PRELIMINARY DECISION
AusNet Services 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 AusNet Services' 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

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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 AusNet Services 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 generally do not accept AusNet Services' proposed prices for ancillary network services. Specifically, we do not accept AusNet Services' proposed first year prices that have been derived using its net present value method. We consider the inclusion of forecast labour price growth in this method overstates the first year price for these services. Our preliminary decision has recalculated these prices without net present

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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.

value adjustments. We have also substituted our preliminary decision labour price growth. Our reasoning is detailed in sections 16.1.4.1 and 0.

We also do not accept the proposed prices for a number of services where we consider AusNet Services internal labour rates exceed our maximum total labour rates which we consider efficient for providing these services. We have substituted our maximum total labour rates for these services. Our reasoning is detailed in section 16.1.4.3.

However, there are some aspects of AusNet Services' proposal we do accept. We accept:

- the proposed prices for meter equipment tests as these were calculated using a method that did not include net present value adjustments
- AusNet Services contractor rates as these are market tested
- AusNet Services base internal labour rates for the majority of its services.

Appendix A contains our preliminary decision on the prices AusNet Services can charge for ancillary network services for the first year of the 2016–20 regulatory control period. Table 16.18 sets out approved prices for fee based services and Table 16.19 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 AusNet Services' 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, AusNet Services has developed separate prices for manually read and remotely read metering services. These separate prices are demonstrated in Table 16.18 and Table 16.19 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 AusNet Services agreed on in its regulatory proposal.[8]

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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; AusNet Electricity Services Pty Ltd, *Electricity distribution price review 2016–20*, 30 April 2015, p. 426. (AusNet Services, *Regulatory proposal 2016–20*, 30 April 2015).

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 16.18 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

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

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

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]

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

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

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 Table 16.19 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 Cities13 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.

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.

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.

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 AusNet Services' proposal

AusNet Services proposed a method largely based on its contractor costs to establish initial prices (or base prices) for fee based ancillary network services in the first year of the 2016–20 regulatory control period.[15] This method starts by applying AusNet Services' contractor costs in the distributors' central region where it outsources the provision of its services. The method then scales these contractor costs to the other regions of its network where AusNet Services is responsible for the provision of these services.

For its quoted services, AusNet Services proposed total labour rates based on historic labour rates adjusted for escalation.[16]

AusNet Services assumed the price caps will operate in the following way for fee based services:[17]

- 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 formula in Figure 16.1.
- The price cap formula allows prices to be annually adjusted for inflation.

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.

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

[15] AusNet Services, *Regulatory proposal 2016–20*, April 2015, pp. 416–417.

[16] AusNet Services, *Regulatory proposal 2016–20*, April 2015, pp. 419–420.

[17] AusNet Services, *Regulatory proposal 2016–20*, April 2015, p. 426.

16.1.3 Assessment approach

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

- AusNet Services' regulatory proposal[18]
- maximum total labour rates we developed for Victoria. Our findings are informed by our consultant, Marsden Jacob Associates', analysis[19]
- labour is the key input in determining an efficient level of prices for ancillary network services. Therefore, we focused on comparing AusNet Services' 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 service, as this is another key input into the final price.

We note that AusNet Service 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 16.1.4, 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 AusNet Services 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.[20]

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[18] AusNet Services, *Regulatory proposal 2016–20*, April 2015, pp. 414–423.

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

[20] NEL, ss. 7A and 16.

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 Net present value adjustments in AusNet Services method to derive first year prices

We do not accept AusNet Services' application of net present value adjustments in its cost build-up method to establish its proposed first year prices for ancillary network services. We consider the inclusion of future labour price growth in this method overstates the first year prices as provision for future labour price growth is already accounted for in the price caps for these services (see the X factors in Figure 16.1 and Figure 16.2).

In calculating its ancillary network services prices, AusNet Service's method has first applied a build-up of costs based on current rates. Then it has established prices for each year of the 2016–20 regulatory control period by adjusting the base prices for annual labour and material price growth. Then to establish the first year price, it has applied a net present value adjustment to the prices over the regulatory control period using its proposed weighted average cost of capital as the discount rate.

As noted by AusNet Services, this method means the first year prices include elements of future labour price growth.[21] However, we note there is no need to include future labour price growth in the first year price as it will be accounted for annually through the X factors in the price caps. We note AusNet Services may have undertaken this approach as our final F&A did not explicitly state how future labour price growth would be accounted for.[22] Therefore, we consider a more reliable approach is to establish the first year prices using the first step in AusNet Services' method (build-up of costs) which does not include future labour price growth. The price caps will adjust for annual labour price growth as intended.

Our preliminary decision has recalculated these prices using the first step in AustNet Services method; that is without the net present value adjustments. The preliminary decision approved prices are set out in Table 16.18 in appendix A.

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21 AusNet Services, *Regulatory proposal 2016–20*, April 2015, p. 417.

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

16.1.4.2 Labour price growth

We also do not accept the proposed labour price growth applied by AusNet Services 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.

16.1.4.3 Maximum total labour rates

In general, we accept AusNet Services' proposed internal total labour rates used to develop its fee based services. However, we do not accept the internal labour rates applied in the cost build-up for three of its services as they exceed our maximum total labour rates which we consider are efficient. Our preliminary decision has substituted our maximum total labour rates for these inputs in AusNet Services' build-up method to establish first year prices for fee based services.

We also do not accept AusNet Services' proposed quoted services labour rates as they include the net present value adjustments discussed above. Our preliminary decision has applied AusNet Services base year labour rates escalated into real 2015 dollar terms which do not exceed our maximum total labour rates. The approved labour rates for quoted services are set out in Table 16.19 in appendix A.

We also note AusNet Services engages contractors to deliver some of its ancillary network services. Our assessment on AusNet Services' contractors is discussed in section 16.1.4.4.

As we set out in section 0, we compared AusNet Services' 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 AusNet Services 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 that AusNet Services' proposed internal labour rates have been derived by either scaling its contractor rates or from escalating historical rates.[23] By applying these alternative methods, AusNet Services has over 20 different internal labour rates. As most of these rates reflect its contractor rates which are confidential, we are unable to publish them. However, for transparency Table 16.2 shows the maximum total labour rates we developed for our assessment of AusNet Services' 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 AusNet Services' 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

AER labour category	AER maximum total labour rates ($2014)
Administration	91.88
Technical	160.79
Engineer	172.28
Field worker	160.79
Senior engineer	229.70

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,

[23] AusNet Services, *Regulatory proposal 2016–20*, April 2015, pp. 416–417, 423.

Jemena and CitiPower.[24] 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.[25]

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.[26] We supplemented this with data from the Hays office support salary guide.[27] 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'.

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

[24] 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.

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

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

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

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

Source: Marsden Jacob 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 AusNet Services 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)
Administration	38.46
Technical	67.31
Engineer	72.12
Field worker	67.31
Senior engineer	96.15

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.[28]

We used this maximum on-cost rate of 43.78 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 the 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.[29] 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 an overhead rate maximum of 65 per cent should apply to all Victorian distributors as it provides the distribution business with a reasonable opportunity to recover at least its efficient costs.

16.1.4.4 Contractor rates

We accept the contractor rates AusNet Services applied 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

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

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

- contractor rates we have previously applied
- contractor rates used by other Victorian distributors.

Our assessment showed AusNet Services contracts were entered into through a competitive process and therefore these rates represent competitive market rates. In most instances the contractor rates were less than our maximum total labour rates. Therefore, we consider the contractor rates to be efficient.

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, AusNet Services 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.[30]

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 AusNet Services' prices or revenue.

16.2 Public Lighting

16.2.1 Preliminary decision

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

- a real pre-tax WACC of 4.11 per cent instead of the proposed 7.70 per cent
- amendment of the public lighting model to include the LED 18W, CF 32W, CF 42 W, Metal Halide (70W, 100W, 150W, 700W) and Mercury Vapour 700W as regulated lights

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.

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

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 AusNet Services Proposal

AusNet Services has used the AER's Public Lighting model to determine the fee based charges to apply to public lighting assets.[31]

AusNet Services has separate pricing structures for the Central Region and for the North and East Regions. These price structures take account of the higher costs associated with the provision of the services in these regions due to the higher costs of servicing lights in lower light density areas and greater distances travelled by contractors and service agents.

Table 16.6 sets out the proposed opex prices for the regulatory control period.

Table 16.6 Proposed Operation, Maintenance Fee Based ($ nominal)

	2016	2017	2018	2019	2020
Central					
Mercury Vapour 80W	43.71	46.97	50.22	53.44	56.61
HP Sodium 150W	100.31	105.19	110.09	115.00	119.87
HP Sodium 250W	101.25	106.18	111.13	116.08	121.00
Mercury Vapour 50W	66.88	71.86	76.83	81.76	86.61
Mercury Vapour 125W	64.26	69.04	73.82	78.55	83.21
Mercury Vapour 250W	106.31	111.49	116.69	121.89	127.05
Mercury Vapour 400W	110.36	115.73	121.13	126.53	131.89
HP Sodium 100W	107.33	112.55	117.80	123.05	128.27
HP Sodium 400W	143.78	150.77	157.81	164.84	171.82

[31] AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 425.

	2016	2017	2018	2019	2020
T5 2X14W	48.92	49.02	49.79	50.95	52.35
T5 2X24W	53.53	53.49	54.20	55.34	56.75
North & East					
Mercury Vapour 80W	49.43	53.07	56.72	60.35	63.94
HP Sodium 150W	113.93	119.39	124.89	130.41	135.91
HP Sodium 250W	112.69	118.13	123.61	129.10	134.58
Mercury Vapour 50W	73.16	78.54	83.94	89.32	94.63
Mercury Vapour 125W	73.16	78.54	83.94	89.32	94.63
Mercury Vapour 250W	117.20	122.85	128.55	134.27	139.96
Mercury Vapour 400W	120.58	126.40	132.26	138.14	144.00
HP Sodium 100W	121.90	127.74	133.63	139.54	145.43
HP Sodium 400W	160.03	167.74	175.52	183.33	191.10
T5 2X14W	54.53	54.91	55.99	57.47	59.20
T5 2X24W	59.25	59.50	60.51	61.98	63.72

Source: AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 425.

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.

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

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

asset base, geographic patch to cover, mix of luminaire types, among others). We have previously explained this in prior public lighting determinations.[33]

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.

Consistent with the other distributors we have amended the public lighting model to include the LED 18W, CF 32W, CF 42 W, Metal Halide (70W, 100W, 150W, 700W) and Mercury Vapour 700W as regulated lights. This will enable shared costs to be spread across the whole population of lights.

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.[34]

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.[35] GIS services costs were included for distributors to establish the 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:

- Material premium in poles & brackets capex

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33 AER, *2011-15 Victorian Electricity Distribution, Final Decision*, p. 836.

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

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

- Jemena have included this in their model and we have accepted it and include it in all distributors' models.

- Price factors for new lights agreed with AusNet Services, based on 2015 prices
- LED 18W
  - Introduce code for AusNet Services as per CitiPower and Powercor
  - AusNet Services provided the inputs for the opex cost build up and the code that they used to arrive at 2014 prices
- Volume discrepancies with Annual RIN actual data
  - AusNet Services provided revised volumes which reconciled to Annual RIN actual data

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.[36]

Preliminary decision prices for each light type are set out in Table 16.7.

Table 16.7 Public Lighting Charges($ nominal)

	2016	2017	2018	2019	2020
Central					
Mercury Vapour 80W	37.51	39.65	41.78	43.89	45.98
HP Sodium 150W	93.75	97.46	101.20	104.95	108.70
HP Sodium 250W	94.67	98.42	102.20	106.00	109.79
Mercury Vapour 50W	57.40	60.67	63.93	67.16	70.34
Mercury Vapour 125W	55.15	58.29	61.42	64.52	67.59
Mercury Vapour 250W	99.40	103.34	107.31	111.30	115.28
Mercury Vapour 400W	103.19	107.28	111.40	115.53	119.67
HP Sodium 100W	100.31	104.29	108.28	112.30	116.31
HP Sodium 400W	134.43	139.76	145.13	150.51	155.90
Metal Halide 70W	163.75	173.09	182.38	191.60	200.69
Metal Halide 100W	223.85	232.71	241.63	250.59	259.54
Metal Halide 150W	254.31	264.38	274.51	284.69	294.86
HP Sodium 50W	41.56	43.21	44.87	46.53	48.19

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

	2016	2017	2018	2019	2020
T5 2X14W	35.02	35.17	35.70	36.42	37.27
T5 2X24W	41.42	41.61	42.22	43.06	44.03
LED 18W	18.02	17.18	16.90	16.91	17.09
CF 32W	31.08	31.21	31.68	32.33	33.08
CF 42W	31.08	31.21	31.68	32.33	33.08
North & East					
Mercury Vapour 80W	42.83	45.20	47.56	49.91	52.22
HP Sodium 150W	106.98	111.12	115.28	119.46	123.65
HP Sodium 250W	105.74	109.86	114.00	118.15	122.32
Mercury Vapour 50W	63.39	66.90	70.39	73.86	77.29
Mercury Vapour 125W	63.39	66.90	70.39	73.86	77.29
Mercury Vapour 250W	109.97	114.25	118.56	122.88	127.21
Mercury Vapour 400W	113.15	117.55	121.98	126.43	130.88
HP Sodium 100W	114.47	118.89	123.35	127.83	132.31
HP Sodium 400W	150.16	156.00	161.87	167.78	173.69
Metal Halide 70W	162.95	171.96	180.94	189.86	198.67
Metal Halide 100W	226.59	235.35	244.17	253.03	261.90
Metal Halide 150W	257.43	267.38	277.40	287.47	297.54
HP Sodium 50W	48.65	50.53	52.42	54.32	56.23
T5 2X14W	39.70	39.98	40.65	41.51	42.49
T5 2X24W	46.88	47.22	47.99	48.99	50.12
LED 18W	18.41	17.59	17.34	17.38	17.57
CF 32W	35.33	35.58	36.17	36.94	37.81
CF 42W	35.33	35.58	36.17	36.94	37.81

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 DNSPs' 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.[37] 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.[38] 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.[39] 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. [40] It is not clear at this stage the extent to which the Victorian Government will adopt the national framework.

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

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

38 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.

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

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

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)
- Type 7 metering charges (individual price caps)

AusNet Services have chosen not to propose a meter restoration fee.[41]

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

16.3.1 Preliminary decision

16.3.1.1 Cost allocation

Our preliminary decision is that all metering costs should be recovered through alternative control services. We have not accepted AusNet Services' proposal that some forecast metering opex and capex and existing AMI IT/communication assets be recovered through standard control service charges.

As a result, our preliminary decision:

- reallocates $86.0 million in metering opex which AusNet Services included in its standard control services proposal, to alternative control metering services
- reallocates $10.0 million in metering communications infrastructure capex which AusNet Services included in its standard control services proposal, to alternative control metering services.[42]
- reallocates $75.3 million in AMI communications/IT assets from standard control RAB to the alternative control services metering RAB.

16.3.1.2 Annual metering charges

Our preliminary decision accepts a total revenue requirement of $442.5 million ($ nominal) over the 2016–20 regulatory control period for metering services. It includes the following building blocks:

- forecast capex of $52.5 million ($2015). We do not accept AusNet Services' proposal that customers should bear the forecast mesh radio switching costs of $100.7 million ($2015).

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41 AusNet Services, *Regulatory Proposal 2016–20*, p. 397.

42 AusNet Services, *Regulatory Proposal 2016–20, Metering cost model (Public), tab 'summary'*, 19 October 2015.

- Forecast opex of $139.7 million ($2015)
- an opening metering regulatory asset base as at 1 January 2016 of $380.4 million ($nominal)
- with respect to depreciation, accept standard asset lives of 15 years for metering assets and 7 years for communications, IT and other metering
- the same WACC and gamma values for standard control network services. 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 16.8.

Table 16.8 – Preliminary decision – metering annual revenue requirement

	2015	2016	2017	2018	2019	2020
Depreciation		40.7	44.0	46.9	36.2	25.9
Return on capital		23.2	21.6	19.5	17.3	15.8
Opex[a]		28.8	29.5	30.2	31.0	31.7
Tax		-	-	-	-	-
Unsmoothed revenue requirement		92.8	95.1	96.7	84.6	73.4
X factor (%)[b]		43.46	4.54	4.54	4.54	4.54
Smoothed revenue requirement	160.0	92.8	90.8	88.8	86.9	85.0

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.[43] 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, AusNet Services' 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 C 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.

[43] 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 C.

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[44] 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.

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

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[44] 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.

ΔCPI_t is the annual percentage change in the ABS CPI All Groups, Weighted Average of Eight Capital Cities[45] 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 C.

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 Meter exit fee

We are required to specify an exit fee for AusNet Services.[46]

The exit fees we have accepted in this preliminary decision are set out in Table 16.9.

[45] 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.

[46] NER, cl. 11.17.6.

Table 16.9—AusNet Services preliminary determination meter exit fees ($ nominal)

Meter type	2016	2017	2018	2019	2020
Single phase single element	475.66	428.61	378.20	335.56	307.84
Single phase two element with contactor	523.46	463.38	399.53	343.53	302.54
Multiphase	573.26	511.03	438.86	368.34	306.64
Multiphase with contactor	572.42	528.78	480.43	439.09	412.05
Multiphase CT connected	642.49	607.47	566.23	530.30	507.17

Source: AER analysis.

16.3.1.5 Type 7 metering services

AusNet Services provides Type 7 metering services to public lighting customers.

Our preliminary determination is to accept AusNet Services' proposal for two separate type 7 metering charges consisting of a charge per national meter identifier and a charge per street light. We also accept AusNet Service' proposal that type 7 metering charges will be adjusted by CPI in each year of the 2016–20 regulatory control period. Our approved type 7 metering charges are set out in Table 16.10.

Table 16.10— AusNet Services preliminary determination Type 7 metering charges ($nominal)

Category	2016	2017	2018	2019	2020
Per NMI	308.00	316.00	324.00	332.00	340.00
Per Light	1.61	1.65	1.69	1.73	1.78

Source: AER analysis.

16.3.2 Proposal

16.3.2.1 Cost allocation

AusNet Services proposed allocating metering expenditure and assets (both existing and future) across network standard control services and metering alternative control services.[47]

[47] AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 399.

16.3.2.2 Annual metering charges

AusNet Services proposed a revenue cap as the price control for annual metering charges in the 2016–20 regulatory control period.[48] This price control is consistent with our F&A for type 5, 6 and smart metering (regulated service).[49]

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

- a forecast metering alternative control capex of $143.1 million ($2015).[50] It also included $10.0 million ($2015) forecast metering capex related to AMI communications in standard control services.[51]
- a forecast alternative control metering opex of $53.8 million ($2015).[52] It also included forecast metering standard control opex of $86.0 million.
- an opening metering regulatory asset base as at 1 January 2016 of $351.9 million ($2015)[53]
- the same WACC and gamma values for standard control network service.[54]

AusNet Services included indicative annual metering charges in its proposal. These indicative charges are based on its proposed revenue for the 2016–20 regulatory control period. Table 16.11 sets out those indicative charges.

Table 16.11—Proposed Alternative Control Metering Service Charges

$, nominal	2016	2017	2018	2019	2020
Single phase single element	103.66	74.36	76.28	79.86	83.23
Single phase two element with contactor	119.12	85.45	87.66	91.76	95.64
Multiphase	143.91	103.24	105.91	110.87	115.55
Multiphase with contactor	159.64	114.52	117.48	122.98	128.17
Multiphase CT connected	205.49	147.41	151.22	158.30	164.98

Source: AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 402, Table 17.5.

48 AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 403.
49 AER, *Framework and approach: Victorian distribution determination 2016–20*, 24 October 2014, p. 73.
50 AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 401 (sum total in Table 17.2).
51 AusNet Services, *2016-20 Regulatory Proposal, Metering cost model (Public), tab 'summary',* 19 October 2015.
52 AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 401 (sum total in Table 17.3).
53 AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 402 (Table 17.4).
54 AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 402.

16.3.2.3 Metering exit fee

AusNet Services proposed an exit fee for when a metering customer chooses to replace a regulated meter installed under the derogation with a competitively sourced meter. AusNet Services notes that the Order states that:

> an exit fee must be paid by the retailer to the distributor, where the retailer becomes responsible for the metering installation that was previously the responsibility of the distributor.[55]

The proposed exit fee has the following components:

- recovery or sunk capital costs (residual asset base value)
- compensation for lost economies of scale associated with foregone network benefits
- reasonable and efficient costs of removing the metering installation.[56]

Departing customers will be charged the fee when they choose to take their metering services from a competitively provided source. In this instance, we will no longer regulate the customer's metering charge. The corollary is that customers will not pay this fee at all if they continue to receive metering services from their distributor.

Table 16.12—AusNet Services' proposed metering exit fees ($nominal)

Meter type	2016	2017	2018	2019	2020
Single phase single element	538.30	536.99	532.34	526.33	517.24
Single phase two element with contactor	562.53	554.14	541.87	527.98	510.76
Multiphase	583.48	575.00	558.50	535.93	505.26
Multiphase with contactor	570.04	574.98	576.01	575.44	571.69
Multiphase CT connected	659.44	668.52	672.80	674.41	671.88

Source: AusNet Services, Regulatory Proposal 2016–20, April 2015, p. 411, Table 17.9.

16.3.2.4 Type 7 metering installations

Table 16.13 sets out AusNet Services two type 7 metering charges for the 2016–20 regulatory control period.

[55] AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 404.
[56] AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 406.

Table 16.13 Proposed Type 7 metering charges ($nominal)

Category	2016	2017	2018	2019	2020
Per NMI	308.00	316.00	324.00	332.00	340.00
Per Light	1.61	1.65	1.69	1.73	1.78

Source: AusNet Services, *Regulatory Proposal 2016–20*, April 2015, p. 403, Table 17.6.

16.3.3 Assessment approach

16.3.3.1 Cost allocation

We had regard to AusNet Services approved CAM[57] 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.

Forecast capex

Our capex assessment involved two stages.

Firstly, we assessed capex related to AusNet Services' proposal to undertake a staged replacement of the existing communications infrastructure. [58] Our assessment of this issue is detailed in appendix A of this attachment.

Secondly, we assessed the remaining capex amount (the "business as usual" capex).

To assess remotely read interval meter capex, we reviewed unit rates and volumes. We benchmarked proposed meter hardware unit costs across the Victorian 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.

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.

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57 AusNet Services - Cost allocation method - November 2014 (consolidated)

58 AusNet Services, *Drafting for public consultation,* received 14 October 2015.

Forecast opex

We considered AusNet Services' 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.[59] 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.

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.

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.

When considering the extent to which AusNet Services had completed its AMI rollout we had regard to an Essential Services Commission (ESC) audit. It found that AusNet Services had not used its best endeavours to install its smart meters by 31 December 2013 and that many of the installed meters were not fully operational.[60] This led to an enforcement determination by the ESC resulting in AusNet Services' offering a smart meter undertaking.[61]

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.

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

[60] Essential Services Commission, *AusNet Services' compliance with AMI regulatory obligations*, December 2013.

[61] Essential Services Commission, *AusNet Services' compliance with AMI regulatory obligations*, December 2013.

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.[62]

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.[63]

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
- 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.[64]

For capex/opex trade-off step changes, we will assess whether it is prudent and efficient to substitute capex for opex or vice versa.[65]

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62 AER, *Expenditure assessment forecast guideline*, November 2013, p. 9.
63 AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.
64 AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.
65 AER, *Expenditure assessment forecast guideline*, November 2013, p. 11.

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 AusNet Services' proposed standard asset lives and had regard to the opening of competition to metering services.

Opening metering regulatory asset base

In assessing the proposed opening metering RAB value as at 1 January 2016, we reviewed how AusNet Services had rolled forward its metering RAB.

16.3.3.3 Metering exit fee

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

- AusNet Services' opening metering RAB as of 1 January 2016
- the forecast metering capex and opex which we have accepted in this preliminary decision for AusNet Services' 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 Type 7 meter installations

When assessing AusNet Services' proposed type 7 charges, we considered how it proposed to escalate the current prices per light and the business' previous charging practices.

16.3.3.5 Interrelationships

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

Our preliminary decision on AusNet Services' 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.

16.3.4 Reasons for preliminary decision

16.3.4.1 Cost allocation

This is not a straightforward application of AusNet Services' 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 extents, 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. Only 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.[66] 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.[67] 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 does not impact our assessment of the efficiency of these costs. Further, as both metering services and standard control services are regulated under a revenue cap, the ability of the Victorian businesses to recover their efficient costs is not affected.

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

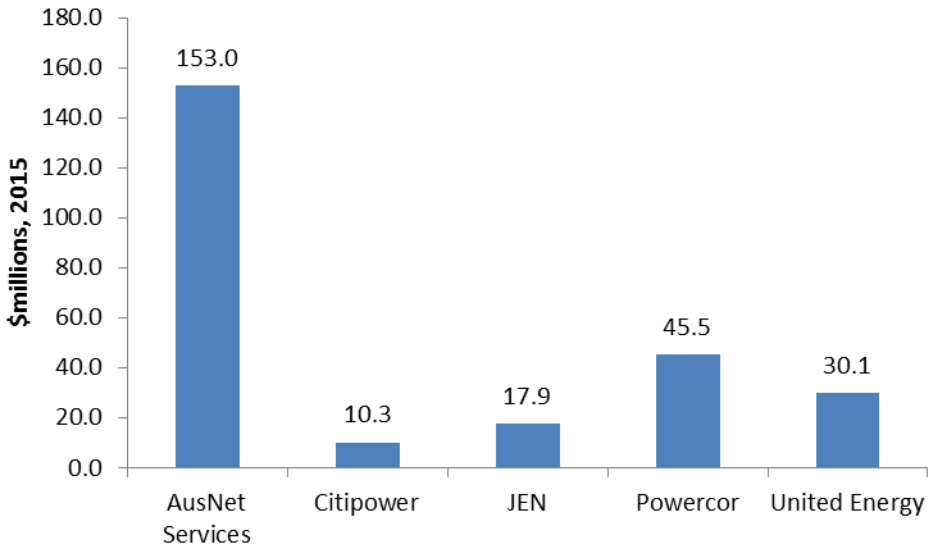
67 AEMC, *Information: Extension of time for final rule on provision of metering services*, 2 July 2015.

16.3.4.2 Annual metering charges

Forecast capex

AusNet Services' higher forecast metering capex compared to the other Victorian businesses is largely driven by its proposal to undertake a staged replacement of the existing communications infrastructure (WiMAX/3G) with mesh radio communications technology.

Figure 16.5 – Proposed metering capex for 2016–20 regulatory control period



Source: AER analysis. Includes metering capex proposed across standard and alternative control services.

We consider that moving to mesh radio communications technology incurs two types of costs:

- Mesh radio switching costs–setting up IT/communications infrastructure and replacing existing WiMAX/3G communications modules.
- Business as usual mesh radio costs–maintaining IT/communications infrastructure and installing mesh communications modules for all future meters.

We do not accept AusNet Service's proposed forecast metering capex relating to mesh radio switching costs. We recognise that AusNet Services may have to replace WiMAX/3G with mesh radio and will incur switching costs in the 2016–20 regulatory control period to do so. However, we consider that AusNet Services, not their customers, should bear the costs of switching. Our reasons are detailed in appendix A.

The remaining section relates to business-as-usual metering capex for remotely read interval meters, communications and IT.

Remotely read interval meters

We approve $45.8 million for metering capex related to remotely read interval meters. This includes meter hardware (meter and communications modules) and installation.

As the Victorian businesses have claimed confidentiality over unit costs, we can only provide a high level summary of our analysis.

Meter hardware unit costs

Our preliminary decision accepts AusNet Services' proposed meter hardware unit costs (meter and communications module inclusive) for the following meter types because they were the lowest proposed hardware unit costs by a Victorian business:

- single phase single element meter with contactor
- single phase two element with contactor
- three phase direct connected meter with contactor
- three phase current transformer connected meter.

However, we did not accept AusNet Services' proposed meter hardware unit costs (meter and communications module inclusive) for the 'single phase single element meter'.

Our substitute unit cost for the single phase single element meter is based on a lower forecast unit cost for that meter type submitted by another Victorian business in its proposal for the 2016–20 regulatory control period.

The fact that another Victorian business has been able to obtain a lower unit cost for a single phase single element meter indicates to us that our substitute unit cost is currently commercially available in Victoria and therefore is a reasonable benchmark.

Meter installation unit costs

We accepted AusNet Services meter installation costs because they were relatively low compared to the amounts proposed by the other Victorian distributors.

Meter volumes (hardware and installation)

For the preliminary decision, we have accepted AusNet Services' 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.

Communications/IT

We approve $5.9 million ($2015) of metering communications capex and $0.9 million ($2015) in metering IT capex as it relates to AusNet Services' business-as-usual requirements.

Forecast opex

We accept AusNet Services' proposed metering opex of $139.7 million ($2015). In reaching this preliminary decision, we applied a "base–step–trend" approach to develop our own alternative forecast. Using this approach, we found that AusNet Services' forecast opex, which applied a "bottom–up" build, was reasonable. Hence, it has been accepted.

Base

Our determination on AusNet Services' base level of metering opex applied the revealed costs approach. We also adjusted for any non–recurrent costs or material inefficiencies. Table 16.14 breaks down each component of our preliminary decision regarding AusNet Services' base metering opex.

Table 16.14 AER assessment of the base

Component	($m, 2015)
Raw base	48.5
Adjustment for non–recurrent costs	–20.5
Adjustment for material inefficiencies	0.0
Total	27.9

Source: AER analysis; AusNet Services, *Regulatory proposal 2016–20, Metering cost model*, April 2015.

Using the revealed costs approach, we selected AusNet Services' actual metering opex in 2014 as our starting point. AusNet Services actual metering opex in 2014 was $48.5 million ($2015).

We selected AusNet Services' actual metering opex in 2014 for two reasons. First, it is the last completed year from which we have audited accounts on AusNet Services' 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 AusNet Services had been set a target to have completed its rollout of AMI before the commencement of the 2014 year.[68]

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.[69] This is

[68] AMI Cost Recovery Order, clause 14.1.

[69] 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 2015-16 to 2019-20, Attachment 16*, April 2015; AER, *Energex: Preliminary decision 2015-16 to 2019-20,*

where we used an average of multiple years of a business's actual metering opex to derive the base. In the case of AusNet Services, 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, AusNet Services 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 AusNet Services 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 AusNet Services 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.

We consider it relevant to this aspect of our preliminary decision that the ESC found that AusNet Services had not used its best endeavours to install smart meters by 31 December 2013, as required.[70] It also found that AusNet Services' smart meters were not fully operational.[71] On the basis of these findings, we would expect non–recurrent expenditure in the base year. This has been confirmed by AusNet Services and our own analysis.

Table 16.15 sets out the cost categories which we have identified as non–recurrent. These costs may be further categorised into two groups. The first consists of costs AusNet Services identified as non–recurrent. The second is made up of an additional set of costs which, following our analysis, we consider to be non–recurrent.

Attachment 16, April 2015; AER*, Ergon Energy: Preliminary decision 2015-16 to 2019-20, Attachment 16*, April 2015.

70 Essential Services Commission, *AusNet Services' compliance with AMI regulatory obligations*, December 2013.

71 Essential Services Commission, *AusNet Services' compliance with AMI regulatory obligations*, December 2013.

Table 16.15 Calculation of non–recurrent expenditure

Cost category	($2015)
Group 1	
IT opex	4.0
Project management office (PMO)	8.8
Group 2	
Data management and maintenance expenditure	3.2
Manual meter reading	4.0
Total	20.5

Source: AusNet Services, *Response to AER information request IR# 019*, 3 September 2015, p. 1; AusNet Services, *Regulatory proposal 2016–20, Metering costs model*, April 2015.

As for the first group, AusNet Services identified IT opex and Project management office (PMO) costs as non–recurrent expenditure.[72] AusNet Services stated that the IT opex, totalling $4.0 million ($2015), is non–recurrent because it relates to costs which were incurred to remediate its IT systems. It noted that 'remediation costs are one off and not ongoing in nature'.[73] With respect to PMO, AusNet Services stated it established a project management office to manage its AMI rollout which was still operating in 2014.[74] This rollout phase is now complete and, accordingly, the associated PMO costs, equalling $8.8 million ($2015), are non–recurrent. In total, the first group of non–recurrent expenditure is equal to $12.8 million ($2015). We have removed this amount from AusNet Services' base level of metering opex.

With respect to the second group, we have identified additional non–recurrent costs following our assessment of AusNet Services' revenue modelling. In particular we observed that AusNet Services is forecasting a decrease in its data management and maintenance opex in the 2016–20 regulatory control period. To incorporate this forecast, we removed $4.3 million ($2015) of opex from the base. We consider this adjustment to be required in order to reflect AusNet Services' assessment of what its ongoing metering opex is likely to be.

We observed a further amount of non–recurrent expenditure relating to the cost of manually reading meters. The rollout of AMI means that in the 2016–20 regulatory control period, AusNet Services will no longer have to manually read its meters; AMI allows for service provider's to conduct remote readings. We calculated the amount of

[72] AusNet Services, *Response to AER information request IR# 019*, 3 September 2015, p. 1.
[73] AusNet Services, *Response to AER information request IR# 019*, 3 September 2015, p. 2.
[74] AusNet Services, *Response to AER information request IR# 019*, 3 September 2015, p. 2.

additional non–recurrent expenditure relating to manual meter readings to be $4.3 million ($2015).[75]

After removing 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 AusNet Services' circumstances for the reasons outlined in section 16.3.3.2 above.

We consider that following the removal of non–recurrent expenditure, AusNet Services' 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.[76] We have therefore decided not to make an efficiency adjustment to the base level of opex.

We consider a base of $27.9 million ($2015) is efficient. This amount includes a significant reduction for non–recurrent expenditure. Though significant, we note that the base we have determined is reflective of AusNet Services' proposed average annual metering opex of $28.5 million ($2015).

Step

AusNet Services did not propose, nor have we applied, any step changes.

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 AusNet Services may experience.

Additionally, we expect AusNet Services' 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

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[75] Note: We have made an allowance of $0.9 million ($2015) for the continued manual reading of meters in areas where it would be infeasible for an advanced meter to be installed. This may occur, for example, due to the unavailability of a communications device capable of remotely reading over the distances required in some regional areas of AusNet Services distribution network.

[76] AER, *Preliminary decision on AusNet Services' distribution determination*, October 2016, Attachment 3.

view that AusNet Services should be able to manage any real price changes through productivity improvements.

Once trended forwarded, we calculated an alternative metering opex equal to AusNet Services' proposed $139.7 million ($2015). We have, therefore, accepted the proposed metering opex.

Depreciation

We accept AusNet Services' 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 asset lives because, in each instance, 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 AusNet Services' proposal to roll AMI IT/communications into the standard control RAB.

This relates to our decision on cost allocation that all assets and expenditure formerly regulated under the Order should be in alternative control services for the 2016–20 regulatory control period.

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 fee

We have not accepted AusNet Services' proposed exit fees.

The exit fee recovers AusNets Services' historical, sunk capital costs. To calculate it, we applied our assessment of AusNet Services' 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.

AusNet Services' annual metering services expenditure for the 2016–20 regulatory control period is also an input into the calculation of the exit fee. We accordingly adjusted AusNet Services' proposed exit fees for our preliminary decision on AusNet Services' forecast capex and opex. Our preliminary decision on these aspects of AusNet Services' 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 AusNet Services' 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 proposed in the case of removing a meter.[77] 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, on account of our approved capex and opening RAB are set out in section 16.3.1.4.

16.3.4.4 Type 7 meter charges

Our preliminary determination is to accept AusNet Services' metering charges for type 7 metering services, as proposed (see section 16.3.1.5) because these are reasonable on account of being consistent with past charging practice. The preliminary determination charges are set out in Table 16.10. As per its previous approach to charging, AusNet Services propose to separate the type 7 metering charges into two parts; a charge per national meter identifier and a charge per light. These charges are adjusted by CPI for each year of the regulatory control period.

A Mesh radio switching costs

A.1 Preliminary decision

We do not accept AusNet Service's proposed forecast metering capex of $100.7 million ($2015) relating to switching from WiMAX/3G to mesh radio.

AusNet Services has proposed a staged replacement of WiMAX/3G with mesh radio[78] and in so doing will incur switching costs in the 2016-20 regulatory control period. However, we consider that AusNet Services, not their customers, should bear the costs of switching.

The NER provides for us to assess direct control services (which include alternative control services) against the revenue and pricing principles.[79] Our assessment demonstrates that it would be inconsistent with the revenue and pricing principles to allow AusNet Services to recover mesh radio switching costs from consumers.

We recognised AusNet Services need to switch from WiMAX to mesh radio in our Amended 2012–15 AMI Budget and Charges Determination. We found that an operator acting prudently and in accordance with commercial standards would switch by 28 February 2011 at the latest.[80] These findings were upheld by the Australian Competition Tribunal[81] and later the Federal Court of Australia.[82] Despite these findings, AusNet Services elected not to make the conversion and instead completed its AMI rollout using WiMAX/3G.

By deciding to switch to mesh radio in the forecast period (2016–20), AusNet Services will incur higher switching costs than it would have incurred, had it made the switch earlier. To allow AusNet Services to recover these costs from consumers is inconsistent the incentive-based nature of the NER regulatory framework.

A.2 Proposal

A.2.1 Strategy

AusNet Services has proposed the following strategy related to AMI communications:[83]

> In light of the performance issues, elevated operating costs and impending obsolescence of the PolicyNet enabled WiMAX and 3G communications technologies, and after detailed consideration of a number of Options, AusNet

78 AusNet Services, *Drafting for public consultation* [email attachment], received 14 October 2015.

79 NER, s. 16(2)(a)(i).

80 AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. 21.

81 Appeal by SPI Electricity Pty Limited [2013] ACompT 7.

82 SPI Electricity Pty Ltd v Australian Energy Regulator [2014] FCA 1012.

83 AusNet Services, *Drafting for public consultation* [email attachment], received 14 October 2015.

Services adopted an AMI Strategy to undertake a staged replacement of the existing communications infrastructure. The Options assessment process was undertaken utilising a structured, whole of life framework and identified that a staged transition to an alternative communications infrastructure would provide the best asset management, end to end performance and economic outcomes while delivering customer benefits in an appropriate timeframe.

The staged replacement incorporates the following key steps:

- Stage 1: Secure and stabilise the existing WiMAX solution (2015 and 2016) to support the ~440,000 logically converted meters
- Stage 2: Deploy a mesh infill solution (2015 to 2016):
    - Implement a mesh communications backbone enabling coverage of 98% of the meter fleet. This step involves establishing and adapting IT infrastructure and applications to support a mesh based solution including the development of a new MMS
    - Deploy mesh communications modules for the remaining 270,000 meters (infill)
    - Deploy mesh communications modules for new connections and replacements
- Stage 3: Progressively replace obsolete PolicyNet enabled WiMAX communications infrastructure in an orderly and efficient manner.

A.2.2 Mesh radio switching costs

AusNet Services did not isolate mesh radio switching costs from its overall metering capex proposal, such that they are readily identifiable. However, for the purposes of this preliminary determination we have provided the following breakdown.

As shown in the table below, we arrived at the figure of $100.7 million ($2015) based on analysis of AusNet Services' proposal. The main expense is retrofitting network interface cards (NIC). This involves going out to customers' premises to remove the WiMAX/3G NIC and replacing it with a mesh NIC. Switching costs also include setting up mesh communications/IT infrastructure and installing mesh antennas.

Table 16.16 Proposed mesh radio switching costs in 2016–20

	$2015, millions
NIC retrofit	71.5
Antennas	2.0
IT	17.2
Mesh communications infrastructure	10.0
Proposed mesh radio switching costs	**100.7**

Source: AER analysis based on data from AusNet Services, *Regulatory Proposal 2016–20, Metering Cost Model (Public), October 2015*.

A.3 Assessment approach

A.3.1 The nature and scope of the AER's preliminary decision

As an economic regulator, our role is to assess the prudent and efficient costs of providing safe and reliable regulated services. We consider relative technology options insofar as they affect the prudent and efficient costs of providing regulated services.

We recognise that AusNet Services will likely have to replace WiMAX/3G with mesh radio and will incur switching costs in the 2016-20 regulatory control period to do so. We accept that these switching costs are higher than what would be incurred had AusNet Services adopted mesh radio in 2011.

Our assessment in this appendix is whether the forecast mesh radio switching costs in the 2016–20 regulatory control period are prudent and efficient and whether they should be borne by customers. Our findings are that it would be contrary to the NEO and the revenue and pricing principles for customers to bear costs that exceed the prudent and efficient level required to provide a regulated service.

A.3.2 Regulatory framework

In our Final Framework and Approach, we classified the "type 5, 6 and smart meter - regulated service" as an alternative control service.[84] Accordingly, we made our assessment with regard to the specific regulatory framework in Victoria and the framework for regulating alternative control services in the NEL and NER.[85]

Metering services in the 2016–20 regulatory control period are regulated under the NEL and NER, subject to certain modifications set out in the Victorian Advanced Metering Infrastructure Cost Recovery Order-in-Council (the Order). In particular, clause 5K(b)(iv) states that after 31 December 2015, smart meter services are regulated pursuant to the NEL and the NER, provided that:

> for the purposes of a distribution determination with respect to the “type 5, 6 and smart metering – regulated service”, the AER may have regard to:
>
> (A) the actual and expected operating expenditure during the initial regulatory period of a distributor of, or in relation to, the provision, installation, maintenance and operation of advanced metering infrastructure and associated services and systems;
>
> (B) the actual and expected capital expenditure during the initial regulatory period of a distributor of, or in relation to, the provision, installation, maintenance and operation of advanced metering infrastructure and associated services and systems; and

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84 AER, *Final Framework and approach for the Victorian Electricity Distributors*. October 2014, p. 60.

85 NER, cl. 11.17.6(a).

(C) this Order and any determination made pursuant to this Order.

In assessing AusNet Services' proposal to replace WiMAX/3G with mesh radio, we have had regard to these factors. That is, we have considered AusNet Services' actual and expected opex and capex related to AMI in the initial regulatory control period, the Order and previous AMI Budgets (for the 2009–11 and 2012–15 periods) made pursuant to the Order. We have also had regard to previous Tribunal and Federal Court decisions related to previous AMI Budget appeals.[86]

Further, we have given regard to the factors set out in clause 6.2.5(d) of the NER, and the NEO and the revenue and pricing principles in the NEL[87]. We considered the following revenue and pricing principles to be the most relevant to this issue:

Revenue and pricing principle 7A(2)

A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs.

Revenue and pricing principle 7A(3)

A regulated network service provider should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides.

Revenue and pricing principle 7A(5)

A price or charge for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network service to which that price or charge relates.

A.4 Background

A.4.1 Communications technology

Smart meters are remotely read. Communications equipment is needed to transmit the electricity usage data from the meter to the distributor, removing the need to physically visit the customer's house or business.

There are different types of communications technology that can be used to remotely read a meter. In Victoria, the two main types of communications technology deployed are mesh radio and WiMAX communications. Compared to mesh radio, WiMAX is the more advanced (and therefore more expensive) communications technology.

Mesh radio is the communications technology used by United Energy, Powercor, CitiPower and Jemena for the AMI rollout. They will continue using mesh radio in the 2016–20 regulatory control period.

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86 NER, cl. 6.2.5(d)(5).

87 NEL, ss. 7A(2) - (7). See NEL, s. 16(2)(a)(i).

AusNet Services has used WiMAX since the commencement of the rollout until the present. AusNet Services also uses a small number of 3G communications modules for low-to-medium density sites.

A.4.2 Previous decisions and appeals

In the AER's AMI 2009-2011 Budget and Charges Final Determination, the AER approved forecast expenditure based on WiMAX metering communications technology for AusNet Services on the basis that:[88]

> SPA [now AusNet Services] demonstrated that it had made a reasonable commercial decision to employ WiMAX based on the overall costs, risks and suitability of available technologies. The AER was satisfied that SPA's selection of a WiMAX communications solution would provide a net benefit to consumers, retailers and to SPA, and accordingly decided to approve costs for the solution

However, the AER's AMI 2012-15 Budget and Charges Final Determination (2012-15 Determination) did not accept forecast costs based on continuing with WiMAX as AusNet Services proposed, as it considered that incurring these higher costs would be a departure from the commercial standard. Instead, it set a budget of $304.1 million ($2011) [89] based on a mesh-benchmark equivalent.

AusNet Services appealed the 2012–15 Determination at the Australian Competition Tribunal (the Tribunal). The Tribunal did not find error with the AER's benchmarking approach. It accepted the benchmarks determined by the AER were reflective of the costs of an AMI roll out using mesh radio, if that technology were chosen from the outset.[90] Nor did it find error with the AER's conclusion that the commercial standard a reasonable business would exercise in the circumstances of AusNet Services should have reconsidered its use of WiMAX and the possibility of using an alternative.[91]

However, the Tribunal found that after determining the benchmark expenditure, the AER failed to consider whether a reasonable business in AusNet Services' circumstances "would have incurred no more than the benchmark expenditure".[92] The Tribunal considered AusNet Services' circumstances were that of a business that had already embarked on its roll-out of WiMAX technology which was undertaken in light of the AER's earlier determination in which the AER accepted the costs associated with WiMAX as being prudent.[93] The Tribunal determined that the AER should have also considered the costs of switching to the new selected technology as well as the delays involved in retreating from the WiMAX communications technology the AER had first mandated.[94]

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88 AER, *2009-11 AMI Budget and Charges Final Determination*, October 2009, p. 24-25.
89 AER, *2012-15 AMI Budget and Charges Final Determination*, October 2011, p. 36.
90 *Appeal by SPI Electricity Pty Ltd [2012] ACompT 11,* [129].
91 *Appeal by SPI Electricity Pty Ltd [2012] ACompT 11*, [131].
92 *Appeal by SPI Electricity Pty Ltd [2012] ACompT 11*, [126]-[139].
93 *Appeal by SPI Electricity Pty Ltd [2012] ACompT 11*, [129]-[130].
94 *Appeal by SPI Electricity Pty Ltd [2012] ACompT 11*, [138].

In the Amended AMI 2012–15 Budget and Charges Final Determination (the Amended 2012-15 Determination) which was made pursuant to the Tribunals' orders, after completing a detailed quantitative analysis of forecast costs for WiMAX and mesh radio, the AER again found that a reasonable business in AusNet Services' circumstances would have decided to switch to mesh radio by 28 February 2011.[9596] The AER rejected the costs proposed by AusNet Services, which were based on continuing with WiMAX. Such costs were not considered prudent because incurring them would be a substantial departure from the commercial standard that a reasonable business would exercise in AusNet Services' circumstances.

However, in the Amended 2012–15 Determination, the AER recognised that a reasonable business in AusNet Services' circumstances as at 28 February 2011 would incur costs to switch to mesh radio. Further, the AER found it was appropriate to allow cost recovery from customers for switching costs to mesh for a business in AusNet Services circumstances in 28 February 2011. These costs included network interface cards (NIC), antennas, NIC retrofits, WiMAX remediation and WiMAX inventory.[97]

However this did not result in the AER amending the 2012–15 Budget because we found that the Approved 2011 Budget was sufficient for a reasonable business in AusNet Services' circumstances to switch to mesh radio without requiring additional revenue in the 2012–15 period. We found that "the lower mesh radio deployment costs would more than offset any switching costs the AER considers a reasonable business would incur in 2011"[98]. Instead, the AER provided AusNet Services with an Amended AMI 2012–15 Budget based on mesh-equivalent forecasts only.

The AER's Amended 2012-15 Determination was appealed by AusNet Services but subsequently upheld by the Australian Competition Tribunal[99] and later the Federal Court.[100]

A.5 Reasons for decision

The current context is different from when the AER last considered the issue of mesh radio switching costs in the Amended 2012–15 Determination. AusNet Services has now completed a full rollout of smart meters[101] using WiMAX/3G technologies[102] which

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95 AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. v.

96 28 February 2011 is the date that AusNet Services submitted its 2012–15 Budget and Charges application to the AER. It is also the date that the Tribunal directed the AER to use as the point in time that AusNet Services should have reconsidered its commitment to WiMAX technology.

97 AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. 93, table 3.8.

98 AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. 53.

99 Appeal by SPI Electricity Pty Limited [2013] ACompT 7.

100 SPI Electricity Pty Ltd v Australian Energy Regulator [2014] FCA 1012.

101 AusNet Services, *Regulatory Proposal 2016–20, Meter Asset Management Strategy (PUBLIC),* April 2015, Overview section, p. 6.

does not accord with the AER's Amended AMI 2012–15 Budget Final Determination, which was based on a mesh-benchmark equivalent.

Accordingly, the question that is now before the AER is whether AusNet Services' proposal for switching costs in the 2016–20 regulatory control period is prudent and efficient.

We assess this decision against the relevant revenue and pricing principles and with regard to AusNet Services' actual and expected capex related to AMI and previous AMI Budgets in the 2009–11 and 2012–15 periods. We make this assessment with the objective of promoting efficient investment in, and efficient operation and use of, electricity services for the long term interests of electricity consumers.[103]

A.5.1 A return commensurate with the regulatory and commercial risks involved

Revenue and pricing principle 7A(5) provides:

> A price or charge for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network service to which that price or charge relates.

The direct control service in question is alternative control metering services.

All the Victorian businesses were tasked with the same requirements regarding the specifications and timeframes for the AMI rollout under the Order. Therefore, regulatory and commercial risks at the commencement of the AMI rollout were largely common across the businesses.

AusNet Services now finds itself in a unique position compared to the other businesses. To be clear, this is not because they started with WiMAX communications technology; we consider that had AusNet Services switched to mesh radio earlier, it would be progressing onto a business-as-usual phase in the 2016–20 regulatory control period, as the other Victorian distribution businesses are. AusNet Services is in a unique position because it delayed shifting from WiMAX well after the time we found a reasonable business would have switched. In the Amended 2012-15 Determination, the AER noted:[104]

> February 2011 would be the *latest* date a reconsideration should have occurred. SP AusNet [AusNet Services] had several opportunities between July 2008 and February 2011 when it should have reviewed its options.

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[102] AusNet Services, *Regulatory Proposal 2016–20, Meter Asset Management Strategy (PUBLIC)*, April 2015, Part 2 Meter Communication Module. p.9, Table 1: Installed Communications Module by Type (as at Jan 2015).

[103] NEL, s. 16.

[104] AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. 21.

The delay in shifting from WiMAX after 28 February 2011 was imprudent. Mesh radio switching costs increased with every additional smart meter using WiMAX or 3G that AusNet Services installed. This is because switching to mesh radio becomes increasingly expensive because there are more network interface cards that need to be retrofitted.

Table 16.17 Running total of WiMAX/3G installations

	WiMAX	3G	WiMAX/3G combined
2010	59,270	0	59,270
2011	130,574	0	130,574
2012	339,782	0	339,782
2013	525,292	109	525,401
2014	583,437	86,717	670,154

Source: AER analysis, based on data from AusNet Services, *Regulatory Proposal 2016–20, Meter Asset Management Strategy (PUBLIC), Part 2 Meter Communications Module*, April 2015, p. 11, Table 3.

AusNet Services' NIC retrofit forecast in 2016–20 ($71.5 million), now that the rollout is complete, is significantly higher than both the AER's estimate ($1.3 million[105]) and AusNet Services' estimate ($19.8 million[106]) for NIC retrofits in 2011. This reflects the fact that in 2011, the rollout was still in its initial phases and only ramped up in subsequent years.

The Amended 2012–15 Determination provided for cost recovery based on mesh-benchmarked equivalent, with switching costs provided for in 2011, whereas AusNet Services continued to roll out the higher cost[107] WiMAX technology in spite of the Amended 2012–15 Determination. The prudent option to switch to mesh radio has always been available to AusNet Services.

It would not be an appropriate allocation of risk to make AusNet Services' customers bear the consequences of risks that AusNet Services knowingly undertook when it could have reasonably avoided it.

[105] AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. 93, Table 3.8.

[106] AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. 93, Table 3.8.

[107] AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. vi.

A reasonable opportunity to recover at least the efficient costs

Revenue and pricing principle 7A(2) provides:

> A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in—
>
> (a) providing direct control network services; and
>
> (b) complying with a regulatory obligation or requirement or making a regulatory payment.

The AER approved AMI Budgets for 2009–11 and 2012–15 periods that provided AusNet Services a reasonable opportunity to recover at least the efficient costs of providing metering services. In particular, the 2009–11 Budget was sufficient for AusNet Services to have switched to mesh radio within budget, because the switching costs would have been offset by the lower mesh costs.[108] The 2012–15 Budget provided for prudent and efficient cost recovery to complete the AMI rollout and provide metering services using mesh radio.

The AER provided AusNet Services an opportunity to recover its efficient costs in its Amended 2012–15 Determination. Customers should not be required to fund the consequences of AusNet Services' decision to delay the conversion to mesh radio communications. The Consumer Challenge Panel made a similar point in its submission that customers have "already paid sufficiently for a full roll-out as would be implemented by a reasonable business."[109]

Our decision is to find that the efficient forecast for the 2016–20 period should be based on expenditure for business-as-usual metering services only and not provide for an additional $100.7 million in switching costs.

Effective incentives to promote economic efficiency

Revenue and pricing principle 7A(3) provides:

> A regulated network service provider should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides. The economic efficiency that should be promoted includes—
>
> (a) efficient investment in a distribution system or transmission system with which the operator provides direct control network services; and
>
> (b) the efficient provision of electricity network services; and

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[108] AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. vii; Appeal by SPI Electricity Pty Limited [2013] ACompT 7, [157] and [174].

[109] Consumer Challenge Panel Sub Panel 3*, CCP3 Supplementary advice regarding the AusNet Services proposal,* [email], received 23 October 2015.

> (c) the efficient use of the distribution system or transmission system with which the operator provides direct control network services.

By delaying its conversion to radio mesh communications, AusNet Services has acted out of step with the commercial standard[110], the views of the AER and the Tribunal.

AusNet Services is proposing a WiMAX/3G replacement program at a time that will incur high switching costs because it has delayed switching until after completing its AMI rollout. The proposed switching costs in the 2016–20 regulatory control period are not prudent because a reasonable business is AusNet Services' circumstances would have completed switching by the end of 2011[111] and within the 2009-11 approved AMI budget.[112] Also, it only made this decision after the performance had deteriorated to the point, as AusNet Services itself submits, of significant instability[113] in its metering performance. It should be noted performance issues had been identified as far back a as 2011. As the AER noted in its Amended 2012-15 Determination:[114]

> [I]n January 2011, SP AusNet engaged Ernst & Young to review its AMI program's IT capabilities and architecture due to SP AusNet identifying issues and risks with its AMI program. Ernst & Young identified (among other things) that Grid Net's PolicyNet MMS was experiencing performance, stability and functionality issues and there was no certainty around its future and capability.

AusNet Services' proposal is that customers should bear the costs of it switching to mesh radio in 2016–20. Such a proposal is inconsistent with effective incentives to promote economic efficiency. When the AER determines a prudent and efficient allowance, the distribution business has the flexibility to spend this allowance as it sees fit. This includes deciding on the choice of communications technology for an AMI rollout. This flexibility means that if the distribution business can deliver its services for less than the allowance, it can keep a portion of the difference. This encourages distribution businesses to continuously strive to improve their efficiency.

However, if a distribution business makes a poor business decision, it is the distribution business who must bear the consequences (and costs) of that decision, not consumers. Otherwise, we would be providing distribution businesses with all costs associated with delivering their services, regardless of the efficiency or prudence of

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110 The AER determined the commercial standard in accordance with its task in clause 5C.3(b)(vi) of the Victorian Cost Recovery Order In Council to be "the commercial standard a reasonable business in SP AusNet's [AusNet Services'] circumstances would have exercised would have been to fully reconsider its Submitted Budget, and, in so doing, would have decided to switch to mesh radio." (see Amended 2012-15 Determination p. 17 and Appeal by SPI Electricity Pty Limited [2013] ACompt 7, [150]).

111 AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. vii.

112 AER, *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, p. vii.

113 AusNet Services, *Regulatory Proposal 2016–20, Meter Asset Management Strategy (Public),* April 2015, Overview section, p. 7.

114 *2012–15 AMI SPI Electricity Pty Ltd Budget and Charges Determination - amendments pursuant to the Australian Competition Tribunal's Orders*, February 2013, pp. 66-67.

those costs. To do so provides no incentive for distribution businesses to act prudently or efficiently, including reconsidering their elected strategies in the face of contrary information, in a timely fashion. This would be at odds with incentive regulation and would mean customers paying more than necessary which is not in the long-term interest of consumers.

B Approved prices for ancillary network services

B.1 Ancillary network services

Table 16.18 Fee based ancillary network services prices for 2016, preliminary decision ($2015)

Fee based service	Hours	Proposed price	Preliminary decision price
Routine new connections –customers <100amps			
Single overhead	Business hours	403.69	387.12
	After hours	487.89	466.83
Single underground	Business hours	210.30	201.06
	After hours	269.59	257.19
Multi overhead – Direct connected meter	Business hours	430.05	413.74
	After hours	519.74	498.92
Multi overhead – CT connected meter	Business hours	578.36	555.47
	After hours	698.98	669.84
Multi underground – Direct connected meter	Business hours	313.23	300.88
	After hours	389.01	372.63
Multi underground – CT connected meter	Business hours	452.53	434.09
	After hours	562.02	537.60
Install 95mm overhead service from LVABC	Business hours	709.41	637.98
	After hours	837.23	799.21
Other fee based connection services			
Temporary supply connection and with co-incident disconnection	Business hours	368.80	325.73
	After hours	437.00	413.69
Pre-approval of PV and small generator installation – <4.6kW	Business hours	$0	$0
Pre-approval of PV and small generator installation – >4.6kW to 15kW	Business hours	147.79	142.87
Pre-approval of PV and small generator installation – >15kW to 30kW	Business hours	195.91	189.40
Meter exchange upon solar connection	Business hours	Applicable exit fee plus service truck visit in the year the service is requested	Applicable exit fee plus service truck visit in the year the service is requested

Fee based service	Hours	Proposed price	Preliminary decision price
	After hours	Applicable exit fee plus service truck visit in the year the service is requested	Applicable exit fee plus service truck visit in the year the service is requested
Meter reconfiguration upon solar connection	Business hours	27.07	27.07
Other fee based ancillary network services			
Field officer visits	Business hours	18.46	17.95
	After hours	340.98	322.80
Service truck visits	Business hours	368.80	325.73
	After hours	437.00	413.69
Wasted truck visit	Business hours	195.80	185.36
	After hours	283.08	267.98
Meter equipment test – single phase	Business hours	158.67	153.39
Meter equipment test – single phase each additional meter at same site	Business hours	59.11	57.15
Meter equipment test – multi phase	Business hours	188.23	181.97
Meter equipment test – multi phase each additional meter at same site	Business hours	88.67	85.72
Auxiliary Metering Services Charges ($2016 nominal)			
Remote re-energisation and de-energisation[1]	Anytime	6.24	6.24
Remote meter reconfiguration[1]	Anytime	27.75	27.75
Remote special meter read[1]	Anytime	1.35	1.35

Source: AER analysis; AusNet, *Regulatory proposal 2016–20*, April 2015, pp. 413,418,421.

Note: Our preliminary decision prices will be escalated into real 2016 dollar terms using the percentage changes in the annual ABS September quarter index in AusNet Services' 2016 pricing proposal.

(1) Remote meter services are in nominal 2016 dollars and will not be required to be escalated in AusNet Services 2016 pricing proposal.

Table 16.19 Quoted service ancillary network services hourly labour rates for 2016, preliminary decision ($2015)

Service description	Hours	Proposed hourly labour rates	Preliminary decision hourly labour rates
Construction overhead install	Business hours	113.95	99.99
	After hours	138.40	121.44
Construction underground install	Business hours	111.30	97.66

Service description	Hours	Proposed hourly labour rates	Preliminary decision hourly labour rates
	After hours	135.17	118.61
Construction substation install	Business hours	111.30	97.66
	After hours	135.17	118.61
Electrical tester including vehicle and equipment	Business hours	198.98	174.60
	After hours	224.34	196.85
Planner including vehicle	Business hours	152.97	134.23
Supervisor including vehicle	Business hours	152.97	134.23
Design	Business hours	130.61	114.61
	After hours	158.63	139.19
Drafting	Business hours	100.36	88.07
	After hours	121.89	106.96
Survey	Business hours	118.23	103.74
	After hours	143.59	126.00
Technical officer	Business hours	118.23	103.74
	After hours	143.59	126.00
Line inspector	Business hours	113.95	99.99
	After hours	138.40	121.44
Contract supervisor	Business hours	118.23	103.74
	After hours	143.59	126.00
Protection engineer	Business hours	130.61	114.61
	After hours	158.63	139.19
Maintenance planner	Business hours	118.23	103.74
	After hours	143.59	126.00

Source: AER analysis; AusNet, *Regulatory proposal 2016–20*, April 2015, p. 424.

Note: Our preliminary decision prices will be escalated into real 2016 dollar terms using the percentage changes in the annual ABS September quarter index in AusNet Services' 2016 pricing proposal.

Table 16.20 AusNet Services' quoted services

Quoted service	Description
Reserve feeder maintenance	Maintaining network assets that provide an alternative supply to a customer's premise by reserving capacity for use by the customer in emergency situations.
Routine connections – customers above 100 amps	Connection services to customers making connection of a new premise to the network – where that customer is above 100 amps. This service includes the provision of a service cable in areas with overhead supply and making a connection in a pit for customers in underground supply areas or where a customer requests an underground connection in an overhead supply area.
Rearrangement of network assets at customer request, excluding alteration and relocation of public lighting assets	Works associated with any rearrangement of the network at the request of a third party. Examples may include a single pole relocation, a re-alignment of line of poles for road construction works, or relocation of a substation to enable a redevelopment of a site.
Auditing design and construction	Carrying out inspection and testing of works being constructed by third parties to be vested to the distributor to ensure compliance with standards and specifications.
Specification and design enquiry fees	Provision of design standards and specifications for works to be constructed by third parties and vested to the distributor.
Elective undergrounding where above ground service currently exists	Provision of underground services to customers in Overhead Supply areas where requested to do so by the customer. This service involves installing cable down an appropriate pole, trenching to a suitable location for an underground pit, and installing an underground pit.
Damage to overhead service cables caused by high load vehicles	The re-instatement of overhead lines that are pulled down by high loads. Where the party responsible for the damage is identified, AusNet Services will recover the costs to re-instate the line from the party concerned.

Quoted service	Description
High load escorts – lifting overhead lines	Escorting high load transportation through areas where lines may need to be temporarily lifted or removed to allow passage of the high load.
Covering of low voltage lines for safety reasons	The provision of temporary covers for mains and services to ensure a safe working environment for those required to work in close proximity to overhead power lines.
After hours truck by appointment	Distributor attendance by service crews as required outside normal working hours to carry out electrical trades work on customer's electrical interface to the network.

Source: AER analysis; AusNet, *Regulatory proposal 2016–20*, April 2015, p. 423.

C Annual metering charges unders and overs account

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

AusNet Services 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):

4. The amount of revenue recovered/to be recovered from annual metering charges, less the TARM for the regulatory years t–2 and t.
5. The calculated under/over recovery of revenue for regulatory years t–2 and t.
6. 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.[115] The WACC applied for each year will be that approved by the AER for the relevant year.
7. Sum of items 2–3 to derive a closing balance for regulatory year t–2.
8. Opening balance in regulatory year t which is the closing balance in item 4.
9. 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.

AusNet Services must provide details of calculations in the format set out in Table 16.21. 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, AusNet Services 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 AusNet Services 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

[115] 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 16.21 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	–50a	–1213b
(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	–1213b
Interest on under/over recovery for 2 regulatory years	113	n/a
Closing balance	**1213**	**0c**

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) AusNet Services 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.