "one–off", expenditure that should be removed from the base.

In developing its base, Jemena removed costs it considered to be non–recurrent.[71] Table 16.12 sets out those adjustments and their magnitude.

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69 AMI Cost Recovery Order, cl. 14.1.

70 AER, *Ausgrid: Final decision for 2014–19 regulatory control period, Attachment 16*, April 2015; *AER, Endeavour Energy: Final decision for 2014–19 regulatory control period, Attachment 16*, April 2015; AER, *Essential Energy: Final decision for 2014–19 regulatory control period, Attachment 16*, April 2015; AER, *ActewAGL: Final decision for 2014–19 regulatory control period, Attachment 16*, April 2015; AER, *SA Power Networks: Preliminary decision for 2015–20 regulatory control period, Attachment 16*, April 2015; AER, *Energex: Preliminary decision for 2015–20 regulatory control period, Attachment 16*, April 2015; AER*, Ergon Energy: Preliminary decision for 2015–20 regulatory control period, Attachment 16*, April 2015.

71 Jemena, *Regulatory Proposal 2016–20, Attachment 8.03: JEN opex forecast model - public*, April 2015, "Input | Non-SCS Opex" tab.

Table 16.12 Non–recurrent expenditure

Cost category	($2015 million)
Claims and complaints	1.6
Meter data management	0.9
Total	2.2

Source: Jemena, Regulatory Proposal 2016–20, Attachment 8.03 - JEN opex forecast model - public, April 2015, "Input | Non-SCS Opex" tab.

We consider Jemena's proposal to have adjusted for non–recurrent expenditure and, accordingly, we have not made any further adjustments. The adjustments, totalling $2.2 million ($2015), are reasonably reflective of the one-off costs which Jemena incurred in the selected base year. We consider the costs to be one-off because they were incurred at a time when Jemena was still rolling out its AMI services. This is compared to the forecast years (2016-20) when Jemena will be in a business-as-usual phase. The magnitude of the adjustments for "claims and complaints" and "meter data management" is in line with the AER's expectations.

Once we were satisfied that Jemena's proposal had removed non–current expenditure, we considered if there are any material inefficiencies in the base for which we should adjust. In past metering decisions, we have used benchmarking to conduct this assessment. We, however, consider this approach to be inappropriate for Jemena's circumstances for the reasons outlined in section 16.1.3 above.

We consider that following the removal of non–recurrent expenditure, Jemena's actual opex in 2014 does not contain material inefficiencies. We reached this conclusion on the basis that the Victorian distribution businesses are generally efficient. This is compared to their counterparts in other regions of the national electricity market.[72] We have therefore decided not to make an efficiency adjustment to the base level of opex.

We consider a base of $22.0 million ($2015) is efficient.

Step

Strictly speaking, Jemena did not propose any step changes to its metering opex.

When modelling its metering opex, however, we observed that Jemena included a positive adjustment for one-off costs. This adjustment increased Jemena's base opex by $0.6 million ($2015) for "customer contact and back office".[73] We consider that this adjustment is, in effect, a proposed step change and hence we have treated it as such.

[72] See Attachment 3.

[73] Jemena, *Regulatory Proposal 2016–20, Attachment 8.03: JEN opex forecast model - public*, April 2015, "Input | Non-SCS Opex" tab.

Our preliminary decision, furthermore, is that we do not accept the proposed step change increase for customer contact and back office. Consistent with our Expenditure forecast assessment guideline, we will only accept a proposed step change if it is associated with a new regulatory obligation or a capex/opex trade-off.[74] We are not satisfied that either of these requirements has been met and, thus, the proposed costs have not been added to the base.

Trend

We trended forward the base. In doing so we did not adjust for metering customer growth. We also applied zero forecast real price and productivity growth.

We have decided not to adjust for customer growth on the basis that the majority of operating costs associated with delivering AMI services are fixed. More specifically, the relevant costs involve IT and communications infrastructure; the cost of which tends not to vary according to the number of customers a service provider has. We conclude that it is unnecessary to adjust for any growth in metering customers Jemena may experience.

Additionally, we expect Jemena opex to be relatively flat over the 2016–20 regulatory control period. This reflects that it will be entering a business–as–usual phase of its AMI operations. Because of this, we have decided to apply zero forecast real price and productivity growth. We also reached this conclusion after adopting the view that Jemena should be able to manage any real price changes through productivity improvements.

Once trended forwarded, we calculated an alternative metering opex forecast of $110.0 million ($2015).

Depreciation

We accept Jemena's proposed approach to depreciation. As a result, this preliminary decision specifies a standard asset life of:

- 15 years for remotely read interval meters and transformers
- 7 years for IT, communications, and other metering related assets.

Our preliminary decision is to accept the proposed standard asset lives because they reflect the likely technical life of the assets. We consider this to arrive at an efficient outcome whereby the economic and technical lives of the assets are likely to coincide.

Opening metering regulatory asset base

We do not accept Jemena's proposed opening metering RAB opening value.

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[74] AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.

We have instead used forecast capex for 2014 and 2015 from the AMI Charges Model (2015 Charges Application), updated for CPI, to calculate our substitute opening RAB value.

16.3.4.3 Metering exit fees

We have not accepted Jemena's proposed exit fees.

The exit fee recovers Jemena's historical, sunk capital costs. To calculate it, we therefore adjusted for our assessment of Jemena's opening metering RAB as of 1 January 2016. Our preliminary decision on the opening metering RAB is set out in section 16.3.1.2.

Jemena's annual metering services expenditure for the 2016–20 regulatory control period is an input into the calculation of the exit fee too. We accordingly adjusted Jemena's proposed exit fees for our preliminary decision on the electricity distributor's forecast capex and opex. Our preliminary decision on these aspects of Jemena's proposal is set out in section 16.3.1.2.

We have also approved an administrative cost component of the exit fee. It should be noted that the approval of this aspect of Jemena's proposal is potentially in contrast with the decisions we made during the New South Wales, Queensland, South Australia and Australian Capital Territory determinations in April 2015. Specifically, we rejected the administrative costs those distributors proposes in the case of removing a meter.[75] While we found that the costs were not sufficiently material in those jurisdictions, the Order requires that we set an exit fee; and thus we have accepted the inclusion of an administrative cost component. We have nonetheless adjusted it for our preliminary decision on the labour cost escalators applicable in Victoria in the 2016–20 regulatory control period.

Our substitute exit fees are set out in section 16.3.1.4.

A Approved prices for ancillary network services

A.1 Ancillary network services

Table 16.13 Fee based ancillary network services prices for 2016, preliminary decision ($2015)

Fee based service	Hours	Proposed price	Preliminary decision price
Connection services where Jemena is responsible for metering			
Routine single-phase connection to new premises	Business hours	726.54	544.97
	After hours	726.54	544.97
Routine three-phase connection to new premises	Business hours	930.27	706.07
	After hours	930.27	706.07
Temporary single-phase connection	Business hours	711.56	530.80
	After hours	711.56	530.80
Temporary three-phase connection	Business hours	901.84	679.16
	After hours	901.84	679.16
Connection services where Jemena is not responsible for metering			
Routine single-phase connection to new premises	Business hours	726.54	544.97
	After hours	726.54	544.97
Routine three-phase connection to new premises	Business hours	930.27	706.07
	After hours	930.27	706.07
Temporary single-phase connection	Business hours	711.56	530.80
	After hours	711.56	530.80
Temporary three-phase connection	Business hours	901.84	679.16
	After hours	901.84	679.16
Energisation and de–energisation services			
Reconnection after temporary disconnection for non-payment	Business hours	65.59	65.20
	After hours	73.19	72.81
Manual energisation (new and existing premises)	Business hours	34.67	34.46
	After hours	54.97	54.76
Manual re-energisation	Business hours	34.67	34.46
	After hours	54.97	54.76

Fee based service	Hours	Proposed price	Preliminary decision price
Manual de-energisation	Business hours	53.55	53.17
	After hours	70.19	69.81
Remote de-energisation	Business hours	9.33	9.31
Remote re-energisation	Business hours	0.57	0.57
Ancillary connection services			
Service vehicle visit	Business hours	449.09	428.25
	After hours	583.72	562.90
Wasted service truck visit - not Jemena's fault	Business hours	418.01	397.17
	After hours	583.72	562.90
Fault response - not Jemena's fault	Business hours	449.09	428.25
	After hours	583.72	562.90
Reserve feeder charge	Business hours	14.74	14.74
Ancillary metering services			
Manual special meter reads	Business hours	30.99	30.78
Remote special meter read	Business hours	No charge	
Re-test types 5, 6 and AMI smart metering installations	Business hours	363.32	362.74
	After hours	597.56	596.99
Remote meter re-configuration	Business hours	48.75	48.72
Type 7 metering (meter data service)	Business hours	0.57	0.57

Source: AER analysis; Jemena, *Regulatory proposal* 2016–20, *Attachment 11–5: User requested services explanatory statement*, 30 April 2015, p.24.

Note: Our preliminary decision prices will be escalated into real 2016 dollar terms in Jemena's 2016 pricing proposal.

Table 16.14 Quoted service ancillary network services hourly labour rates for 2016, preliminary decision ($2015)

Quoted service labour category	Proposed labour rate	Preliminary decision labour rate
Back office/administration	82.33	82.33
Linesperson/field worker – Business hours	102.11	102.11
Linesperson/field worker – After hours	126.40	126.40
Technical officer – Business hours	141.30	141.30
Technical officer – After hours	165.35	165.35
Engineer – Business hours	183.83	183.83
Engineer – After hours	201.24	201.24

Source: AER analysis; Jemena, *Regulatory proposal 2016–20 Attachment 11–5: User requested services explanatory statement*, 30 April 2015, p. 15.

Note: Our preliminary decision prices will be escalated into real 2016 dollar terms in Jemena's 2016 pricing proposal.

Table 16.15 Jemena's quoted services

Quoted service	Description
Temporary cover of low voltage wires	A quoted service charge will be applied to customers or contractors who request covering of service cable or low voltage power lines for safety reasons, for example, if those power lines that are close to a construction site. The charge will depend on the time taken to install and remove the covers, plus the rental costs of the covers for duration of time the mains are covered.
Elective undergrounding	A quoted service charge will be applied to change an existing overhead electricity supply to an underground supply.
Rearrangement of network assets at a customer's request (excluding alterations and relocation of public lighting assets)	
Damage to overhead service cables cause by high load vehicles	A quoted service charge will be applied to an identifiable third party when overhead service cables require repair due to the damage caused by the by high load vehicles.
High load escorts	A quoted charge will be applied to a person requiring lifting of overhead services to allow high load vehicles to safely pass along roads.
After hours truck appointment	A quoted service charge will be applied to a customer, retailer or contractor that requests attendance of a service vehicle by appointment after hours. Examples of situation where a service truck attendance is required are as follows: – De-energisation (fuse removal) and or opening an isolator where supply is greater than 100 amps – Supply alteration, additions and upgrades

Quoted service	Description
	– Other related distribution network work undertaken by Jemena due to a customer's request.
Auditing design and construction	A quoted service charge will be applied where a customer requests Jemena to audit a design or construction works undertaken by a customer or a third party in relation to a connection service.
Specification and design enquiry	A quoted service charge will be applied to a customer where a customer requests Jemena to provide information to assist them to undertake feasibility studies, designs or to provide budget estimates.

Source: Jemena *Regulatory proposal 2016–20, Attachment 11–5: User requested services explanatory statement*, 30 April 2015, p. 14.

B Annual metering charges unders and overs account

To demonstrate compliance with the distribution determination applicable to it during the 2016–20 regulatory control period, Jemena must maintain an annual metering charges unders and overs account in its annual pricing proposal.

Jemena must provide the amounts for the following entries in their annual metering charges unders and overs account for the most recently completed regulatory year (t–2) and the next regulatory year (t):

1. The amount of revenue recovered/to be recovered from annual metering charges, less the TARM for the regulatory years t–2 and t.
2. The calculated under/over recovery of revenue for regulatory years t–2 and t.
3. An interest charge for two years on the under/over recovery of revenue for regulatory year t–2. This adjustment is to be calculated using the approved nominal weighted average cost of capital (WACC). This adjustment is to be calculated using the respective approved nominal weighted average cost of capital (WACC) for each intervening year between regulatory year t–2 and year t.[76] The WACC applied for each year will be that approved by the AER for the relevant year.
4. Sum of items 2–3 to derive a closing balance for regulatory year t–2.
5. Opening balance in regulatory year t which is the closing balance in item 4.
6. Offsetting over/under recovery of revenue amount in item 5 to derive a closing balance as close to zero as practicable for regulatory year t. This amount will become the approved annual metering charges revenue under/over recovery for regulatory year t.

Jemena must provide details of calculations in the format set out in Table 16.16. Amounts provided for the most recently completed regulatory year (t–2) must be audited. Amounts provide for the next regulatory year (t) will be regard as a forecast.

In proposing variations to the amount and structure of annual metering charges, Jemena is expected to achieve a closing balance as close to zero as practicable in its annual metering charges unders and overs account in each forecast year in its annual pricing proposal during the 2016–20 regulatory control period.

As this is the first time Jemena will be subject to a revenue cap form of control mechanism there will be no adjustments for under or over recovery of revenue until regulatory year t is 2018. Therefore, the annual metering charges unders and overs

[76] For clarity, two WACC adjustments are applied: one for a year of interest between year t–2 and year t–1; and a second for a year of interest between year t–1 and year t. The WACC for each year will be that approved by the AER for the respective year, such that rolling WACC's are applied.

account must show a zero under/over recovery of revenue for regulatory year t–2 when regulatory year t is 2016 and 2017.

Table 16.16 Example calculation of annual metering charges unders and overs account ($'000, nominal)

	Year t–2 (actual)	Year t (forecast)
(A) Revenue from annual metering charges	**8449**	**6360**
(B) Less TARM for regulatory year =	**7349**	**6360**
+ Annual revenue requirement revenues (ARt)	7382	7559
+ T factor (Tt) – true-ups relating to the AMI–Order in Council	17	14
+ B factor (Bt) – revenue under/over recovery approved	–50[a]	–1213[b]
(A minus B) Under/over recovery of revenue for regulatory year	**110**	**0**
Annual metering charges unders and overs account		
Nominal WACC t–2 (per cent)	5.00%	
Nominal WACC t–1 (per cent)	5.00%	
Opening balance	n/a	1213
Under/over recovery of revenue for regulatory year	1100	–1213[b]
Interest on under/over recovery for 2 regulatory years	113	n/a
Closing balance	**1213**	**0**[c]

Notes: (a) Approved annual metering charges revenue under/over recovery for regulatory year t–2.

(b) Amount should offset the closing balance for annual metering charges unders and overs account for year t–2.

(c) Jemena is expected to achieve a closing balance as close to zero as practicable in its annual metering charges unders and overs account in each forecast year in its annual pricing proposal during the 2016–20 regulatory control period.