Final Determination

Victorian Advanced Metering Infrastructure Review

2012–15 budget and charges applications

PUBLIC VERSION

October 2011

AUSTRALIAN ENERGY REGULATOR

Glossary

Abbreviation	Explanation
AER	Australian Energy Regulator
DNSP	Distribution network service provider
AMI	Advanced metering infrastructure
The Order	Cost Recovery Order in Council
UE	United Energy
JEN	Jemena Energy Networks
JAM	Jemena Asset Management
CHEDS	CHED Services
PNS	Powercor Network Services
AEMO	Australian Energy Market Operator
ESCV	Essential Services Commission of Victoria
DPI	Department of Primary Industries (Victoria)
NEL	National Electricity Law
NER	National Electricity Rules
ToU	Time-of-Use
WACC	Weighted Average Cost of Capital
DRP	Debt risk premium
Opex	Operating expenditure
Capex	Capital expenditure
ICT	Information Communications Technology
EBSS	Efficiency benefit sharing scheme
ToU	Time-of-use
BAU	Business-as-usual
FTE	Full-time employee
LAN	Local area network
ACS	Alternative control service
MWh	Mega-watt hour

Contents

Executive summary

Key Points

- The AER is required to review the advanced metering infrastructure (AMI) budget and charges applications of the Victorian distribution network service providers (DNSPs) for the 2012–15 budget period, pursuant to the AMI Cost Recovery Order in Council.
- The Order mandates the roll-out of AMI technology—commonly referred to as smart meters. The AMI program is a major Information Communications Technology project affecting electricity customers in Victoria. From 2009 to 2015, it is estimated that the DNSPs will spend over $2 billion on the roll-out.
- The Order provides that DNSPs are able to recover expenditure associated with the AMI program from consumers on a cost pass-through basis.
- The AER rejected the DNSPs' proposed budgets in its Draft Determination. The DNSPs submitted amended budget applications to the AER in response, which the AER has assessed in this Final Determination.
- Excluding SP AusNet, the DNSPs' proposed expenditure is less than in their original budget applications. Expenditure in SP AusNet's amended budget application is 11 per cent higher.
- The AER approves the following 2012–15 budgets for each DNSP:
  - SP AusNet—$304 million
  - United Energy—$225 million
  - Jemena Energy Networks—$131 million
  - CitiPower—$124 million
  - Powercor—$312 million.

The Australian Energy Regulator (AER) is required to review the advanced metering infrastructure (AMI) budget and charges applications of the Victorian distribution network service providers (DNSPs). The five licensed DNSPs in Victoria are SP Australia Networks (SP AusNet), United Energy (UE), Jemena Energy Networks (JEN), CitiPower and Powercor.

SP AusNet services customers in the eastern suburbs of Melbourne, and north-east and eastern Victoria, UE in south-east Melbourne and the Mornington Peninsula, and JEN in Melbourne’s north-western suburbs. CitiPower's distribution network is located in Melbourne's central business district and inner suburbs, and Powercor's in Melbourne's western suburbs, and west and north-west Victoria.

The AMI roll-out program is regulated under an Order in Council made under the Electricity Industry Act 2000 (Vic) (the Order). The Order sets out the AER's role in the determination of AMI budgets, revenues and charges. The regulatory framework is discussed in detail in the introduction of this determination.

The AER may determine to approve or reject a proposed Submitted Budget, giving reasons. The AER must approve a Submitted Budget unless it establishes that the expenditure (or part thereof) that makes up the total operating and capital expenditure for each year is for activities outside scope or is not prudent. In undertaking its assessment, the AER is provided with information from the DNSPs and consultants to the AER, as well as submissions from interested parties. Benchmarking information is utilised where available and appropriate.

In this Final Determination, the AER has determined the Approved Budget for each DNSP for the 2012–15 budget period pursuant to clause 5C.6 of the Order. In the Draft Determination, the AER rejected the DNSPs' proposed Submitted Budgets. The DNSPs then applied for AER approval of their amended Submitted Budgets.

The DNSPs' budgets for the AMI roll-out are established at the beginning of the budget period, and then annual charges are determined following a post review of their actual expenditure. A DNSP may, at any time after the AER makes a determination, notify and seek approval from the AER of any actual or anticipated variance from its Approved Budget.

The AER previously approved expenditure for the 2009–11 budget period. From 2015, charges for AMI services will be reviewed under the National Electricity Rules as part of the 2016–20 Victorian Electricity Distribution Determination.

AER approved budgets and charges

The AER approved 2012–15 budget for each DNSP is set out in Table 1.

Table 1 AER Final Determination—2012–15 Approved Budget ($'000s, real 2011)

DNSP	Original budget application	AER Draft Determination	Amended budget application	AER Final Determination
SP AusNet	370 965	232 704	410 730	304 102
UE	243 790	150 993	227 256	225 481
JEN	135 413	87 815	129 006	131 432
CitiPower	156 922	88 511	127 931	123 650
Powercor	337 615	203 025	318 997	311 965

The AER's determination allows the DNSPs to set charges shown in Table 2. Meter charges as determined by the AER are based on the budgets submitted by each DNSP and the AER's building block calculations, which allow each DNSP to recover capital and operating costs.

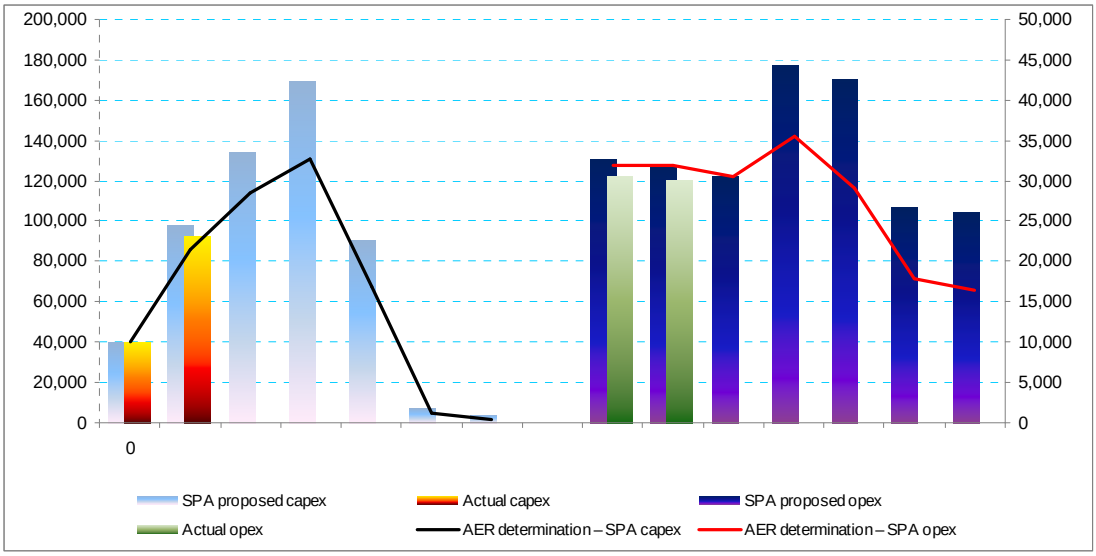
Table 2 AER Final Determination—forecast charges for single-element meters ($ per meter)

DNSP	2011	2012	2013	2014	2015
SP AusNet	93.83	107.25	122.60	140.14	160.19
UE	92.12	106.57	123.30	142.64	165.02
JEN	136.70	153.95	173.38	195.26	219.90
CitiPower	91.38	99.31	107.92	117.29	127.46
Powercor	95.01	102.96	111.57	120.90	131.01

Expenditure proposed by distribution businesses compared to AER determination

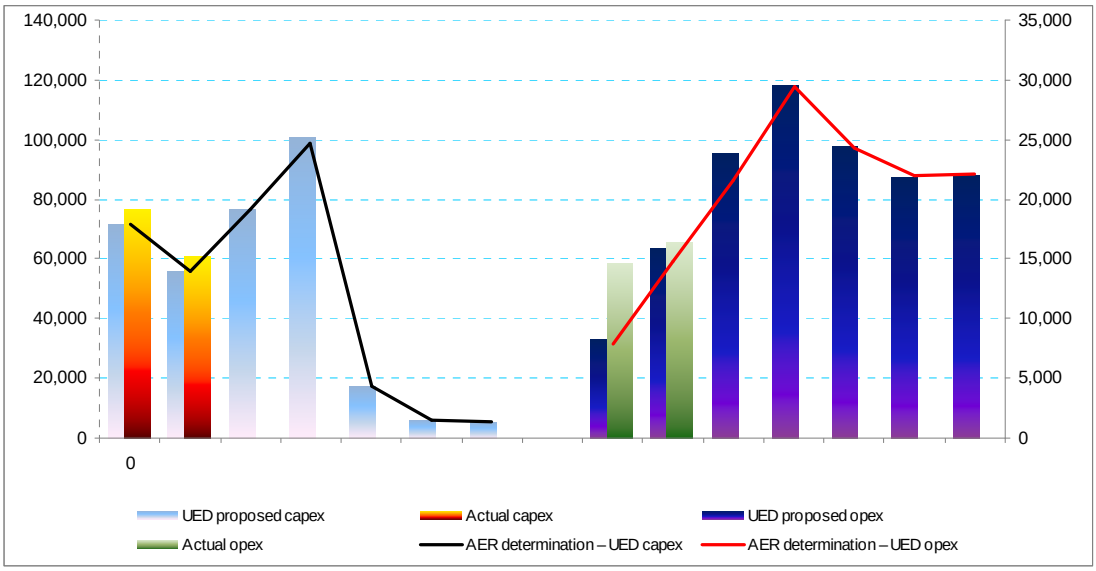
Figures 1 to 5 below show the AER's Approved Budget for each DNSP for the 2009–11 budget period and 2012–15 period, as well as the DNSPs' amended budget applications for both budget periods. Capital expenditure (left axis) and operating expenditure (right axis) are shown separately. Capital expenditure includes purchase and meter installation costs. Operating expenditure includes Information Communications Technology (ICT) costs, customer service support and project management fees.

Figure 1 SP AusNet proposed budget and AER Final Determination ($'000, real 2011)



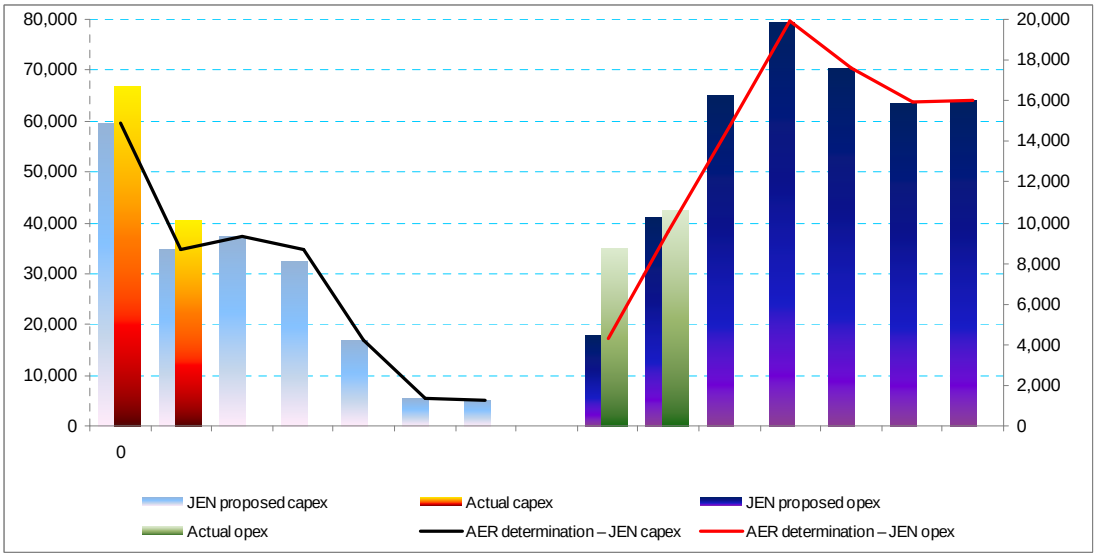
The AER's determination cuts SP AusNet's proposed capital and operating expenditure by 24 and 29 per cent respectively for the 2012–15 budget period (Figure 1).

Figure 2 UE proposed budget and AER Final Determination ($'000, real 2011)



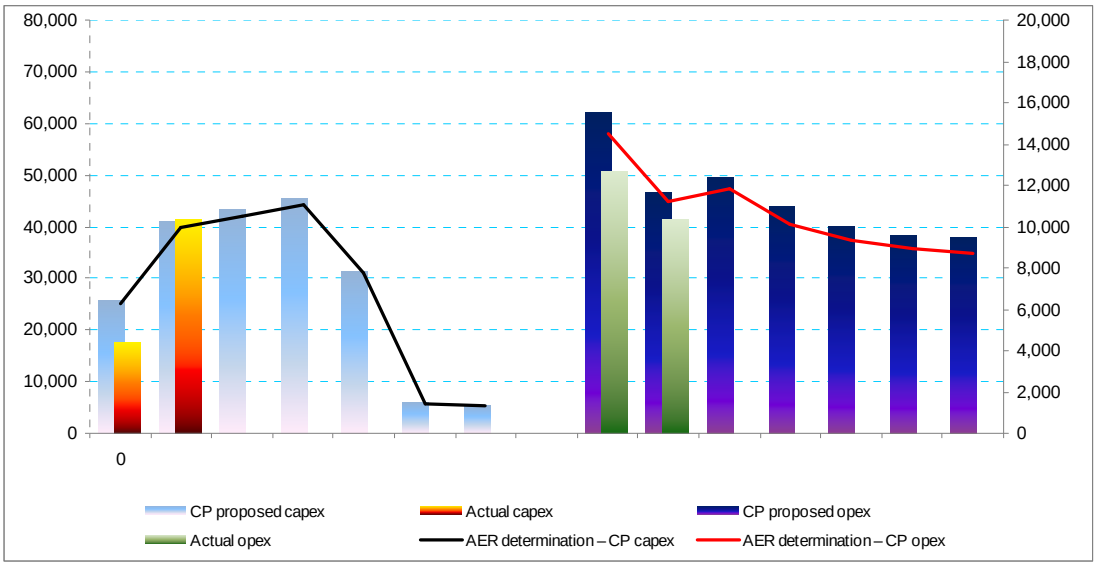
The AER's determination cuts UE's proposed capital expenditure by 1 per cent for the 2012–15 budget period (Figure 2). The AER's determination reduces operating expenditure slightly, which includes a reduction in service delivery and contract management and an increase for foreign exchange movements since UE submitted its amended budget application. The AER revised the exchange rate assumptions provided by the DNSPs effective as at 5 October 2011.

Figure 3 JEN proposed budget and AER Final Determination ($'000, real 2011)



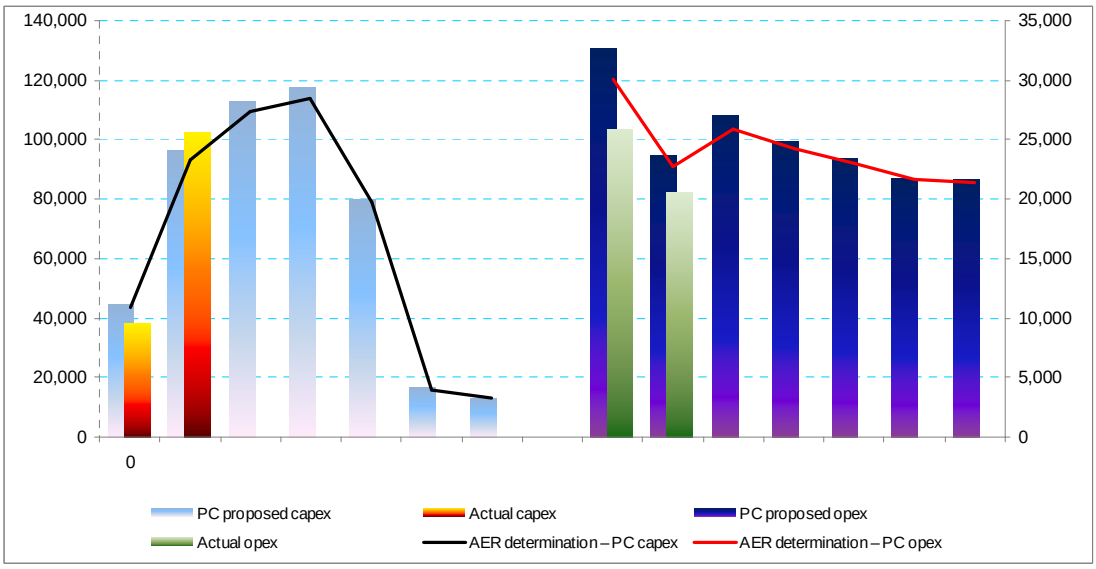
The AER's determination increases JEN's proposed capital expenditure by 4 per cent for the 2012–15 budget period (Figure 3). Operating expenditure has increased slightly. These increases in capital and operating expenditure are due to foreign exchange movements since JEN submitted its amended budget application.

Figure 4 CitiPower proposed budget and AER Final Determination ($'000, real 2011)



The AER's determination cuts CitiPower's proposed capital and operating expenditure by 2 and 7 per cent respectively for the 2012–15 budget period (Figure 4).

Figure 5 Powercor proposed budget and AER Final Determination ($'000, real 2011)



The AER's determination cuts Powercor's proposed capital and operating expenditure by 2 and 2 per cent respectively for the 2012–15 budget period (Figure 5).

Key issues arising from the AER's assessment

The AER has approved higher expenditure for each DNSP compared to its draft decision. The AER also approved two-element meters and expenditure associated with related party transactions, which the AER did not consider to be prudent or out of scope in the Draft Determination. The most significant cut to expenditure is for SP AusNet. Each of these issues is discussed below.

Higher operating expenditure to 2015

The AER, in its Draft Determination, considered that the DNSPs' capital and operating expenditure profiles should be consistent with the AMI roll-out schedule. The schedule requires the DNSPs to install 60 per cent of remotely read interval meters by 30 June 2012, and 95 per cent of meters by 30 June 2013.

Based on the AMI roll-out schedule, the AER considered that the DNSPs should be entering a 'business-as-usual' phase after the up-front establishment costs associated with the installation of smart meters have been incurred. The AER understood that when the majority of AMI meters have been installed and, therefore, most capital expenditure has been incurred, activities that support the roll-out would no longer be required. This was expected to be reflected in the DNSPs' capital and operating expenditure profiles. As stated by the AER:

> … the DNSPs' opex forecasts for 2012–15 did not trend downwards to the extent that would be expected, considering the completion of the AMI roll-out in 2013 and the expectation that metering services would be entering a 'business-as-usual phase'.[1]

The Hon. Michael O'Brien, Minister for Energy and Resources Victoria, also raised concerns about proposed operating expenditure after the completion of the AMI roll-out. For example, the Minister submits there is no obvious reason for CitiPower and Powercor's project management costs, or SP AusNet's meter reading costs, to continue beyond 2013.[2]

In its assessment of the initial budget applications, the AER found the DNSPs did not fully detail or explain proposed expenditure. As a result, the AER was not convinced that operating expenditure proposed by the businesses was prudent when assessing each cost item. In these circumstances, the AER relied on advice from its independent consultant, Impaq Consulting, which conducted a 'bottom-up' assessment to determine prudent expenditure.

In response to the AER's Draft Determination, most DNSPs provided additional information to the AER to substantiate their initial claims. Further, the DNSPs provided detailed responses to AER questions as to why proposed operating expenditure levels do not follow capital expenditure patterns.

Distribution businesses' explanation of operating expenditure to 2015

The DNSPs state the AMI roll-out is an innovative project involving the development, installation, and operation of cutting-edge metering and communications technology on a large scale, in a short amount of time. The DNSPs explain that ICT projects of this size are inherently difficult and complex to implement—particularly for relatively new and immature technology.

The DNSPs generally submit operating expenditure directly relating to the AMI roll-out will ramp down with capital expenditure. However, according to CitiPower and Powercor, most operating expenditure is unrelated to capital expenditure and not

1 AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications, July 2011, p. 7.

2 The Honourable Michael O'Brien MP, Response to the AER's 2012–2015 AMI Draft Determination, September 2011, pp. 6–7.

associated with the AMI roll-out; or inversely related to capital expenditure—such as IT operating expenditure, backhaul communications, communications operations and meter maintenance.[3]

The DNSPs generally assert that ongoing operating expenditure levels will be higher following the AMI roll-out. CitiPower and Powercor suggest there is a residual business-as-usual component that is invariant to capital expenditure at the conclusion of the AMI roll-out.[4] Similarly, JEN states:

> Such an extensive IT and communications infrastructure requires constant maintenance and operational management to ensure that 100 percent of meters are serviceable as remote AMI meters. As such, AMI doubles the number of connections managed by the distribution business (Electrical and Communications) and significantly increases the overall operational costs.[5]

The AER's expert consultants have differing views on trends in operating expenditure. Energeia suggests expenditure in 2015 can be reasonably attributed to material changes in the DNSPs' regulatory obligations under the Order to install and operate new metering infrastructure.[6] On the other hand, Impaq Consulting states:

> The Opex proposals of all DNSPs for 2014 and 2015 are excessive and reflective of a continuation of high Opex costs that are associated with the AMI rollout years rather than post the AMI rollout. With the very large capital investment made to automate the collection and processing of metering data the operating costs should reduce in 2014 and 2015 …[7]

On balance, the AER accepts it is plausible that there will be a 'step up' in the DNSPs' ongoing operating expenditure after the completion of the major part of the AMI roll-out. This is reflected in the AER's assessment of the individual expenditure items proposed by the DNSPs in this determination. The AER acknowledges that the Cost Recovery Order reflects that the AMI roll-out requires investment in new technology, which introduces new and additional metering obligations for the businesses. This is likely to mean a new and different operating metering environment for the DNSPs as compared to the pre-AMI period.

Two-element meters in scope

Two-element meters are not included in the AMI minimum functionality specifications. The Order states that services beyond those in the specifications[8] are outside scope.[9] However, if a DNSP is able to demonstrate that allowing the expenditure will result in a net benefit to customers and market participants, the AER can exercise its discretion and approve the expenditure.[10][11]

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3 CitiPower and Powercor, Response to AER information request, 9 September 2011.
4 CitiPower and Powercor, Response to AER information request, 9 September 2011.
5 JEN, Response to AER information request, 9 September 2011.
6 Energeia, Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15, October 2011, pp. 14–15.
7 Impaq Consulting, Review of revised AMI budget submissions, p. 5.
8 The specifications of 1 January 2009.
9 Cost Recovery Order, schedule 2.2(iii), 2.7(iii), 2.11(iii).
10 AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, p. 29.

The DNSPs submit that the installation of two-element meters will result in a range of benefits to customers and market participants. These benefits include the avoidance of customer price shocks, lower costs resulting from customer complaints and tariff reassignments, and less network augmentation.

In the Draft Determination, the AER found two-element meters were outside scope and did not approve expenditure relating to these meter types. The AER considered that as the time-of-use (ToU) moratorium was due to expire on 31 December 2011, which means all customers would be assigned to TOU tariffs, the benefits of two element meters, as outlined by the DNSPs, would not be realised.

The Victorian Government has since clarified that the ToU moratorium is intended to be extended for a further twelve months. Given the extension of the ToU moratorium, the benefits of two-element meters submitted by the DNSPs are more likely to be realised and the AER has approved the expenditure relating to two-element meters for the 2012–15 budget period for SP AusNet, UE, and CitiPower and Powercor.

AER approves related party transaction margins

The DNSPs, with the exception of SP AusNet, submit that related party transactions should include a margin for services provided. The DNSPs engage in outsourcing to contractors that are related to the DNSPs through common ownership. As a result, some of the DNSPs' operating and capital expenditure forecasts are based on the charges they expect to pay to these related party contractors.

In the Draft Determination, the AER found that related party margins are within scope but established that incurring the expenditure was a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Taking into account information provided in UE, JEN, CitiPower and Powercor's amended Submitted Budgets and the related party contracts, the AER now considers that it is unable to establish that the commercial standard applicable to each business may not have included a margin as was proposed by the above DNSPs.

In incurring the related party margins, the DNSPs submit that they relied on empirical evidence provided by their expert consultants, which reflected actual commercial practice at the time. The evidence available to the DNSPs of broadly comparable margins is consistent with margins proposed to the DNSPs by the related party contractors.

The DNSPs' decision to commit to the related party contracts was a commercial option that may have been acceptable to a reasonable business in their particular circumstances. Therefore, the AER is unable to establish the related party transaction margins represent a substantial departure from the commercial standard under the Order.

[11] The framework and approach paper states that the 'distributors will need to provide a separate cost-benefit analysis quantifying benefits to the distributor, retailers and end customers, and demonstrating why regulated tariffs should provide the revenue required.'

AER cuts to expenditure proposed by SP AusNet

SP AusNet chose to roll-out a WiMAX communications technology for the smart meters. In contrast, the other DNSPs all chose a less expensive, proven mesh radio communications solution. Expenditure required for SP AusNet's AMI roll-out has increased significantly since its original AMI application to the AER in 2009.

The AER considers that certain expenditure associated with SP AusNet's decision to proceed with the WiMAX solution is not prudent. For example, the AER rejects expenditure proposed by SP AusNet relating to meter unit costs, communications infrastructure and maintenance, and IT capital and IT operating expenditure.

In addition, SP AusNet proposes $20 million of new expenditure in its amended budget application that cannot be considered by the AER as part of this process because it relates to activities that were not proposed in SP AusNet's original application. The AER notes that, under the Order, SP AusNet may choose to seek a variation of the budget approved by the AER at any time after the 2012–15 Final Determination is made for actual or anticipated changes to the budget.

1 Introduction

The Victorian Government mandated the rollout of advanced metering infrastructure (AMI) over the period 2009–15 for all customers consuming less than 160 MWh per annum in 2006 (section 1.1). The Australian Energy Regulator (AER) is required to approve the setting and recovery of prices, fees and charges relating to the roll-out of AMI to electricity consumers across Victoria. The AER must review AMI budget and charges applications of the Victorian distribution network service providers (DNSPs).

This is the AER's Final Determination for the DNSPs budget applications for the period 1 January 2012 to 31 December 2015, and proposed charges for each of the years commencing 1 January 2012, 2013, 2014 and 2015. The five licensed DNSPs in Victoria are SP Australia Networks (SP AusNet), United Energy (UE), Jemena Energy Networks (JEN), CitiPower and Powercor.

The AMI roll-out program is regulated under an Order in Council under section 15A and section 46D of the Electricity Industry Act 2000 (Vic) (the Cost Recovery Order. The Order provides for a pass-through of the costs of a DNSP for regulated services associated with the roll-out.

The DNSPs had until 26 August 2011 to submit their amended Submitted Budgets following the release of the AER's Draft Determination. Additionally, the DNSPs and other stakeholders had until 9 September 2011 to make submissions to the AER. The amended budget applications and stakeholder submissions are available on the AER's website at: www.aer.gov.au.

The AER has addressed contentions made by the DNSPs that the AER has misinterpreted or misapplied the scope and prudent tests. The AER also has taken into account concerns about the nature and use of the analysis and information provided by the AER's consultant for the Draft Determination, Impaq Consulting.

The AER's Final Determination is set out as follows:

- Section 2—SP AusNet
- Section 3—UE and JEN
- Section 4—CitiPower and Powercor

In the Final Determination, the AER focuses mostly on expenditure proposed by the DNSPs in their budget applications that was rejected in the AER's Draft Determination. The AER does not generally seek to detail its assessment of expenditure that has already been approved by the AER.

A glossary of terms can be found at the front of this document (p. 3).

1.1 Background

In 2006, the Victorian Government mandated the rollout of AMI over the period 2009–15 for all customers consuming less than 160 MWh per annum. Manually read meters will be replaced with AMI technology, which provides half-hourly consumption information to DNSPs. By the time the AMI roll-out is completed, it is

estimated that there will be around 2.7 million 'small customer' supply points requiring around 2.9 million AMI meters.

The AMI roll-out is a major Information Communications Technology project affecting electricity customers in Victoria. From 2009 to 2015, it is estimated that the DNSPs will spend over $2 billion on the AMI program.

The regulatory arrangements relating to the roll-out were initially set out in an August 2007 Order in Council (the Order) made under the Electricity Industry Act 2000 (Vic). The Victorian Government published minimum AMI functionality and service level specifications for the AMI roll-out in October 2007, and revised them in September 2008. These specifications set the minimum requirements that the DNSPs must comply with in procuring and implementing their AMI systems.

Under the Cost Recovery Order, the DNSPs were required to commence installing advanced interval meters by the middle of 2010, with the roll-out to be completed by the end of 2013. The full roll-out schedule is shown in the Table 1.1.

Table 1.1 AMI roll-out schedule

Timeline	Roll-out percentage
30 June 2010	5%
31 December 2010	10%
30 June 2011	25%
30 June 2012	60%
30 June 2013	95%
31 December 2013	100%

Responsibility for regulatory oversight of the costs associated with the roll-out transferred from the Essential Services Commission of Victoria (ESCV) to the AER on 1 January 2009.

The AER published a framework and approach paper regarding regulatory arrangements for the AMI roll-out on 29 January 2009. The framework and approach paper incorporated submissions on the ESCV's previous consultation paper, as well as stakeholder submissions and considerations. It sets out the framework and approach to be applied by the AER in making a determination on budgets and charges for AMI services.

In October 2009, the AER made its final determination for the 2009–11 budget period. The AER's determination approved $1.08 billion in expenditure, compared to the $1.2 billion proposed by the DNSPs. The AER also set customer charges for metering services for 2010 and 2011.

1.2 Regulatory framework

The Cost Recovery Order provides for a cost pass-through model under which budgets for the AMI roll-out are established at the beginning of each of the budget periods, and then annual charges are determined as part of an ex post review based on actual expenditure. The focus of the regulatory framework is on the AER ensuring that forecast and actual expenditure on the AMI roll-out is within scope and is otherwise prudent, in accordance with the Order.

A DNSP may, at any time after the AER makes a determination, notify the AER of any actual or anticipated variance from its Approved Budget. A revised charges application must be made to set revised charges for each of the years commencing 1 January 2011, 2013, 2014 and 2015.

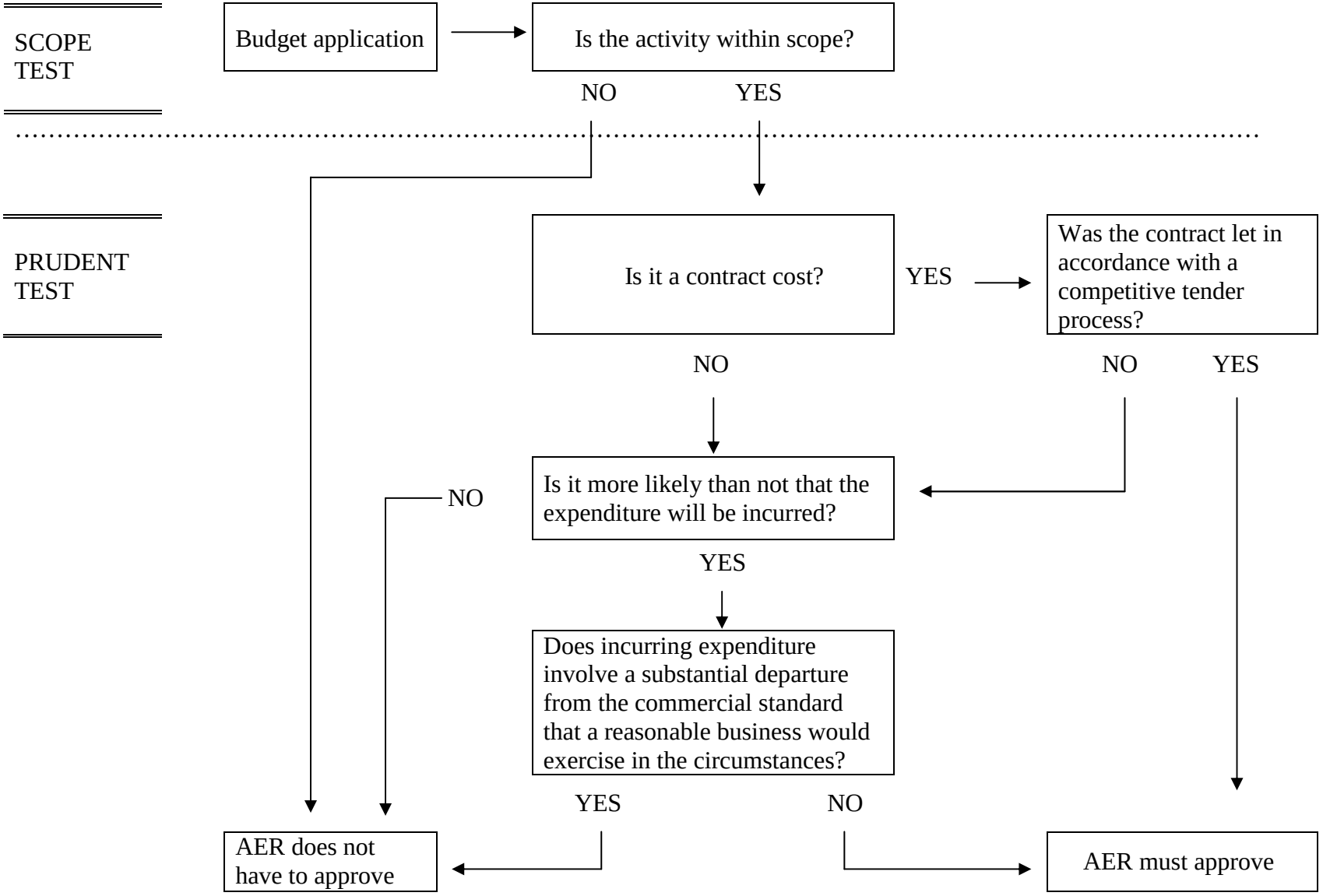
The AER's 2012–15 AMI budget and charges determination will establish the AMI budget for the 2012–15 AMI regulatory period under the Order. From 2015, charges for AMI services will be reviewed under the National Electricity Rules as part of the 2016–20 Victorian Electricity Distribution Determination.

Following the AER's Draft Determination for the 2012-15 budget period, all five DNSPs submitted amended Submitted Budgets. Pursuant to clause 5C of the Cost Recovery Order, the AER must approve the amended Submitted Budgets unless the AER establishes that the expenditure (or part thereof) that makes up the total operating expenditure and capital expenditure for each year:

- is for activities outside scope at the time of commitment to that expenditure and at the time of the determination (section 1.2.1) or
- is not prudent (section 1.2.2).

A summary of the requirements for the AER's assessment under the scope and prudent tests are detailed in Figure 1.1.

Figure 1.1 - AER approach to assessment as required by the Cost Recovery Order in Council



1.2.1 Scope test

The Cost Recovery Order provides that activities within scope are those activities that are reasonably required for the provision of Regulated Services and to comply with a metering regulatory obligation or requirement.[12]

Regulated Services are defined as:

- metering services supplied to or on behalf of first tier customers or second tier customers, with annual electricity consumption of 160 MWh or less where:
    - the electricity consumption of that customer is (or is to be) measured using a revenue meter that is either an accumulation meter or a manually read interval meter
    - the DNSP is the responsible person in respect of those services
- metering services supplied to or on behalf of first tier customers or second tier customers, with annual electricity consumption of 160 MWh or less where:
    - the electricity consumption of that customer is (or is to be) measured using a revenue meter that is a remotely read interval meter
    - the DNSP is the responsible person in respect of those services.

The Cost Recovery Order also contains lists of activities that are deemed to be inside scope and outside scope for the AMI roll-out.[13] These lists are not exhaustive.

The AER must approve activities as within scope unless they are outside scope at the time of commitment to that expenditure and at the time of the determination.[14]

1.2.2 Prudent test

For expenditure found to be within scope under the Order, the AER must approve the submitted budget unless it can establish that expenditure (or part thereof) that makes up the total operating expenditure and capital expenditure for each year is not prudent.[15]

The Order further provides that the AER must find the expenditure prudent and approve it except when the AER establishes that:

- it is not a contract cost or, if it is a contract cost that the contract was not let in accordance with a competitive tender process—the competitive tender test (section 1.2.2.1) and either
- it is more likely than not that the expenditure will not be incurred—the expenditure incurred test (section 1.2.2.2)

12 AMI Cost Recovery Order, schedule 2.1, 2.6 and 2.10.
13 AMI Cost Recovery Order, schedule 2.1, 2.6 and 2.10.
14 AMI Cost Recovery Order, clause 5C.2(a).
15 AMI Cost Recovery Order, 5C.2, p. 13.

- the expenditure will be incurred but incurring the expenditure will involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances—the commercial standard test (section 1.2.2.3).

1.2.2.1 The competitive tender test

The Order requires the AER to approve expenditures arising out of contracts (contract costs) unless it can establish that the contract was not let in accordance with a competitive tender process.

Clause 5C.11 (relevantly) defines a contract cost as expenditure incurred pursuant to a contract entered into:

- prior to the day on which a distributor made its subsequent AMI budget period budget application or

- if a revised initial AMI budget period budget application has been made by the distributor pursuant to clause 5B.3, prior to the day on which that application was made

but does not include expenditure incurred pursuant to a variation of that contract where that variation is entered into or takes effect after that day.

Clause 5C.10 of the Order states that in making a determination in which the AER establishes that a contract was not let in accordance with a competitive tender process, the AER must have regard to:

- the tender process for that contract

- whether there has been compliance with that process

- whether the request for tender unreasonably imposed conditions or requirements that prevented or discouraged the submission of any tender that was consistent with the selection criteria.

In its framework and approach paper, the AER stated it would examine whether:

- the initial request for tender documentation was made widely available to all parties that might be interested in tendering

- if adopted, any multi-stage tendering process is appropriate given the nature of the services sought and the number and prospects of potential bidders

    - the issued tender documentation:

    - provides adequate information about the background to the AMI program and the DNSP

    - details the tender process

    - provides a detailed specification of the services sought

    - adequately addresses matters such as risk sharing and contractual terms and conditions
    - where appropriate, sets out the tender evaluation criteria
- adequate time has been allowed for bid preparation and between tender stages, taking into account the scope and complexity of information sought from tenderers
- the request for tender does not unreasonably impose conditions that prevent or discourage the submission of any tender. For example, these might include the payment of high fees for receiving tender documentation, technical requirements that are unreasonably high given the nature of the tender, unreasonable liability requirements, or any other requirements that impose unduly high expenses on potential tenderers
- detailed and appropriate tender evaluation criteria have been developed and applied
- the design of the tender and the evaluation criteria ensure that, as far as possible, competing bids are easily comparable
- any 'bundling' of different services into a single contract is appropriate and that the advantages of doing so (economies of scale, reduced administration costs) outweigh the costs (less competition)
- appropriate tender briefings have been conducted and tenderers have been provided with the opportunity to clarify aspects of the tender
- the DNSP has taken appropriate steps to verify the information provided in tender responses, including referee interviews, field trials, and other checks
- any post-tender negotiations with the successful tenderer are consistent with the tender and do not call into question the original selection decision
- the outcome of major tenders have been considered and approved by the DNSPs' boards of directors
- for large contracts, a probity audit of the tendering process was conducted
- the probity auditor's report is to address the issues raised above, and also set out the scope of the probity audit and state whether, if a probity plan was in place, it has been complied with.[16]

In addition the AER also stated it would consider the outcome of tenders in determining if the process was competitive.[17]

[16] AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, pp. 35–37.

1.2.2.2 Expenditure incurred test

For expenditure that is not a contract cost or which does not meet the competitive tender test, the Order requires that the AER assess the expenditure under the expenditure incurred test. If the AER establishes that it is more likely than not that the expenditure will not be incurred for the AMI roll-out, the AER may reject the expenditure.

The AER has considered a DNSP's need to incur such costs in order to meet its obligations under the Order, and the risks faced in not incurring these costs.

1.2.2.3 Commercial Standard test

If the AER establishes that expenditure will be incurred, but that expenditure is not a contract cost or the contract was not let in accordance with the competitive tender test, the AER must assess the expenditure under the commercial standard test.

The commercial standard test requires the AER to assess whether incurring the expenditure would involve a substantial departure from the commercial standard a reasonable business would exercise in the circumstances.

In applying this test, clause 5C.4 of the Order requires the AER to take into account, and give fundamental weight to certain matters listed in clause 5I.8 of the Order. In summary, the AER must take into account the circumstances of the distributor, or other person incurring or managing the expenditure, at the time the commitment was made to incur or manage the expenditure (as applicable) including the following factors:

- the information available at that time
- the nature of the provision, installation, maintenance and operation of AMI and associated services and systems
- the nature of the roll-out obligation
- the state of the technology relevant to the provision, installation, maintenance and operation of AMI and associated services and systems
- the risks inherent in a project of the type involving the provision, installation, maintenance and operation of AMI and associated services and systems
- the market conditions relevant to the provision, installation, maintenance and operation of AMI and associated services and systems
- any metering regulatory obligation or requirement.[18]

In its framework and approach paper, the AER noted that each application of this test may be unique, including circumstances and issues that are absent from other cases.[19]

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17 AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, pp. 38–39.

18 AMI Cost Recovery Order, clauses 5I.8 and 5C.4.

1.3 AER application of the scope and prudent tests

The DNSPs raise concerns in their amended budget applications about the AER's application of the scope and prudent tests in its draft determination. This includes the AER's use of benchmarking to inform its assessment of the DNSPs' budget applications, and the relevancy of efficiency under the Cost Recovery Order.

The DNSPs generally assert that the AER, if it is to reject a DNSPs proposed budget, bears the onus of establishing that expenditure is not within scope and not prudent.

UE contends that the AER has misapplied the Order by:

- quantifying the commercial standard test when it should be a qualitative assessment based on conduct
- adopting, without substantiation, Impaq's advice as the standard when it is not, and does not purport to be, an assessment of what a reasonable business would have done in UE's circumstances.[20]

SP AusNet contends that the AER has misapplied the scope and prudent tests under the Order because:

- the AER does not make the correct distinction between expenditure and an activity under the scope test
- a tender process can apply to numerous contracts, not just to a particular contract
- the commercial standard test applies to a DNSP's actual circumstances and as such benchmarking across DNSPs is inappropriate.

CitiPower and Powercor argue that the AER's application of the commercial standard test must take into account whether the process and principles applied in incurring expenditure were prudent not only whether the quantum of the expenditure is prudent.

The various general contentions made by DNSPs are examined below.

1.3.1 Onus on the AER

The AER's Draft Determination and the framework and approach paper begin from the premise that the revised Order requires the AER to establish that a DNSP has not met the scope or prudent test before it can reject proposed expenditure.[21] The AER has applied this same approach in this Final Determination.

The AER, however, notes that certain obligations are imposed upon the DNSPs. These include that the amended Submitted Budget must include the information set

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19 AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, p 41.

20 UE, Amended AMI Budget and Charges Application 2012–2015, 26 August 2011, p. 10.

21 AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications, July 2011, pp. 20–25; AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, pp. 40–42.

out in clause 5B.1. The application must also set out the information and identify the documents upon which each DNSP relies, in accordance with clause 5.3 of the Order.

The AER may require provision of further information or documents in order to determine an application and the distribution business must provide that further information, pursuant to clause 5.6 of the AMI Cost Recovery Order. Where the AER sent information requests to a DNSP, those requests were made under clause 5.6.

In determining whether a DNSP has met the scope or prudent test, the AER has taken into account the information available to it including, if a DNSP has not provided any or inadequate information in response to an AER request, the absence of such information.

1.3.2 AER application of the scope test

SP AusNet claims the AER has erred in its application of the scope test by making the 'mistake of determining whether expenditure is beyond scope, rather than determining whether the activity to which the expenditure relates is beyond scope.'[22]

The AER has applied the scope test to determine whether the activities to which the expenditure relates is beyond scope, consistent with the Australian Competition Tribunal's decision in *Application by United Energy Distribution Pty Ltd* [2009] ACompT 10. In the Draft Determination, any reference to expenditure under the scope test is a reference to that expenditure that would be assessed under the prudent test if such an activity were found to be within scope. The AER has sought to provide more clarity in this Final Determination regarding the application of the scope test.

SP AusNet also claims that the AER has made 'conflicting statements' regarding the use of benchmarking or comparison when determining whether expenditure was within scope.[23]

The AER has not made conflicting statements but rather has differentiated between the different types of tests applied under the Order. Consistent with the framework and approach paper, the AER does not apply a comparison of expenditure between businesses as part of the scope test.[24] Apart from the fact the scope test concerns activities, activities in scope and outside scope for each DSNP are identified in Schedule 2 of the Order, although these lists are not exhaustive. Further, the scope test does not require the application of a 'standard'. By contrast, the commercial standard test makes reference to a standard that may justify, depending on the circumstances, reference to the practices and quantum of expenditure incurred by other DNSPs.

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22 SP AusNet, Draft Determination Response, p. 17, 22–23 with reference to the AER's conclusion on pp. 9–10 of the AER's Draft Determination.

23 SP AusNet, AMI Revised Budget Application - Draft Determination Response, p. 15.

24 AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, p. 28.

1.3.3 AER application of the competitively tendered test

The AER accepts that a tender process, as SP AusNet asserts, may apply to more than one contract.[25] However, the AER does not accept that a process that establishes a panel of potential providers without regard to the particular contract or contracts in question, is a 'tender process for that contract' as referred to under clause 5C.10 of the Cost Recovery Order. In order for the AER to properly assess the tender process, it will also take into consideration the matters set out in the AER's framework and approach paper.

1.3.4 AER application of the commercial standard test

CitiPower and Powercor stated their concerns that the AER's assessment under the commercial standard test should more broadly encompass what is prudent and should not be limited to quantum. The DNSPs submitted:

> As the quantum of the expenditure will be a product of, in particular, the principles applied by the DNSP in the decision-making process, the quantum of the expenditure may be a relevant consideration in assessing the prudency of expenditure under the AMI Cost Recovery Order. However, as it is the decision to incur the expenditure and not the quantum of expenditure, an inquiry into the quantum of expenditure without any consideration of the process followed and principles applied in determining on [sic] incurring the expenditure would not be consistent with the statutory test established by the Revised Order.[26]

UE similarly stated that the test was a qualitative assessment rather than a quantitative assessment.[27]

The AER takes the view that the commercial standard test may encompass a wide range of factors, including qualitative factors but that quantum of expenditure may also be a relevant factor and possibly a critical factor in some circumstances. For example, equally relevant may be failure to consider the lack of more cost-effective alternatives before the quantum of expenditure is incurred.

Where a DNSP has set out 'the process followed and principles applied' so that the AER can examine this information along with the quantum of expenditure, the AER has taken these factors into account. The AER notes that the DNSP is in a position to provide this information and that if these are relevant considerations, then in accordance with clause 5.3 of the Cost Recovery Order, the DNSP is required to include all information on which it relied when submitting its budget application.

Powercor and CitiPower stated their concerns with what they perceived as the AER's reliance on Impaq consulting to set the commercial standard:

> The AER must itself investigate whether the incurring of the expenditure is prudent or instead involves a substantial departure from the commercial standard of a reasonable business in the DNSP's circumstances, including in particular by considering the circumstances in which the relevant contract

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25 SP AusNet, AMI Revised Budget Application - Draft Determination Response, p. 18 with reference to the AER's statement in the Draft Determination, on p. 66, that 'the tender process must be particular to a contract.'

26 CitiPower, Amended Submitted Budget & Charges Application 2012–15, pp. 21–24.

27 UE, Amended AMI Budget and Charges Application 2012–2015, 26 August 2011, p 10.

> was entered into or the commitment to incur the expenditure made. Reliance by the AER on an estimate of expenditure by its consultant is no substitute for such an investigation. The AER cannot reject a Submitted Budget merely because it has a consultant's opinion; it must make its own evaluation of the matter.[28]

Powercor and CitiPower claim that the use of Impaq's analysis has led the AER in the Draft Determination to apply a 'reasonable expenditure' test and not a 'prudent expenditure' test.[29] UE and JEN referred to the AER's reliance on Impaq's advice where the advice is not, and does not purport to be, an assessment of what a reasonable business would have done in UE and JEN's circumstances.[30]

The AER considers that CitiPower and Powercor have not accurately described the AER's consultative and information-gathering process. Further, CitiPower, Powercor, JEN and UE have not understood the nature of the AER's enquiry and analysis under the prudent test as distinct from Impaq's role.

Consistent with the consultative process, the AER evaluates all the relevant information before it, including all relevant information provided by DNSPs, consultants and third parties in forming its views. In relation to some expenditure, the information relied upon by DNSPs was insufficient, and not withstanding a formal request by the AER under clause 5.6, if that information is not provided then the AER makes its decision on the information available to it. The AER reviews and scrutinises this information and reaches its own conclusions based on a proper assessment of this information.

As noted above, the information provided by DNSPs is significant for the AER's decision making processes. In addition, the AER applies benchmarking, where possible and appropriate.

The AER must form its own view as to whether incurring expenditure by a DNSP is a substantial departure from the commercial standard that a reasonable business would exercise in that DNSP's circumstances. It is for the AER ultimately to determine the applicable standard, factor in the circumstances of each DNSP and assess what constitutes a substantial departure.

The AER notes Powercor's and CitiPower's views of the meaning of 'substantial'.[31] The AER refers to its previous comments on the meaning of substantial including that in the context of the Order it 'is not merely any departure or any difference from the commercial standard but rather a departure or difference which is of a 'considerable

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28 CitiPower, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 25; Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 25.

29 CitiPower, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 56; Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 57.

30 UE, Amended AMI Budget and Charges Application 2012–2015, 26 August 2011, p.10.

31 CitiPower, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 23; Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 25: 'substantial' should be construed as requiring a greater rather than lesser degree of departure from the requisite commercial standard.

amount'.'[32] The AER takes the view that this meaning is also appropriate in this Final Determination.[33]

1.3.5 AER use of benchmarking

In the AER's view, the commercial standard test requires the exercise of the AER's judgment, having regard to the factual circumstances relevant to each DNSP.[34] In other words, it is open for the AER to gauge the commercial standard partly with reference to expenditures incurred by the DNSPs, as well as other relevant information, including benchmarking if appropriate.

The AER generally seeks to benchmark levels of expenditure over time and between DNSPs, where appropriate, to inform the AER's assessment of whether or not the DNSPs' proposed expenditures are consistent with the statutory tests. For this determination, however, the use of benchmarking has been limited given there are few robust comparators. As noted in the Draft Determination, there is no comparable cost data to benchmark against in other states or territories.[35]

SP AusNet contends that the requirement for the AER to take into account the circumstances of each individual DNSP means the use of neither benchmarking nor cross comparison of DNSP cost are possible under the commercial standard test.

In response to SP AusNet's contention, the AER considers that the application of the commercial standard test necessarily requires an examination of a 'standard' that applies across the businesses engaged in comparable activities. As CitiPower and Powercor set out in their amended submitted budget and charges applications:

> … the term 'standard' refers to a benchmark or basis of comparison.[36]

CitiPower further set out the dictionary definition of the word 'standard':

> … 'anything taken by general consent as a basis of comparison; an approved model'
>
> …
>
> 'A thing serving as a recognized example or principle to which others conform or should conform or by which the accuracy or quality of others is judged'[37]

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32 AER, Draft determination: SP AusNet Advanced Metering Infrastructure Revised budget application 2009–11, 4 April 2011, p.7.

33 Macmillan Publishers, Australia, Macquaries Dictionary, Online, 2011. 'Substantial' is defined as 'of ample or considerable amount, quantity, size, etc.:.*a substantial sum of money*'

34 AER, Draft determination: SP AusNet Advanced Metering Infrastructure Revised budget application 2009–11, 4 April 2011, p. 7.

35 AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications, July 2011, p. 9.

36 CitiPower, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p.21; Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 21.

37 CitiPower, p. 21, from Macquarie Dictionary, Fourth Edition, 2005, p 1374) and Oxford English Dictionary, Fifth Edition, 2002, p 3000, respectively; Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 21.

Consistent with the definition of 'standard', the AER considers that where benchmarking is available then it is appropriate to draw upon it for the purpose of establishing the commercial standard for what would be expected of a reasonable business in the circumstances. As CitiPower refers to it, the 'hypothetical business engaged in commerce in the circumstances.'[38]

As part of the commercial standard test, the AER must also have regard to the circumstances of each Victorian DNSP consistent with the wording of the commercial standard test and by taking into account and giving fundamental weight to the matters required under the Cost Recovery Order.

The AER notes that while some circumstances are particular to an individual DNSP, other circumstances are applicable to all DNSPs. In undertaking the AMI roll out, each of the Victorian DNSPs are required to conform to the same minimum meter specifications, are under a best endeavours obligation to meet the AMI roll-out schedule and are subject to the same legislative framework. This leads to some observable similarities in their operating environments at least with respect to regulatory obligations. This is factored into the AER's assessment. The AER has considered the nature of the rollout obligation, the risks inherent in a project of this type, general market conditions and any metering regulatory obligation or requirement.

1.3.6 The relevance of efficiency

CitiPower, Powercor, Jemena and UE highlight that the intent of the regime established by the Cost Recovery Order is not to create efficiency incentives or mirror outcomes in a competitive market, but to provide for the pass-through of the DNSPs' actual expenditure. The DNSPs generally state that in its assessment of the amended budget applications, the AER cannot apply the efficiency principles that exist under the National Electricity Rules (NER).[39]

In a submission made by the Hon. Michael O'Brien MP, the Victorian Minister for Energy and Resources, the Minister refers the AER to s 8 and s 8A of the Essential Services Commission Act 2001 (Vic) which require that the AER, in performing the functions of the Commission, have regard to efficiency in the industry and incentives for long-term investment.[40]

As a general observation, the AER notes that clause 4.1 of the Regulatory Principles of the Cost Recovery Order expressly provides that there shall be no incentive based control mechanism applied. Rather, the Regulatory Principles set out that the DNSPs are able to recover the costs of providing metering services from consumers on a cost pass-through basis.

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38 CitiPower, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 22.

39 Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, pp17-18, 20, 24, 32-35; Citipower, Amended Submitted Budget and Charges Application, 17-18, , 20, 24, 32-35; CitiPower and Powercor submission dated 6 October 2011: AMI Draft Determination - Submission of Minister for Energy and Resources; JEN, Advanced Metering Infrastructure Roll-out Amended Subsequent Budget, 26 August 2011, p.18; UE, Amended AMI Budget and Charges Application 2012–2015, 26 August 2011, pp. 10-11.

40 The Hon. Michael O'Brien, Minister for Energy and Resources, Submission to the AER Final Determination, 9 September 2011, p. 2.

The Order is prescriptive and does not allow the AER to create incentives for the DNSPs to minimise costs. The Order establishes a different legislative framework to that which exists under the NER.

In general, the AER has only limited discretion when making decisions about expenditure under the Order. The AER's assessment is limited to establishing whether the expenditure of the DNSPs does not meet the scope or prudent tests. Considerations of efficiency may be relevant to certain assessments under the commercial standard test, as noted above in discussing the relevance of benchmarking, but only to the extent that this is relevant to a DNSPs circumstances, as noted in the AER's Framework and Guidance Paper.[41] It may not be a relevant consideration in the assessment of some expenditure against the requirements of the commercial standard test. This approach is consistent with the legislative objectives set out in s8 and s 8A of the ESC Act.

The AER makes decisions under the Order in the broader context of such legislative objectives. When the AER is exercising discretionary powers, it is appropriate to have regard to efficiency in the industry and incentives for long-term investment to the extent that it is a relevant matter in the particular case. However, the AER has also had regard to other relevant matters which may be appropriate including 'any matters specified in the empowering instrument' (s 8A(1)(g) of the ESC Act) which are those set out in the Cost Recovery Order.

1.4 The use of the building block approach to determine costs

Under clause 4.1(b) of the Order, the AER is required to determine a DNSP's AMI related costs using the building block approach. The building blocks for a year are:

- a return on capital
- depreciation
- maintenance and operating expenditure
- a benchmark allowance for corporate income tax
- any other building block required by the Order, being:
    - the sum of under and over collection of revenue incurred from 1 January 2009 to 31 December 2011.

Details on how each building block component is to be calculated under the Order are discussed below.

Clause 4.1(c) of the Order requires the building block costs to be based on actual expenditure, or if actual expenditure is not available, forecast expenditure.

[41] AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, pp. 42–43.

Clause 4.1(k)(i) of the Order requires the AER to use the data in the DNSPs' audited 2010 regulatory accounting statements. Where data provided by the DNSPs is consistent with these accounts the AER has accepted them accordingly.

As part of its 2009–11 assessment, the AER developed a charges template model in consultation with the DNSPs, which automatically calculates the building block revenue requirement with a given set of inputs. This model has been populated by each DNSP and submitted to the AER with the proposed 2012–15 budget and charges applications.

1.4.1 Return on capital

Clauses 4.1(i) and 4.1(j) of the Order require the AER to provide a return on capital, using a weighted average cost of capital (WACC), in accordance with the formula set out in clause 6.5.2(b) of the National Electricity Rules (NER). Table 1.1 summarises the 2009–11 AMI budget and charges determination on WACC that will apply for the 2012 and 2013 period under the AER's Final Determination for that period.

The Order allows DNSPs to receive a regulated rate of return on capital expenditure throughout the period 2009–2015. The initial Weighted Average Cost of Capital (WACC) period of 2009–2013 was set in 2009 at 9.51 per cent in accordance with clause 4.1(i) of the Order, as summarised in Table 1.2.

Table 1.2 AER final determination on WACC parameters for AMI period 1 January 2009 to 31 December 2013 (per cent)

WACC Parameter	2009–11 Determination	2012–13 Determination	2014–15 AER placeholder WACC
10 year nominal risk free rate	4.63%	4.63%	5.56%
Inflation	2.56%	2.56%	2.55%
Equity beta	1.00	1.00	0.80
Market risk premium	6.00%	6.00%	6.00%
Debt risk premium	4.00%	4.00%	3.81%
Gearing ratio	60.0%	60.0%	60.0%
Cost of Debt	8.76%	8.76%	9.37
Cost of Equity	10.63%	10.63%	10.36
Nominal Vanilla WACC	9.51%	9.51%	9.77%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009–11AMI budget and charges applications Final Determination, p. 61.

For the 2014 and 2015 period, the WACC shall be set in accordance with clause 4.1(j) of the Order. The DNSPs submitted an initial placeholder WACC of 9.19 per cent. The AER has uncovered a transposition error in copying this WACC value from the

AER's SA gas access decision.[42] This error alters the AER's draft decision from 9.50 per cent to 9.77 per cent for WACC.

The AER considered the DNSPs proposed WACC against the AER's latest valuation of WACC from the Queensland and South Australia gas determinations. The AER considers that the most up-to-date WACC valuation should be used as a placeholder as it represents the AER's current decision on the WACC.

Having regard to the Order, the AER advised the DNSPs in writing[43] that in regard to setting WACC for the subsequent WACC period of 2014–15, the approach below would be followed:

- 28 February 2011—DNSPs to propose to the AER a placeholder WACC and placeholder AMI Charges for 2014–15 as part of the their budget and charges applications for 2012–15, (which the AER will assess as part of its final determination on 31 October 2011)

- 30 November 2012—DNSPs to submit a proposed averaging period in 2013 to the AER for the purposes of calculating the subsequent AMI WACC

- 10 January 2013—AER to write to each DNSP to advise its decision on the proposed averaging period

- 31 August 2013—DNSPs to submit to the AER revised charges applications for 2014

- 31 October 2013—AER final decision on AMI revised charges for 2014, incorporating the market observables measured in the approved averaging period.

This process relies on the averaging period ending in time for the AER to determine revised charges for 2014 on 31 October 2013.

As stated in clause 4.1(j)(ii), the market observables and non-market observables will be determined in accordance with the Statement of Regulatory Intent issued by the AER pursuant to clause 6.5.4 of the NER. This includes the application of clause 6.5.4(g) of the NER which allows the alteration of WACC parameters based on persuasive evidence.

On this basis the AER approves the WACC value for the 2012–13 period. The AER will revisit the DNSP placeholder WACC through the decision process outlined above.

1.4.2 Depreciation

The asset lives for the 2012–15 budget period have been determined in accordance with 4.1(g) of the Order.

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42 AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011, 30 June 2016, pp. 35–59.

43 AER, Letter to Victorian DNSPs re: 2012–15 AMI Budget and Charges Information Templates, 15 February 2011.

Clause 4.1(g) of the Order also stipulates the asset life for:

- remotely read meters and measurement transformers as 15 years
- telecommunications and information technology assets as 7 years.

The AER's framework and approach, consistent with the Order, also permits DNSPs to accelerate depreciation of accumulation meters and manually read interval meters over 2010–13, such that their value is zero by 31 December 2013.

1.4.3 Corporate income tax benchmark

The corporate income tax benchmark for 2012 and 2013 has been determined in accordance with clause 4.1(j) of the Order.

The AER included tax calculations in the charges model it sent to the DNSPs. When the AER made its 2009–11 AMI Budget and Charges determination, the DNSPs did not amend these calculations. This methodology was applied in the budget and charges template for the 2012–15 draft determination. The AER therefore has accepted the methodology and tax depreciation rates proposed by the DNSPs in their charges applications. The value of the tax liability building block proposed by each DNSP was zero and remains unchanged as a result of this draft determination for 2012–15.

1.4.4 Metering Asset Base

The value of the metering asset base is needed to calculate the return on capital and depreciation building blocks. The Order specifies how it is to be calculated at the beginning of each year.

Clause 5E.2 of the Order provides that in determining the initial charges for the 2012–15 budget period the opening value of the metering asset base at 1 January 2012 for each DNSP must be calculated as follows:

Opening Metering Asset Base2012 = Opening Metering Asset BaseSD + Capital ExpenditureIABP — DepreciationIABP — DisposalsIABP

Where:

> Opening Metering Asset Base2012 is the opening value of the metering asset base at 1 January 2012
>
> Opening Metering Asset BaseSD is the opening regulatory asset base for 2009 as calculated under clause 5D of the Order
>
> Capital ExpenditureIABP is the actual capital expenditure in 2009 and 2010 (determined in accordance with clauses 5I.2 to 5I.10) and capital expenditure for 2011
>
> DepreciationIABP is to be calculated on the Opening Metering Asset BaseSD and actual expenditure in 2009 and 2010 (determined in accordance with clauses 5I.2 to 5I.10 of the Order) and capital expenditure for 2011 using asset lives in accordance with clause 4.1(g) of the Order

DisposalsIABP is actual disposals in 2009 and 2010 and forecast disposals in 2011

As the DNSPs have utilised the AER's 2012–15 Charges Model which is compliant with the Order, the AER considers that the DNSPs have complied with the requirements of clause 5.E2 of the Order.

1.5 Process of assessment

The AER is required by the Order to make a final determination on 2012–15 AMI budgets and charges by 31 October 2011. The key dates in the AER's assessment are shown below (Table 1.3).

Table 1.3 Milestones for the 2012-15 AMI budget period determination

Date	Milestone
28 February 2011	DNSPs submit AMI budget period budget and charges applications for 2012–15
4 April 21011	Submssions on DNSPs' AMI budget and charges applications close.
28 July 2011	AER releases Draft Determination on AMI budget and charges applications for 2012–15
26 August 2011	Where the AER rejected a submitted budget in its draft determination, the DNSP must submit a revised submitted budget to the AER
31 August 2011	DNSPs may submit revised AMI budget application to reflect material changes in costs as a result of contracts entered into or new regulatory obligations
9 September 2011	Submissions on Draft Determination close
31 October 2011	Final determination on AMI budget and charges for 2012–15 issued
1 January 2012	2012–15 charges take effect

In its assessment of the DNSPs' revised budget applications, the AER has taken into account all available information in determining the Approved Budgets, including the DNSPs' budget proposals and supporting documents, submissions from stakeholders on the Draft Determination, and advice from the AER's independent consultants, Impaq Consulting (Impaq) and Energeia.

The AER sought the views of industry and consumer stakeholders in relation to the DNSPs' Submitted Budgets following the release of the AER's Draft Determination. The AER has received a number of submissions in response to the AER's Draft Determination, including from the Minister for Energy and Resources, Origin Energy and private individual consumers.

The AER has taken these submissions into account and, where relevant to its analysis under the applicable tests, has directly addressed points raised in the submissions. It

should be noted that submissions by individual consumers highlight Victorian Government policy issues that are beyond the scope of the AER's assessment. As noted above, the AER is required to review the DNSPs budget and charges applications.

For this Final Determination, the AER has sought advice from two independent consultants, Impaq and Energeia. For some cost items Impaq conducted a 'bottom-up' assessment of prudent expenditure to assist the assessment of the DNSPs' AMI budget proposals. Energeia had more limited review scope and undertook in-depth analysis for particular expenditure items that accounted for a relatively large proportion of total proposed costs.

Impaq and Energeia have specialist expertise in AMI—including the related telecommunications technologies and IT systems—and have previously provided advice on these matters to governments, regulators, electricity retailers and DNSPs. In the course of undertaking its review, Impaq and Energeia consulted with the DNSPs and sought additional information to clarify the nature and detail of a range of cost items in the budget proposals.

In response to the Draft Determination, a number of DNSPs raised concerns about the AER's reliance on views expressed by Impaq.[44] In particular, it was questioned whether the AER can reasonably rely on advice from Impaq as being independent, credible and impartial given Impaq's involvement in the Victorian Government's decision to roll-out smart meters and in part because Impaq contributed to an AMI cost-benefit report in 2005 for the Department of Infrastructure (Vic).

The AER takes seriously any questions about the suitability and reliability of advice it relies on in the carrying out of its regulatory responsibilities. The AER assessed the DNSPs' concerns and took them into account in undertaking and arriving at its Final Determination. Overall, the AER adopted the following approach in this Final Determination when assessing the material before it and according appropriate weight to that material.

In general, the AER scrutinises and evaluates all available material in accordance with the requirements of the scope and prudent tests and the discretion to be applied under those tests. The AER has set out its reasoning as required by the Order to provide clarity and transparency.

In particular, the AER notes that the DNSPs provided further information subsequent to the Draft Determination and this assisted the AER in its assessment of their amended Submitted Budgets. The AER also sought additional information from DNSPs in several information requests under clause 5.6 of the Order and where provided, this assisted the AER in reaching its conclusions. The AER appointed a second consultant, Energeia, to provide more in-depth analysis of certain categories of expenditure. The DSNPS were provided with an opportunity to meet with Energeia to discuss their amended Submitted Budgets. The AER also applied benchmarking in its own analysis where possible and appropriate.

[44] UE, Amended AMI Budget and Charges Application 2012–2015, 26 August 2011, p. 13.

This process enabled the AER to base this Final Determination on more information than was available to it at the time of the Draft Determination. The AER has provided the DNSPs with sufficient opportunity to contest conclusions reached in the Draft Determination and to provide further evidence to support their budget applications.

2 SP AusNet Budget and Charges

Key points

- The AER approves a total budget of $304.1 million, which allows SP AusNet to increase charges for single phase, single-element meter charged to most residential consumers from $93.83 in 2011 to $160.19 in 2015.
    - The increase in customer charges of 71 per cent from 2011 to 2015 will allow SP AusNet to pass through costs incurred by the business associated with the AMI roll-out.
- SP AusNet proposed a total of $270.9 million in capital expenditure and $139.8 million in operating expenditure.
- The AER considers that a budget of $205.1 million in capital expenditure and $99.0 million in operating expenditure meets the scope and prudent tests set out in the Order.
    - The AER's assessment represents a reduction of 24.3 per cent in capital expenditure and 29.0 per cent in operating expenditure respectively from the budget proposed by SP AusNet.

SP AusNet's network stretches across an area of 80 000 square kilometres from Melbourne's outer eastern suburbs to the east coast of Victoria. It has approximately 620 000 customers in both rural and urban areas. SP AusNet also owns and operates a transmission network with 6,574 kilometres of transmission lines and a gas distribution network in Victoria.

All Victorian DNSPs are required by the Order to deliver an AMI roll-out to Victorian consumers. Each of the DNSPs has developed an AMI roll-out plan including purchasing meters and developing a communications solution that meets the functionality specifications of the Order.

There are several possible communications technologies (such as Mesh Radio, WiMAX, 3G) available for DNSPs to connect the smart meters with the DNSPs' meter data management system (MMS). While CitiPower, Powercor, Jemena and United Energy have adopted a mesh radio solution, SP AusNet opted for a WiMAX communications solution for its AMI roll-out.

On 29 July 2011, the AER made its Draft Determination on SP AusNet's 2012–15 AMI Budget and Charges application. To some extent, the conclusions reached in the Draft determination, reflect conclusions in the AER's Determination on SP AusNet's 2009–11 Revised Budget Application which was made on 29 April 2011. The AER's earlier determination on SP AusNet's Revised Budget Application rejected SP AusNet's claims for an increase in expenditure as the AER considered that incurring the additional expenditure involved a substantial departure from the commercial standard of a reasonable business in SP AusNet's circumstances. Most notably the AER concluded that SP AusNet:

- had not conducted a competitive tender process for it meter costs
- chose to adopt WiMAX even though the RFI process indicated that there were only two companies that put forward offers to supply WiMAX meters
- chose to adopt WiMAX despite the information available to it, and other DNSPs, at the time, that there were suitable alternative solutions
- contracted meters unit cost were 30-50 per cent higher than the other DNSPs.

The AER's 2009–11 Approved Budget for SP AusNet was decreased by $1.3 million on the basis of this determination.[45]

In its Draft Determination, the AER approved a budget of $232.7 million composed of $180.1 million for capex and $52.6 million for opex. The AER in its Draft Determination approved $51.4 million less than SP AusNet's proposed capex primarily due to the AER establishing for the 2012–15 budget period that SP AusNet's meter unit costs do not meet the commercial standard test. The AER also approved $86.9 million less than SP AusNet's proposed opex primarily in IT opex, project management, meter data management and communications infrastructure maintenance. When assessing expenditure in these opex categories, the AER established, using Impaq's bottom up build of costs, that SP AusNet's incurring of such expenditure involved a substantial departure from the commercial standard using that a reasonable business would exercise in the circumstances.

2.1 Final Determination

On 26 August 2011, SP AusNet submitted its amended Submitted Budget of $410.7 million. This was an increase of $39.8 million over its initial Submitted Budget and an increase of $178.0 million over what the AER approved in its Draft Determination.

The AER's Final Determination is to reject SP AusNet's amended Submitted Budget and the AER has determined the Approved Budget of $304.1 million (section 2.6), pursuant to clause 5C.7 of the Order. The AER considers that a budget of $205.1 million in capital expenditure and $99.0 million in operating expenditure meets the scope and prudent tests set out in the Order.

Where the AER has established that an activity is outside scope, it has rejected expenditure for that activity (section 2.2). Expenditure for activities within scope are subject to the prudent tests, including the competitive tender test (section 2.3), the expenditure incurred test (section 2.4) and the commercial standard test (section 2.5). The requirements of each test are outlined in section 1.2 above.

The AER's calculation of charges is outlined in section 2.6 of this Final Determination. This section also includes the AER Final Determination

The AER's Final Determination sets out the metering charges that will be incurred by eligible customers for the 2012–15 budget period.[46] These charges have been

[45] AER, Final Determination: *SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011

[46] Customers with annual electricity consumption of 160MWh or less.

calculated in accordance with the Order against the costs of the AMI roll-out incurred by SP AusNet.

Table 2.1 AER Final Determination charges ($ nominal, per meter)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase, single-element meter with contact	86.10	93.83	107.25	122.60	140.14	160.19
Single phase, two element meter with contact	98.93	107.81	123.24	140.87	161.02	184.06
Multiphase 1 contactor (1 load control) meter	119.51	130.25	148.89	170.19	194.54	222.37
Multiphase 1 contactor (1 load control) meter	132.58	144.49	165.16	188.79	215.81	246.68
Multiphase CT connected	170.71	186.05	212.67	243.10	277.88	317.64

Note: * historical meter charges previously approved by the AER

SP AusNet's amended Submitted Budget would have led to a charge of $198.6 for a single phase, single element meter over the 2011–2015 period or about a 111.7 per cent increase during this period. The AER's Approved Budget will amount to around a 71 per cent increase in charges for a single phase, single element meter over the 2011–2015 period (Table 2.2).

Table 2.2 Annual change in charges (per cent)

Meter	2011	2012	2013	2014	2015
Annual change in meter charges	9.0%	14.3%	14.3%	14.3%	14.3%

The AER in this Final Determination made the alterations to SP AusNet's amended Submitted Budget summarised in Table 2.3. The reasons for the variations in SP AusNet's amended Submitted Budget and Approved Budget are explained in sections 2.2 to 2.5.

Table 2.3 Variance between the AER's Approved Budget and SP AusNet's amended Submitted Budget ('000, real $2011)

	2012	2013	2014	2015	Total
Capex					
Meter Supply	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Installation	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Comms Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total capex	**-38,896**	**-23,012**	**-2,005**	**-1,953**	**-65,866**
Opex					
Meter Purchase	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Reading	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Customer Service	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Communication infrastructure maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Technology Trial	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Project Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPO and AMI ISC costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Audit and quality assurance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMI budget and charges applications	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Equity raising costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Debt raising costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Management fees or overhead	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Extra Accommodation Cost	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Opex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total opex	**-8,782**	**-13,330**	**-8,851**	**-9,798**	**-40,762**
Total Budget	**-47,678**	**-36,342**	**-10,856**	**-11,751**	**-106,628**

Source: AER analysis

2.1.2 Summary of issues raised in SP AusNet's amended Submitted Budget

SP AusNet's amended Submitted Budget addresses the costs disallowed by the AER's Draft Determination and provides additional explanation in relation to those costs. SP AusNet's amended Submitted Budget also contained additional expenditure which SP AusNet (in a response to an AER request) later identified as being for [C-I-C] and a C-I-C] that was not previously incorporated into SP AusNet's initial Submitted Budget. (The variations in expenditure between SP AusNet's initial Submitted Budget and its amended Submitted Budget is set out in section 2.1.3.1)

SP AusNet contends that the AER has misapplied the scope and prudent tests under the Order including that:

- the AER does not make the correct distinction between expenditure and an activity under the scope test
- a tender process can apply to numerous contracts, not just to a particular contract
- the commercial standard test applies to a DNSP's actual circumstances and as such benchmarking across DNSPs is inappropriate.

Further, SP AusNet claims the AER failed to provide adequate reasoning, especially when relying on estimates by Impaq.[47]

The Minister for Energy and Resources Hon. Michael O'Brien in his submission raised concerns with the AER's Draft Determination in regards to SP AusNet.[48] The AER has taken these into account and where relevant has directly addressed these in its analysis under the relevant expenditure.

2.1.3 Analysis of SP AusNet's budget application under clause 5B.3 of the Cost Recovery Order

AER Final Determination

The AER has established that certain expenditure in SP AusNet's amended Submitted Budget is a revision of its budget which is not permitted under either of the circumstances set out in Clause 5B.3 of the Cost Recovery Order. SP AusNet can at any time after this Final Determination submit to the AER for its consideration a Revised Budget Application.

SP AusNet's amended Submitted Budget ($410.7 million) contains $39.8 million of expenditure that was not included in its initial Submitted Budget ($371.0 million).

47 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp14-17

48 The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011

2.1.3.1 Variance analysis

Clause 5B.3 of the Order permits a budget application to be revised by 31 August 2011 in only two circumstances: where there is a change in expenditure by reason of a DNSP entering a contract between the budget application and 31 August 2011, or where there is a material change in a metering regulatory obligation or requirement.

The AER undertook variance analysis to understand what appeared to be new expenditure that constituted a revision of SP AusNet's budget application. This analysis is summarised in Table 2.4 below.

The AER's variance analysis was used to establish the differences existing between SP AusNet's stated amended Submitted Budget and initial Submitted Budget. The AER then questioned SP AusNet on the additional expenditure uncovered through this analysis to determine which expenditure was new expenditure, a transfer between expenditure categories or a transfer between budget periods. The results of this analysis are explained below.

The AER also sought further information from SP AusNet as to whether it had revised its budget in accordance with the Order.[49]

SP AusNet stated that all expenditure associated with: [C-I-C] represented expenditure that resulted due to a material change in metering regulatory obligation or requirement under clause 5B.3 of the Order.[50]

At that time, the AER understood this to mean that expenditure in these categories were revisions of a budget application and therefore this expenditure should be assessed for conformity with clause 5B.3 of the Order. However, as set out below, the results of the AER's variance analysis showed that while some expenditure may be new expenditure to be assessed under clause 5B.3, other expenditure appears to be expenditure transferred between budget periods or between cost categories.

Due to a lack of clarity, the AER requested further information from SP AusNet as to whether it had revised its budget in accordance with the Order.[51] As SP AusNet was late in its response[52] the AER subsequently advised SP AusNet on 6 October 2011 via letter of its preliminary assessment that SP AusNet had submitted new expenditure that had not previously been assessed by the AER for meter purchases ($[C-I-C] million) and 3G meter trials [C-I-C]). The AER also advised that it was still assessing whether certain other expenditure was new expenditure: IT infrastructure capex and opex; meter data management capex and opex; and communications infrastructure maintenance.[53]

In its 12 October 2011 response, SP AusNet stated that it incorporated new expenditure into only two classes of expenditure, [C-I-C] and [C-I-C], and remapped

49 AER, *Request for Information 3*, 14 September 2011
50 SP AusNet, *Response to Information Request 3 – 14 September 2011: Question 1-2*, 23 September 2011, pp12-13
51 AER, *Request for Information 8*, 30 September 2011
52 SP AusNet, *Response to Information Request 8 – 30 September 2011*, 6 October 2011
53 AER, *Request for Information 10: Letter to SP AusNet*, 6 October 2011

[C-I-C] into [C-I-C] and [C-I-C], SP AusNet did not identify the amounts of new expenditure or the amounts that had been 'remapped'.[54]

This response failed to provide the AER with any clarity concerning the additional cost in the following detailed IT expenditure categories: meter data management capex of $[C-I-C] million, IT infrastructure capex of $[C-I-C] million, meter data management opex of $[C-I-C] million and IT infrastructure opex of $[C-I-C] million. SP AusNet stated that it had remapped expenditure between IT Opex to communications infrastructure maintenance and backhaul communications.[55] [56] Given the lack of any figures to substantiate how it had remapped its expenditure, the AER considers it feasible that SP AusNet also meant that expenditure within IT Opex was also remapped.

Due to the absence of an IT opex model and a lack of clarity from SP AusNet as to new expenditure and overall accounting for increases and changes in expenditure categories, the AER's variance analysis consisted of building its own model of new expenditure in order to account for the differences between SP AusNet's initial Submitted Budget and its amended Submitted Budget.

Using the information provided by SP AusNet, and the AER's variance analysis, the AER considers that the variations in SP AusNet's amended Submitted Budget are due to:

- new expenditure that was not considered by the AER in the Draft Determination
- a transfer of expenditure between categories that was already considered by the AER's Draft Determination
- a transfer of expenditure between the 2009–11 and 2012–15 budget periods, including expenditure previously rejected by the AER in its earlier assessment of SP AusNet's Revised Budget Application for 2009-11.[57]

The variance between SP AusNet's amended Submitted Budget and initial Submitted Budget is summarised in Table 2.4.

54 SP AusNet, *Response to Information Request 10: Cover letter: AMI Amended Budget Application 2012–15: AER letter to SP AusNet of 6 October 2011*, 12 October 2011, pp7

55 SP AusNet, *Response to Information Request 10: Cover letter: AMI Amended Budget Application 2012–15: AER letter to SP AusNet of 6 October 2011*, 12 October 2011, pp7

56 SP AusNet, *Response to Information Request 8 – 30 September 2011*, 6 October 2011

57 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011

Table 2.4 Variance Analysis of SP AusNet amended Submitted Budget for 2009–15 to SP AusNet's 2009–11 Approved Budget and SP AusNet's 2012–15 initial Submitted Budget ('000, Real $2011)

	2009-15 Total Budget	2009-11 Budget Period	2012-15 Budget Period
Capex			
Meter Supply	[C-I-C]	[C-I-C]	[C-I-C]
Meter Installation	[C-I-C]	[C-I-C]	[C-I-C]
IT Capex	[C-I-C]	[C-I-C]	[C-I-C]
Comms Capex	[C-I-C]	[C-I-C]	[C-I-C]
Project and Admin	[C-I-C]	[C-I-C]	[C-I-C]
Total capex	**36,175.6**	**-3,291.7**	**39,467.2**
Opex			
Meter Purchase	[C-I-C]	[C-I-C]	[C-I-C]
Meter Reading	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Management	[C-I-C]	[C-I-C]	[C-I-C]
Meter maintenance	[C-I-C]	[C-I-C]	[C-I-C]
Customer Service	[C-I-C]	[C-I-C]	[C-I-C]
Communication infrastructure maintenance	[C-I-C]	[C-I-C]	[C-I-C]
Technology Trial	[C-I-C]	[C-I-C]	[C-I-C]
Project Management	[C-I-C]	[C-I-C]	[C-I-C]
AMIPO and AMI ISC costs	[C-I-C]	[C-I-C]	[C-I-C]
Audit and quality assurance	[C-I-C]	[C-I-C]	[C-I-C]
AMI budget and charges applications	[C-I-C]	[C-I-C]	[C-I-C]
Equity raising costs	[C-I-C]	[C-I-C]	[C-I-C]
Debt raising costs	[C-I-C]	[C-I-C]	[C-I-C]
Management fees or overhead	[C-I-C]	[C-I-C]	[C-I-C]
Extra Accommodation Cost	[C-I-C]	[C-I-C]	[C-I-C]
IT Opex	[C-I-C]	[C-I-C]	[C-I-C]
Other	[C-I-C]	[C-I-C]	[C-I-C]

Total opex	**30,269.4**	**29,971.4**	**298.0**
Total Budget	**66,445.0**	**26,679.7**	**39,765.2**

Source: AER, Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11, 20 July 2011; SP AusNet, SPI Electricity Pty Ltd: Advanced Metering Infrastructure: AMI Subsequent Budget and Charges Application, 28 February 2011; SP AusNet, SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response, 26 August 2011

Note: The AER notes the difference between SP AusNet's initial and amended Submitted Budget, for the 2009–11 budget period, for meter supply was $[C-I-C] million and for meter installation was $[C-I-C] million.
Positive values represent new expenditure (increased or reclassified expenditure between asset classes or years) and negative expenditure represents expenditure cuts (or reclassified expenditure between asset classes or years).

On the basis of this analysis and the limited information provided by SP AusNet, the AER reached the following conclusions on SP AusNet's proposed expenditure. The AER considers that SP AusNet's amended Submitted Budget contains new expenditure totalling $20.1 million composed of:

- IT infrastructure capex (part of IT capex) of $[C-I-C] million
- meter data management capex (part of IT capex) of $[C-I-C] million
- meter purchases expenditure of $[C-I-C] million
- expenditure relating to the trial of 3G meters of $[C-I-C].

The AER considers that this expenditure is a revision of SP AusNet's budget application.

The AER's analysis is consistent with SP AusNet's response, provided on 12 October 2011, that it had included new expenditure for [C-I-C] and a [C-I-C].[58] The AER considers that meter purchase costs are also new expenditure which does not accord with the information provided by SP AusNet on 12 October 2011. However, the AER notes that this is consistent with SP AusNet's information, as provided on 23 September 2011, to the extent that SP AusNet indicated that [C-I-C] costs were required as a result of the AER's previous determination which it claimed represented a material change in metering regulatory obligation or requirement.[59]

2.1.3.2 AER's assessment under clause 5B.3 of the Cost Recovery Order

As noted above, the AER requested that SP AusNet advise if variations to its expenditure in its amended Submitted Budget fell within either of the two allowed circumstances set out in clause 5B.3 of the Cost Recovery Order.[60] SP AusNet responded that it could make alterations in response to the AER's Determinations for

[58] SP AusNet, *Response to Information Request 10: Cover letter: AMI Amended Budget Application 2012–15: AER letter to SP AusNet of 6 October 2011*, 12 October 2011, pp7

[59] SP AusNet, *Response to Information Request 3 – 14 September 2011: Question 1-2*, 23 September 2011, pp12-13

[60] AER, *Request for Information 3*, 14 September 2011

both the SP AusNet 2009–11 Revised Budget Application and the AER's 2012–15 AMI Draft Determination.[61] SP AusNet contends that these determinations meet the requirements of clause 5B.3 (b) in 'that there is a material change in a metering regulatory obligation or requirement'.

SP AusNet's response setting out its understanding predated the information it provided on 12 October 2011 that new expenditure had only been included in two classes: [C-I-C] and [C-I-C]. As noted above, SP AusNet had previously submitted on 23 September 2011[62] that [C-I-C] expenditure was due to a material change in metering regulatory obligation or requirement due the AER's Final Determination on SP AusNet's 2009-11 Revised Budget Application.[63] The AER has determined that new expenditure includes [C-I-C] and has therefore applied SP AusNet's reasoning to this expenditure also.

The AER reviewed SP AusNet's justification for revising its budget but considers that neither a draft or full determination of the AER under the Cost Recovery Order constitutes a metering regulatory obligation or requirement as the AER's determination deals only with an assessment of expenditure. The AER's determinations therefore do not impose 'an obligation or requirement'.[64]

Therefore, as the new expenditure of $20.1 million proposed by SP AusNet does not fall within either exception under clause 5B.3, the AER is not able to consider it in this current process.[65] This new expenditure can only be assessed should SP AusNet lodge a Revised Budget Application for 2012–15.

Transfer of expenditure between categories

The AER accepts SP AusNet's statement that it has transferred expenditure between the IT opex categories and into the Communications Infrastructure Maintenance and Backhaul Communications expenditure categories. The AER will assess this expenditure in each of these expenditure categories.

Transfer of expenditure between the 2009–11 and 2012–15 budget periods

The AER notes that the expenditure for meter supply and meter installation transferred from the 2009–11 budget period to the 2012–15 budget period was not incorporated into SP AusNet's initial Submitted Budget and therefore was not considered in the AER's Draft Determination.

SP AusNet's meter supply and meter installation capex was assessed by the AER in the Draft Determination using SP AusNet's 2012–15 initial Submitted Budget[66]. However SP AusNet's amended Submitted Budget stated that it has transferred meter

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61 SP AusNet, *Response to Information Request 3 – 14 September 2011: Question 1-2*, 23 September 2011, pp12-13

62 SP AusNet, *Response to Information Request 3 – 14 September 2011: Question 1-2*, 23 September 2011, pp12-13

63 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011

64 With reference to the definition of 'metering regulatory obligation or requirement' in clauses 2.1 of the Cost Recovery Order in Council.

65 Cost Recovery Order in Council, clause 5B.3.

66 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 51-54

supply and meter installation expenditure from 2011 into the 2012–15 budget periods.[67] The AER considers that SP AusNet's proposed expenditure increase for 2012–15 budget period for meter supply and meter installation is a result of amending the 2012–15 meter volumes to account for more accurate forecasts of 2011 meter volumes rolled out.

The AER notes that SP AusNet's expected expenditure for these meter supply and installation costs in the 2009–11 budget period was $[C-I-C] million and when transferred to 2012–15 budget period is $[C-I-C] million. SP AusNet has noted this forecast cost decrease in meter supply of $[C-I-C] million and a cost increase of $[C-I-C] for meter installation in its amended Submitted Budget but has not explained its source.[68] The AER considers that SP AusNet's transfer from the unadjusted initial budget of $[C-I-C] million for meter supply and meter installation aligns closely with the amount transferred into the 2012–15 budget period.[69]

The AER therefore considers it appropriate to assess the expenditure transferred between the 2009–11 and 2012–15 budget periods.

2.2 Application of the scope test

The Order provides that activities within scope are those activities that are reasonably required for the provision of Regulated Services and to comply with a metering regulatory obligation or requirement. Schedule 2 of the Order lists activities that are within scope and outside scope.

2.2.1 Is WiMAX communication expenditure within scope of the Order?

AER Final Determination

The AER has not established that SP AusNet's activities involving the roll-out of meters are outside scope, merely on the basis of the WIMAX technology being used in that roll-out.

There are several possible communications technologies (such as Mesh Radio, WiMAX and 3G) available for DNSPs to connect the smart meters with the DNSPs' meter data management system (MMS). While CitiPower, Powercor, JEN and UE have adopted a mesh radio solution, SP AusNet opted for a WiMAX communications solution for its AMI roll-out.

67 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 31-32, 36

68 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp36,37

69 [C-I-C]

2.2.1.1 AER Draft Determination

The AER assessed that SP AusNet's WiMAX communications system was not being used for non-AMI communications as the AER had no evidence that SP AusNet was providing non-AMI communications services at the present time. In coming to this conclusion the AER considered its conclusion in the 2009–11 AMI Final Determination that:

> …the revised Order does not permit the AER to consider the potential for unregulated communications service provision in the future as a basis for rejecting costs under the scope test. It is only when the DNSP is actually using AMI technology to provide communications services that the AMI technology could be established as being outside of scope.[70]

2.2.1.2 Submissions from stakeholders

The Minister for Energy and Resources the Hon. Michael O'Brien in his submission raised concerns with the AER's Draft Determination in regards to SP AusNet and the AER's application of the scope test, specifically:[71]

- Non-AMI related communications services—the Minister considers that SP AusNet may have purchased the more expensive WiMAX network with the express intention to also use the network for smart grid applications. If so, the Minister considers that some of this costs should then be allocated to standard control services.
- The potential benefits for unregulated and regulated revenues—the Minister considers the extent to which the WiMAX network is able to provide non-AMI communications needs to be examined as to whether it should be considered to be within scope of the Order.
- Higher costs for potentially non AMI related activities—the Minister considers that the ability of the network to deliver non-AMI communications is more expensive and needs to be examined.
- Definitions of metering and regulated services—the AER should carefully examine the definition of metering services in the Order.

2.2.1.3 AER's View

Confidential information provided to the AER and considered in the Draft Determination indicates that there is clearly a possibility for using WiMAX for non-AMI related purposes. However, the AER could not establish that SP AusNet at that time was using its communications solution for non-AMI related purposes.

[C-I-C]

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70 AER, *Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications*, October 2009, pp 108

71 The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011

[C-I-C]

Following the Draft Determination and in response to an AER information request[72] regarding the [C-I-C], SP AusNet informed the AER that [C-I-C]

[C-I-C]

The AER sought evidence from SP AusNet that the amount of spectrum purchased would not be shared by other out of scope activities. SP AusNet responded:[73]

[C-I-C]

The AER also sought information from SP AusNet concerning SP AusNet's WiMAX communications usage purely for AMI purposes.[74] SP AusNet informed the AER that

72 AER, *Request for Information 5*, 21 September 2011
73 SP AusNet, *Response to Information Request 4: 20 September 2011: Energeia Questions*, 26 September 2011, pp 17
74 AER, *Request for Information 7*, 28 September 2011

a meter read utilises [C-I-C] MB per read every two hours or [C-I-C] MB for the daily read plus worst case functionality.[75] From this information, it is not clear to the AER the amount of spare capacity available in SP AusNet's WiMAX communications network. [C-I-C]

More recently, the AER in a letter dated 6 October 2011 referred to the Minister's concerns relating to whether WiMAX is communications technology that is more expensive than necessary and may have been purchased with the express intention to use the network for other purposes such as smart grid applications. Of the AER's conclusion in its Draft Determination that WiMAX was not being used for other purposes, the Minister submitted that:

> …raises the question as to what extent the cost of WiMAX would be reduced if it did not have the functionality that enables its future use for smart grid applications.[76]

In response, on 12 October 2011[77], SP AusNet informed the AER that when evaluating the options available to it, [C-I-C]

[C-I-C]

The AER has reviewed Document 22 (the 2008 AMI - Business Case Revision) in Folder 7 of the information supplied in June 2009. Notwithstanding that this document is eight pages in length making SP AusNet's reference to page 13 unclear, the AER notes the document was recently addressed in the AER's Determination of SP AusNet's 2009–11 Revised Budget Application.[78] As part of that determination,

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75 SP AusNet, *Response to Information Request 7 – 18 September 2011*, 30 September 2011, pp 7

76 The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011, pp 5

77 SP AusNet, *Response to Information Request 10: Cover letter: AMI Amended Budget Application 2012–15: AER letter to SP AusNet of 6 October 2011*, 12 October 2011

78 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011

the AER concluded that SP AusNet should have been aware that there were other cost effective options available at the time that it entered into vendor contracts for WiMAX meters.

In addition, the AER was provided with the 2008 Business Case at the time of its Determination on SP AusNet's 2009–11 Budget Application and Charges Application, but significantly was not informed of the contracts entered into by SP AusNet in September 2009. As a result, the AER concluded in its Determination on SP AusNet's Revised Budget Application for the 2009-11 budget period 'that it made that decision on the basis of incomplete information.'[79]

Other information provided to the AER on 12 October 2011 indicates that:

- [C-I-C]

- [C-I-C]

[C-I-C]

[C-I-C]

This indicates that there is an opportunity to utilise WiMAX in a way other than is required to meet the requirements of the Cost Recovery Order.

Moreover, the information provided by SP AusNet suggests that it will use its WiMAX communications solution to provide non-AMI communications for its other regulated services including distribution, transmission and gas where opportunities present in the future. [C-I-C]… by adopting WiMAX, SP AusNet appears to be positioning itself to achieve benefits from its choice of technology that could exceed the requirements under the Cost Recovery Order.

[79] AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, pp. 26

The AER notes SP AusNet's submission that 'as part of any evaluation process a prudent business would consider the impact of an asset to its future business direction' but considers that the SP AusNet's obligations and circumstances are framed by the requirements of the Cost Recovery Order that allows for expenditure for 'Regulated Services' and metering regulatory obligations and requirements.

The Order provides that:

> Activities within scope are those activities reasonably required:
>
> (a) for the provision of Regulated Services; and
>
> (b) to comply with a metering regulatory obligation or requirement.[80]

Further, Schedule 2.8 (iv) states that activities outside of scope of the Order include 'using AMI technology to provide communications beyond those in the most up to date Specifications.'[81] The AER considers that this provision requires SP AusNet to be 'using' the AMI technology to provide non-AMI communications.

What is 'reasonably required' must be interpreted to accord with the activities set out as within scope and with reference to the minimum functionality Specifications which require that remotely read meters are functional by 1 January 2012. What is in excess of those minimum functionality requirements at that time may be considered to be not 'reasonably required'.

Therefore, it is not only a question of whether the particular technology is being used for non-AMI purposes but whether that technology provides more than what is 'reasonably required'. Relevant also is the AER's framework and approach paper which established that:

> '[f]or performance in excess of the minimum specifications, distributors will need to provide a separate cost/benefit analysis quantifying benefits to the distributor, retailers and end customers, and demonstrating why regulated tariffs should provide the revenue required.'[82]

Taking into account the requirements of the Order and the information before the AER at the present time, the AER cannot establish that SP AusNet is currently *using* its AMI technology to provide non-AMI communications. [C-I-C]

Therefore, the AER has not established as of this date that activities involving the roll-out of meters are outside scope, merely on the basis of the WIMAX technology being used in that roll-out.

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80 Cost Recovery Order in Council, schedule 2.6

81 Cost Recovery Order in Council, schedule 2.8

82 AER, *Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11*, January 2009, pp 29.

2.2.2 Meter Volumes

AER Final Determination

The AER considers that SP AusNet's proposed meter volumes exceed the number of meters reasonably required for the purposes of the Order. Therefore expenditure related to the activity of rolling-out these additional meters is outside scope. This includes meter supply and meter installation capex which are adjusted accordingly in sections 2.5.2.1 and 2.3.

The supply and installation of remotely read interval meters to be installed as part of the AMI roll-out is within scope of the Order.[83] If a DNSP proposes expenditure that relates to the supply or installation of meters in excess of the number of meters it reasonably requires for the AMI roll-out, then it follows that this expenditure is outside the scope of the Order.

2.2.2.1 AER Draft Determination

The AER determined that SP AusNet in its budget application proposed expenditure that related to both the supply and installation of meters in excess of the number reasonably required for the AMI roll-out. These two issues are discussed separately below.

Impaq raised concerns that SP AusNet's meter numbers did not incorporate the reuse of abolished meters and that its meter to customer ratio of 1.02 appeared to be too low compared to Impaq's estimate of 1.08. The AER adopted Impaq's meter volumes for its Draft Determination.

Meter Supply Volumes
In its Draft Determination, the AER established that SP AusNet's budget application did not account for the reuse of meters in either its volume forecasts or in its meter unit capital costs. The AER also considered that SP AusNet's meter volume forecast for business as usual roll-outs were in excess of its needs and as such were an activity outside scope. [84]

Meter installation volumes
In the Draft Determination, the AER established that SP AusNet's proposal to include installation costs for new connections is an activity outside scope.[85] [86]

2.2.2.2 Submissions from stakeholders

SP AusNet raises the following issues in its amended Submitted Budget:

- it is the activity and not the expenditure which must be assessed to determine whether it is within scope[87]

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83 Cost Recovery Order in Council, schedule 2.1, 2.6, and 2.10.

84 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 53–54.

85 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications, July 2011*, pp 53-54.

86 For new connections, the connecting customer is required to pay for the installation cost through a charge set by the AER under SP AusNet's Alternative Control Services determination.

- meter abolishment rates are around 12 per cent and not the 20–40 per cent abolishment rate quoted by Impaq and used by the AER—SP AusNet has therefore proposed meter volumes unadjusted in 2012–13 and adjusted by 12 per cent for meter abolishment in 2014–15[88]

- a customer to meter ratio of 1:1.08 is required for the AMI mass roll-out customers and for new customers a 1:1 customer to meter ratio.[89]

Regarding business-as-usual meter volumes, the Minister notes that the AER's reference point for determining the number of new customers was 2011. The Minister considers that the AER should have accounted for the number of new customers since 2009 when the AMI roll-out began.[90]

2.2.2.3 AER's view

The Order requires the AER to approve the expenditure unless it establishes that the expenditure (or part thereof) is for activities outside of scope or is not prudent. The AER has assessed only the activity when determining whether it is in or outside scope In response to SP AusNet's concerns about the AER's application of the scope test, the AER has clarified its approach in section 1.2.1.

The AER in its Draft Determination found SP AusNet's forecast meter volumes included numerous errors. SP AusNet has responded in its amended Submitted Budget with updated meter volume forecasts.

In considering these updated meter volumes the AER has considered the following issues raised by Energeia and Impaq:

- Energeia states that SP AusNet did not provide a detailed response in support of its approach to forecasting net customer additions. According to SP AusNet, it 'did not mirror the increase in customer numbers in the EDPR, though SP AusNet claims it was calculated on a consistent basis. No evidence was provided in support of this claim.'

    - Energeia's review of SP AusNet's forecast customer growth rates in 2014–15, when data is available that is net of abolishment, has found that SP AusNet's assumed customer growth rates appear to be 20 per cent higher than the number used and independently verified in its revised EDPR submission.[91]

- Impaq found multiple discrepancies within SP AusNet's meter volumes forecast, including that SP AusNet's customer numbers appeared to be 15 000 more than

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87 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp17

88 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp31

89 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp31

90 The DNSPs meter volumes forecasts consists of two types. The first is a meter volume forecast for their existing customer base and the other is for new connections (new customers).

91 Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, pp16

advised in the initial Submitted Budget and that its meter number do not appear to tally. Impaq stated that SP AusNet's forecast meter numbers are therefore incorrect.[92]

The AER also notes its analysis of SP AusNet's proposed meter volumes has accounted for the following discrepancies:

- the AER calculates that SP AusNet's meters installed in 2010 are 76 113, which is 4235 meter more than SP AusNet reported in its initial Submitted Budget.[93]

- SP AusNet informed the AER that it has updated its EDPR forecast of customer numbers and this includes growth rates for individual meter types, however, these meter growth rates are inconsistent with the meter growth rates reported by SP AusNet.[94] [95] These growth rates are summarised below.

Table 2.5 Comparison of SP AusNet's meter growth rates to those observed by the AER in SP AusNet's proposed meter volumes (per cent)

	SP AusNet Meter growth rates	Observed Meter growth rate
Single phase single element	[C-I-C]	[C-I-C]
Single phase two element with contactor	[C-I-C]	[C-I-C]
Multiphase	[C-I-C]	[C-I-C]
Multiphase with contactor	[C-I-C]	[C-I-C]
Multiphase CT connected	[C-I-C]	[C-I-C]

Note: The AER notes, that SP AusNet's meter forecast is the same as its customer forecast, due to SP AusNet's 1:1 customer to meter ratio.

The AER has considered Impaq's advice that its calculation of meter volumes from its initial report was sufficient to be applied in this report. The AER, however, considers that SP AusNet has provided updated data on meter volumes for 2011 that must be taken into account in the Final Determination. These meter volume changes are a result of the AER's Determination on SP AusNet's 2009–11 Revised Budget Application and represent an update to mass AMI roll-out figures. Therefore the AER has calculated meter volumes based on this new information.

As such, the AER has applied a similar methodology to the one it applied in the Draft Determination to assess SP AusNet's meter volumes forecasts.

The approach applied by the AER is to:

92 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp 142-146

93 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: AMI Subsequent Budget and Charges Application*, 28 February 2011, pp 37

94 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp.32-33

95 SP AusNet, *Response to Information Request 4: 20 September 2011: Energeia Questions*, 26 September 2011, pp 6

- Accept SP AusNet's 2010 and 2011 customer numbers and meter numbers. However it should be noted that:
    - SP AusNet's amended Submitted Budget forecast for its customer numbers in 2010 are fifteen thousand higher than proposed to the AER in its Victorian Distribution Determination. The AER notes SP AusNet has informed the AER this is 2010 actual number of customers.
    - SP AusNet's 2011 customer growth have been allowed as the AER considers that this customer numbers represent updated estimates from August 2011 and would be more accurate than the figure initially forecast for either the October 2010 Victorian Distribution Determination or the February 2011 initial Submitted Budget.
    - In addition the AER notes SP AusNet has moved a large amount of expenditure for meters from 2011 to the 2012–15 budget period that needs to be accounted in the mass roll-out meter numbers for 2011.
- As discussed above SP AusNet's stated meter growth rates are inconsistent with the observed meter growth rates it has applied. The AER has therefore not accepted SP AusNet's new customer and meter growth rate forecasts and has adopted the Victorian Distribution Determination customer forecast.[96] [97]
- Calculated mass meter roll-outs on the basis of SP AusNet's stated 2010 meter number of 680 487 meters. As these meters have a meter to customer ratio of 1.07 the AER considers this number of meters appears correct noting SP AusNet's statement that meter to customer ratio is roughly 1.08.[98]
- Calculated new meter numbers on the basis of a 1:1 customer to meter ratio. [99]
- Adjusted abolished meters for the entire period 2012 to 2015 (adjusted for the mid year meter roll-out percentage for each year) which has been applied on a weighted basis to all meter types.
    - The AER notes that from mid 2012, 60 per cent of all meter will be AMI while from mid 2013, 95 per cent meters will be AMI. The AER therefore considers it appropriate to apply a weighting to the 12 per cent of new meters that represent abolishments to account for the large proportion of AMI meters in these two years. SP AusNet has accepted this approach to abolishments in 2014–15.

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96 AER, *Final Decision: Victorian electricity distribution network service providers: Distribution determination 2011–2015*, October 2010, pp60-148

97 The AER in the Victorian Distribution Final Determination undertook detailed analysis of SP AusNet's demand forecast. On the basis of this analysis the AER concluded that SP AusNet's customer number forecasts reflect reasonable population and economic growth forecasts which made them appropriate to form amounts, values or inputs to the AER's determination.

98 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp.31

99 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp.31

- add the values together to work out the total meters in Table 2.6

Impaq Consulting has reviewed the AER's meter volume calculation methodology and confirmed that it is correct and consistent with the approach adopted in the Draft Determination.

This approach addresses the Minister for Energy and Resources Hon. Michael O'Brien 's submission as it accounts for the mass roll-out number of meters required for SP AusNet's customer base and accounts for all new customers to ensure new customers are not double counted as alternative services as well as under the AMI roll-out expenditure.

The AER considers that SP AusNet's estimates of 495 119 meters to be installed for the 2012-15 period is not consistent with the AER's calculated volume of 488 083.[100] As such, SP AusNet's intention to purchase more meters than the amount it would require to comply with its AMI roll-out obligation is an activity outside scope. The AER considers that SP AusNet will only require the number of meters calculated in Table 2.6.

The AER has finalised the expenditure adjustment for meter volumes in sections 2.5.2.1 and 2.3 of this determination.

Table 2.6 AER calculation of meter volumes

	2010	2011	2012	2013	2014	2015
Total Customers	637,179	650,817	663,004	674,210	684,322	694,174
New customers		13,638	12,187	11,206	10,112	9,852
New meters		13,638	12,187	11,206	10,112	9,852
Meter to Customer ratio		1.07	1.07	1.07	1.06	1.06
AMI mass roll-out meters	71,878	163,883	302,137	142,589	0	0
% roll-out completed		25%	60%	95%	100%	100%
Abolishment percentage		12.00%	12.00%	12.00%	12.00%	12.00%
Abolishment meters			877	1,277	1,213	1,182
Total Meters	680,487	694,125	706,312	717,518	727,630	737,482

Note: * number adjusted to ensure mass meter roll-out volume is only applied to pre-AMI roll-out customers

The AER's calculation changes the meter and customer numbers that have SP AusNet's meter tariffs applied to them. The AER has calculated these figures below.

[100] The AER notes its adjustment to meter volumes is not large as the Victorian Distribution Determination customer forecast only leads to a difference of 7036 meters compared to SP AusNet's meter forecast.

Table 2.7 AER calculation of meter volume installations per year by tariff class

	2010	2011	2012	2013	2014	2015	Total
Single phase single element	71,878	142,967	144,777	70,837	8,939	8,717	448,115
Single phase two element with contactor	0	31,910	79,008	38,658	0	0	149,576
Multiphase	0	2,116	55,249	27,033	1,108	1,073	86,580
Multiphase with contactor	0	420	32,770	16,034	25	23	49,272
Multiphase CT connected	0	108	2,519	1,233	40	38	3,938
Total	71,878	177,521	314,325	153,794	10,112	9,852	737,482

Table 2.8 AER calculation of customer numbers by tariff class

	2010	2011	2012	2013	2014	2015
Single phase single element	366,261	376,581	385,851	394,393	403,332	412,049
Single phase two element with contactor	145015	146,719	148,220	149,576	149,576	149,576
Multiphase	80214	81,736	83,073	84,309	85,417	86,490
Multiphase with contactor	41978	42,014	42,045	42,072	42,097	42,120
Multiphase CT connected	3711	3767	3,816	3,860	3,900	3,938
Total	637,179	650,817	663,004	674,210	684,322	694,174

2.2.3 Two-element meters

AER Final Determination
The AER determines two-element meters are outside scope. However, the AER has approved SP AusNet's proposed expenditure relating to two-element meters for the 2012–15 budget period on a cost-benefit basis.

Two-element meters enable distributors to separately record the electricity consumption of two circuits at customers' premises. Single-element meters on the other hand only enable distributors to record the electricity consumption of a single circuit. A contactor (also referred to as a time switch) allows a circuit to be switched on and off at set times.[101]

[101] PricewaterhouseCoopers Australia, *Assessment of the justifiable need for investment in two-element meters*, May 2011, May 2011, p. 7.

Two-element meters with a single contactor are commonly installed working in conjunction with electric hot water systems or electric slab heating units, particularly in areas where customers don't have access to reticulated gas.

In the case of electric hot water systems, customers may receive a discounted tariff for their hot water unit's electricity consumption in return for allowing their distributor to 'control' when the hot water unit reheats. The distributor will usually assign the hot water reheating to an off-peak time (for example, 11pm to 7am), which can avoid or defer the need for network augmentation. This benefits both customers and distributors as the high cost of network augmentation will be avoided or deferred.

Two-element meters are not included in the AMI minimum functionality specifications. The Order states that services beyond those in the specifications[102] are outside scope.[103] However, the AMI framework and approach paper provides that the AER can approve expenditure related to AMI activities in excess of the minimum specifications if a DNSP is able to demonstrate that the AMI activity will result in net benefits to customers and market participants.[104] [105]

AER approval of two-element meters for the 2009–11 budget period

The AER understands that the policy intent of the Victorian Government was for single-element meters with a contactor to work in conjunction with time-of-use (ToU) tariffs.[106]

At the time of the AER's decision for the 2009–11 budget period, the DNSPs were unable to reassign customers onto ToU tariffs as AMI communications were not yet functional.[107] This meant that customers needed to remain on their existing tariff structures. This was not a problem for single-element customers as they could remain on their existing tariff with an AMI single-element meter.

However, in order for two-element customers to remain on their existing tariff, they would require an AMI two-element meter to be installed. As two-element meters are outside the scope of the Order, two-element customers would not be able to remain on their existing tariff.

If a two-element customer was transferred to an AMI single-element meter, they would likely face a price shock. This is because their off-peak consumption would no longer be charged at an off-peak rate, and would instead incur the higher electricity tariff that would usually apply to their other electricity usage.

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[102] The specifications of 1 January 2009.

[103] The Cost Recovery Order in Council, schedule 2.2(iii), 2.7(iii), 2.11(iii).

[104] AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, p. 29

[105] The framework and approach paper states that the 'distributors will need to provide a separate cost/benefit analysis quantifying benefits to the distributor, retailers and end customers, and demonstrating why regulated tariffs should provide the revenue required.'

[106] ToU tariffs allow distributors to offer different electricity tariffs depending on the time of day a customer consumes electricity. For example, a day may be divided up to allow for 'peak', 'shoulder', and 'off peak' tariffs. Generally peak consumption will be charged at a higher tariff than off peak consumption as an incentive to reduce peak demand.

[107] AER, *Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications*, July 2009, p. 25

CitiPower, JEN, and UE were able to postpone the meter replacements for its two-element meter customers until AMI communications were functional and ToU tariffs were available.[108] This was possible because their customer base has a relatively small number of two-element meter customers. Therefore, CitiPower, JEN, and UE did not propose to install two-element meters during the 2009–11 budget period.

Powercor and SP AusNet, on the other hand, have a relatively large number of two-element meter customers. As a result, these DNSPs were unable to postpone the meter replacements for their two-element meter customers without seriously impacting on their ability to meet the mandated roll-out schedule provided in schedule 1 of the Order. Therefore, Powercor and SP AusNet proposed to install two-element meters during the 2009–11 budget period.[109]

Powercor and SP AusNet argued that a net benefit would arise from the installation of two-element meters for a number of reasons, such as the avoidance of customer price shocks, and the delay of network augmentation.[110]

The AER approved Powercor's and SP AusNet's proposal to install two-element meters during the 2009–11 budget period. The AER considered that the installation of two-element meters would result in a net-benefit and should be approved.

However, the AER anticipated that two-element meters were unlikely to be required for the 2012–15 budget period as AMI communications would be functional and ToU tariffs would be available.[111] Accordingly, the AER noted that it would reconsider the issue for the 2012–15 budget period.[112]

Draft Determination

SP AusNet, UE, and CitiPower and Powercor proposed to install two-element meters during the 2012–15 budget period.[113]

The AER considered that activities relating to two-element meters are outside scope. Further, where a DNSP had submitted a cost benefit analysis, the AER considered that the DNSPs' arguments in support of two-element meters, were based on the assumption that the ToU moratorium would continue beyond 31 December 2011.

The AER noted at the time that it understood the ToU moratorium is due to expire on 31 December 2011, meaning the DNSPs will be required to mandatorily reassign their customers onto ToU tariffs. Therefore, customers will not remain on their existing tariff structure regardless of whether two-element or single-element meters are

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108 AER, *Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications*, July 2009, p. 24

109 AER, *Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications*, July 2009, p. 24

110 AER, *Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications*, July 2009, p. 24

111 AER, *Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications*, July 2009, p. 25

112 AER, *Final Determination: Victorian advanced metering infrastructure review: 2009–11 AMI budget and charges applications*, October 2009, p. 44

113 SP AusNet and United Energy Distribution also proposed to install two-element meters during the 2012–15 budget period.

installed. As the moratorium was to expire, the AER concluded that no net benefit would arise.

As a result, the AER did not approve SP AusNet's, UE's, CitiPower's and Powercor's proposed expenditure relating to two-element meters as part of its Draft Determination.

Submissions from distribution businesses on two-element meters

SP AusNet, UE, and CitiPower and Powercor maintained their proposals to install two-element meters. SP AusNet provided a cost-benefit analysis prepared by Price Waterhouse Coopers (PwC) in support of its proposal. CitiPower and Powercor provided a letter from PwC updating its cost-benefit analysis that was provided to the AER as part of CitiPower's and Powercor's Submitted Budgets.

The PwC reports outline that the installation of two-element meters will result in benefits in excess of the incremental cost of a two-element meter relative to a single-element meter.

In summary, SP AusNet, UE, and CitiPower and Powercor each maintain that significant benefits will arise from the installation of two-element meters with a contactor for existing customers with controlled loads.

Submissions from stakeholders - the Victorian Minister for Energy and Resources

The Honourable Michael O'Brien MP, the Victorian Minister for Energy and Resources (the Minister), raised the issue of two-element meters in his submission in response to the AER's Draft Determination. The Minister's submission states:

> I note that the Draft Determination establishes that the installation of two element meters by Powercor, CitiPower, SP AusNet and United Energy is out of scope as the moratorium on time-of-use tariffs is due to end after 31 December 2011.
>
> However I am advised that, should the moratorium continue in some form, it should be possible to provide a specialised two-part tariff for a customer with a controlled hot water or space heating service, with only a single element smart meter that avoids or minimises price changes for the customer. In this circumstance two element meters would not be required to be rolled out.[114]

However, on 31 October 2011, the Minister for Energy and Resources Victoria informed the AER that the ToU moratorium will be extended beyond 31 December 2011. The Minister states:

> The Draft Determination established that the installation of two element meters by Powercor, CitiPower, SP AusNet, and United Energy is out of scope as the moratorium on time-of-use tariffs is due to end after 31 December 2011.
>
> Following consultation with stakeholders as part of the ongoing review of the Advanced Metering Infrastructure (AMI) program, and further to my original submission, I advise that I intend to, subject to final Government

[114] The Honourable Michael O'Brien MP, *AER's 2012–2015 AMI Draft Determination*, September 2011, p. 5

> approval, extend the current moratorium for a further twelve months. I understand that this advice is important for the AER in making its Final Determination on the budgets and charges applications.
>
> This action will be taken to ensure that there are no undue impacts on customers who may be affected by a change of network tariff following the installation of a single element smart meter in place of a two-element meter (or two separate meters). The extension will be implemented in consultation with industry.
>
> This decision should not be interpreted as pre-empting any decision by the Government as to the future of the AMI Program, consequent to the current ongoing review.
>
> This decision is intended to protect consumers from unanticipated changes to their tariffs. [115]

Final Determination

The AER has considered the benefits arising from the installation of two-element meters rather than single-element meters for customers who currently have a non-AMI two-element meter. These arguments include that the installation of two-element meters will result in a range of benefits to customers and market participants—based on the assumption that the ToU moratorium would extend beyond 31 December 2011. The benefits include the avoidance of customer price shock, lower costs resulting from customer complaints and tariff reassignments, and less network augmentation.

The AER notes that the cost of a two-element meter is around $20 to $30 more than a single-element meter based on information provided by the DNSPs in their amended Submitted Budgets.

Despite the additional cost of two-element meters, the AER considers that the benefits of two-element meters submitted by the DNSPs can be realised because the ToU moratorium is likely to be extended. On this basis, the AER accepts the DNSPs' claims that the benefits of two-element meters will be greater than the additional costs.

Therefore, while the AER considers that activities related to two-element meters are outside scope, it approves the expenditure relating to two-element meters for the 2012–15 budget period for SP AusNet, UE, and CitiPower and Powercor on a cost-benefit basis.

2.2.4 New customer meter installation expenditure

AER Final Determination

The AER has determined that SP AusNet's proposed communication and antenna installation for new customer connections is outside scope.

The AER has also established that if within scope, it is more likely than not that the expenditure will not be incurred.

[115] The Honourable Michael O'Brien MP, *AER's 2012-2015 AMI Draft Determination – Supplementary Submission*, 28 October 2011.

SP AusNet's amended Submitted Budget includes a proposal for the cost of antenna and communications module installation for new customers to be included.

2.2.4.1 AER Draft Determination

The AER removed all expenditure associated with new customer installation of meters in its draft determination on the basis that new customers are charged under Alternate Control Service charges for meter installation.

2.2.4.2 Submissions from stakeholders

SP AusNet submitted that new connection installation costs are recovered from the customer. SP AusNet states it did not incorporate these costs for this reason and that the AER should not have adjusted its new customer meter installation and meter supply expenditure as it was not incorporated. [116]

SP AusNet further submitted that its contracted cost of $[C-I-C] for antenna and communications module installation is not recoverable from the customer.

The Minister for Energy and Resources Hon. Michael O'Brien stated that the AER should carefully examine the definition of metering services activities under the Order and NER.

2.2.4.3 AER's view

The AER has reviewed SP AusNet's detailed capital expenditure model and considers that antenna and communications card installation and extended antenna installation expenditure for new customers is charged to the AMI programme. This expenditure was not approved by the AER in its Draft Determination.

As to SP AusNet's information regarding the charge for new customers installation of antenna and communications module installation, the AER considers that this must incorporate antenna and communications card installation as it represents approximately the $[C-I-C] charge quoted by SP AusNet.[117] The AER considers that SP AusNet's expenditure for extended antenna's is the same type of expenditure that was not approved in the Draft Determination. Therefore the AER has considered expenditure for these cost items for new customers together.

The AER notes the Minister's submission in relation to new connections.

The definition of Regulated Services clarifies that the metering services to be supplied are services to customers with existing accumulation or manually read interval meters and customers with a remotely read interval meter where the distributor is, in both

[116] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp37

[117] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp37

circumstances, the responsible person in respect of those services as of 31 December 2013.[118]

Thus for new customers the costs of installing an AMI meter are not covered by the Order. Further, under the National Electricity Rules, metering installation costs that are directly recovered from customers are classified as alternative control services. The NER defines metering installation cost as:

> The assembly of components including the instrument transformer, if any, measurement element(s) and processes, if any, recording and display equipment, communication interface, if any, that are controlled for the purpose of metrology and which lie between the metering point(s) and the point at or near the metering point(s) where the energy data is made available for collection. [119]

The AER considers that the NER definition incorporates the costs for the antenna (including extended antenna) and communications module as part of the meter installation recovered from alternative control service charges from new connecting customers. This view is supported by Impaq.[120]

The AER therefore considers that antenna and communications installation and extended antenna installation expenditure for new connection customers are outside scope. The AER has determined that SP AusNet's budget be amended to remove the proposed expenditure for new customers.

If such expenditure were within scope, the AER has considered whether as a non-contract cost, it is more likely than not that the expenditure will not be incurred. The AER has concluded on the basis that such expenditure is recovered under alternative control services that it is more likely than not that the expenditure will not be incurred under the Cost Recovery Order.

2.2.5 Special Meter Reading expenditure as part of Meter Data Management

AER Final Determination

The AER has determined that activities connected with SP AusNet's proposed Special Meter Reading costs are outside scope.

The AER has also established that if within scope, it is more likely than not that the expenditure will not be incurred.

SP AusNet's amended Submitted Budget includes a proposal for special meter reading expenditure to be incorporated into the meter data management expenditure.

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[118] See Defined Terms clause 2.1. With respect to customers with an existing remotely read interval meter see clause 14.3; note also that customers are defined as first tier and second tier customers with annual electricity consumption of 160 MWh or less.

[119] National Electricity Rules, Chapter 10: Glossary, metering installation definition

[120] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 153

2.2.5.1 Submissions from stakeholders

The Minister for Energy and Resources Hon. Michael O'Brien submitted that the AER should carefully examine the definition of metering services activities under the Order and NER.[121]

2.2.5.2 AER's view

The AER considers that Special Meter Reading forms part of the services allowed by the alternative control service charges. The charges for alternative control services are recovered directly from the customers that incur the charge. The AER also notes that alternative control service charges are set to allow DNSPs to recover the cost of providing that service.

Under schedule 2.6(a)(ii) that manual meter reading and remote meter reading are activities reasonably required and within scope of the Order. The AER considers that special meter reading is not within scope of the Order as it is not an activity that is reasonably required.

Consequently, the AER considers that this activity is outside scope because it is not reasonably required. Therefore, the AER has determined that SP AusNet's budget be amended to remove the proposed expenditure.

If such expenditure were within scope, the AER has considered whether as a non-contract cost, it is more likely than not the expenditure will not be incurred. The AER has concluded on the basis that such expenditure is recovered under alternative control services that it is more likely than not the expenditure will not be incurred under the Cost Recovery Order.

2.3 Application of the competitive tender test

AER Final Determination
The AER has established that $99.5 million of SP AusNet's amended Submitted Budget was competitively tendered.

The Order requires the AER to approve expenditure arising out of contracts unless it can establish that the contract was not let in accordance with a competitive tender process.

2.3.1 AER Draft Determination

The AER determined that a number of contracts had been let by SP AusNet for the AMI roll-out through a competitive tender process.[122] The AER, following the Draft Determination, requested the DNSPs to provide a reconciliation of those contracts the AER considers have been competitively tendered to the expenditure reported in the Budget and Charges Template. This reconciliation has been summarised in Table 2.9.

[121] The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011

[122] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications, July 2011*, pp 66–73.

The AER did not establish the following contracts for SP AusNet's AMI roll-out were not let in accordance with a competitive tendering process. These contracts are:

- AMI tender management services
- Communications[123]
- Meter installation
- AMI systems integration services
- WiMAX antennas
- Supply installation and support of network security system

2.3.2 Submissions from stakeholders

SP AusNet informed the AER that it is currently undertaking a robust tender process for [C-I-C].[124] [125]

In its amended Submitted Budget, SP AusNet disagreed with the AER's statement that 'the tender process must be particular to a contract.'[126] SP AusNet contends that:

> There need only exist "a" competitive tender process applicable to a contract, but that does not mean the same tender process cannot apply to numerous contracts. SP AusNet contends that to conduct a tender to establish a panel for future contracts of a particular variety, is a sound and prudent use of regulated revenue, particularly in the context of tight deadlines.

2.3.3 AER's view

The AER endorses its Draft Determination and considers that SP AusNet's competitively tendered contracts total $99.5 million as outlined in Table 2.9.

The AER has adjusted the competitively tendered meter installation capex for the meter volumes found to be outside scope in section 2.2.2.

The AER considers that all remaining expenditure has not been competitively tendered. This includes SP AusNet's current tenders which SP AusNet has informed the AER will not be completed and contracted before the AER makes this Final

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123 In response to an AER information request following the Draft Determination, SP AusNet provided further information to clarify expenditure incurred pursuant to the relevant competitively tendered contract which falls within the communications capital expenditure category.

124 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp34-36, 38-39,43-44

125 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response: Appendix C - RFT Meters, Communnications Modules and MMS*, 26 August 2011

126 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 66

Determination.[127] [128] Therefore the AER has assessed the remaining expenditure under the expenditure incurred and commercial standard tests.

The AER has also considered SP AusNet's contention that only 'a' competitive tender process is required to establish a panel for future contracts. Relevantly, clause 5C.3 of the Order provides:

> For the purposes of clause 5C.2(b), expenditure is prudent and must be approved:
>
> (a) where that expenditure is a contract, unless the Commission [AER] establishes that the contract was not let in accordance with a competitive tender process; or

Further, clause 5C.10 provides:

> In making a determination in which the Commission [AER] establishes that a contract was not let in accordance with a competitive tender process, the Commission [AER] must have regard to:
>
> (a) the tender process for that contract;
>
> (b) whether there has been compliance with that process; and
>
> (c) where the Commission [AER] establishes that the request for tender unreasonably imposed conditions or requirements that prevented or discouraged the submission of any tender that was consistent with the selection criteria, that fact.

The AER accepts that a tender process, as SP AusNet asserts, may apply to more than one contract.[129] However, the AER does not accept that a process that establishes a panel of potential providers without regard to the particular contract or contracts in question, is a 'tender process for that contract' as referred to under clause 5C.10 of the Cost Recovery Order.

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[127] SP AusNet, *Response to 2 September 2011 Questions on Amended Application*, 9 September 2011, pp 18

[128] Clause 5C.3 and 5C.10 requires competitively tendered 'contract' costs to have been let to be considered under the competitive tender test

[129] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 18 with reference to the AER's statement in the Draft Determination, on pg 66, that "the tender process must be particular to a contract."

Table 2.9 Competitively tendered contract cost allocation ('000, Real 2011)

	2012	2013	2014	2015	Total
Capex					
Meter Supply	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Installation	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Comms Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total capex	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**
Opex					
Meter Purchase	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Reading	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Customer Service	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Communication infrastructure maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Backhaul Communications	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Technology trials	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Project Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPO and AMI ISC costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Audit and quality assurance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMI budget and charges applications	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Equity raising costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Debt raising costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Management fees or overhead	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Extra Accommodation Cost	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Opex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total opex	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**
Total Budget	**61,829**	**31,025**	**4,964**	**1,719**	**99,537**

Source: AER analysis

2.4 Application of the expenditure incurred test

For expenditure that does not meet the competitive tender test, the Order requires that the AER assess the expenditure under the expenditure incurred test. If the AER establishes that it is more likely than not that the expenditure will not be incurred for the AMI roll-out, the AER may reject the expenditure.

2.4.1 Equity raising costs

AER Final Determination
The AER has established that it is more likely than not that SP AusNet's proposed equity raising cost is expenditure that will not be incurred.

SP AusNet's initial Submitted Budget included a proposal for equity raising costs.

2.4.1.1 Submissions from stakeholders

SP AusNet stated that it is only applying for debt raising costs not equity raising costs.[130]

2.4.1.2 AER's view

SP AusNet's budget template incorporates values in the budget line for equity raising costs despite the statement that it is not seeking equity raising costs. These equity raising costs align to debt raising costs proposed by SP AusNet. As such the AER has treated this proposed expenditure as debt raising costs.

The AER endorses its Draft Determination and allows no equity raising costs as SP AusNet has stated this expenditure will not be incurred. The AER considers debt raising costs in section 0.

2.5 Application of the commercial standard test

For forecast expenditure that the AER has established was not let in accordance with the competitive tender test and which has met the expenditure incurred test, the Order requires the AER to assess that expenditure under the commercial standard test. The commercial standard test requires the AER to approve such expenditure unless it can establish that incurring it would involve a substantial departure from the commercial standard a reasonable business would exercise in the circumstances.

In its Draft Determination, the AER accepted SP AusNet's proposed expenditure for metering reading, AMI Project Office (AMIPO) and AMI Industry Steering Committee (AMI ISC), audit and quality assurance, management fees or overheads and extra accommodation expenditure under the commercial standard test.[131] As SP AusNet's expenditure for these budget items remains unchanged the AER considers this expenditure meets the commercial standard test.

[130] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp68

[131] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 104.

The AER in its Draft Determination also accepted SP AusNet's proposed expenditure for customer service, IT capex and communication capex. [132] SP AusNet has proposed amendments to these budget items. Therefore, the AER will reassess these budget items against the commercial standard test to determine if the expenditure is prudent as required by the Order.

2.5.1 Benchmarking SP AusNet's AMI expenditure

AER Draft Determination

The AER used cost benchmarking in its Determination of SP AusNet's 2009–11 Revised Budget Application. The AER used benchmarking for the analysis of meter supply capex using the average of all DNSPs meter unit costs (which include a communications card and zigbee card) as a baseline to determine if SP AusNet's meter unit costs were a substantial departure from the commercial standard.

The AER also adopted cost benchmarking in relation to meter unit costs in its Draft Determination of SP AusNet's initial Submitted Budget for 2012–15.

The AER notes that unlike the other DNSPs, SP AusNet did not provide a fully integrated opex model that would allow a bottom up build analysis of its opex forecasts in order to support its proposed expenditure.[133]

For the Draft Determination, Impaq provided the AER with cost benchmarking of SP AusNet's IT opex against the costs of Powercor. Impaq considered that Powercor is similar to SP AusNet as it has a similar large rural and some metropolitan network areas. Powercor is slightly larger than SP AusNet in customer number terms but not so much that economies of scale will be materially greater. As such, Impaq viewed Powercor as sufficiently similar to SP AusNet to provide a suitable benchmark for costs.

The AER also used Impaq's build-up of the costs to assess other expenditure categories under the commercial standard test of the Order, including:

- Meter Data Management
- Meter maintenance
- Customer Service
- Communications Infrastructure Maintenance
- Project Management

[132] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 104

[133] JEN, V3 JEN AIMRO Financial Model_v1.33(AER DD); Appendix C UE AIMRO Financial Model_v1.33(AER DD); Powercor & CitiPower communications operations opex; Powercor & CitiPower customer services opex; Powercor & CitiPower meter maintenance; Powercor and CitiPower, 4 Deloitte model.

Submissions from Stakeholders

SP AusNet submitted that only the following elements of the decision can be benchmarked:[134]

- the tax depreciation method
- the tax depreciation rate
- the value of debt as a proportion of the value of equity and debt
- return on debt
- value of imputation (franking credits)

Otherwise, SP AusNet in response to the use of benchmarks by the AER in its Draft Determination under the commercial standard test, asserted that only the cost incurred by the actual DNSP in all its circumstances can be considered and therefore cross comparison of other DNSPs costs nor any kind of benchmarking can be used.[135]

AER View

As the Order is not prescriptive about exactly how the commercial standard is defined the AER considers it must exercise its judgement as to what constitutes the relevant commercial standard. The AER considers that benchmarking is one of many tools that can be used to determine the commercial standard under the Order.

The commercial standard test requires that the AER applies a standard. As noted in section 1.3.2 the word 'standard' requires comparison or benchmarking.

The AER has considered the circumstances of each Victorian DNSP in applying the commercial standard test. In accordance with clause 5C.4 it has taken into account and given fundamental weight to the factors listed in clause 5I.8.

As noted in section 1.3.2, while some circumstances are specific to each DNSP some apply generally to all DNSPs including compliance with the minimum meter specifications and licence obligation to meet the AMI roll-out schedule. This leads to some observable similarities in their operating environments at least with respect to regulatory obligations. This is factored into the AER's assessment as under clause 5I.8 there must be consideration of the nature of the roll-out obligation, the risks inherent in a project of this type, general market conditions and any metering regulatory obligation or requirement.

The AER considers benchmarking to be appropriate in the case of SP AusNet for a number of reasons.

As a general point, the AER notes that it requested SP AusNet to provide detailed information in support of forecast capital and operational expenditure. In response,

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134 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp15

135 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp14-17

SP AusNet provided only a detailed capex model instead of both a capex and opex model.[136]

The AER accepts that this is not a justification for adopting the use of benchmarking if there are no comparable cost benchmarks. However, the AER considers that for certain categories of expenditure it is possible to benchmark costs. This is because each DNSP's circumstances when contracting for the AMI roll-out would have been similar with respect to certain expenditure, such as meter unit costs.

The AER recognises that each of the DNSPs are different with respect to, for example, geographic area. However, similarities do exist between the networks operated by Powercor and SP AusNet which both have urban and rural networks along with similar customer bases for example, with respect to size.

The AER notes Impaq's advice on benchmarking SP AusNet's costs. Impaq advised that:[137]

- Impaq is of the view that there are differences between the service territories of SP AusNet and Powercor in a range of different aspects. Many of these aspects affect the operation of the DNSPs in different ways. The bushfire risk profile is different and similarly the requirement for vegetation management is different. However in regards to the comparability of DNSPs for AMI it is only issues that impact on AMI meeting the functional specification that need to be considered.

  The following is a consideration of areas of SP AusNet's proposed costs where Powercor has been used as a reference point.

  - Metering capex and opex costs - The metering requirements of SP AusNet and Powercor are very similar. Due to the high proportion of rural customers for whom reticulated natural gas is not available, the proportion of electric off peak water heating and concrete slab heating is much higher for both SP AusNet and Powercor than for urban DNSPs. Hence unit metering supply capex costs should be quite similar. Unit metering installation costs should be similar between SP AusNet and Powercor as both have to deal with metering installations in rural as well as urban areas (in rural areas there are larger distances between meters and hence the travelling time is higher). In relation to other aspects of metering capex, the costs between Powercor and SP AusNet should be similar as both are required to meet the Victorian Minimum AMI Functionality Specification and Minimum Service Levels Specification.

    In relation to metering opex costs, both SP AusNet and Powercor are required to meet the in service meter testing requirements of the NER and the AEMO metrology procedure. This requires sample testing of meters in service to AS1284.13. Both SP AusNet and Powercor have a similar number of metering families and hence the sample sizes for testing of those meters should be similar and hence the costs should be similar.

[136] SP AusNet, *Email: SPA response to AER's questions of 13 April 2011*, 28 April 2011

[137] Impaq Consulting, *Letter re: Powercor as a comparator for SP AusNet in relation to AMI*, 27 October 2011

- IT systems capex and opex costs - The circumstances for all the DNSPs are quite similar in relation to IT Capex and Opex costs. All the DNSPs are required to provide daily interval data for each meter and provide other AMI services such as de-energisation and re-energisation. Hence all DNPS would require similar systems such as:

  - meter data management (to perform validation and substitution)
  - connection point management (to manage the meter settings and configuration at the connection point)
  - network management (to manage the operation of the AMI communication network)
  - market gateway (to provide data to AEMO and Retailers as well as B2B service orders)

  In some cases, DNSPs, such as Citipower and Powercor, have utilised shared IT systems for AMI. In the case of JEN and UE the IT system development costs have been shared while separate systems have been implemented. Impaq considers that SP AusNet has presumably had the opportunity to share IT costs since there is a level of common ownership with JEN.

  There is a level of IT Capex and Opex which is fixed. In this respect the costs for SP AusNet and Powercor should be comparable (as also for other DNSPs). The variable component of IT Capex and Opex costs is mainly driven by customer numbers (or meter numbers). In this respect SP AusNet is also similar to Powercor.

  Hence IT costs for SP AusNet and Powercor should be similar.

- Communications capex and opex - The AMI communications Capex and Opex costs are affected by a number of factors. The most major of these is the requirement for quality and reliability of AMI communications across the whole service territory. The topology of the network and the geography of the territory affect this considerably:

  - Customer density affects - Urban environments where the distance between AMI meters is of the order of 10 metres to 100 metres is different to more rural environments where the distance between meters may be several kilometres. The increased distance of communications can make it more difficult to achieve reliable communications. In this regard there is a high degree of similarity between the circumstances of Powercor and SP AusNet. Both have large rural areas (with significant distances between AMI meters) to deal with as well as urban areas.
  - Terrain affects - SP AusNet services the eastern half of Victoria where the terrain is more mountainous (in general) than that of the western half of Victoria which Powercor services. This would tend to indicate that SP AusNet's circumstances are different to that of Powercor. However on a closer investigation the differences are not so significant. The SP AusNet territory is quite mountainous but there are very few customers in those mountains. The vast majority of SP AusNet customers are in

towns (which are predominantly on flatter land) or in the flatter rural areas of valleys and undulating hills.

Impaq considers that from satellite images (not reproduced here) of eastern Victoria show the mountainous areas and the location of the major towns and roads. From these images Impaq considers it evident that there are almost no customers in the mountainous areas of SP AusNet's territory.

There are some customers in the valleys that run up into the mountains however these customers are reasonably well grouped together. The areas where the vast majority of the customers are located is quite similar to that of Powercor. Powercor does have some areas of larger hills; notably around the Otway ranges and the Grampians; where there are also a reasonable numbers of customers.

Hence it is Impaq's view that the AMI communications issues for both DNSPs are very similar. Both have to deal with longer communications distances in rural areas and both have to deal with communications around obstacles such as major hills. Hence Powercor is comparable to SP AusNet in this regard.

- Maintenance issues - Both SP AusNet and Powercor have the issue of distance in relation to maintenance of AMI assets. AMI assets are scattered across a large geography and this means that maintenance cannot effectively be resourced from just one location. This is different to the circumstances of urban DNPS (including UED) where the distance travelled by maintenance crews is shorter and hence fewer locations of maintenance resources are required. Hence both SP AusNet and Powercor will need to utilise dispersed resources across their geography for at least first line fault response. Indeed the service territory over which AMI assets are installed is somewhat larger for Powercor than it is for SP AusNet. This is however little different to the circumstance for maintenance of the electrical network assets.

- Meter data services - Meter data collection, processing and provision to AEMO and Retailers is an activity all DNSPs have to provide. The major cost driver for this activity, given the automated nature of its operation, is the number of meter data streams. Not only does SP AusNet and Powercor have similar meter volumes but also both have a higher proportion of two element meters than the other DNSPs. Each two element meter provides two meter data streams. Hence meter data service costs for SP AusNet and Powercor should be similar.

- Overall - Hence it is Impaq's view that in most material respects the circumstances of Powercor and SP AusNet in relation to AMI are quite similar.

Given Impaq's analysis as outlined above, the AER considers that topography and geography would not lead to significant differences in costs between Powercor and SP AusNet such that those costs could not be benchmarked.

Even if it could be established that differences in topography and geography had a quantifiable effect on costs, in the AER's view the category of expenditure most likely to be affected would be SP AusNet's communications capex. As SP AusNet's communications capex is being approved under the competitive tender test, it is not

therefore assessed under the commercial standard test and no issue arises with respect to this category of expenditure.

As to the implications for communication infrastructure maintenance opex, SP AusNet's communications opex would be largely similar due to large distances on rural networks. Topography would have minimal effect, if any, on these costs. The AER therefore considers that these costs would be largely comparable.

In relation to IT expenditure, as noted in Impaq's analysis, such expenditure for some DNSPs is shared. As a result, SP AusNet's costs for IT may be slightly higher than for other DNSPs. The AER considers that the cost sharing mechanism will primarily affect benchmarking of SP AusNet IT capex. This category of expenditure was accepted in the AER's Draft Determination and is not being assessed against the benchmark in this Final Determination. (SP AusNet has proposed additional new expenditure for IT capex that is assessed in section 2.1.3.2.)

The impact on SP AusNet's IT opex when benchmarked against other DNSPs should be relatively slight by comparison to the impact on IT capex. The efficiency achieved by other DNSPs is due to scale efficiencies for the operation of its IT systems. Therefore CitiPower and Powercor for example may be able to lower IT labour costs by having one person performing the same IT opex for both businesses. However the AER considers that this scale efficiency would be slight as it is the incremental cost of each additional FTE that would cause the IT opex savings for CitiPower and Powercor.

The AER therefore considers that in other certain categories of expenditure, as detailed below (meter data management, communications infrastructure maintenance and IT opex), benchmarking of SP AusNet's expenditure against those of Powercor is appropriate under the Order.

With respect to meter supply capex, the nature of SP AusNet's network would have no impact except to the extent that the communication technology (WiMAX) and meter type impact on comparability. With respect to meter supply capex, the nature of SP AusNet's network would have no impact other than to the extent that the choice of communication technology (WiMAX) and meter type may impact on comparability. In section 2.5.2.1, the AER has addressed the impact of meter type and accounted for this when approving expenditure incurred consistent with the commercial standard. As to the choice of communications technology and the potential impact this may have on meter supply capex, in section 2.5.2.1 the AER has examined SP AusNet's circumstances when assessing SP AusNet's incurring of meter supply capex against the commercial standard test. SP AusNet's decision to proceed with its AMI roll-out by adopting WiMAX is examined as part of these circumstances. Consistent with the AER's Determination of SP AusNet's 2009–11 Revised Budget Application, as the AER has concluded that SP AusNet's circumstances were such that it should have reconsidered its decision to proceed with WiMAX and this forms part of the relevant commercial standard test, the AER considers that its choice of communications technology does not impact on the AER's benchmarking of AMI expenditure to be incurred for meter supply. The AER considers that the average of all DNSPs meter unit costs, where the DNSP has a comparable meter type, is the most appropriate benchmark. This was the approach adopted in the AER's Determination of SP

AusNet's Revised Budget Application.[138] After reviewing submissions made on benchmarking following the Draft Determination (in which the SP AusNet's meter supply capex was benchmarked against Powercor),[139] the AER has again adopted this approach in this Final Determination.

Benchmarking is one component or aspect of the commercial standard test. Other factors are also taken into account including governance processes and conduct where relevant to the assessment.

2.5.2 Capital expenditure analysis

Capital expenditure represents the purchase of physical assets installed into the distribution network as part of the AMI roll-out, including meters, communications infrastructure and computer systems. The AER adjustments to meter volumes under the scope test (section 2.2.2) impact the cost of meters supplied (section 2.5.2.1).

2.5.2.1 Meter supply

AER Final Determination

The AER has established that incurring the meter supply expenditure of $[C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that meter supply expenditure of $[C-I-C] million is consistent with the commercial standard test.

This section outlines the cost of purchasing the remotely read interval meters that meet the Functional Specification of the Order.

AER Draft Determination

The AER made adjustments to SP AusNet's proposed budget consistent with its decision on SP AusNet's 2009–11 AMI Revised Budget Application Determination. The AER considered SP AusNet's incurring of meter unit costs for AMI for single phase single element meters involved a substantial departure from the commercial standard test that reasonable business would exercise in the circumstances.[140]

The AER also assessed the 3G meter costs provided by SP AusNet. In its assessment, the AER considered the bottom up build provided by Impaq based on current market rates and information from meter suppliers. The AER considered that SP AusNet incurring the cost provided for 3G meters involved a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER also made an adjustment to the meter volumes found to be outside scope in the draft determination.

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138 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, pp 24-25

139 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp105-107

140 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 105–107.

Submissions from stakeholders

SP AusNet submitted the following in its amended Submitted Budget:

- The timing of SP AusNet's AMI roll-out has changed moving the roll-out of 3G and WiMAX meters from 2011 to 2012–13. SP AusNet states that while total meter supply costs have declined over the 2011–15 period meter supply costs have actually increased for the 2012–15 budget period. In addition meter installation costs have also moved from 2011 to 2012–13.

- SP AusNet is currently undertaking a tender process for the supply of its AMI metering solution (incorporating 3G and WiMAX meters, communications cards, zigbee cards and antennas). The outcome of this process will not be known until after the submission date for the amended Submitted Budget[141] (and after 31 August 2011 which is the last date that a budget application can be revised).

AER's view

In assessing this expenditure under the commercial standard test, the AER has reviewed information provided by SP AusNet subsequent to the Draft Determination. This information is relevant to considering SP AusNet's circumstances under the commercial standard test in relation to meter supply expenditure.

SP AusNet was informed that the AER was examining this information as part of its assessment under the commercial standard test and was given opportunities to make comments and submissions. SP AusNet subsequently provided additional information and submissions for the AER to consider. Where relevant to the AER's assessment of particular categories of expenditure (as noted below) this material was taken into account in making this final determination.

Some of the information below is particular to meter costs. Other of the information relating to SP AusNet's chosen technology is also relevant to meter costs in that all components are interlinked and any revision of a particular component of the technology may impact upon other components of the technology solution.

The AER also considers this information relevant to SP AusNet's circumstances when assessing communications infrastructure maintenance and IT opex under the commercial standard test.

SP AusNet's circumstances

As background to SP AusNet's current circumstances, the AER notes the following points made in its 2009–11 AMI Budget Determination (October 2009) that approved expenditure of SP AusNet's WiMAX AMI solution:

- the other four DNSPs chose to adopt a mesh radio solution

- the cost of WiMAX of $[C-I-C] million for the entire roll-out was slightly higher than the other DNSPs but had a potential long term net benefit of $[C-I-C] million

[141] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp34-36, 38-39,43-44

to SP AusNet due to Opex off-sets as stated in SP AusNet's 2008 AMI project business case.

- SP AusNet expressed several concerns that adopting Mesh would be problematic as:
  - there were key concerns regarding AMI service level compliance, spectrum use, solution security, standards and vendor choice, build cost certainty vendor support and meter adoption
  - alternative technology solutions (mesh radio, 3G etc) would not meet SP AusNet's obligations under the Order.[142]

On 28 February 2011 SP AusNet submitted its:

- AMI Revised Budget Application for the 2009–11 budget period[143]
- AMI Budget and Charges Application for the 2012–15 budget period [144]

The outcomes of those determinations are summarised at the beginning of this chapter.

Relevant to SP AusNet's circumstances at the time it chose the WiMAX technology solution were a number of factors which the AER referred to in its Final Determination of SP AusNet's 2009–11 Revised Budget Application:[145]

- The meter contracts associated with the RFI were not let in accordance with a competitive tender process for the reasons discussed in the AER's Final Determination on SP AusNet's 2009–11 Revised Budget Application.
- Mesh radio was available to SP AusNet as a technical alternative to WiMAX in September 2009 as demonstrated by SP AusNet having tested Mesh Radio as a communications technology for its AMI roll-out.
- Although SP AusNet was not privy to the other Victorian DNSPs' Mesh Radio unit prices, it ought to have compared the revised WiMAX prices with its own Mesh Radio prices.
- Based on the findings of the Deloitte report, there was a lack of, or an insufficiently developed, market for the supply of WiMAX meters, and in turn a comparably improved market for Mesh Radio meters existed.

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142 With reference to SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: Revised Budget Response: Draft Determination Response*, 18 April 2011, pp. 22-24.

143 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: Revised Budget Application*, 28 February 2011

144 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: AMI Subsequent Budget and Charges Application*, 28 February 2011

145 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, pp27-29

- Following the 2008 RFT, it was apparent that there would be a delay in vendors supplying WiMAX meters as AMPY Email and PRI Australia had notified SP AusNet of their intention to manufacture WiMAX meters but that they could not supply them before the third quarter of 2009.

- The other DNSPs were all subject to the same regulatory obligations as SP AusNet under the Revised Order and all DNSPs other than SP AusNet adopted and proposed Mesh Radio in their February 2009 budget proposals and reaffirmed their decision in their August 2009 revised proposals for the 2009-11 AMI roll-out.

- The KEMA Report states that SP AusNet's AMI contingency planning documents suggest that adopting mesh radio in early September 2009 would still have allowed SP AusNet to meet its first roll out milestone in June 2010 albeit with a higher cost.

The recent information provided by SP AusNet in response to an AER information request[146] following the Draft Determination indicates SP AusNet's AMI roll-out requires further investment if SP AusNet is to meet its obligations under the Order.[147] [C-I-C]

[146] AER, *Request for Information 1*, 2 September 2011
[147] SP AusNet, *Response to 2 September 2011 Questions on Amended Application*, 9 September 2011

Figure 2.1 SP AusNet performance to DPI obligations

[C-I-C]

Source: SP AusNet, [C-I-C], 19 May 2011, pp 64

Based on the information provided to the AER as of 26 September 2011, Energeia raised the following concerns:

> [C-I-C]

Impaq also raised significant concerns about SP AusNet's overall AMI program based on information provided to the AER up to 20 September 2011. For example, Impaq states:

- [C-I-C]
- [C-I-C]
- [C-I-C]
- [C-I-C]
- [C-I-C]
- [C-I-C]

Impaq concludes that there is still an opportunity for SP AusNet to change technologies. Further, Impaq notes that implementing the mesh radio solution chosen by the other DNSPs would provide SP AusNet with a lower cost solution, which is proven to meet the Government's requirements and has a much lower risk profile.[148] Similarly, Energeia states:

> Although SP AusNet would face additional IT, program and installation costs, Energeia is of the view that moving to a proven mesh solution may be the prudent option, even at this late stage. The basis for our view is the relative performance to date of the two options, and the significant remaining risks involved in persevering with what now appears to be a relatively high-risk WiMAX strategy.

[148] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, pp. 141–142.

> There is also likely to be a timeframe impact, and SP AusNet would be unlikely to meet its target. [C-I-C][149]

To assess SP AusNet's circumstances and other relevant factors as required under Clause 5C.4 of the Order, the AER requested on 28 September that SP AusNet provide it with, amongst other information, its business decision processes for infrastructure projects.[150] The AER informed SP AusNet that it had not presented any information to the AER to suggest that SP AusNet's Board or Executive had considered alternative options for its AMI roll-out between the time of the analysis set out in the 2008 Business Case and [C-I-C].[151] The AER specifically sought to clarify whether SP AusNet had applied its standard business decision-making processes to AMI-related expenditure. The AER's questions and SP AusNet's responses were as follows:

> a) Please inform the AER of SP AusNet's capital expenditure approval processes that applied in its June 2010 Business Case for the AMI roll-out.
>
> SP AusNet has a formal set of delegation levels for capital expenditure approvals for Management and approval levels that require approval of the SP AusNet Board. In the case of Capital Expenditure requests that exceed Management's approval levels, Board Approval is required.
>
> b) Please inform the AER of the approval process for capital expenditure variances presented to SP AusNet's Board for other major distribution infrastructure projects.
>
> SP AusNet's Board sets the Annual Budget for Capital Expenditure. SP AusNet's Management report to the Board on progress against that budget at the Board Meetings. There have not been any other major distribution infrastructure projects that have been at a level that have required Board Approval in recent times. Should a major distribution project require SP AusNet's Board Approval that project will be subject to SP AusNet's formal expenditure approval process, as is the AMI Program.
>
> c) Please provide an example of the process SP AusNet applies if an infrastructure project is significantly under or over forecast costs.
>
> SP AusNet continually reviews and reports actual and forecast project expenditure against the approved budget. Appropriate investigation are undertaken and reported of the drivers of any significant reasons for any under or over forecast costs.
>
> d) Did SP AusNet's Board Approval of an extra $[C-I-C] expenditure for the AMI program follow the above capital expenditure processes?
>
> SP AusNet's Board Approval of an extra $[C-I-C] expenditure for the AMI program followed the above capital expenditure processes
>
> e) Has SP AusNet's capital expenditure approval process been altered since June 2010?

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149 Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, pp. 22.

150 AER, *Request for Information 7*, 28 September 2011

151 SP AusNet, [C-I-C], 19 May 2011

> SP AusNet's capital expenditure approval process has not been altered since June 2010[152]

SP AusNet provided the AER with high level responses to these questions and did not detail the decision-making process as requested by the AER. SP AusNet's response to Question C did indicate that SP AusNet conducts reviews and reports to SP AusNet's Board concerning under and over expenditure. However, no further information was provided that indicated that SP AusNet's decision making processes then required previous business decisions to be reassessed even if an overspend occurred.

At the same time, SP AusNet submitted that:

> The AMI program is an enormous scale new technology project using a COST PASS through mechanism. AMI is unlike distribution regulation which is INCENTIVE BASED regulation of many thousands of smaller individual projects where some technologies have not changed for decades.[153]

The AER recognises that the Order provides for cost pass through but notes that the Order requires that costs be prudent.

On 6 October, the AER sought further clarification and details from SP AusNet.[154] SP AusNet offered no further response to the AER's questions of 28 September as detailed above but did in its response dated 12 October 2011:

- [C-I-C]
    - [C-I-C]
    - [C-I-C]
- respond to the AER's statements questioning SP AusNet's decision to proceed with its WiMAX communication technology solution as follows:

    [C-I-C]

[152] SP AusNet, *Response to Information Request 7 – 18 September 2011*, 30 September 2011, pp5-6
[153] SP AusNet, *Response to Information Request 7 – 18 September 2011*, 30 September 2011, pp4-5
[154] AER, *Request for Information 10: Letter to SP AusNet*, 6 October 2011

SP AusNet made similar assertions about mesh radio in response to the AER's Draft Determination on the SP AusNet 2009-11 Revised Budget Application. As SP AusNet has provided no further specific information about mesh radio, the AER maintains its position from that Final Determination that:

> While the AER considers that the factors outlined by SP AusNet in its submission do appear relevant to the decision of proceeding with the WiMAX solution, the AER notes that it has received no information to substantiate or support the concerns, risks and impediments raised by SP AusNet. Even so, these concerns, risks and impediments behind Mesh Radio do not establish why SP AusNet did not further investigate Mesh Radio, particularly in light of the increased unit costs for WiMAX as at September 2009 and the fact that the other four Victorian DNSPs faced similar risks but nevertheless selected the lower cost, Mesh Radio, solution in February 2009. Further, no information has been provided to the AER that suggest that it was not open to SP AusNet to apply risk management strategies to manage these risks. The AER notes that the Deloitte report identifies pros and cons associated with all of the vendor solutions, including WiMAX.
>
> Further, SP AusNet has not provided reasons why there were no mitigating strategies other than to adopt WiMAX at a significantly higher cost than originally estimated, and at a higher cost than Mesh Radio.[155]

[C-I-C]

In addition to the above information, the AER has examined the benchmarking prepared by Energeia which compares SP AusNet's AMI roll-out costs with those of Powercor. Energeia's cost benchmarking shows that SP AusNet has been unable to achieve any capex or opex efficiencies over the 2009–15 period. As SP AusNet's original 2008 Business case for WiMAX was adopted on the basis of capex and opex efficiencies existing and SP AusNet's WiMAX communications being only $[9[C-I-C]] million more than mesh radio, the AER considers that Energeia's benchmarking is relevant to the extent that it underlines that SP AusNet appears to be rolling out an expensive communications solution with no offsetting efficiency benefits.

[155] AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, pp21

[Overall, SP AusNet's circumstances reveal that the internal estimates of expenditure required for the AMI roll-out have increased by [C-I-C] per cent from its 2008 Business case which was provided as part of its 2009-2010 budget application, to its [C-I-C]. [C-I-C]

Meter Unit Costs

Impaq, consistent with its initial report, benchmarked SP AusNet's meter unit costs against Powercor (Table 2.10) which it considered to reflect the commercial standard for AMI meters (including communications). Impaq found that SP AusNet's meter unit costs were between [C-I-C] and [C-I-C] per cent higher than Powercor's.[156] The Powercor meter unit costs include a communications card and a ZigBee card.

Table 2.10 Analysis of SP AusNet's Meter unit costs against those of Powercor

METER COMPONENT	Powercor	SP AusNet AMI Meter prices		Ratio of SP AusNet prices to Powercor's		
	(Mesh Radio) AUD$	WiMAX	3G	WiMAX	3G	WiMAX & 3G Blended
Single phase single element	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Single phase single element with contactor	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Single phase two element with contactor	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Multiphase	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Multiphase with contactor	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Multiphase CT connected	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, pp 148

Powercor's meter unit costs do not include an external antenna. Powercor, like all other DNSPs except SP AusNet, have external antennae for 5 per cent to 10 per cent

[156] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, pp 148

of meter installations. Despite this, Impaq has added the cost of an external antenna for all SP AusNet meters.[157] [158]

In its SP AusNet 2009–11 Revised Budget Application Determination the AER considered SP AusNet's meter unit costs against those of the average of all other Victorian DNSPs meter unit costs. At the time SP AusNet submitted that this was not appropriate if JEN and UED did not also use a two element meter. The AER accepted this view and only used the average of DNSPs comparable meter unit costs for each meter type.[159]

Assessment of meter unit costs

In its Draft Determination the AER compared SP AusNet's and Powercor's meter unit costs. The AER considered that Powercor's meter unit costs reflected the commercial standard. In coming to this conclusion the AER did not assess the disaggregated meter unit costs for the meter, communications card and zigbee card. These components were assessed in total as one complete meter unit

The AER notes this is a different approach to that applied in its SP AusNet 2009–11 Revised Budget Application. In that determination the AER applied the average of other DNSPs' meter unit costs which already incorporate a zigbee card and communications card. The AER then added to this meter unit cost the additional cost of SP AusNet's zigbee card and communications card on top thereby double counting these costs. The AER's approach at that time was based on a misunderstanding of SP AusNet's approach to developing costs for meters.

The AER now recognises that it is more appropriate to use only the total meter cost. The AER performed its analysis on this basis in the Draft Determination and maintains this approach in this Final Determination.

As SP AusNet in its amended Submitted Budget did not respond to this aspect of the AER's Draft Determination, the AER sought SP AusNet's comment on the AER's approach noting specifically that it diverged from the AER's approach in its Determination on SP AusNet's 2009–11 Revised Budget Application Determination.[160] SP AusNet responded that:

> SP AusNet accepts the AER's decision to propose meter supply unit costs using the less detailed approach of combining meters, communications cards and zigbee cards into one 'unit', provided that these costs are developed by taking each component into account and assessing a reasonable price for each component (that is, as per the AER's decision on meter unit costs in the 2009-11 Revised Budget. A copy of the AER's modeling that 'builds' these

[157] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, pp 149–150

[158] The AER has considered whether it is possible to adjust SP AusNet's antenna expenditure from all meters to only the 5 per cent to 10 per cent amount of Powercor. However due to the more mountainous topography of SP AusNet's network region it is likely SP AusNet would require a higher percentage of antenna's than Powercor. The AER has been unable to establish what percentage of meters would require an antenna due to topography. Therefore, consistent with the Draft Determination the AER has not been able to establish that incurring expenditure to provide all meters with antennas is a substantial departure from the commercial standard.

[159] AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, pp24-25

[160] AER, *Information Request 11*, 24 October

costs is attached again here for your convenience). SP AusNet does not see how an accurate meter unit cost estimate could be developed without considering the prudent costs of each component.

It is important to note that the costs are not what is reasonable but what will not involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. The AER considers that the communications card and zigbee card represent an integral part of a 'remotely read interval meter' as defined by the Order. Therefore logically the whole meter unit cost can be assessed rather than the component costs.

SP AusNet's current meter supply contract includes a price for the zigbee cards and communications cards separate from meter costs. The AER understands that this is due to SP AusNet historically sourcing its meters from two providers (GE and Landis & Gyr). The AER understands, from information presented to support SP AusNet's 2009–11 Revised Budget Application, that SP AusNet did not include the zigbee card and communication card in the cost of the meter as it wanted the option of changing the type of communications card in future. [C-I-C]

While SP AusNet may, due to its contractual arrangements, identify and calculate its meter unit costs in this way, this does not confine the AER in its assessment of the incurring of expenditure under the commercial standard test. The commercial standard should reflect the overall meter unit cost. As the meter is a distinct unit that must meet certain functionality requirements (that therefore necessitate the inclusion of a zigbee card and communications card) the AER considers that it is appropriate that the commercial standard reflects the entire remotely read interval meter unit costs. It is not necessary to differentiate between particular components. What is relevant is that the meter operates as a complete remotely read interval meter unit.

The AER notes all other DNSPs provide one meter cost incorporating all costs (that is meter, zigbee card and communications card).

The AER's position that meter supply unit costs incorporate meter, communications cards and zigbee cards into a single meter unit (including the meter, communications card and zigbee card) is the basis for its analysis. This makes the AER's analysis of SP AusNet's meter unit cost consistent with the approach applied to all other DNSPs.

Applicable commercial standard

Taking into account the above information, the AER considers that the commercial standard applicable to the incurring of expenditure for meter supply would have required a full assessment, given the information available to SP AusNet prior and its obligations under the Order. Further, a reasonable business faced with the circumstances specific to SP AusNet would have adopted risk management strategies and considered alternative cost-effective and viable options. There are multiple events that should have triggered a formal re-evaluation of SP AusNet's investment decision to proceed with WiMAX.

In considering whether SP AusNet has substantially departed from that standard, the AER notes the following:

- The information provided by SP AusNet in response to the AER's requests did not provide the detailed information concerning its decision processes undertaken when an infrastructure project is over-budget.

- [C-I-C] No information was provided to the AER that corporate risks are being managed robustly, effectively and efficiently.

- no information was provided to the AER on whether there is a net benefit resulting from the proposed increase in capital expenditure and forecast savings to operating expenditure

- no analysis was provided to the AER to demonstrate that the increased cost of proceeding and continuing on with WiMAX was outweighed by the cost of implementing a mesh radio solution

Despite requests by the AER for such information,[161] [162] SP AusNet did not present the AER with evidence that SP AusNet has undertaken a comprehensive re-assessment of its communications solution since July 2008—when SP AusNet management provided to its board a revised forecast of the AMI program costs. [C-I-C]

Therefore the AER considers SP AusNet has not undertaken a comprehensive re-assessment of its communications solution since 2008.

[C-I-C] With the exception of assertions in SP AusNet's letter that mesh radio will not meet the Functionality Specifications it is unclear to the AER that SP AusNet has fully considered and evaluated the adoption of any lower cost communications technology as an alternative.

The AER considers that SP AusNet's failure to reconsider its technology solution, given the significant cost increases and significant difficulties in meeting operational targets, demonstrates insufficient governance processes. In the circumstances faced by SP AusNet, a reasonable business would be expected to have reconsidered the proposed expenditure and considered alternatives to minimise cost blow outs in a manner that best ensured targets could be met. SP AusNet has departed from this commercial standard. Given the significance of the costs involved and the fact that the risks of failing to meet targets are also significant, the AER is satisfied that although the proposed meter supply capex has been or may be incurred by SP AusNet,

[161] AER, *Request for Information 7*, 28 September 2011
[162] AER, *Request for Information 10: Letter to SP AusNet*, 6 October 2011

incurring that expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER notes the Minister's comments regarding whether the potential greater functionality of WiMAX is resulting in greater expenditure than necessary.[163] The possibility of using the WiMAX network for other non-AMI related purposes could affect whether the solution is prudent under the commercial standard test because SP AusNet's circumstances do not require it to provide a solution for purposes other than AMI services.[164] The AER requested SP AusNet's comment on this issue. SP AusNet's response is detailed in section 2.2.1.

If, on balance, there are sufficient reasons to reassess the use of WiMAX, most notably because of the significant cost increases and questions about its functionality and the ability of SP AusNet to meet the roll-out schedule, one might conclude that the primary reason for continuing with WiMAX is because in future it may afford greater commercial opportunities for non-AMI purposes. While the AER notes that this conclusion may be reached, it is has not placed any weight on this possible conclusion when applying the commercial standard test. Instead, as set out above, the AER has established that there has been a substantial departure from the commercial standard in that SP AusNet has not exercised appropriate levels of governance or risk management in a manner that would be expected of a reasonable business in those circumstances.

In its Draft Determination, the AER considered Powercor's meter unit costs to be more consistent with the commercial standard.[165]

However, the AER has reviewed its benchmarking approach in light of SP AusNet's objections. After undertaking a full analysis of the similarities and differences between SP AusNet and Powercor and the other DNSPs, the AER considers that the approach adopted in its Determination for SP AusNet's Revised Budget Application is more appropriate.[166] As set out in section 2.5.1, this is because matters of topography and geography which affect a DNSP's network and customer size and urban and rural factors are not relevant to an assessment of meter unit costs.[167] The AER therefore considers that the commercial standard would reflect the average of all Victorian DNSPs (excluding SP AusNet's) meter unit costs. Consistent with its reasoning in its Determination on SP AusNet's 2009-11 Revised Budget Application, the AER considers that by using the average a better commercial standard is derived than by using only one DNSP's meter unit costs.[168]

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163 The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination, September 2011*, pp5

164 AER, *Request for Information 10: Letter to SP AusNet*, 6 October 2011

165 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp105-107

166 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, pp24-25

167 The AER considers that a volume discount would also be available to a greater or lesser extent to each DNSP based on the number of meter purchased. This volume discount does not appear to be included in other DNSPs meter unit costs and therefore will not affect this benchmark.

168 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, p. 24-25

As now UE, in addition to CitiPower and Powercor, also uses two element meters, the AER has adjusted its calculation of the average to include UED's proposed two element meter unit cost. This should address the type of concern expressed by SP AusNet at the time of the AER's assessment of its Revised Budget Application that only the same meter types could be compared.[169]

[C-I-C]

The AER has updated its analysis of meter unit costs for this Final Determination. A summary of the meter unit costs used to complete the analysis of SP AusNet's meter unit costs is provided in Table 2.11. This table compares each DNSPs US dollar meter unit costs to remove the effect of each DNSPs different exchange rates from the assessment.

Table 2.11 Percentage difference between SP AusNet's 2012 meter unit costs and those of other DNSPs ($US,per cent)

Meter unit cost comparison	SP AusNet meter type	Single phase single element	Single phase two element with contactor	Multiphase - no load control	Multiphase 1 contactor (1 load control) meter	Multiphase CT connected
Average cost (excluding SP AusNet)	WiMAX	40.54%	24.46%	14.42%	3.39%	-10.07%
	3G	119.30%	90.00%	55.04%	40.09%	47.86%
CitiPower's and Powercor's	WiMAX	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
	3G	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source: AER analysis

[C-I-C]

The AER's meter supply capex assessment is detailed in Table 2.11. It shows all SP AusNet's meter unit costs, except for WiMAX Multiphase CT connected and Multiphase 1 contactor meters, involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. The AER has applied these meter unit costs to the meter volumes allowed in Table 2.12.

[169] AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, pp24-25

Table 2.12 Meter supply capital expenditure ('000, real $2011) [C-I-C]

	2012	2013	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

2.5.3 Foreign exchange rates

AER Final Determination
The AER has established that SP AusNet's foreign exchange rate involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The Australian dollar (AUD) to United States dollar (USD) exchange rate governs the price of equipment, principally meters, purchased from US manufacturers.

2.5.3.1 AER Draft Determination

The DNSPs purchases their meters from the United States and requires an allowance to take into account any foreign exchange exposure as part of this Final Determination. The AER rejected the SP AusNet's foreign exchange forecasts in the Draft Determination as it considered that the rates used by SP AusNet did not reflect:

- the current AUD to USD exchange rate or
- the foreign exchange rate currently available in the money market.

Consequently, the AER's Draft Determination made an adjustment to SP AusNet's proposed exchange rate forecasts. The Draft Determination considered that using a 1 month historical swap rate from Bloomberg of 1.04 AUD to USD exchange rate would represent the commercial standard. The AER stated that it would update this forecast for final decision using market rates available at that time.[170]

2.5.3.2 Submissions from stakeholders

SP AusNet has stated they have locked in a forward USD-AUD exchange rate of [C-I-C] cents.

2.5.3.3 AER's view

The AER's Final Determination on SP AusNet's revised Budget Application considered SP AusNet's hedging arrangements met the commercial standard test. This

[170] AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications, July 2011, p. 103.

Final Determination however did not assess the quantum of SP AusNet's foreign exchange exposure or SP AusNet's current proposal to use these foreign exchange contracts for the 2012–15 budget period.[171]

Subsequent to the revised Budget Application determination, the AER's Draft Determination on SP AusNet's budget and charges application for 2012–15 established that SP AusNet's foreign exchange forecast was a substantial departure from a commercial standard as it did not reflect the current foreign exchange rate.[172]

SP AusNet's amended Submitted Budget stated that its Board approved a hedging arrangement in September 2009. The amended Submitted Budget also stated that SP AusNet has hedged for an amount of $[C-I-C] million US dollars. SP AusNet claimed that it would be liable to pay A$[C-I-C]m as at 31 July 2011 should it terminate these foreign exchange hedging arrangement. SP AusNet further contends that it took the prudent approach by hedging its foreign exchange exposure. [173]

As SP AusNet is proposing to use these contracts for the 2012-15 period, the AER has reassessed these contracts under the commercial standard test. The following table lists SP AusNet's current foreign exchange exposure.[174]

Table 2.13 Summary of US dollar payment schedule

$USD Payment Schedule ($USm)	Phase 1 09/10	Phase 2 10/11	Phase 3 11/12	Phase 4 12/13	Total
Communications WiMAX	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meters	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source: SP AusNet, Request for approval to Implement FX Hedges for phase 4 of AMI, 13 October 2009

SP AusNet's stated that its FX risk management policy in relation to foreign currency payments for goods and services is to fully hedge the exposure once it is recognised. This would usually be when a signed purchase order has been placed with a supplier, however, under some circumstances, such as the AMI program, the exposure may be recognised at an earlier stage provided that a high degree of certainty exists as to the nature of the exposure (e.g. currency, amount and delivery date). The objective is to

171 AER, *Draft Determination: SP AusNet: Advanced Metering Infrastructure: Revised Budget Application 2009–11*, April 2011, pp. 14–15.

172 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 103.

173 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 71–75.

174 SP AusNet, Request for approval to Implement FX Hedges for phase 4 of AMI, 13 October 2009, p.1

hedge the foreign exchange exposure in order to eliminate material foreign exchange risk.[175]

The AER requested SP AusNet provide the relevant purchase order linked to the above-mentioned foreign exchange exposure. SP AusNet did not provide a purchase order but submitted that it considers that under some circumstances, such as the AMI program, the exposure may be recognised at an earlier stage provided that a high degree of certainty exists as to the nature of the exposure (e.g. currency, amount and delivery date).[176]

The AER agrees that there may be circumstances where it may be necessary to hedge earlier if there is a high degree of certainty surrounding the exposure. However phases 1 to 3 of these foreign exchange contracts were entered into prior to SP AusNet entering into contracts with [C-I-C] and [C-I-C] for meters and [C-I-C] for communications and as such the nature of exposure was not fully known. [177] [178] [179]

Phase 4 of the SP AusNet for 2012-13 was entered into in October 2009. Based on its Board's resolution on 11 September 2009, on 16 October 2009 SP AusNet's CFO approved a proposal for a $[C-I-C] million USD dollar foreign exchange contract. SP AusNet stated that the foreign exchange contracts were entered into because of an improvement in the Australian dollar.[180] Of relevance is SP AusNet's submission in its proposal as to why it entered into the contracts:

> The AMI Regulatory Budget Submission was based on an exchange rate of AUD/USD [C-I-C]. Treasury could currently lock in the exposure at a more favourable rate, which equates to a gain of approximately A$[C-I-C] million.
>
> Network Strategy and Development (NSD) advised that under the Regulatory Cost Recovery regime FX gains are retained until they are "trued up", at which time a revised NPV calculation based on actuals is factored into tariffs.
>
> In addition (NSD) advised that FX gains would provide additional contingency, which can be used to offset cost over runs in other areas of the project. This will reduce the likelihood of exceeding the budget and therefore, incurring scrutiny by the Regulator. The Order in Council allows for contingency on the combined total CapEX and OpEx Budget.[181]

SP AusNet further stated that:

> Once a hedge contract has been entered into, SP AusNet may exercise its right under the Order in Council to submit a revised budget application if necessary.[182]

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175 SP AusNet, *Response to Information Request 9 – 3 October 2011*, 6 October 2011, p. 5.
176 AER, *Request for Information 9 (additional)*, 5 October 2011
177 SP AusNet, *[C-I-C]*, 23 September 2009, page 1 of 61.
178 SP AusNet, *[C-I-C]*, 25 September 2009, p. 1.
179 SP AusNet, *[C-I-C]*, 24 September 2009, p.1.
180 SP AusNet, *Response to Information Request 9 – 3 October 2011*, 6 October 2011, p. 7.
181 SP AusNet, *Request for Approval to Implement FX Hedges for Phase 4 of AMI*, 13 October 2009, p. 2.
182 SP AusNet, *Response to Information Request 9 (additional)*, 7 October 2011, p. 4.

The AER notes that SP AusNet did not submit a revised budget application at the time that it entered into this hedging contract, nor did it fully disclose this expenditure at any time prior to the amended Submitted Budget for 2012–15. Four information requests were given to SP AusNet before the full hedging arrangements were made known to the AER.[183]

As explained above, the AER agrees that there may be circumstances where it may be necessary to hedge earlier if there is a high degree of certainty surrounding the exposure. The AER also considers that certainty can only exist if there is a confirmed purchased order. The AER requested information from SP AusNet regarding the existence of any purchase orders prior to SP AusNet entering into the hedging arrangement but was not provided with any.[184] As such the AER has concluded that SP AusNet has not acted in accordance with its own corporate governance process. At the same time, SP AusNet's own risk assessment stated that:

> There is a risk that SP AusNet does not proceed with Spectrum access or finalise the contracts with the nominated suppliers….
>
> In addition there is a risk that the AMI project is cancelled by the Government… [185]

The AER notes SP AusNet claims that it would be liable for an amount of $[C-I-C] million and considers this relevant to SP AusNet's circumstances. The AER understands that this liability was incurred as a result of a hedging arrangement which was not disclosed to the AER either as part of the 2009-11 budget application process or fully disclosed in the revised budget application process, and which therefore has not been previously considered by the AER or considered approved expenditure.

Based on the above reasons, the AER considers that a reasonable business in the circumstances would adhere to its own internal corporate governance practices of waiting for a confirmed purchase order before committing to a foreign exchange contract.[186] The AER notes that other DNSPs follow the same procedures of only hedging when a confirmed purchased in known. Furthermore, due to the regulatory risks concerning the AMI policy, the other DNSPs have limited awaiting regulatory certainty from the Victorian Government before committing to any hedging agreement. In the AER's view, such an approach to hedging reflects the commercial standard that would be appropriate under the Cost Recovery Order. In addition, SP AusNet's failure to disclose the hedging contract at the time of the 2009–11 budget application process and its revised budget application process does not reflect the commercial standard that would be expected of a reasonable business in circumstances where it is regulated under the Cost Recovery Order.[187] [188] [189]

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183 AER, *Email: Questions about SPA's AMI revised budget application, 15 March 2011; Email: Foreign exchange rate forecast*, 8 July 2011; *Email: Foreign exchange rate forecast*, 12 July 2011; *Email: AER information request 1 - SP AusNet amended budget application*, 2 September 2011.

184 SP AusNet, *Response to Information Request 9 – 3 October 2011*, 6 October 2011, pp. 5–6.

185 SP AusNet, *Request for Approval to Implement FX Hedges for Phase 4 of AMI*, 13 October 2009, p. 2.

186 Ibid, p.1

187 CitiPower and Powercor, *Revised FX assumptions*, 6 October 2011, p. 2.

188 JEN, *Email: Responses AER information request 7 - JEN amended budget application*, 5 October 2011.

Given the following:

- uncertainties around the AMI program
- the fact that at the time no contracts were entered into for communications and meters
- the fact that at the time no purchase order were placed prior to SP AusNet entering into these contracts;

the AER considers SP AusNet's incurring of the expenditure involved a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. It exposed SP AusNet to considerable risk. Even though costs may be passed through to consumers, under the requirements of the commercial standard test, expenditure is to be prudent.

Therefore, the AER has established that SP AusNet incurring the expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Consequently the AER considers that the Bloomberg forward rate forecast represents a commercial standard that a prudent business would use as a benchmark to hedge its future foreign exchange exposure. The AER notes that the Bloomberg data is based on market rates available in the foreign exchange market and as such is the best estimates of a commercial standard. In the absence of other available foreign exchange forecasts, the AER has applied the Bloomberg forward exchange rate to SP AusNet's proposed budget for the 2012–15 budget period.

2.5.4 Operational expenditure analysis

The costs of operating the smart meters for the period 2012–15—including meter data management, meter and communication infrastructure maintenance, project management, IT operational expenditure, and debt raising costs—have been assessed by the AER in sections 2.5.4.1 to 2.5.4.7.

2.5.4.1 Meter data management

AER Final Determination

The AER has established that incurring the meter data management expenditure of $[C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that allowing meter data management expenditure of $[C-I-C] million is expenditure consistent with the commercial standard.

The meter data management system collects and records all of the data from the meters attached to each customer's premises at half hour intervals.

[189] UE, *Email: Responses AER information request 7 - UED amended budget application*, 5 October 2011.

AER Draft Determination

The AER in its Draft Determination assessed the meter data management costs proposed by SP AusNet against factors that it considered relevant to assessing the applicable commercial standard:

- The primary objectives of the AMI program
- Performance level requirements for data processing required under the AMI program
- Activities identified by SP AusNet as being included in its meter data management costs
- The quantum of meter data management costs forecast by SP AusNet and the number of staff to which this equates.

The AER requested that SP AusNet provide a model for its operating expenditure.[190] SP AusNet did not provide such a model.

The AER was provided analysis of the costs required for meter data management by both SP AusNet and Impaq Consulting. SP AusNet's forecast meter data management costs were substantially higher than those estimated by Impaq Consulting. Impaq Consulting considered that the vast majority, if not all, processing of data should be automated. The AER considered this represented the primary difference in assumptions of forecasts costs between SP AusNet and Impaq Consulting.

The AER considered that Impaq's estimated costs reflected the commercial standard. The AER considered that SP AusNet's incurring of the proposed meter data management costs represented a substantial departure from this commercial standard being more than 10 times greater than the cost proposed by Impaq Consulting.

Submissions from stakeholders

In its amended Submitted Budget SP AusNet submitted that the AER must only look at its actual circumstances in applying the commercial standard. SP AusNet considered that meter data management costs should include the data management cost of the current fleet of existing but declining accumulation meters at historical cost levels. In addition SP AusNet considers Impaq's analysis has failed to allow for accumulation data storage and management to the required levels.[191]

AER's view

In the AER's Draft Determination, the AER sought further information from all DNSPs to substantiate their proposals in response to the draft decision.[192] In addition, the AER notes that as with all budget applications, DNSPs must set out the information and identify the documents upon which the distributor relies (clause 5.3) and must provide information to the AER if requested (clause 5.6).

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190 AER, *Email: re AMI questions from the AER*, 13 April 2011, question 3.

191 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p. 47

192 AER, *Final Determination: SP AusNet: Advanced Metering Infrastructure Revised Budget Application 2009–11*, 20 July 2011, p. 10

However, in its amended Submitted Budget, SP AusNet has not provided any evidence to substantiate its forecasts including any relevant factual material, assumptions or modelling used to develop the forecasts. As SP AusNet did not provide an opex model, the AER has taken the absence of such information into account when making its assessment on meter data management in this Final Determination.

SP AusNet 's amended Submitted Budget contained a breakdown of its meter data management forecast as outlined in table 2.14. The AER's assessment of the activities outlined in this table is found below.

Table 2.14 SP AusNet's Meter Data Management Forecast ('000, real $2011)

	2012	2013	2014	2015	Total
Special Meter Reading Costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Faults	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Data Exceptions	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Team leading and support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp 48

Based on the available information, in applying the commercial standard test, the AER has considered the:

- primary objectives of the AMI program
- performance level requirements for data processing required under the AMI program
- activities identified by SP AusNet as being included in its meter data management costs
- the quantum of meter data management costs forecast by SP AusNet and the number of staff this equates to.

In relation to special meter reading cost outlined in Table 2.14, the AER in section 2.2.5 of this Final Determination has determined that this forecast expenditure is outside scope and if in scope is expenditure that is not more likely than not to be incurred.

In relation to faults Impaq has advised that:

> …, meter faults are expected to be at the rate of about 0.25% per annum. For the [SP AusNet] meter fleet (once fully rolled) this equates to 1630 meters per annum. For meters with faults, substitution of meter data will be

> required which is to be done according to the AEMO procedure. For 2014 to 2015 this would mean a cost of about $1000 per meter to do a semi-automated process. This is clearly excessive. It would be expected that such substitutions would take between 5 minutes and 15 minutes to manage through an MDMS and CIS. At 15 minutes the cost is about $25 per fault substitution (assuming an effective rate of $100 per hour (fully absorbed cost)). This reduces this cost item to about $40,000 per annum for 2014 and 2015.[193]

As SP AusNet has not provided any information concerning how fault rates are linked to its forecast, what assumptions were used to formulate this forecast, any modelling that would verify this forecast or any information that would substantiate its forecast the AER accepts Impaq's advice that the forecast for fault is excessive.

The AER also notes in its Draft Determination that the significant investment in AMI systems and infrastructure being funded by Victorian electricity consumers is intended to result in the automation of meter data management with minimal manual intervention in these processes. This reflects that a primary objective of the AMI program is to fully automate meter reading and related data management and processing, so that the efficiency and benefits of automation can be passed on to consumers. Consistent with this objective, the AMI Functionality Specification requires a performance level of 99 per cent of AMI metering data processed by 4 hours after midnight and 99.9 per cent within 24 hours. The AMI Service Level Specification requires 965 data processed by 6 am. The Victorian DNSPs are required to comply with these obligations from 1 January 2012. Given the performance level requirements, the vast majority, if not all, of the processing of the data, including validation, estimation and substitution should be automated. The NEM procedures for validation and substitution provide rules for undertaking this activity which should be implemented as automatic functions in the MDMS.

The AER accepts that in its Draft Determination it had not fully factored meter data management costs of the current fleet of existing but declining accumulation meters at historical cost levels and to allow for accumulation data storage and management to the required levels. The AER has factored these costs into this Final Determination.

Taking the above into account, the applicable commercial standard would reflect the expected meter fault and expected exceptions rates that Impaq has outlined and resourcing in accordance with those parameters while taking into account the AEMO mandated procedure. This recognises that data management processes under the Order are to require minimal manual intervention. SP AusNet has not provided any information that would lead the AER to conclude that this is other than the appropriate commercial standard based as it is on the nature of a DNSP's regulatory obligations with respect to meter data management.

Given the prescriptive AMI specification services levels, SP AusNet's will be required to automate data validation, estimation and substitution processing from 1 January 2012. SP AusNet's claim that it anticipates that the level of read exceptions in 2012 and beyond should reduce to the expected level of [C-I-C]- [C-I-C] per cent with resources required to support any manual intervention is not consistent with intention

[193] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, pp. 158.

of the Order to automate meter data management with minimal manual intervention in these processes. Moreover, SP AusNet's resourcing requirements for data management is excessively beyond what the AER considers would be an appropriate level of resourcing. The AER has therefore established that incurring this expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER notes that Impaq's proposed meter data management opex is based on Impaq's assessment of Powercor's costs. The AER has made further assessment of these cost in section 4.5.16 of this final determination. The AER has adopted Impaq's methodology for determining the meter data service cost to benchmark against SP AusNet's meter data management expenditure. This methodology requires the AER to weight the number of meters in 2015 SP AusNet has compared to Powercor and adjust Powercor's meter data management expenditure by this ratio. The AER considers this is appropriate as meter data management expenditure is a function of the number of meters being managed.

Accordingly, the AER has adopted and approved these costs as set out in the table below. These benchmark costs, based on Impaq's recommended methodology, reflect the commercial standard. As noted in section 2.5.1, the AER considers that it is appropriate to benchmark SP AusNet's costs against Powercor in certain categories of expenditure. The AER notes that SP AusNet has not provided any detailed opex models that would allow Impaq to adjust its recommendations based on its assessment.

Table 2.15 Meter data management operational expenditure ('000, real $2011)

	2012	2013	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

2.5.4.2 Meter maintenance

AER Final Determination

The AER has established that incurring the meter maintenance expenditure of $[C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that allowing meter maintenance expenditure of $[C-I-C] million is expenditure consistent with the commercial standard.

The cost of the maintenance of smart meters for the period 2012–15 is assessed in this section.

AER Draft Determination

The AER considered the following in assessing whether the incurring of such expenditure meets the commercial standard test:

- activities identified by SP AusNet as being included in its meter maintenance costs
- the quantum of meter maintenance costs forecast by SP AusNet and the number of staff to which this equates
- obligations SP AusNet is required to comply with in respect of meter maintenance.

The AER was provided with a disaggregation of costs by SP AusNet and Impaq Consulting for meter maintenance. SP AusNet's costs were substantially greater than Impaq's despite Impaq's meter maintenance costs meeting the requirements of Chapter 7 of the NER and Australian Standard 1284.

The AER concluded that Impaq's meter maintenance costs reflected the commercial standard and SP AusNet's incurring of proposed meter maintenance costs involved a substantial departure from this standard. The AER approved expenditure based on Impaq's proposed meter maintenance costs.

Submissions from stakeholders

In its amended Submitted Budget SP AusNet submitted that the AER must only look at its actual circumstances in applying the commercial standard. SP AusNet stated that it had outlined the key tasks it considered necessary to meet its obligations and provided detailed information of costs and FTEs required to complete those activities.[194]

AER view

In its Draft Determination, the AER sought further information from all DNSPs to substantiate their proposals in response to the Draft Determination.[195] In addition, the AER notes that as with all budget applications, DNSPs must set out the information and identify the documents upon which the distributor relies (clause 5.3) and must provide information to the AER if requested (clause 5.6).

In its amended Submitted Budget, SP AusNet submitted that the AER had not taken its circumstances into account. However, the AER notes that its information request dated 13 June 2011 specifically requested that SP AusNet provide reasons for its forecasts. The AER in its Draft Determination considered the lack of information provided by SP AusNet and concluded that:

> … the information provided by SP AusNet did not substantiate that the forecast expenditure is prudent because the need for 'usual maintenance' and 'visual inspections' was not supported by any evidence of the extent to

[194] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p. 49

[195] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 10

> which AMI meter tampering, alteration and malfunction will be issues for SP AusNet's meter fleet in 2012-15. [196]

Subsequent to the Draft Determination SP AusNet has not provided the AER with additional information to substantiate its claims for meter maintenance opex. The information provided by SP AusNet in its Amended Submitted Budget does not sufficiently explain the expenditure proposed for meter maintenance. Furthermore SP AusNet's initial budget application did not include an opex model that would allow the AER to conduct a bottom up review of the costs included in this category. SP AusNet should have been able to provide FTE numbers that would be supported by detailed bottom-up analysis using historical data and reasonable assumptions. Without being provided an explanation as to why the costs are proposed or a breakdown of the individual costs outlining how they were forecast, the AER requested additional information from SP AusNet and sought further advice from Impaq.

As SP AusNet's amended Submitted Budget contained no new information, the AER considered further advice from Impaq on a prudent level of resourcing for the meter maintenance activities identified by SP AusNet. Impaq undertook a bottom up analysis to establish a prudent level of resourcing for these activities given the obligations SP AusNet is required to comply with in respect of meter maintenance and the required test regime for meters under chapter 7 of the NER and Australian Standard 1284. Impaq was also able to source commercial pricing[197] for field code compliance testing of meters in accordance with the requirements of the NER and the AEMO Metrology Procedure.

Impaq's build up of costs for meter testing takes into account the number and types of meters in SP AusNet's meter fleet, the frequency of testing and auditing required under chapter 7 of the NER and Australian Standard 1284 and the resources required for these activities. Given the thorough basis of Impaq's analysis and in the absence of sufficient information from SP AusNet, the AER accepts Impaq's advice as to what is a prudent level of resourcing that would be reflected in the commercial standard that a reasonable business would exercise in the circumstances. A summary of Impaq's advice is set out in the table below and its analysis is set out in its report.[198]

[196] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 113

[197] Pricing from Formway Metering - www.formway.com.au/groupmetering/Home.aspx

[198] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 161.

Table 2.16 Meter testing numbers and costs

	Meter numbers	No of families	Meter per family	Sample Size	Meters to be tested	Testing cost ($)	Annual test Cost($)
Single Phase single element	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Single Phase two element with contactor	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
3 Phase Direct Connect	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
3 Phase direct connect with contactor	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

The AER also considered advice provided by Energeia to accept SP AusNet's forecast for meter maintenance . The AER notes that Energeia's assessed SP AusNet's proposal relative to its statutory meter maintenance obligations, its costs in 2015 relative to other DNSPs, SP AusNet's specific circumstances, and its supporting information including its Meter Asset Management Plan. The AER notes Energeia's conclusion that SP AusNet's meter maintenance expenditure per customer in 2015 appears reasonable. However, in order to assess whether SP AusNet's incurring of the expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances, the AER considers that a more thorough assessment of SP AusNet's circumstances in relation to its meter maintenance testing regime for the period from 2012-15 would be required. The AER therefore has placed limited weight on Energia's advice.

Based on Impaq's analysis and the AER's assessment of that analysis, the AER has concluded that SP AusNet's incurring of meter maintenance costs for 2012-15 involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. In particular, the AER has taken into account and given fundamental weight to SP AusNet's obligations in respect of the required test regime for meters under Australian Standard 1284 and chapter 7 of the NER.

Accordingly, the AER has approved the costs set out in the table below. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to SP AusNet's forecast of projected management costs for 2012-2015 which the AER considers reflect the commercial standard.

Table 2.17 Meter maintenance operational expenditure ('000, real $2011)

	2012	2013	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

2.5.4.3 Customer Service

AER Final Determination

The AER has established that incurring the customer service expenditure of $[C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that allowing customer service expenditure of $[C-I-C] million is expenditure consistent with the commercial standard.

The customer services expenditure category includes the development and implementation of a customer communications strategy and the provision of customer service and call centre functions to deal with customer queries, complaints and claims.

AER Draft Determination

The AER in its Draft Determination did not establish that SP AusNet incurring its proposed customer service expenditure of $[C-I-C] million involved a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Stakeholder submissions

SP AusNet acknowledges the AER's approval of forecast customer services costs and SP AusNet's forecasting methodology. SP AusNet proposed an increase in customer service costs to $[C-I-C] million on the basis of increased costs of resolving customer queries, complaints and claims associated with the AMI roll-out.

AER's view

SP AusNet has proposed to increase customer service costs by $[C-I-C] million (from the $[C-I-C] million approved by the AER in the Draft Determination) on the basis that customer enquiries and complaints have increase sharply in the June and July 2011 period. The AER notes that before this time the level of customer enquiries and complaints was relatively flat and appeared to be consistent with SP AusNet's assumptions in its initial budget application.

Impaq commented that the increase in queries and complaints has occurred at the same time as media attention for the Victorian Government's review of the AMI roll-out. The AER considers that SP AusNet's analysis of customer service costs is placing

more weight on recent June and July customer enquiry and complaints quantities than those experienced over the entirety of the AMI roll-out to date. The AER considers that the long-term level of customer queries and complaints would be reflected in the commercial standard as the short term increase in customer complaints and enquiries may not be sustained in the long term. SP AusNet's initial customer service expenditure was soundly based upon the long term trend for customer complaints and enquiries.

The AER therefore considers that SP AusNet's initial customer service expenditure proposal was consistent with the commercial standard. SP AusNet's amended Submitted Budget customer service expenditure is not based on the long term level of customer queries and complaints and as such represents a substantial departure away from that standard. Therefore the AER has established that incurring the expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Table 2.18 Customer service operational expenditure ('000, real $2011)

	2012	2013	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

2.5.4.4 Communication infrastructure maintenance

AER Final Determination

The AER has established that incurring the communication infrastructure maintenance expenditure of $[C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that allowing communication infrastructure maintenance expenditure of $[C-I-C] million is consistent with the commercial standard.

The cost of maintaining communications infrastructure for the AMI program for 2012–15 is assessed in this section.

AER Draft Determination

The AER considered the following in assessing whether the incurring of such expenditure meets the commercial standard test:

- the activities identified by SP AusNet as being included in its communications infrastructure maintenance costs
- the quantum of communications infrastructure maintenance costs forecast by SP AusNet and the number of staff to which this equates

- the obligations SP AusNet is required to comply with in respect of communications infrastructure maintenance.

Impaq provided the AER with a communication infrastructure maintenance cost based on 37 base stations. SP AusNet provided limited detail on the basis for their communications infrastructure maintenance costs.

On the information before it, the AER concluded that Impaq's communications infrastructure maintenance costs provided evidence of the commercial standard for expenditure that would be incurred by a reasonable business in the position of SP AusNet. The AER established that SP AusNet's incurring of its proposed communications infrastructure maintenance costs involved a substantial departure from that standard and approved costs based on the commercial standard.

Submissions from stakeholders

In response to the draft Determination, SP AusNet increased its proposed expenditure to $[C-I-C] million noting that the costs associated with communications network maintenance costs for the 2012–15 budget period include communications charges for the lease of radio frequency spectrum, network maintenance charges, site lease for 89 WiMAX sites and 17 repeater sites, labour resources to operate monitor and maintain the communications equipment, 3G secondary communications, 3G Monthly M2M data plan and secondary MMS maintenance contract.

SP AusNet submitted that the AER's draft determination assessment benchmarking SP AusNet's communications infrastructure maintenance expenditure against TNSPs communications maintenance for large microwave communications networks was inappropriate. Furthermore, the comparator used by the AER is a different type of business altogether, being a TNSP.[199].

AER's view

In its Draft Determination, the AER sought further information from all DNSPs to substantiate their proposals in response to the draft decision.[200] In addition, the AER notes that as with all budget applications, DNSPs must set out the information and identify the documents upon which the distributor relies (clause 5.3) and must provide information to the AER if requested (clause 5.6).

The information provided by SP AusNet in its Amended Submitted Budget does not sufficiently explain the expenditure proposed for communication and infrastructure opex. Furthermore the SP AusNet application did not include an opex model that would allow the AER to conduct a bottom up review of the costs included in this category. SP AusNet should have been able to provide FTE numbers that would be supported by detailed bottom-up analysis using historical data and reasonable assumptions. Without being provided an explanation as to why the costs are proposed or a breakdown of the individual costs outlining how they were forecast, the AER

[199] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p. 16

[200] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 10

requested additional information from SP AusNet and further sought advice from Impaq and Energeia.[201]

SP AusNet has transferred $[C-I-C] million of expenditure from IT opex into Communications Infrastructure Maintenance. This increase in expenditure also incorporates the $[C-I-C] million of expenditure SP AusNet transferred from IT opex into this category as the AER has assessed this expenditure together. The AER has considered SP AusNet's response on the transfer of expenditure in section 2.1.3.

In reviewing the information provided by SP AusNet in its amended Submitted Budget, the AER notes that:

- the significant investment in AMI systems and infrastructure being funded by Victorian electricity consumers is intended to result in the automation of meter data management with minimal manual intervention in these processes. This reflects that a primary objective of the AMI program is to fully automate meter reading and related data management and processing, so that the efficiency and benefits of automation can be passed on to consumers. Consistent with this objective, the AMI Functionality Specification requires a performance level of 99 per cent of AMI metering data processed by 4 hours after midnight and 99.9 per cent within 24 hours. The AMI Service Level Specification requires 96 per cent data processed by 6am. As such the AER expects that SP AusNet's MMS design would be more robust by integrating algorithm that will automate and resolve meter management data issues. Furthermore, the AER expects that SP AusNet would have a secondary back up system in place should faults or outages occur. As such it is highly likely that some of the proposed FTEs would be on call in case of emergencies rather than being rostered on in accordance with SP AusNet's rostering schedule

- [C-I-C]

[201] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response, Appendix G Service Operational Support Model*, 26 August 2011, pp. 52–55.

- its site leasing costs for WiMAX towers are in contrast to the fact that mesh radio does not have coverage issues and does not require third party leases for towers.[202]

- SP AusNet's proposed costs for communication charges, network maintenance charges and site leases will be incurred because of SP AusNet's decision to roll-out WiMAX. Specifically:

    - Communications charges—SP AusNet has proposed expenditure for spectrum licences. The AER notes mesh radio does not use a licence spectrum and therefore no costs are incurred.

    - Network Maintenance—SP AusNet has proposed expenditure for vendors who supply the communication network equipment. SP AusNet's decision to use WiMAX has resulted in it requiring more costly communication network equipment than mesh radio. For example its decision to use WiMAX means that it must use a [C-I-C] base station at a cost of around $[C-I-C] per station while mesh radio requires a smaller equivalent called an access point or data concentrator which cost approximately $[C-I-C] each.[203]

    - Site leases—a mesh radio solution does not require site leases for towers as these can be situated on electricity poles.[204]

Concerning 3G, the AER notes that WiMAX has only a [C-I-C] per cent coverage (see Figure 2.2) with the a further [C-I-C] per cent connected by 3G and the other [C-I-C] per cent through 'complex solutions'.[205]

[C-I-C]

[202] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 52–55.
[203] Motorola, *WHITE PAPER The power play: Reducing the build and power consumption costs of WiMAX base stations*, p. 3.
[204] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 52–55.
[205] Ibid.,

Figure 2.2 WiMAX - NMI not covered

[C-I-C]

In addition to the above the AER has also taken into consideration advice from Impaq:

- Impaq considered that given the difficulty in maintaining the 99 per cent availability it would be expected that SPA would have given a high weighting to self-healing communications as a requirement at the technology evaluation stage. Other technologies are available which do have self-healing communications and redundant communications paths to deal with the availability issues that SPA has highlighted, but without the high cost structure.[206]

SP AusNet submitted that there may be a requirement for additional resourcing due to topography for this cost item.[207] The AER agrees and has taken this into account in its analysis. However the AER considers that this information does not explain a $[C-I-C] million dollar gap in SP AusNet's forecast costs as compared to those derived by Impaq.

Based on the above information, the AER considers that the commercial standard that a reasonable business would exercise in the circumstances would include:

- not overbuilding its systems beyond the AMI specification and thereby increasing its resourcing requirements as a result of that overbuild

- incorporating algorithm into its systems thereby decreasing its resourcing requirements for manual intervention

[206] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, p. 165.

[207] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 52-55.

- reconsidering its decision if its primary AMI solution does not provide adequate coverage

- reconsidering its decision because of the cost increases.

In contrast, SP AusNet, as set out in 2.5.2.1 above, has chosen to continue to implement a costly communications solution that does not provide adequate coverage. Moreover, SP AusNet's resources are greater than required to meet the requirements of the Order. This is because it is attempting to address problems with its communications solution and this requires additional resourcing well beyond the quantum that would be appropriate to the circumstances.

Consequently, the AER considers SP AusNet's incurring of expenditure for its communication infrastructure opex involves a substantial departure from the commercial standard that a reasonable business would exercise in SP AusNet's circumstances.

In its Draft Determination, the AER had benchmarked SP AusNet's expenditure, in this category, against those of a TNSP. However, in light of SP AusNet's objections, the AER reconsidered its approach.

As SP AusNet has not provided any models to verify its forecast, the AER considered advice from Impaq on a prudent level of resourcing for the communication infrastructure opex.

In its report Impaq stated that:

> The revised proposal from SPA for this item is in essence Communications Network Operations and Maintenance. SPA has not provided sufficient information to analyse its costs in detail. At a macro level the equivalent costs from PAL is a commercial standard. The total cost of communications operation, maintenance and backhaul for PAL is $[C-I-C]M over 2012 to 2015. Impaq considers this a commercial standard and a prudent cost.[208]

The AER now considers that as Impaq has updated its cost benchmark with information from Powercor which allows for more appropriate cost benchmarking, that benchmarking against Powercor is more appropriate and better reflects the commercial standard.[209] This is because SP AusNet's network size and its customer base are comparable.

The AER notes that Impaq's proposed communication infrastructure maintenance opex is based on Impaq's assessment of Powercor's costs. The AER has made further assessment of these costs in section 4.5.19 for Communication operation and Backhaul Communications.[210] The AER has adopted Impaq's methodology for determining the Powercor's expenditure to benchmark against SP AusNet's Communication Infrastructure Maintenance expenditure using the AER's assessed

[208] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, p. 165.

[209] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p. 16.

[210] The AER accepted Powercor's proposed Backhaul Communication expenditure in its Draft Determination.

values. This methodology requires the AER to round Powercor's proposed expenditure for Communications operation and Backhaul Communications for the 2012–15 period. The cost is then applied evenly to each year of the period. The AER considers this is appropriate as communication infrastructure maintenance should be largely stable once the communications capex is rolled out for the 2012–15 period. The AER notes this may lead to slightly lower costs in 2012 to the rest of period but does not consider it necessary to make an adjustment to the expenditure amount.

Accordingly, the AER has adopted and approved these costs as set out in the table below. These benchmark costs, based on Impaq's recommended methodology, reflect the commercial standard. As noted in section 2.5.1, the AER considers that it is appropriate to benchmark SP AusNet's costs against Powercor in certain categories of expenditure. The AER agrees with this approach noting that SP AusNet has not provided any detailed opex models that would allow Impaq to adjust its recommendations based on its assessment.

Table 2.19 Communication infrastructure maintenance operational expenditure ('000, real $2011)

	2012	2013	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

2.5.4.5 Project management

AER Final Determination

The AER has established that incurring project management expenditure of $[C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that project management costs of $[C-I-C] million is expenditure consistent with the commercial standard.

The cost of project management for the AMI program for 2012–2015 budget period is assessed in this section.

AER Draft Determination

The AER in its Draft Determination considered the following in assessing whether the incurring of such expenditure meets the commercial standard test:

- the activities identified by SP AusNet as being included in its project management costs
- the quantum of project management costs forecast by SP AusNet and the number of staff to which this equates

- that the AMI project will be in a mature implementation phase in the 2012–15 period.

SP AusNet was unable to substantiate its forecasts by, for example, reconciling and validating the level of resources forecast against the activities required to achieve the Project Management Office's (PMO) key objectives or other project management activities listed in its budget application. Impaq provided a bottom up analysis of the prudent level of resources required for project management of the AMI roll-out.

The AER considered that Impaq's assessment of project management costs reflected the commercial standard that a reasonable business would exercise in the circumstances. The AER considered that SP AusNet's incurring of project management costs involved a substantial departure from that standard and the AER approved project management costs based on Impaq's assessment.

Submissions from stakeholders

SP AusNet submitted that its proposed project management opex was appropriate given the scope of work planned over the budget period. It provided further information in respect of its forecast resourcing levels and associated costs by setting out roles and responsibilities.[211]

AER's view

In its Draft Determination, the AER sought further information from all DNSPs to substantiate their proposals in response to the draft decision.[212] In addition, the AER notes that as with all budget applications, DNSPs must set out the information and identify the documents upon which the distributor relies (clause 5.3) and must provide information to the AER if requested (clause 5.6).

The information provided by SP AusNet in its Amended Submitted Budget does not sufficiently explain the expenditure proposed for project management opex. Furthermore the SP AusNet application did not include an opex model that would allow the AER to conduct a bottom up review of the costs included in this category. SP AusNet should have been able to provide FTE numbers that would be supported by detailed bottom-up analysis using historical data and reasonable assumptions. Without being provided an explanation as to why the costs are proposed or a breakdown of the individual costs outlining how they were forecast, the AER requested additional information from SP AusNet and further sought advice from Impaq and Energeia.[213]

In reviewing the position descriptions provided by SP AusNet the AER notes that:

- Some of the function descriptions were for activities outside scope such as for developing meter procurement strategy for 2012-15 and developing and implementing meter deployment strategy were considered new expenditure by the AER is out of scope of clause 5b.3

[211] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp.57–65.

[212] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012¬15 budget and charges applications*, July 2011, p. 10.

[213] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 57– 65

- Some of the function descriptions were for activities that should have taken place at the start of a project for example developing archiving strategy to cope with increased volumes of data and developing and managing the strategy for maintenance and security of metering assets and design and deploying communications infrastructure.[214] [215] [216]

The AER also considered advice from Impaq and Energeia:

- Impaq considered that SP AusNet's staffing costs were excessive stating that SP AusNet appears to be [C-I-C] per cent higher. Impaq further noted that SP AusNet's data did not reconcile.

- Energeia's initial review found that SP AusNet's support for its project management expenditure was insufficient for determining whether it met the commercial standard test. Energeia therefore requested additional information to support its planned expenditure. Specifically, SP AusNet was requested to provide its organisational structure and roles in 2015 for providing the Regulated Services.

    - SP AusNet did not provide the requested information. Energeia would have expected an AMI organisational structure, operating model, divisional and branch business plans, and key position descriptions to have been made available if these were the basis for SP AusNet's planned expenditure.

    - In the absence of receiving appropriate business planning artefacts, Energeia assumed that SP AusNet's proposed expenditure does not reflect the level of planning that a reasonable commercial business would have developed in the circumstances.

    - Energeia believes the overall level of resourcing in the PMO appears to be reasonable on the basis of the program being behind schedule and peer resourcing levels. The costs for the AMI PMO solution, sourcing and solution FTEs in 2012, at [C-I-C]% to [C-I-C]% of market rates, are excessive.[217]

The AER considers that in incurring the expenditure the commercial standard a reasonable business would exercise in the circumstances would encompass the following:

- an AMI organisational structure, operating model, divisional and branch business plans, and key position descriptions if these are the basis for planned expenditure

- factoring in the shift to a mature stage of implementation;

- setting out costs reasonably consistent with market rates.

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214 Ibid., pp. 59-62.

215 SP AusNet, *20110623 - SP AusNet response to AER re 2012 AMI Budget (questions of 15 06 2011)*, 23 June 2011, pp. 10-15.

216 SP AusNet, *SP AusNet Response to AER PMO queries_FINAL*, 16 September 2011.

217 Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, pp. 26–27.

SP AusNet substantially departed from that standard in that the expenditure it will incur:

- encompasses functions for tasks that should have been performed at the project start up phase and for out of scope activities
- includes salaries that are [C-I-C]- [C-I-C] per cent higher than market rates for the AMI PMO sourcing and solution
- is not supported by plans or detailed job descriptions that would reveal appropriate levels of internal governance.

As SP AusNet has not provided any models to verify its forecast the AER considered advice from Impaq on a prudent level of resourcing for the project management activities identified by SP AusNet in the 2012-15 period. Impaq considered the following adjustment necessary to bring SP AusNet's PMO expenditure in line with the commercial standard. This:

- removed the costs in 2014 and 2015 as being not appropriate as project costs for a project that finishes in 2013; and
- reduced the costs in years 2012 and 2013 by [C-I-C]% because the overhead levels in the FTE costs were too high by at least [C-I-C]% and the design activities of the project should have been completed (assumed to be about [C-I-C]% of the costs).[218]

The AER's project management assessment is detailed in Table 2.20. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to SP AusNet's forecast of projected management costs for 2012-2015 which the AER considers reflect the commercial standard.

[218] Impaq considered that AMIPMO solution FTEs average at $[C-I-C]. AMIPMO sourcing FTEs at $[C-I-C]. These salary costs are excessive. The overall average is $[C-I-C]. It would be expected that the salary costs of the resources listed would be in the range of $[C-I-C] to $[C-I-C] per annum based on salary surveys. On-costs should be between [C-I-C]% and [C-I-C]%. With an average salary cost of $[C-I-C] pa and on-costs of 30% and accommodation costs gives an FTE cost of about $[C-I-C] pa. Hence the FTE costs appear to be about [20[C-I-C]% too high.

Table 2.20 Project management ('000, real $2011) [C-I-C]

	2012	2013	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

2.5.4.6 Debt raising costs

AER Final Determination

The AER has established that incurring the expenditure for debt raising costs in excess of 12.5 basis points per annum for the 2012–13 budget period involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER has established that incurring the expenditure for debt raising costs in excess of 10.8 basis points per annum for the 2014–15 budget period involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that debt raising costs of $[C-I-C] thousand should be applied consistent with the commercial standard.

The Order allows DNSPs to recover the costs of raising debt and equity finance for the AMI roll-out.

AER Draft Determination

The AER accepts the debt raising costs of 12.5 basis points per annum as provided for by clause 4.1(h) of the Order and proposed by the DNSPs for the initial WACC period 2009–2013.

The AER did not accept the DNSPs proposed debt raising cost of 12.5 basis points per annum for the period 2014–015 when compared to its benchmark debt raising cost of 10.8 basis points per annum.[219] The AER considers that DNSPs proposals were a substantial departure from the commercial standard represented by the AER's proposed debt raising cost benchmark of 10.8 basis points per annum. The AER allowed only a debt raising cost benchmark of 10.8 basis points per annum for the period 2014–15.

[219] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 209–211.

Submissions from stakeholders

SP AusNet have clarified they are not requesting equity raising costs for the period 2012–15 but rather debt raising costs in excess of the costs allowed by the 12.5 basis points per annum allowed under the clause 4.1(h) of the Order.[220]

AER's view

The AER considers that clause 4.1(h) of the Order clearly states that each DNSP is allowed 12.5 basis points to recover debt raising costs in the initial WACC period 2009–2013. The AER's Framework and Approach paper states that as the debt raising cost allowance of 12.5 basis points would be added to the debt risk premium (DRP) for the initial WACC period that no debt raising costs were to be included as capital or operating expenditure.[221]

The AER therefore considers that the commercial standard for debt raising costs for the 2009–13 WACC period is the 12.5 basis points allowed by the revised Order. The AER further considers that an opex or capex expenditure allowance for debt raising costs for the initial WACC period of 2009–13 is a substantial departure from this commercial standard.

The AER also considered the debt raising costs to be allowed in the subsequent WACC period 2014–15. The Order and the Framework and Approach paper are silent on the treatment of debt raising costs in the 2014–15 WACC period. The AER considers that two options are available:

- to remain consistent with the application of the Order and apply debt raising costs, as determined by the AER to the DRP
- to apply an opex expenditure allowance to DNSPs proposed budgets.

The AER in its Draft Determination elected to adopt an opex expenditure allowance approach to be consistent with its approach under the NER. The AER notes that the DNSPs proposed to maintain consistency with the Order and apply debt raising costs to the DRP. Following the AER's Draft Determination all DNSPs except for SP AusNet have accepted the AER's approach to debt raising costs.

The AER considers that a debt raising cost benchmark of 10.8 basis points per annum is appropriate for the period 2014–2015. The AER concluded that the debt raising cost of 10.8 basis points per annum was the appropriate commercial standard as it was consistent with the Victorian Distribution determination:

SP AusNet has informed the AER that its benchmark does not account for the cost of early refinancing of debt. The AER considered this issue in the Victorian Distribution Final Decision.[222] The AER concluded that the ACG method compensates for refinancing.

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220 SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p68

221 AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, pp.53

222 AER, *Final Decision - Appendices: Victorian electricity distribution network service providers: Distribution determination 2011–2015: Appendix N Debt Raising Costs*, pp 474-501

The AER also considered the multiplicative effect of the debt raising cost on the amount of debt financing. For example if a DNSP is AMI roll-out cost $100 million USD and debt raising costs are 10 basis points per annum, using the assumption of 60 per cent gearing ratio, then the resulting debt raising costs would be $6 million. Therefore any major difference in the benchmark debt raising cost can have a large impact on the cost of the AMI roll-out.

In addition the AER considered whether it was not prudent for a DNSP to have debt raising costs greater than the amount allowed by the Order. The AER considers that the Order provided the DNSPs with an identifiable limit on debt raising cost expenditure. The AER through the Framework and Approach paper clearly stated any expenditure beyond the 12.5 basis points allowed by the Order would not be allowed as either an opex or capex allowance for the initial WACC period 2009–13.

Based on the above analysis, the AER considers that SP AusNet's proposal for incurring debt raising costs in excess of the benchmark debt raising costs is a substantial departure form the commercial standard

The AER therefore considers that the commercial standard for expenditure is the allowance defined in the Order for the initial WACC period 2009–13 and is defined by the AER's benchmark rate of 10.8 per cent in the subsequent WACC period 2014–15. The AER considers that an expenditure allowance for debt raising costs beyond the allowance is a substantial departure from the revised Order. The AER notes that this is more than $[C-I-C] million for SP AusNet over the 2012–15 budget period.

Table 2.21 Debt raising costs as operational expenditure ('000, real $2011)

	2012*	2013*	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination*	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Note: * debt raising costs were incorporated as a margin into the WACC in 2012–13.

2.5.4.7 IT operational expenditure

AER Final Determination

The AER has established that SP AusNet's incurring of its proposed IT opex of $[C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER considers that IT opex of $[C-I-C] million is expenditure consistent with the commercial standard.

The cost of IT operational expenditure for the AMI program for 2012–2015 is assessed in this section.

AER Draft Determination

The AER in its Draft Determination considered the following in assessing whether the incurring of such expenditure meets the commercial standard test:

- IT operational costs forecasts by other Victorian DNSPs for the AMI roll-out
- activities included in SP AusNet's IT opex
- the quantum of IT costs forecast by SP AusNet.

The AER noted in the Draft Determination that SP AusNet had failed to substantiate its proposed IT opex. The AER established that SP AusNet's incurring of its proposed IT opex involved a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances and therefore approved expenditure based on Impaq's bottom up build for IT opex.

Submissions from stakeholders

SP AusNet submitted that IT operational costs will not be true operational costs for quite some years, due to the maturity of the software and potential changes and modifications required to stabilise the end to end environment. Therefore the IT opex costs include enough resources to support '24 x 7' operation and resources to apply any necessary system changes. SP AusNet further suggests as the communications and application technology is new to the architecture of a utility, ongoing support will increase more than other deployments and investment will need to be made in software hardware and labour.

SP AusNet further submitted, with reference to Impaq's benchmarking against Powercor, that it was an error for the AER to base its analysis of a reasonable business in the circumstances of SP AusNet on the experiences and decisions of another DNSP. SP AusNet submitted that this approach was not justified because the experience and outcomes applicable to Powercor or any other DNSP are irrelevant.[223]

AER's view

In its Draft Determination, the AER sought further information from all DNSPs to substantiate their proposals in response to the draft decision.[224] In addition, as with all budget applications, DNSPs must set out the information and identify the documents upon which the distributor relies (clause 5.3) and must provide information to the AER if requested (clause 5.6).

The information provided by SP AusNet in its Amended Submitted Budget does not sufficiently explain the expenditure proposed for IT opex. Furthermore the SP AusNet application did not include an opex model that would allow the AER to conduct a bottom up review of the costs included in this category. SP AusNet should have been able to provide FTE numbers that would be supported by detailed bottom-up analysis using historical data and reasonable assumptions. Without being provided an explanation as to why the costs are proposed or a breakdown of the individual costs

[223] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p. 16.

[224] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 10.

outlining how they were forecast, the AER requested additional information from SP AusNet and further sought advice from Impaq and Energeia.[225]

The AER also examined the information provided by SP AusNet in response to an AER information requests number 1 and 2 and considers that the proposed expenditure is a result of the deficiency of SP AusNet's IT solution to integrate with its WiMAX solution. [C-I-C] (see 2.5.2.1).

Figure 2.3 [C-I-C]

[C-I-C]

Source SP AusNet, [C-I-C], 19 May 2011, pp24

[C-I-C]

SP AusNet in its response relied on a benchmarking study conducted by Gartner and submitted:

> There are a couple of benchmarks that are worth considering, when discussing operating costs.

[225] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, pp. 69–70.

• Application Support Costs are typically broken up into two areas:

o Run / Maintain

o Development / New

Gartner suggest that the typical % spent on this support is [C-I-C]% of an IT Budget, which is shared roughly [C-I-C]/ [C-I-C] between Run and Development, with the major element of this cost being people or labour.[226]

SP AusNet did not provide any data to compare its own expenditure levels against the Gartner high level benchmark to substantiate its statements.[227] The AER further notes that while [C-I-C] per cent opex/capex IT ratio may be relevant at the start of an IT programs where you would expect systems and software bugs and issues, it is expected that the ratio would decrease over time. SP AusNet IT opex forecast does not reflect this scenario.[228]

In addition to the above the AER considered advice from Impaq and Energeia:

- Impaq does not consider the Field Mobility Opex for 2014 and 2015 to be prudent. Field Mobility is required for the roll-out (which concludes in 2013) but is not justified on AMI alone for subsequent years. If SPA wants to use this field mobility solution for the rest of the business in subsequent years then it should be recovered through distribution use of system charges.
    - In the absence of detailed information from SP AusNet, Impaq is not able to evaluate the prudency of its IT Opex proposal. Instead, Impaq considers that the nearest benchmark is that of Powercor. Powercor, like SP AusNet, is a distributor with a large rural area and some metro areas. Powercor is a little larger than SPAusNet in terms of customer numbers, but not so much different that economies of scale will be greatly different. Hence the cost drivers for Powercor should be similar to that for SPA. Impaq's assessment is therefore derived from a comparison with that of Powercor.[229]
- Energeia's assessment found that SP AusNet's proposed IT operational expenditure is substantially higher than its peer networks in Victoria. A closer examination of the expenditure categories reveals this is mainly due to the substantially greater costs proposed for IT infrastructure support
    - Energeia notes that SP AusNet's costs are likely to be higher than any of the other networks due to cost sharing of certain development and operational costs, but these are unlikely to account for the substantial difference.
    - Energeia was unable to confirm whether SP AusNet's proposed IT operational expenditure met their suggested Gartner benchmarks as it was unclear how the

[226] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p. 70.
[227] SP AusNet, *Response to 2 September 2011- APPENDIX H – Gartner IT Key Metrics.*
[228] SP AusNet, *SPI Electricity Pty Ltd: Advanced Metering Infrastructure: 2012–15 Budget and Charges Application: Draft Determination Response*, 26 August 2011, p. 70.
[229] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, pp. 171-172

> benchmark should be applied to the data provided by SP AusNet. Energeia was also unable not reconcile the data provided by SP AusNet in Table 6.19 of their Draft Determination Response with its budget templates. Energeia's review of SP AusNet's supporting documentation did not identify any other explanation for SP AusNet's substantially higher level of proposed IT infrastructure expenditure.[230]

Based on the above information, and in line with the AER's analysis in 2.5.2.1, the AER considers that in incurring the expenditure the commercial standard that a reasonable business would exercise in the circumstances would encompass a full reassessment of its position and alternative available solutions considering the capability gaps and the high cost compared to other AMI solutions.

SP AusNet's incurring of its proposed IT opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as it:

- has overbuilt its systems beyond the AMI specification and thereby increased its resourcing requirements as a result of that overbuild or to fix problems associated with the decision to proceed with an unproven technology
- not reconsidered its position when the capability gaps demonstrate that its total AMI solution was not appropriate and/or is not providing value for money
- not reconsidered its decision despite the cost increases.

As SP AusNet has not provided any detailed opex models to verify its forecast the AER considered advice from Impaq on a prudent level of resourcing for the IT opex and further considered what might be an appropriate benchmark.

The AER has addressed SP AusNet's general objections to benchmarking in section 2.5.1.and does not accept that the Gartner benchmarking information provided by SP AusNet is supported by data specific to SP AusNet or reflects expected trends.

The AER considered Impaq's report in which it stated:

> …in the absence of detailed information from SPA [SP AusNet], Impaq is not able to evaluate the prudency of its IT Opex proposal. Instead, Impaq considers that the nearest benchmark is that of PAL [Powercor]. PAL, like SPA, is a distributor with a large rural area and some metro areas. PAL is a little larger than SP AusNet in terms of customer numbers, but not so much different that economies of scale will be greatly different. Hence the cost drivers for PAL should be similar to that for SPA.
>
> Impaq's assessment is therefore derived from a comparison with that of PAL. In line with SPA's comment that as systems mature the Opex tends to

[230] Energeia, Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator, October 2011, pp. 22–23.

decrease, so the apportionment of cost over 2012 to 2015 reflects this principle. [231]

All DNSPs are required to provide daily interval data for each meter and provide other AMI services such as de-energisation and re-energisation. Therefore, all DNPS would require similar systems as outlined in generally outlined in section 2.5.1. However, in recognising that cost will vary because of customer numbers - that is, it can be expected that serving more customers would cost more - the AER considers that benchmarking against other smaller DNSPs is most appropriate. As Powercor's customer numbers are similar to those of SP AusNet's the AER considers that it is a comparable DNSP to benchmark SP AusNet against for IT opex.

The AER notes that Impaq's proposed IT opex is based on Impaq's assessment of Powercor's costs. The AER has made further assessment of these cost in section 4.5.21 for IT of this final determination. The AER has adopted Impaq's methodology for determining Powercor's IT opex to benchmark against SP AusNet's IT opex using the AER's assessed values. This methodology requires the AER to round Powercor's proposed expenditure for IT Opex for the 2012–15 period. The cost is then applied at the same rate as for Powercor but adjusted in 2013 to ensure the same rounded total is reached. The AER considers this is appropriate as IT opex will likely be greater in 2013 to deal with teething issues that occur with the compeltion of the AMI roll-out.

Accordingly, the AER has adopted and approved these costs as set out in the table below. These benchmark costs, based on Impaq's recommended methodology, reflects the commercial standard. As noted in section 2.5.1, the AER considers that it is appropriate to benchmark SP AusNet's costs against Powercor in certain categories of expenditure. The AER agrees with this approach noting that SP AusNet has not provided any detailed opex models that would allow Impaq to adjust its recommendations based on its assessment.

Table 2.22 IT opex ('000, real $2011)

	2012	2013	2014	2015	Total
Initial Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Draft Determination	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Amended Submitted Budget	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AER view	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

2.6 Calculation of charges

The calculation of charges is based on the Approved Budget summarised in Table 2.23. The Approved Budget is the result of analysis in section 2.2 to 2.5. The AER must then determine the revenue required (section 2.6.1) to fund this Approved Budget by:

[231] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp. 171-172

- applying the cost of capital to the capital component of the Approved Budget in section
- incorporating the capex for 2012–15 into the metering asset base and adjusting for actual expenditure for the 2011 calendar year
- determining the rate of depreciation for the metering asset base based on the standard asset lives assigned in clause 4.1(g) of the Order
- calculating the tax allowance for the DNSP for metering revenues.

The AER then uses this revenue requirement to determine the charges for consumers such that the costs of the AMI roll-out as summarised by the revenue requirement will equal the amount of revenue collected from consumers through charges by the end of 2015 (see section 2.6.3).

Table 2.23 AER's Final Determination on SP AusNet's capex and opex budget ('000, Real 2011) [C-I-C]

	2012	2013	2014	2015	Total
Capex					
Meter Supply	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Installation	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Comms Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Final Determination capex	**130,759**	**67,514**	**5,013**	**1,788**	**205,074**
Opex					
Meter Purchase	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Reading	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Customer Service	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Communication infrastructure maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Technology Trial	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Project Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPO and AMI ISC costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Audit and quality assurance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMI budget and charges applications	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Equity raising costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Debt raising costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Management fees or overhead	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Extra Accommodation Cost	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Opex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Final Determination Opex	**35,599**	**29,201**	**17,826**	**16,402**	**99,028**
Final Determination Budget	**166,358**	**96,716**	**22,839**	**18,189**	**304,102**

Source: AER analysis

2.6.2 Revenue Requirement

This section determines the revenue requirement required by the DNSP to be compensated for the cost of the AMI roll-out for the period 2012–15. The revenue is determined through the reconciliation to the regulatory accounts and application of the cost of capital, depreciation, tax to determine the metering asset base and the revenue requirement (sections 2.6.2.1 to 2.6.2.6).

2.6.2.1 Reconciliation to the regulatory accounts

The AER must ensure the actual costs are included in it final charges determination to ensure that the revenue earned by DNSPs equal the cost of the AMI roll-out. To this end the AER has ensured that costs reported in the DNSPs regulatory accounts are incorporated into each DNSPs revised budget application.

The Minister for Energy and Resources Hon. Michael O'Brien's comment[232] that the AER should critically examine the regulatory accounts of each DNSP to ensure the costs incurred by related parties in assessing the actual expenditure to 2010 and the revised forecasts for 2011. The AER did this critical examination as part of its AMI 2012–15 Draft Determination[233] and has ensured DNSPs amended Submitted Budgets are compliant in this Final Determination.

SP AusNet has submitted a revised budget application that reconciles to SP AusNet's regulatory accounts. Therefore the amounts of $644,076 for capex, $752,061 for opex and $289 for revenue identified in the AER's Draft Determination have been accounted.[234] The AER therefore considers the historical expenditure supplied by SP AusNet to support its revenue requirement for 2012–2015 is appropriate.

2.6.2.2 Cost of capital

The Order allows DNSPs to receive a regulated rate of return on capital expenditure throughout the period 2009–2015. The initial Weighted Average Cost of Capital (WACC) period of 2009–2013 was set in 2009 at 9.51 per cent in accordance with clause 4.1(i) of the Order, as summarised in Table 2.24.

[232] The Honourable Michael O'Brien MP, Response to the AER's 2012–2015 AMI Draft Determination, September 2011

[233] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 204–205

[234] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp 204–205.

Table 2.24 AER final determination on WACC parameters for AMI period 1 January 2009 to 31 December 2013

WACC Parameter	Initial WACC period (2009-13)
10 year nominal risk free rate	4.63%
Inflation	2.56%
Equity beta	1.00
Market risk premium	6.00%
Debt risk premium	4.00%
Gearing ratio	60.0%
Cost of Debt	8.76%
Cost of Equity	10.63%
Nominal Vanilla WACC	9.51%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, pp 61

The WACC for the subsequent WACC period for 2014–15 must be set by the AER in accordance with the measurement of market observables in 2013 and the AER's Statement of Regulatory Intent (SORI) under clause 4.1(j). Clause 4.1(j)(i) of the Order requires the AER to make a decision on WACC market observables for 2014–15 in 2013. To this end the AER advised the DNSPs in writing[235] that the following approach would be adopted to set WACC for 2014–15:

- 28 February 2011 – DNSPs to propose to the AER a placeholder WACC and placeholder AMI Charges for 2014-15 as part of the their budget and charges applications for 2012-15, (which the AER will assess as part of its final determination on 31 October 2011);
- 30 November 2012 – DNSPs to submit a proposed averaging period in 2013 to the AER for the purposes of calculating the subsequent AMI WACC;
- 10 January 2013 – AER to write to each DNSP to advise its decision on the proposed averaging period;
- 31 August 2013 – DNSPs to submit to the AER revised charges applications for 2014; and
- 31 October 2013 – AER Final Determination on AMI revised charges for 2014, incorporating the market observables measured in the approved averaging period.

[235] AER, Letter to Victorian DNSPs re: 2012-15 AMI Budget and Charges Information Templates, 15 February 2011

This process relies on the averaging period ending in time for the AER to determine revised charges for 2014 on 31 October 2013.

The SORI set the following non-market variable for WACC. These values can be altered under clause 4.1(j)(ii) in accordance with clause 6.5.4(g) of the National Electricity Rules (NER). This clause allows the AER to alter the non-market observables of the SORI on the basis of persuasive evidence.

Table 2.25 AER final determination on WACC parameters for the AMI period 1 January 2009 to 31 December 2013

WACC Parameter	Initial WACC period (2009-13)
Gearing (debt to equity ratio)	60%
Market risk premium	6.50%
Equity beta	0.80
Gamma	0.65
Credit rating	BBB+
Nominal risk free rate	10 year Commonwealth Government Securities

Source: AER, Electricity transmission and distribution network service providers: Statement of the revised WACC parameters (transmission): Statement of the revised WACC parameters (distribution), May 2009

The values summarised for a placeholder WACC for 2014–15 have been submitted by the Victorian DNSPs following the AER's Draft Determination.

Table 2.26 AER final determination on the placeholder WACC for the AMI period 1 January 2014 to 31 December 2015

	DNSPs initial Submitted Budget	AER draft determination*	SP AusNet amended Submitted Budget	AER final determination
Nominal Vanilla WACC	9.19%	9.50%	9.19%	9.77%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, pp 61
Note Contains transposition error between SA gas decision and AER draft determination. The WACC value should have been 9.77%.

The AER must therefore set a placeholder WACC for use in this Final Determination for the 2014—15 period. The AER, in its Draft Determination, did not accept the DNSPs initial proposed placeholder WACC of 9.19 per cent and instead adopted its

most recent WACC decision of 9.50 per cent.[236] The AER has uncovered a transposition error in copying this WACC value from the AER's South Australian gas access decision.[237] This error alters the AER's Draft Determination from 9.50 per cent to 9.77 per cent for WACC. Table 2.27 summarises the WACC from this South Australian decision.

Table 2.27 AER final determination on WACC parameters for the SA gas access decision

WACC Parameter	Subsequent WACC period (2014-15)
10 year nominal risk free rate	5.56%
Inflation	2.55%
Equity beta	0.80
Market risk premium	6.00%
Debt risk premium	3.81%
Gearing ratio	60.0%
Cost of Debt	9.37
Cost of Equity	10.36
Nominal Vanilla WACC	9.77%

Source: AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, pp 59

The AER notes in the amended Submitted Budget that the DNSPs have raised the following concerns with the AER's proposed placeholder WACC:

- all Victorian DNSPs suggest the market risk premium in the AER's placeholder WACC should be 6.0 per cent rather than the 6.5 per cent applied in the AER's most recent WACC decision.
- JEN considers the method of calculating the Debt Risk Premium should not be based on one bond but a weighted average of multiple bonds
- CitiPower and Powercor suggest that market observables are based on data that is highly volatile, and suggests that the current market risk premium is 4.5 per cent not the 5.4 per cent presented in the AER's Draft Determination.

[236] AER, Final Decision: Envestra Ltd Access arrangement proposal for SA gas network: 1 July 2011 – 30 June 2016, pp 59.

[237] AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, pp35-59

- Citipower and Powercor has suggested that forecast inflation be calculated consistent with the AMI 2009—11 Final Determination and in the Order for the AMI 2014—15 period.

- Citipower and Powercor have proposed an updated debt risk premium but have not clarified how this update was made for 2014–15.

- SP AusNet has proposed a gamma (the valuation of franking credits) of 0.25 be used for the 2009–15 period consistent with the Australian Competition Tribunal decision (discussed below).

The AER considers that the DNSPs arguments concerning the value of the value of the underlying value of the placeholder WACC will be relevant in the AER's 2013 AMI WACC Determination. The AER considers that its Final Determination must be whether the placeholder WACC proposed by the DNSPs or the AER's most recent decision on WACC represents the most current view of WACC.

To do this the AER considered the impact of market observables and non-market observables:

- Market observables - the AER's proposed market observables from the June 2011 South Australian gas access decision are more up-to-date than those proposed by the Victorian DNSPs whose market observables are based on the 2009–11 AMI determination.

- Non-market observables - the DNSPs have proposed to alter a number of non-market observables from the original 2009–11 AMI determination. These include the market risk premium and equity beta on which the AER changed its view in the recent South Australian gas access decision. The AER considers that its most recent decision on WACC represents its current view on these parameters.

The AER considers that the value of WACC proposed by the DNSPs based on the AER's 2009–11 market observables is less likely to represent the value of WACC in 2013 than the AER's most recent decision on WACC. The AER therefore considers it appropriate to adopt its most recent determination on WACC from its South Australian gas decision as the placeholder for the 2014–15 subsequent WACC period.

The AER considers it appropriate to adopt the entire WACC decision as it represents the AER's most recent view. The AER does not consider it appropriate to alter elements of this WACC decision.

Gamma

The AER considers that its decision to utilise the South Australian gas decision extends to other elements of WACC that were not clearly stated in the Draft Determination such as the value of gamma. The gamma for the South Australian gas decision was 0.25 consistent with the Australian Competition Tribunal Decision.[238]

[238] Australian Competition Tribunal, Application by Energex Limited (Gamma) (No 5), [2011] ACompT 9, 12 May 2011, as updated 13 May 2011

The AER did not clearly state this in its Draft Determination and therefore offered the DNSPs a chance to comment on gamma. All DNSPs have responded that a gamma of 0.25 was acceptable. The AER has therefore adopted a gamma of 0.25 for this Final Determination consistent with the Australian Competition Tribunal Decision and the South Australian gas decision WACC.

The AER notes that gamma has no impact on the revenue requirements as tax losses are sufficient for tax liabilities to be zero as required by the Order.

Inflation

The AER also notes that the DNSPs have proposed an inflation rate of 2.56 per cent. The current inflation rate incorporated into the WACC decision is 2.55 per cent. The AER considers that the inflation rate decision will be revisited as part of the AMI WACC decision in 2013 and therefore will not be pre-empting this decision in this placeholder but will continue to adopt the AER's current view of inflation as incorporated into the South Australian gas decision.

Market and Debt Risk Premium

The AER notes the arguments lodged by the DNSPs concerning the value of the Market Risk Premium being 6.5 per cent instead of the 6.0 per cent value the AER considered appropriate in its last decision on WACC. The AER considers it will be appropriate for these DNSPs to make arguments on the value of WACC components including the value of the Market Risk Premium and the Debt Risk Premium during the AER's 2013 AMI WACC determination process.

The AER considers it appropriate to adopt a placeholder WACC that represents the AER's current view of the value of WACC. The AER does not consider it appropriate to change a placeholder value when this value will be updated in 2013. Therefore the AER considers the WACC value determined by the AER in June 2011 to represent the AER's current view of WACC.

2.6.2.3 Depreciation

SP AusNet has applied the correct straight-line depreciation schedules as required by clause 4.1 (g) of the Order with the exception of the standard life for the WiMAX communication solution.

SP AusNet has proposed a 25 year standard asset life for WiMAX communication equipment specifically the concrete base of telecommunication towers. This standard asset life is different from the requirement of the Order which states a 7 year standard asset life must be applied for WiMAX communication equipment.

The Order is explicit in the standard asset life to apply to telecommunications equipment and does not allow the AER the scope to accept SP AusNet's proposed long telecommunications asset life. Therefore the AER has altered SP AusNet's WiMAX telecommunications standard asset life to seven years as required by the Order.

2.6.2.4 Tax

SP AusNet has applied a tax rate of zero which is consistent with clause 4.1 (e) of the Order as required when there is an estimated loss for tax purposes in a given year.

2.6.2.5 Metering Asset Base

The AER in this Final Determination on SP AusNet's capex budget determines the metering asset base summarised in Table 2.28.

Table 2.28 AER Final Determination - SP AusNet's Meter Asset Base ($000, Real 2008)

	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	35,559	62,525	127,663	186,384	269,006	285,668	251,620
Capital Expenditure	36,763	83,578	86,645	119,668	61,787	4,588	1,636
Depreciation	9,796	18,441	27,924	37,045	45,126	38,636	37,780
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	62,525	127,663	186,384	269,006	285,668	251,620	215,477

Source: AER analysis

2.6.2.6 Revenue Requirement

The AER's Final Determination opex and capex budget equates to a revenue requirement for the period 2012–2015 summarised in Table 2.29. The revenue requirement for the period 2009–11 has been included from the AER's 2009–11 AMI Budget and Charges Final Determination.

Table 2.29 AER Final Determination on SP AusNet's revenue requirement ($'000, nominal)

	2009	2010	2011	2012	2013	2014	2015
Return on capital	5,929	8,105	16,272	23,648	29,542	30,154	26,883
Depreciation	7,841	18,344	25,858	35,145	43,908	37,665	38,645
Operating and Maintenance costs	27,133	39,809	49,401	36,510	30,716	19,229	18,143
Tax liability	0	0	0	0	0	0	0
Total revenue requirement	40,904	66,258	91,531	95,304	104,166	87,048	83,672

Source: AER analysis

2.6.3 Determination of meter charges

The Order requires the AER to ensure the net present value (NPV) of costs equals revenues for the period 2012–2015 to ensure DNSPs are compensated for the cost of the AMI roll-out. The NPV of costs and revenues are summarised in Table 2.30.

In his submission, the Hon. Michael O'Brien Minister for Energy and Resources, stated concern that JEN's costs per customer appears to be higher than its peers. [239]

2.6.3.1 AER's view

To ensure transparency the AER has incorporated the under and over recovery for the initial AMI budget period 2009–11. The under or over recovery is determined using the DNSPs' regulatory account data up until 2010. The 2011 values represents the DNSPs' estimate of actual expenditure. This expenditure will receive a 'true-up' as required by the Order so that only actual (not forecast) DNSP expenditure for the AMI roll-out will be recovered.

The forecast expenditure approved in this Final Determination for 2012–15 will be adjusted for actual expenditure under clause 5G for the years 2012 and 2013 by 31 August of 2013 and 2014. This adjustment will impact the 2014 and 2015 charges. In addition the forecast expenditure in 2014 and 2015 will be adjusted in 2015 and 2016 under clauses 5L.3 and 5L.4 to impact the 2016 and 2017 charges.

Table 2.30 AER Final Determination on SP AusNet's revenue under and over recovery ($'000, nominal)

	2009	2010	2011	2012	2013	2014	2015
AMI cost	32,838	90,722	163,582	232,860	302,007	354,651	400,750
AMI revenue	35,823	93,179	147,762	205,751	267,257	332,204	400,750
Under/Over recovery	2,986	2,458	-15,820	-27,108	-34,751	-22,446	0

The AER's Final Determination on the metering charges to compensate SP AusNet for the AMI roll-out are summarised in Table 2.31.

The AER has not elected to incorporate a new meter category for SP AusNet for those consumers who do not require a contactor in their meter. The AER understands that a contactor is required when multiple circuits in a house are connected to the smart meter. The AER understands that the cost of a contactor is approximately [$12[C-I-C]]. SP AusNet has informed the AER that the contactor is only required for 3105 single element meters by the end of the period. The AER does not consider it prudent for a separate cost reflective tariff class to exist for such a small number of meters.

[239] The Honourable Michael O'Brien MP, Response to the AER's 2012–2015 AMI Draft Determination, September 2011, pp3-4

Table 2.31 AER Final Determination on SP AusNet's meter charges ($ per meter, nominal)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase single element meter	86.10	93.83	107.25	122.60	140.14	160.19
Single phase two element meter	98.93	107.81	123.24	140.87	161.02	184.06
Multiphase 1 contactor (1 load control) meter	119.51	130.25	148.89	170.19	194.54	222.37
Multiphase 1 contactor (1 load control) meter	132.58	144.49	165.16	188.79	215.81	246.68
Multiphase CT connected	170.71	186.05	212.67	243.10	277.88	317.64

Note: * historical charges approved by the AER

3 Jemena Electricity Networks and United Energy Budget and Charges

Key points

- JEN proposed a total of $59.7 million in capital expenditure and $69.3 million in operating expenditure.
- The AER approves a total budget of $131.4 million, which allows JEN to increase charges for single phase single element meter, used by most of its residential consumers, from $136.70 in 2011 to $219.90 in 2015.
    - The increase in customer charges of 61 per cent from 2011 to 2015 will allow JEN to pass through the costs incurred by the business in rolling out the advanced metering infrastructure.
- The AER considers that, for JEN, a budget of $62.0 million in capital expenditure and $69.4 million in operating expenditure meets the scope and prudent tests set out in the Order.
- UE proposed a total of $129.3 million in capital expenditure and $97.9 million in operating expenditure.
- The AER approves a total budget of $225.5 million, which allows UE to increase charges for single phase single element meter, used by most of its residential consumers, from $92.12 in 2011 to $165.02 in 2015.
    - The increase in customer charges of 79 per cent from 2011 to 2015 will allow UE to pass through the costs incurred by the business in rolling out the advanced metering infrastructure.
- The AER considers that, for UE, a budget of $127.5 million in capital expenditure and $97.9 million in operating expenditure meets the scope and prudent tests set out in the Order.
    - The AER's assessment represents a reduction of 1 per cent in capital expenditure from the budget proposed by UE.

Jemena Electricity Networks (JEN) supplies electricity to over 311,000 customers (average for 2011) of which about 91 per cent are residential. These customers cover a 950 km2 area of Melbourne’s inner city and north-western suburbs.

United Energy (UE) provides network services to almost 630,000 customers in south-east Melbourne and the Mornington Peninsula.

JEN and UE formed a partnership to undertake the AMI roll-out in order to reduce the costs and risks associated with meeting their obligations under the Order. In 2008, a joint arrangement between JEN and UE for the mandated AMI roll-out was finalised, and the parties engaged Alinta Asset Management (now Jemena Asset Management

(JAM)) to manage the delivery of the AMI program, including the budget and charges applications. JEN's and UE's amended Submitted Budget applications presented similar information, and attached a combined appendix prepared by JAM with further details of their amended submitted budgets (the JAM document).

The AMI program is governed by an internal steering committee comprising executive managers representing JEN, UE and JAM, which make recommendations to JEN and UE. Costs of the program are subject to a simple pro-rata allocation between JEN and UE, according to the costs that each party would have incurred without the cost sharing arrangement in place.

This Final Determination has jointly assessed JEN's and UE's amended Submitted Budget applications.

3.1 AER Final Determination

The AER's Final Determination on the metering charges for JEN and UE for the cost of the AMI roll-out are summarised in table 2.1 and table 3.2 respectively. For JEN's residential customers, who will all have a single phase, single element meter installed, charges will increase from $136.70 in 2011 to $219.90 in 2015. For UE's residential customers, who will all have a single phase, single element meter installed, charges will increase from $92.12 in 2011 to $165.02 in 2015.

Table 3.1 AER Final Determination JEN charges ($ nominal per meter)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase single element	134.63	136.70	153.95	173.38	195.26	219.90
Single phase single element, with contactor	134.63	136.70	153.95	173.38	195.26	219.90
Three phase direct connected	165.46	167.99	189.19	213.07	239.95	270.24
Three phase current Transformer connected	183.95	186.77	210.34	236.88	266.78	300.45

Note: * historical figures - not determined as part of this Final Determination

Table 3.2 AER Final Determination UE charges ($ nominal per meter)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase single element	71.80	92.12	106.57	123.30	142.64	165.02
Single phase single element with contactor	73.30	94.02	108.77	125.84	145.58	168.43
Three phase direct connected	81.01	103.89	120.19	139.05	160.87	186.11
Three phase CT connected	86.40	110.82	128.21	148.33	171.60	198.52

Note: * historical figures - not determined as part of this Final Determination

The AER's Approved Budgets for JEN and UE will amount to around a 61 per cent and 79 per cent increase respectively in charges for a single phase, single element meter over the 2011–2015 period (table 3.3 and table 3.4). JEN's and UE's amended Submitted Budgets would have led to an increase in charges of around 15 per cent and

78 percent respectively during this period. JEN proposed to under-recover its costs in the 2012-2015 period. JEN's AMI charges will increase more significantly than other DNSPs as JEN did not fully recover its costs in the 2009-11 budget period. In addition, the AER has not approved under-recovery as proposed by JEN (see section 2.6.3).

Table 3.3 Annual percentage change in charges for JEN (%)

Meter	2011*	2012	2013	2014	2015
Single phase single element meter with contract	1.5%	12.6%	12.6%	12.6%	12.6%
Multiphase 1 contactor (1 load control) meter	1.5%	12.6%	12.6%	12.6%	12.6%
Multiphase 1 contactor (1 load control) meter	1.5%	12.6%	12.6%	12.6%	12.6%
Multiphase CT connected	1.5%	12.6%	12.6%	12.6%	12.6%

Note: * historical figures - not determined as part of this Final Determination

Table 3.4 Annual percentage change in charges for UE (%)

Meter	2011*	2012	2013	2014	2015
Single phase single element meter with contract	28.3%	15.7%	15.7%	15.7%	15.7%
Multiphase 1 contactor (1 load control) meter	28.3%	15.7%	15.7%	15.7%	15.7%
Multiphase 1 contactor (1 load control) meter	28.2%	15.7%	15.7%	15.7%	15.7%
Multiphase CT connected	28.3%	15.7%	15.7%	15.7%	15.7%

Note: * historical figures - not determined as part of this Final Determination

Table 3.5 Difference between the AER's Approved Budget and JEN's Amended Submitted Budget ($000, real 2011)

	2012	2013	2014	2015	Total
Capex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total capex	2,250	23	0	0	2,273
Opex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total opex	13	0	1	1	15
Total budget	2,263	23	1	1	2,288

Source: AER analysis

Table 3.6 Difference between the AER's Approved Budget and UE's Amended Submitted Budget ($000, real 2011)

	2012	2013	2014	2015	Total
Capex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total capex	-1,781	16	0	0	-1,764
Opex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total opex	-120	-149	139	119	-11
Total Budget	-1,900	-133	139	119	-1,775

Source: AER analysis

3.1.2 Summary of issues raised in JEN's and UE's amended Submitted Budgets and stakeholder submissions

JEN

JEN's amended Submitted Budget addresses the costs disallowed by the AER in the Draft Determination and provided additional materials in relation to those costs. In a number of instances, JEN has accepted the AER's findings and has removed costs from the budget that it now considers will not need to be incurred.

In its amended Submitted Budget, JEN raises a number of concerns relating to the AER's reasoning for disallowing some of its forecast expenditure. Broadly, JEN contends that the AER has misapplied the Order by making material errors and adopting inaccurate calculations and cost modelling. These issues are discussed in detail in the AER's application of the Order below.[240]

In its amended Submitted Budget JEN also slightly revised its roll-out targets for the remainder of the roll-out period.

UE

UE's amended Submitted Budget addresses the costs disallowed by the AER in the Draft Determination and provides additional materials in relation to those costs. In a number of instances, UE has accepted the AER's findings and has removed costs from the budget that it now considers will not need to be incurred.

In its amended submitted Budget, UE raises a number of concerns relating to the AER's reasoning for disallowing some of its forecast. Broadly, UE contends that the AER has misapplied the Order by:

- making material errors and adopting inaccurate calculations and cost modelling provided by Impaq
- quantifying the commercial standard test by testing for expenditure to be incurred – whereas the commercial standard test is a test of conduct.[241]

In its amended Submitted Budget UE also slightly revised its roll-out target for the remainder of the AMI roll-out period.

[240] JEN, *Advanced Metering Infrastructure Roll-out Amended Subsequent Budget Application from Jemena Electricity Networks (Vic) Limited*, 26 August 2011, p. 1.
[241] UE, *Amended AMI Budget and Charges Application 2012–2015*, 26 August 2011, p. 5.

3.2 Application of the scope test

The Order provides that activities within scope are those activities that are reasonably required for the provision of Regulated Services and to comply with a metering regulatory obligation or requirement. The Scope test is applied below.

3.2.1 Meter Volumes

AER Final Determination

The AER has determined that JEN's and UE's provision of meters based on its forecasts for the supply and installation of business as usual meter volumes is an activity within scope.

The number or volume of meters to be purchased for the AMI roll-out has a large impact on the capex budget. Meter volumes impact both the number of meters purchased and the installation cost for each meter.

3.2.1.1 AER Draft Determination

In its Draft Determination, the AER considered that the provision and installation of remotely read interval meters to be installed is within scope.[242] However, the AER determined that the provision of meters based on over-forecasting the number of meters required to fulfil the roll-out obligation is an activity outside scope and should be adjusted to reflect the roll-out requirements.

Meter Supply Volumes

In its Draft Determination, the AER established that JEN's and UE's budget applications did not account for meter refurbishments and their reuse in either their volume forecasts or in meter unit capital costs.[243] That is, AMI meters that were abolished due to certain circumstances (i.e. a customer wishing to replace their single phase element meter with two element meters) can be refurbished and reused as they are still under warranty. This reduces the need to purchase new AMI meters thereby reducing costs.

The AER's Draft Determination considered that JEN's and UE's budget applications also over-forecast meter volume requirements as proposed meter purchases were greater than their customer growth forecast numbers.[244]

3.2.1.2 Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM agreed that meters can be reused but considered that the AER had overlooked the key principles in this process namely:

[242] Order, schedule 2.1, 2.6 and 2.10.
[243] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp. 53–54.
[244] Ibid.

- the volume of meters required for New Connections, Adds, Alts and Faults will be higher than the net customer growth estimate. Meter use will always be higher than net customer growth as not all events are covered by warranty including failure due to lightning, high voltage injection and accidental damage.

- adds and alts are at, and continue to be at, elevated levels due to the high number of meter exchanges for solar PV customers. This requirement alone exceeds the net customer growth requirement for meters.

- the roll-out is not complete until 2013. After that time the vast majority of removed AMI meters will be able to be reused. This will require those removed meters to be Verified (retested by a National Measurement Institute (NMI) authorised Verification test house) before they can be returned to service. [245]

3.2.1.3 AER's view

The JEN and UE amended Submitted Budgets have revised their forecast for business as usual meter volumes to be in line with new customer growth. Furthermore, both JEN and UE have demonstrated that they have taken meter abolishment into account. Therefore, the AER approves the meter installation volumes proposed by JEN and UE as part of their amended Submitted Budgets against the scope test. Consequently, in section 3.5.3.2, the AER has assessed this forecast expenditure under the commercial standard test.

3.2.2 Installation costs of new connections

AER Final Determination

JEN's forecast no longer contains the installation costs of new connections.

The installation costs of new connections refer to the cost that is charged to new customers.

3.2.2.1 AER Draft Determination

The AER in its Draft Determination rejected JEN's new connections meter installation costs as being outside scope. However, the Draft Determination also stated that JEN had recognised this error and would revise its budget proposal accordingly in its submission to the AER's draft determination.[246]

3.2.2.2 Submissions from stakeholders

JEN raised the following issues in its amended Submitted Budget:

- JEN has accordingly revised its forecast to exclude new connections installation costs.

[245] JEN, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 61–65.

[246] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 65.

3.2.2.3 AER's view

The AER accepts that JEN's forecast has excluded the installation costs of new connections. [247]

3.2.3 Neutral services testing (NST)

AER Final Determination

The AER has established that neutral services testing is within scope.

Neutral services testing relates to a set of electrical safety testing procedures periodically conducted by distributors.

3.2.3.1 AER Draft Determination

The Draft Determination rejected JEN's and UE's neutral services testing costs as being outside scope as it is a standard control activity.[248]

3.2.3.2 Submissions from stakeholders

JAM responded to the NST issue by noting that neutral services testing is within scope as all AMI installations must follow the Victorian electrical supply industry (VESI) – connection procedures. As the VESI mandates NST, this activity is within scope.[249]

3.2.3.3 AER's view

The AER has reviewed the VESI procedures and considers JEN's and UE's forecast for neutral testing to be within scope.

3.2.4 Two-element meters

AER Final Determination

The AER determines two-element meters are outside scope. However, the AER has approved UE's proposed expenditure relating to two-element meters for the 2012–15 budget period on a cost–benefit basis.

Two-element meters enable distributors to separately record the electricity consumption of two circuits at customers' premises. Single-element meters on the other hand only enable distributors to record the electricity consumption of a single

[247] In the Draft determination, the AER's reasoning incorrectly referred to the framework and approach paper to determine that the installation costs of new connections are out of scope. The AER clarifies here that the definition of Regulated Services clarifies that the metering services to be supplied are services to customers with existing accumulation or manually read interval meters and customers with a remotely read interval meter where the distributor is, in both circumstances, the responsible person in respect of those services as of 31 December 2013. Thus the installation cost for new connections are outside scope.

[248] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 65.

[249] JEN, *Appendix A - JAM Response to AMI Draft Determination*, August 2011, pp. 39–41.

circuit. A contactor (also referred to as a time switch) allows a circuit to be switched on and off at set times.[250]

Two-element meters with a single contactor are commonly installed working in conjunction with electric hot water systems or electric slab heating units, particularly in areas where customers don't have access to reticulated gas.

In the case of electric hot water systems, customers may receive a discounted tariff for their hot water unit's electricity consumption in return for allowing their distributor to 'control' when the hot water unit reheats. The distributor will usually assign the hot water reheating to an off-peak time (for example, 11pm to 7am), which can avoid or defer the need for network augmentation. This benefits both customers and distributors as the high cost of network augmentation will be avoided or deferred.

Two-element meters are not included in the AMI minimum functionality specifications. The Order states that services beyond those in the specifications[251] are outside scope.[252] However, the AMI framework and approach paper provides that the AER can approve expenditure related to AMI activities in excess of the minimum specifications if a DNSP is able to demonstrate that the AMI activity will result in net benefits to customers and market participants.[253] [254]

AER approval of two-element meters for the 2009–11 budget period

The AER understands that the policy intent of the Victorian Government was for single-element meters with a contactor to work in conjunction with time-of-use (ToU) tariffs.[255]

At the time of the AER's decision for the 2009–11 budget period, the DNSPs were unable to reassign customers onto ToU tariffs as AMI communications were not yet functional.[256] This meant that customers needed to remain on their existing tariff structures. This was not a problem for single-element customers as they could remain on their existing tariff with an AMI single-element meter.

However, in order for two-element customers to remain on their existing tariff, they would require an AMI two-element meter to be installed. As two-element meters are outside the scope of the Order, two-element customers would not be able to remain on their existing tariff.

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250 PricewaterhouseCoopers Australia, *Assessment of the justifiable need for investment in two-element meters*, May 2011, p. 7.

251 The specifications of 1 January 2009.

252 The Order, schedule 2.2(iii), 2.7(iii), 2.11(iii).

253 AER, *Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009-11: CitiPower Pty Ltd, Jemena Electricity Networks (Vic) Ltd, Powercor Australia Pty Ltd, SP AusNet, UED*, January 2009, p. 29

254 The framework and approach paper states that the 'distributors will need to provide a separate cost/benefit analysis quantifying benefits to the distributor, retailers and end customers, and demonstrating why regulated tariffs should provide the revenue required.'

255 ToU tariffs allow distributors to offer different electricity tariffs depending on the time of day a customer consumes electricity. For example, a day may be divided up to allow for 'peak', 'shoulder', and 'off peak' tariffs. Generally peak consumption will be charged at a higher tariff than off peak consumption as an incentive to reduce peak demand.

256 AER, *Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications*, July 2009, p. 25.

If a two-element customer was transferred to an AMI single-element meter, they would likely face a price shock. This is because their off-peak consumption would no longer be charged at an off-peak rate, and would instead incur the higher electricity tariff that would usually apply to their other electricity usage.

CitiPower, JEN, and UE were able to postpone the meter replacements for its two-element meter customers until AMI communications were functional and ToU tariffs were available.[257] This was possible because their customer base has a relatively small number of two-element meter customers. Therefore, CitiPower, JEN, and UE did not propose to install two-element meters during the 2009–11 budget period.

Powercor and SP AusNet, on the other hand, have a relatively large number of two-element meter customers. As a result, these DNSPs were unable to postpone the meter replacements for their two-element meter customers without seriously impacting on their ability to meet the mandated roll-out schedule provided in schedule 1 of the Order. Therefore, Powercor and SP AusNet proposed to install two-element meters during the 2009–11 budget period.[258]

Powercor and SP AusNet argued that a net benefit would arise from the installation of two-element meters for a number of reasons, such as the avoidance of customer price shocks, and the delay of network augmentation.[259]

The AER approved Powercor's and SP AusNet's proposal to install two-element meters during the 2009–11 budget period. The AER considered that the installation of two-element meters would result in a net-benefit and should be approved.

However, the AER anticipated that two-element meters were unlikely to be required for the 2012–15 budget period as AMI communications would be functional and ToU tariffs would be available.[260] Accordingly, the AER noted that it would reconsider the issue for the 2012–15 budget period.[261]

Draft Determination

SP AusNet, UE, and CitiPower and Powercor proposed to install two-element meters during the 2012–15 budget period.[262]

The AER considered that activities relating to two-element meters are outside scope. Further, where a DNSP had submitted a cost benefit analysis, the AER considered that the DNSPs' arguments in support of two-element meters, were based on the assumption that the ToU moratorium would continue beyond 31 December 2011.

The AER noted at the time that it understood the ToU moratorium is due to expire on 31 December 2011, meaning the DNSPs will be required to mandatorily reassign their customers onto ToU tariffs. Therefore, customers will not remain on their existing tariff structure regardless of whether two-element or single-element meters are

257 Ibid.
258 Ibid.
259 Ibid.
260 Ibid., p. 25.
261 Ibid., p. 44.
262 SP AusNet and United Energy Distribution also proposed to install two-element meters during the 2012–15 budget period.

installed. As the moratorium was to expire, the AER concluded that no net benefit would arise.

As a result, the AER did not approve SP AusNet's, UE's, CitiPower's and Powercor's proposed expenditure relating to two-element meters as part of its Draft Determination.

Submissions from distribution businesses on two-element meters

SP AusNet, UE, and CitiPower and Powercor maintained their proposals to install two-element meters. SP AusNet provided a cost-benefit analysis prepared by Price Waterhouse Coopers (PwC) in support of its proposal. CitiPower and Powercor provided a letter from PwC updating its cost-benefit analysis that was provided to the AER as part of CitiPower's and Powercor's Submitted Budgets.

The PwC reports outline that the installation of two-element meters will result in benefits in excess of the incremental cost of a two-element meter relative to a single-element meter.

UE submits:

> UE notes that the CROIC provides strict clauses to complete the roll-out within certain timeframes. UE is at a stage of the roll-out where in order to meet the mandated timeframes of the CROIC it must install two-element meters. It is for this reason that UE argues that two-element meters are within scope of the CROIC.
>
> This situation has come about due to the moratorium of time of use tariffs. Although the AER's draft decision claims that the moratorium ends at the end of this calendar year, there has been no indication that the moratorium will end. UE is mindful that if the moratorium ends there will be significant stakeholder engagement required in order to implement a time of use tariffs. UE has not included this amount in its original proposal nor this amended budget. In the event that the AER determines that two element meters are out of scope, UE requires an additional $1m for additional stakeholder management. This is explained in further detail below.[263]

In summary, SP AusNet, UE, and CitiPower and Powercor each maintain that significant benefits will arise from the installation of two-element meters with a contactor for existing customers with controlled loads.

Submissions from stakeholders - the Victorian Minister for Energy and Resources

The Honourable Michael O'Brien MP, the Victorian Minister for Energy and Resources (the Minister), raised the issue of two-element meters in his submission in response to the AER's Draft Determination. The Minister's submission states:

> I note that the Draft Determination establishes that the installation of two element meters by Powercor, CitiPower, SP AusNet and United Energy is out of scope as the moratorium on time-of-use tariffs is due to end after 31 December 2011.
>
> However I am advised that, should the moratorium continue in some form, it should be possible to provide a specialised two-part tariff for a customer with a controlled hot water or space heating service, with only a single

[263] UE, *Amended AMI Budget Application 2012–2015*, 26 August 2011, p. 23.

> element smart meter that avoids or minimises price changes for the customer. In this circumstance two element meters would not be required to be rolled out.[264]

However, on 31 October 2011, the Minister for Energy and Resources Victoria informed the AER that the ToU moratorium will be extended beyond 31 December 2011. The Minister states:

> The Draft Determination established that the installation of two element meters by Powercor, CitiPower, SP AusNet, and United Energy is out of scope as the moratorium on time-of-use tariffs is due to end after 31 December 2011.
>
> Following consultation with stakeholders as part of the ongoing review of the Advanced Metering Infrastructure (AMI) program, and further to my original submission, I advise that I intend to, subject to final Government approval, extend the current moratorium for a further twelve months. I understand that this advice is important for the AER in making its Final Determination on the budgets and charges applications.
>
> This action will be taken to ensure that there are no undue impacts on customers who may be affected by a change of network tariff following the installation of a single element smart meter in place of a two-element meter (or two separate meters). The extension will be implemented in consultation with industry.
>
> This decision should not be interpreted as pre-empting any decision by the Government as to the future of the AMI Program, consequent to the current ongoing review.
>
> This decision is intended to protect consumers from unanticipated changes to their tariffs.[265]

Final Determination

The AER has considered the benefits arising from the installation of two-element meters rather than single-element meters for customers who currently have a non-AMI two-element meter. These arguments include that the installation of two-element meters will result in a range of benefits to customers and market participants—based on the assumption that the ToU moratorium would extend beyond 31 December 2011. The benefits include the avoidance of customer price shock, lower costs resulting from customer complaints and tariff reassignments, and less network augmentation.

The AER notes that the cost of a two-element meter is around $20 to $30 more than a single-element meter based on information provided by the DNSPs in their amended budget applications.

Despite the additional cost of two-element meters, the AER considers that the benefits of two-element meters submitted by the DNSPs can be realised because the ToU moratorium is likely to be extended. On this basis, the AER accepts the DNSPs' claims that the benefits of two-element meters will be greater than the additional costs.

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[264] The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011, p. 5.

[265] The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination – supplementary submission*, 28 October 2011, p.1.

Therefore, while the AER considers that activities related to two-element meters are outside scope, it approves the expenditure relating to two-element meters for the 2012–15 budget period for SP AusNet, UE, and CitiPower and Powercor on a cost-benefit basis.

3.3 Application of the competitive tender test

AER Final Determination

The AER considers that [C-I-C] million of JEN's amended Submitted Budget was competitively tendered.

The AER considers that [C-I-C] million of UE's amended Submitted Budget was competitively tendered.

The Order requires the AER to approve expenditure arising out of contracts unless it can establish that the contract was not let in accordance with a competitive tender process.

3.3.1 AER Draft Determination

In the AER's Draft Determination, it did not establish any issues with JEN's or UE's competitively tendered contracts. The AER, following the Draft Determination, requested the DNSPs provide a reconciliation of those contracts the AER considers have been competitively tendered to the expenditure reported in the Budget and Charges Template. This reconciliation has been summarised in table 2.9 and Table 3.8.

3.3.2 Submissions from stakeholders

No submissions were received from stakeholders on this issue.

3.3.3 AER's view

The AER considers that JEN's competitively tendered contracts total [C-I-C] million as outlined in table 2.9.

The AER considers that UE's competitively tendered contracts total [C-I-C] million as outlined in table 3.8.

Table 3.7 Competitively tendered contract cost allocation for JEN ($000, Real $2011)

	2012	2013	2014	2015
Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Opex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source: AER analysis

Table 3.8 Competitively tendered contract cost allocation for UE ($000, Real $ 2011)

	2012	2013	2014	2015
Capex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Opex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source: AER analysis

3.4 Application of the expenditure incurred test

The effect of clause 5C.3(b)(iii) of the Order is that in scope expenditure classed as a contract cost that was not competitively tendered, or in scope expenditure not classed as a contract cost, must be assessed by the AER against the expenditure incurred test.

If the AER establishes that it is more likely than not the expenditure proposed by a DNSP will not be incurred, the AER can reject the expenditure. If the AER cannot establish the expenditure is more likely than not to not be incurred, the AER must assess the expenditure under the commercial standard test (section 2.5).

3.4.1 Network augmentation

AER Final Determination

The AER has not established that it is more likely than not that JEN's and UE's forecast expenditure for network augmentation of [C-I-C] and [C-I-C] respectively will not be incurred.

3.4.1.1 AER Draft Determination

In the Draft Determination, the AER considered that network augmentation expenditure will be recovered under JEN's and UE's IT forecast expenditure. Consequently the AER's Draft Determination amended JEN's budget to remove this proposed expenditure.[266]

3.4.1.2 Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM stated that the AER's Draft Determination incorrectly assumed that it had duplicated entries for network augmentation in opex and IT.[267]
- JAM also sought advice from KEMA on whether the network augmentation was recovered under IT opex. In its report KEMA stated that the AER had incorrectly assumed that the reasons for these activities in both IT opex and capex were similar. KEMA noted that "capex cost" was to maintain operations for the existing AMI network at the required service level. In contrast the "opex cost" was to address the need to complete the build out of the initial AMI communications

[266] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp. 53–54.

[267] JEN, *Appendix A - JAM Response to AMI Draft Determination*, August 2011, pp. 39–41.

infrastructure. As such KEMA concluded that incurring the expenditure would not involve a substantial departure from a commercial standard.[268]

3.4.1.3 AER's view

The AER has assessed the information provided by JAM and agree that this expenditure will not be incurred twice.

In reaching this conclusion the AER considered Energeia's recommendation to accept JEN's and UEs' expenditure as it will be incurred to address the expected 1 per cent gap in their networks.[269]

As a result, the AER has reviewed this expenditure under the commercial standard test under section 3.5.3.3.

3.4.2 Management of major AMI technology releases, validation of releases and vendor management

AER Final Determination

The AER has not established that it is more likely than not that JEN's and UE's forecast expenditure for the management of major AMI releases, validation of releases, and vendor management will not be incurred.

3.4.2.1 AER Draft Determination

In the Draft Determination, the AER considered that the management of major AMI technology releases, validation of releases and vendor management expenditure will be recovered under JEN's and UE's IT forecast expenditure. Consequently the AER's Draft Determination amended JEN's and UE's budgets to remove this proposed expenditure.[270]

3.4.2.2 Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM stated that the budget allocation for management of vendor releases in AMI technology capex is different to IT capex as the activities undertaken in each category are not the same. As such, the AER Draft Determination was in error in removing this cost from JEN's and UE's forecasts.[271]

3.4.2.3 AER's view

The AER has reviewed the JAM model and JAM document and considers that management of major AMI technology releases, validation of releases and vendor

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[268] KEMA, *The SmartNet Program – Advanced Meter Infrastructure Rollout for United Energy Distribution and Jemena Electricity Networks Review of AER Draft Determination 2012–15 Budget and Charges Applications*, August 2011, p. 19.

[269] Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, pp. 14–15.

[270] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 79.

[271] JEN, *Appendix A - JAM Response to AMI Draft Determination*, August 2011, pp. 44–45.

management will be incurred by JEN and UE. As a result this category will now be assessed under the commercial standard test in section 3.5.3.3.

3.4.3 Stakeholder relations

AER Final Determination

The AER has not established that it is more likely than not that JEN's and UE's forecast expenditure of [C-I-C] and [C-I-C] respectively for stakeholder relations will not be incurred.

3.4.3.1 AER Draft Determination

In the Draft Determination, the AER considered that stakeholder relations will be recovered under JEN's and UE's asset operations and management forecast expenditure. Consequently the AER's Draft Determination amended JEN's and UE's budgets to remove this proposed expenditure.[272]

3.4.3.2 Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM stated that the positions for stakeholder relations are separate to the "asset operations" activities. JEN's amended Submitted Budget provided further details on roles and the function to be performed under this activity. Broadly, the role of stakeholder relations is to represent and/or assist UE and JEN in communicating their respective positions at industry working groups, committees and to decision-making bodies.[273]

3.4.3.3 AER's view

The AER has reviewed the position descriptions provided by JAM and AER considers that stakeholder relations will be incurred by JEN and UE. As a result this category will now be assessed under the commercial standard test in 3.5.4.10.

3.5 Commercial standard test

For forecast expenditure that the AER has established was not let in accordance with the competitive tender test and which has met the expenditure incurred test, the Order requires the AER to make an assessment under the commercial standard test. The commercial standard test requires the AER to approve such expenditure unless it establishes that incurring it would involve a substantial departure from the commercial standard a reasonable business would exercise in the circumstances.

Application of the commercial standard test

UE in its amended Submitted Budget questioned the AER's application of the commercial standard test and claimed that the AER quantified the commercial

[272] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012¬15 budget and charges applications*, July 2011, p. 79.
[273] JEN, *Appendix A - JAM Response to AMI Draft Determination*, August 2011, pp. 47–49.

standard test by testing for expenditure to be incurred – whereas the commercial standard test is a test of conduct.[274]

The AER has responded to this submission in section 1.2.3.4. The AER agrees the commercial standard test may encompass a wide range of factors but the quantum will be a relevant factor and possibly a critical factor. It may depend upon the circumstances. For example, equally relevant may be failure to consider the lack of more cost-effective alternatives before the quantum of expenditure was incurred.

3.5.1 Related party margins

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for related party margin transactions involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

JEN and UE submit that related party transactions should include a margin for services provided. Both DNSPs engage in outsourcing to contractors that are related to the DNSPs through common ownership. As a result, some of the operating and capital expenditure forecasts are based on the charges they expect to pay to these related party contractors.

The AER considers related party margins are within scope. However, JEN and UE did not conduct a competitive tender process prior to the establishment of the related party contracts. The AER must therefore assess whether the related contractors' underlying costs and the margins in the contracts do not reflect prudent costs under the commercial standard test.

3.5.1.1 Draft Determination

In the Draft Determination, the AER considered that the applicable commercial standard for all DNSPs generally would not provide for double counting of costs and would have factored in the historical efficiency of the contractor as well as the corporate and indirect costs of the contractor.

Further, the AER sought to establish the commercial standard for each DNSP by conducting a bottom-up assessment of what it considered to be prudent expenditure based on the above factors. After assessing JEN and UE's contracts which included related party margins, the AER allowed for an efficiency margin to reward the businesses for productivity gains achieved in the 2009–11 budget period, as well as corporate overhead costs that were not included in the DNSPs' regulatory asset base. The AER allowed efficiency margin was based on historical multi-factor productivity estimates.

Based on this assessment, in the Draft Determination the AER rejected JEN and UE's proposed related party margins as incurring the expenditure involves a substantial

[274] UE, *Amended AMI Budget and Charges Application 2012–2015*, 26 August 2011, p. 5.

departure from the commercial standard that a reasonable business would exercise in the circumstances.[275]

3.5.1.2 JEN and UE response

UE submitted that the AER has erred in its application of the commercial standard by deconstructing JAM's related party margin into several components rather than assessing whether its conduct was prudent.[276]

JEN stated that its related margin was reasonable under the circumstances given the information available from the Ferrier Hodsgon report and NERA. Furthermore, by ignoring these two reports the AER has ignored JEN's circumstances.[277]

3.5.1.3 Submissions from stakeholders

The Minister for Energy and Resources (Vic) suggests the AER should not apply an efficiency sharing mechanism for determining the margin on related party contracts. The Minister notes the Order is based on a cost pass-through mechanism. Therefore, the Minister considers customers should receive the benefits associated with any historical efficiencies.[278]

3.5.1.4 Final Determination

In response to JEN and UE's concerns regarding the AER's application of the commercial standard, and with reference to the Minister's submission, the AER has set out its application of the test in section 1.2.3.4 of the Introduction. The AER recognises that the commercial standard may require consideration of the principles and process applied by a DNSP in its decision-making process. The commercial standard test may encompass a wide range of factors with the quantum of expenditure likely to be a relevant factor and possibly a critical factor. With regard to the Minister's and JEN and UE's comments on the relevance of efficiency, the AER has also addressed this at 1.3.6 of the Introduction.

Taking into account information provided in JEN and UE's amended Submitted Budgets and the related party contracts, the AER has further considered the factors it is to take account of and given fundamental weight to under clause 5C.4.

JEN and UE's circumstances prior to the AMI rollout included that they had an existing contract with JAM for corporate services. Following the Victorian Government's announcement of the AMI rollout in 2006, both entered into a contract with JAM for Field and Metering Services in November 2008.

In addition the AER notes that all DNSPs as a result of the Victorian Government's decision to proceed with the roll-out became subject to a new regulatory regime that was specific to the AMI roll-out. Further, the roll-out required each DNSP to apply

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275 AER, *AMI Draft Determination 2012–15Budget and Charges Application*, July 2011, p. 83: As noted in the Draft Determination, the AER's determination in this regard is made under the AMI Cost Recovery Order in Council, and does not involve the application of any of the expenditure provisions under chapter 6 or 6A of the NER.

276 UE, *Amended AMI Budget Application 2012–2015*, 26 August 2011, pp. 22–23.

277 JEN, *Amended JEN Budget Application for 2012 to 15 - 26 Aug 11,* 26 August 2011, pp. 11–18.

278 The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, 9 September 2011, pp. 4–5.

new technology. The technology was to be rolled out to all customers. The scale of the roll-out was therefore significant but risks and implications of the roll-out may not have been apparent at that stage.

The AER maintains that the principles it applied to determining the commercial standard in the Draft Determination remain relevant. However, on further considering JEN and UE's specific circumstances, and with particular reference to the above factors that would have impacted upon any decision making process to incur expenditure for related party margins, the AER is unable to establish that the commercial standard applicable to each business would not have included a margin as was proposed by JEN and UE.

In incurring the related party margins, JEN and UE submit that they relied on empirical evidence provided by their expert consultants, which reflected actual commercial practice at the time. The AER places no particular weight on these benchmarked margins other than for this purpose of assessing that they are comparable with margins as included in the contracts with related party contractors.

While there is some evidence to the contrary in that not all DNSPs applied a related party margin, the DNSPs' decision to commit to the related party margins was a commercial option that may have reflected the commercial standard that a reasonable business would have exercised in the particular circumstances of this case. As a result, the AER is unable to establish the related party margins represent a substantial departure from the commercial standard.

The AER has reached this conclusion by applying the commercial standard test under the Order which is specific to the AMI regime and which differs to the analysis that is applied to expenditure under the NER.

3.5.2 Foreign exchange

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for foreign exchange involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

JEN and UE purchase their meters from the United States and require an allowance to take into account any foreign exchange exposure as part of this process.

3.5.2.1 AER Draft Determination

In the Draft Determination, the AER rejected JEN's and UE's foreign exchange forecast as it considered that the rates used by the businesses did not reflect the commercial standard, specifically:

- the current AUD to USD exchange rate or
- the foreign exchange rate currently available in the money market.

Consequently, the AER's Draft Determination made an adjustment to JEN's and UE's proposed exchange rate forecasts. The Draft Determination considered that using a 1 month historical swap rate from Bloomberg of 1.04 AUD to USD exchange rate would represent the commercial standard. The AER stated that it would update this forecast for final decision using market rates available at that time.[279]

3.5.2.2 Submissions from stakeholders

JEN and UE raised the following issues:

- JEN and UE agreed that their exchange rate assumption needs to reflect up to date information.
- JEN and UE did not agree that the same foreign exchange rate should be applied for a four year period.[280] [281]

3.5.2.3 AER's view

The AER has reviewed JEN's and UE's updated foreign exchange forecasts and considers them to be consistent with the commercial standard. In particular, the AER notes that JEN's and UE's hedging arrangement is in accordance with good industry practice.[282] Further, JEN's and UE's revised forecasts are in-line with the Bloomberg forward exchange rate. The AER notes that the Bloomberg data is based on market rates available in the foreign exchange market and as such is the best estimates of a commercial standard. Indeed, the Bloomberg forward exchange rate reflects the current market rate available to the DNSPs.

The AER therefore has not established that JEN and UE incurring the expenditure for foreign exchange involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstance. The AER has approved JEN's and UE's foreign exchange rate forecast expenditure.

3.5.2.4 The effect of the exchange rate on JEN and UE's budgets

JEN's and UE's amended Submitted Budgets were prepared using several foreign exchange rate assumptions over the 2012–15 period.

In recognising the exchange fluctuations that were occurring in the financial market and at the request of the DNSPs, the AER allowed both JEN and UE to update their foreign exchange rate assumptions, which were provided to the AER on 5 October 2011.

Both JEN and UE provided updated foreign exchange assumptions for 2012. These exchange rate adjustments have resulted in an increase to JEN's and UE's budgets of $2.2 million and $6.5 million respectively.

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279 AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, p. 103.

280 JEN, *Advanced Metering Infrastructure Roll-out Amended Subsequent Budget Application from Jemena Electricity Networks (Vic) Limited*, 26 August 2011, pp. 9–12.

281 UE, *Amended AMI Budget and Charges Application 2012–2015*, 26 August 2011, pp. 22–23.

282 JEN's meeting with AER staff on 21 September 2011.

3.5.3 Capital expenditure analysis

Capital expenditure represents the purchase of physical assets installed into the distribution network as part of the AMI roll-out, including meters, communications infrastructure and computer systems.

In its Draft Determination, the AER assessed that meter installation, new connections adds and alts and AMI technology communication were a substantial departure from a commercial standard due to the following reasons:

- JEN's and UE's forecasts were contrary to their other forecasts for other similar services
- JEN's and UE's forecasts appears excessive relative to the tasks to be undertaken
- the assumptions used in JEN's and UE's forecasts were in excess of known statistics.

As a result, the AER determined that incurring the expenditure in these categories involved a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

3.5.3.1 MRO Installation capex (mass roll out and truck support)

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for MRO installation capex of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The installation capex category refers to activities related to the installation of AMI meters. The drivers for this category include but are not limited to standard installation, panel rewiring, asbestos removal, neutral screen testing appointments and revisits expenditure.

AER Draft Determination

In the Draft Determination the AER established that JEN's and UE's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.3.[283]

Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- For truck support cost, JAM stated that it was not appropriate for the AER to apply the commercial standard test to a single item in a total bundled tender

[283] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp. 121–124 and 143–145.

pricing structure. That is the truck support cost was competitively tendered and should not be assessed under the commercial standard test.[284]

- JAM has adjusted its panel replacements rates to [C-I-C] per cent. JAM further stated that skipping panel replacement does not impact on overall programs costs as no revisiting fee is charged.[285]

- JAM maintains that its forecast of [C-I-C] per cent for No Access is correct. It states that its model assumes that completing the last of the meter exchanges in 2013 will encounter this rate as all prior No Access customers will remain and maintain the same position for a subsequent or final installation attempt.[286]

JEN and UE also sought advice from KEMA about whether JEN's and UE's installation capex was a substantial departure from the commercial standard. On panel replacement rates, KEMA noted that the deferral of complex sites does not attract additional costs. On no letter access KEMA stated that JEN's forecast rate is lower than the AER's determination. As such, KEMA did not consider JEN's forecast for installation capex to be a substantial departure from the commercial standard.[287]

AER's view

The AER considered the following issues raised by Impaq and Energeia:

- No access rates: Impaq considered that the rate of no access should decrease from 2012 due to certain government announcements regarding a government review of the AMI program. The AER has considered this proposition but cannot pre-empt the Victorian Government's response on this policy issue. The AER considers JAM's forecast to be reasonable.[288]

- Energeia assessed JEN and UE's in-scope installation capex costs as meeting the Commercial Standard or Competitively Tendered tests.[289]

Taking into account the above information, the AER has not established that JEN's and UE's incurring of expenditure for installation involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. In particular in reviewing the information provided by JAM, the AER agrees that:

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284 JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, p. 52.

285 Ibid., p. 56.

286 Ibid., p. 58.

287 KEMA, *The SmartNet Program – Advanced Meter Infrastructure Rollout for United Energy Distribution and Jemena Electricity Networks Review of AER Draft Determination 2012–15Budget and Charges Applications*, August 2011, pp. 20–23.

288 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, pp 59–62 and 175–179.

289 Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, 27–28.

- The panel replacement rate used by JEN and UE is consistent with good industry practice. Further the AER has verified with JEN and UE that no additional cost will be added for revisits.

- Neutral services testing are necessary under the Victorian Electrical Supply Industry - Connection procedure.

- The rate for No Access is consistent with JAM's data and its forecast is therefore reasonable in the circumstances.

- JEN's and UE's truck support cost has been competitively tendered.

Consequently, the AER has approved JEN's and UE's MRO installation capex forecast expenditure.

3.5.3.2 New connections adds and alts capex (Business as Usual)

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for new connections adds and alts of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The new connections adds and alts or business as usual metering capex category refers to purchasing costs of the meters for new connections customers.

AER Draft Determination

In the Draft Determination the AER established that JEN's and UE's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.3.[290]

Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM stated that while it agrees that meters can be reused it stated that the AER has overlooked the key principles in this process.

    - Firstly the volume of meters required for New Connections, Adds, Alts and Faults will be higher than the net customer growth estimate. Meter use will always be higher than net customer growth as not all events are covered by warranty including failure due to lightning, high voltage injection and accidental damage.

    - Secondly, 'adds and alts' are at and continue to be at elevated levels due to the high number of meter exchanges for solar PV customers. This requirement alone exceeds the net customer growth requirement for meters.

[290] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 124–125 and 145–146.

- Thirdly, the roll-out will not be complete until 2013. After that time the vast majority of removed AMI meters will be able to be reused. This will require those removed meters to be Verified (retested by a National Measurement Institute (NMI) authorised Verification test house) before they can be returned to service.

- For Antennae costs JAM stated that the requirement to install external antennas on electricity meters is driven by the fact that metal meter boxes impede the transmitted and received radio signal. The AMI service levels require a percentage of all AMI meters to be installed in metal meter boxes.[291]

JEN and UE also sought advice from KEMA about whether its installation of antennas for new connection adds and alts was a substantial departure from a commercial standard. In its report, KEMA stated that the Mesh radio solution requires antennas to be installed on all meters. Further, antennas are required as the metal casing used to encase the meter is interfering with the radio signal from the meters. Consequently, KEMA concluded that JEN's and UE's forecasts for antenna costs does not involve as substantial departure from a commercial standard.[292]

AER's view

The AER also considered the following issues raised by Energeia and Impaq:

- Energeia: Energeia's view is that the assumption for antennas for new connections post rollout in 2014 and 2015 should be no higher than the average experienced to date, which is around [C-I-C]. Energeia believed this to represent a conservative assumption given the expected preponderance of knock-down rebuilds and medium to high density developments in the JEN and UED network areas.

- Impaq: Impaq's view is that the assumption for antennas for new connections post rollout in 2014 and 2015 should be no higher than the average experienced to date, which is around [C-I-C]. Furthermore, Impaq stated that the cost for installing a replacement set of CT's in UE's forecast is too high.

The AER accepts that the applicable commercial standard would be based on the average to date in line with the approach adopted by both Impaq and Energeia.

The AER notes Energeia's advice that it considers an assumption of 10 per cent of meters post rollout in 2014–15 to be a more reasonable forecast. The AER has considered this proposition but considers this does not necessarily mean that JEN's and UE's forecasts for antennas are a substantial departure from the commercial standard. The AER has also modelled Energeia's assumption against that of JEN's and UE's and the results showed a difference of around 2.2 per cent for the 2 years for this category. The AER considers that this does not involve a substantial departure from

[291] JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 61–65.

[292] KEMA, *The SmartNet Program – Advanced Meter Infrastructure Rollout for United Energy Distribution and Jemena Electricity Networks Review of AER Draft Determination 2012–15 Budget and Charges Applications*, August 2011, p. 24.

the commercial standard that a reasonable business would exercise in the circumstances.[293]

The AER notes Impaq's advice on antenna costs and the unit cost for installing a replacement set of CTs. The AER has considered this proposition but does not consider this necessarily means that JEN's and UE's forecast expenditure for antennas is a substantial departure from the commercial standard. The AER has also modelled Impaq's assumptions against that of JEN's and UE's and the results showed a 0.004 per cent difference for this category. The AER does not consider this to be a substantial departure from the commercial standard.[294]

In conclusion, the AER has not established that JEN's and UE's incurring of expenditure for new connections adds and alts involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. The AER notes that both JEN and UE have accepted the AER meter volumes and have revised their forecasts accordingly.

3.5.3.3 AMI technology and communications

AER Final Determination

The AER has not established that JEN incurring the expenditure for AMI technology and communications of [C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AMI technology and communications category refers to activities such as the purchase of access points and relays, the management of AMI technology test labs, software and firm ware upgrades and batteries replacements.

AER Draft Determination

In the Draft Determination the AER established that JEN's forecast expenditure for this category was a substantial departure from the commercial standard for the reasons outlined in section 3.5.3.[295]

Submissions from stakeholders

JEN raised the following issues via the JAM document:

- JAM stated that the AER's conclusion about the AMI technology test lab being over staffed was incorrect. JAM stated that the AMI technology test lab will be staffed with a skeleton crew of only three core FTEs to maintain the quality

[293] Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, p. 28.

[294] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, pp. 62–65 and 179–181.

[295] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 147–148.

assurance environments, test equipment, test systems, quality systems as well as supporting issues developing from operations and pre-production in 2012-15.[296]

JEN also sought advice from KEMA asking whether their AMI test lab forecast was consistent with the commercial standard. Based on its review, KEMA concluded that it would be reasonable to expect testing expenditure to be maintained given the large AMI systems. As such, it did not consider JEN's forecasts for AMI technology and communications to be a substantial departure from the commercial standard.[297]

AER's view

The AER also considered the revised recommendation by Impaq and Energeia to accept JEN's forecast for this category.[298] [299]

In reviewing the information provided by JAM, the AER agrees that the quality assurance environment will need to mirror the entire AMI technology production environment. As such it would be expected that these costs would likely be of the order proposed by JAM.[300]As such, the AER has not established that JEN's incurring of expenditure for AMI technology and communications installation involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Consequently, the AER has approved JEN's AMI technology and communication capex forecast expenditure.

3.5.3.4 IT infrastructure and systems capex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for IT infrastructure and systems (excluding UE's second meter supplier forecast) of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER has established that UE's incurring of expenditure for IT infrastructure and system for the second meter supplier of [C-I-C][301] million involves a substantial from the commercial standard that a reasonable business would exercise in the circumstances.

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296 JEN, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 69–73.

297 KEMA, *The SmartNet Program – Advanced Meter Infrastructure Rollout for United Energy Distribution and Jemena Electricity Networks Review of AER Draft Determination 2012–15 Budget and Charges Applications*, August 2011, p. 17.

298 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp. 64 and 181–182.

299 Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, pp. 28–30.

300 KEMA, *The SmartNet Program – Advanced Meter Infrastructure Rollout for United Energy Distribution and Jemena Electricity Networks Review of AER Draft Determination 2012–15 Budget and Charges Applications*, August 2011, p. 16.

301 Include an adjustment of 1 FTE in the service delivery and contract management category to manage the second meter supplier.

The IT infrastructure and systems capex category refers to activities related to the purchase and replacement of software and hardware.

AER Draft Determination

In the Draft Determination the AER established that JEN's and UE's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.3.[302]

Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM rejected the AER's assertion that it can delay server replacements. JEN's submission included several studies that supported a need to replace servers that it considered to be of critical infrastructure.[303]

JEN's and UE's amended Submitted Budgets also included advice from KEMA as to whether its IT replacement cycle was consistent with the commercial standard. Based on its review, KEMA concluded that the servers replacements forecast by JEN does not involve a substantial departure from the commercial standard as it was in accordance with good industry standard.[304]

UE submitted that the AER has underestimated the complexity involved in introducing a second meter provider into the current systems and processes. UE's amended Budget Application further outlines these complexities.[305]

AER's view(excluding UE request for a second meter supplier)

The AER also considered the recommendation by Impaq to accept JEN's and UE's forecasts for server replacements. In coming to this view Impaq accepted the information from Oracle.

In particular, the AER notes the advice provided by KEMA on considerations about development and test time in determining when servers should be replaced. Furthermore, the AER also notes that JAM's server replacements life cycle is comparable to those quoted by Oracle on server life spans.[306] The AER accepts that these factors and Oracles views form part of the commercial standard.

In conclusion, the AER has not established that JEN's and UE's incurring of expenditure for a server replacement regime involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

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302 AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 125–126 and 148–149.

303 JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 75–79.

304 KEMA, *The SmartNet Program – Advanced Meter Infrastructure Rollout for United Energy Distribution and Jemena Electricity Networks Review of AER Draft Determination 2012–15 Budget and Charges Applications*, August 2011, pp. 14–15.

305 UE, *Amended AMI Budget and Charges Application*, 28 August 2011, pp. 28–30.

306 Ibid., p.15; Oracle, *Email: Lifespan and refresh cycles*, August 2011, p. 1.

AER's view on UE's request for a second meter supplier

UE's submitted budget included an amount for a second meter supplier. This would take effect in 2012. The AER's draft determination rejected this expenditure.[307]

The AER accepts there will be complexities in introducing a second meter supplier. The AER notes that it would be standard industry practice to have two meter suppliers at the beginning of a project. However, given the complexities and costs of introducing a second meter supplier at this stage of the process, the AER considers that a reasonable business in the circumstances would only do so after an analysis to justify the costs.

To determine whether incurring expenditure associated with a second meter supplier is a substantial departure from the commercial standard of a reasonable business in the circumstances, the AER sought advice from Energeia and Impaq. Energeia and Impaq raised the following issues:

- Based on analysis of the costs relative to the benefits Energeia assessed UE's second meter supplier capex as not meeting the commercial standard test. Energeia agrees with UE and KEMA that having multiple meter suppliers is standard industry practice and helps guard against price and supply risk. However, recouping the proposed [C-I-C] million expenditure would require UE to save over 50% of its annual [C-I-C] metering capex budget for over 20 years which is an unlikely outcome. Supplier performance risk is also an issue, but this can be mitigated at far lower cost through inventory management practices and the credible threat of replacement for non-performance.[308]

- Impaq stated that UE would not require a second meter supplier as it would not face:

    - price risk: Secure meters are contracted until 2015. After this period BAU meter volumes are minimal and as such do not justify the [C-I-C] million cost

    - supply risk: Secure have multiple factories and as such can produce meters in multiple locations. As such supply risks are mitigated.

    - market risk: DNSPs in Victoria and around the world are using Mesh radio meters. As such there would be sufficient competitive pressures within the market.

The AER also requested that UE provide it with a business case or other supporting information that would justify a need for a second meter supplier. UE responded as follows:

> At this stage UE does not have a business case for a second meter supplier. For the reasons provided in the submissions to date UE believe that it is prudent to mitigate against failure of a single meter supplier.

[307] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, p 126.

[308] Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, p. 31.

> UE does not agree with your view that it is more expensive to commit to a second supplier at this stage. There were very valid operational reasons to proceed with the single supplier – namely the delivery and operation of AI meters in accordance with the timelines in the CROIC. UE and Jen are the only businesses that have met the targets in the CROIC. The main cost relates to IT integration – presumably other businesses have already incurred this cost if they have two meter providers. Integrating at this stage would not cost any more now as it would have at the start of the project.[309]

The AER considers that the commercial standard that a reasonable business would exercise in the circumstances would be to develop a business case to justify the significant additional cost, normally based on factors such as:

- the potential for an alternative supplier to offer a better price in future tendering rounds
- the cost of introducing a second meter supplier versus the benefits
- the credible risks if no second supplier is found.

Such a business case would canvass the risks and other lower cost mitigation options.

UE's circumstances indicate that it is now able to manage pricing, market and supply risk with one supplier and no information has been provided to suggest that it would require a second supplier to further reduce those risks. Furthermore, KEMA did not justify why it considered UE's requirement for a second meter supplier to be of a commercial standard other than merely stating that it was in accordance with good industry practice.[310] The AER notes that at the start of a project this may be the case, but that it would not be industry practice at this stage of the process without the relevant assessment of cost versus benefits in the circumstances applicable to UE.

As no sound business case exists to support this expenditure, the AER has established that incurring expenditure of [C-I-C] million for a second meter supplier involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. Therefore, the AER does not approve expenditure for UE's second meter supplier.

3.5.3.5 MRO back office capex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for MRO back office of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

309 UE, *Email: AER information request 6 27 September 2011*, 29 September 2011, p. 1.

310 KEMA, *The SmartNet Program – Advanced Meter Infrastructure Rollout for United Energy Distribution and Jemena Electricity Networks Review of AER Draft Determination 2012–15 Budget and Charges Applications*, August 2011, pp. 25–26.

MRO back office capex relates to functions performed for AMI services and a range of other back office services including a customer contact services centre to deal with all customer questions in relation to the AMI rollout.

AER Draft Determination

In the Draft Determination the AER did not establish that JEN's and UE's forecasts for MRO back office were a substantial departure from the commercial standard. Consequently the Draft Determination approved JEN's and UE's forecast for this category.[311]

Submissions from stakeholders

The JEN and UE amended Submitted Budget application proposed an increase of [C-I-C] million and [C-I-C] million in the MRO back office capex category for a new regulatory obligation imposed on distributors by Energy Safe Victoria. JAM stated that in order to meet these new obligations it would require resourcing for additional installation services supervisors and field auditors.[312]

AER's view

In assessing this expenditure, the AER considered Impaq's recommendation that the expenditure for JEN's and UE's metering installation supervisors and auditors should be reduced.[313]

The AER does not agree with Impaq's recommendation to reduce the number of supervisors and auditors. The basis for this new regulatory obligation was due to an electrical shock which resulted in the death of a person because of an incorrectly installed meter. The AER considers electrical safety to be an important consideration. The benefits of electrical safety outweigh the costs and as such, the additional resourcing reflects the appropriate commercial standard in the circumstances.

Therefore, the AER has not established that JEN's and UE's incurring of MRO back office capital expenditure involves a substantial departure from the commercial standard test that a reasonable business would exercise in the circumstances.

3.5.4 Operating expenditure

In the AER's Draft Determination the AER rejected JEN's and UE's forecasts opex for asset strategy and planning, asset operations, customer contact and back office opex, AMI backhaul and communication, finance and HR, service delivery and contract management IT and metering IT expenditure for the following reasons:

- The expenditure profile proposed by JEN and UE were more consistent with a project start-up phase whereas the AMI roll-out was winding down.

311 AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp 141 and 164.

312 JEN, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 141 and 164.

313 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp. 65–66 and 184–185.

- JEN's and UE's resourcing requirements were excessive given the nature of the tasks.

- The assumptions used in JEN's and UE's forecasts are not in line with industry standards.

3.5.4.1 Asset strategy and planning opex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for asset strategy and planning of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Asset strategy and planning relates to expenditure for the strategic management of AMI technology and the management of assets registers as well as ensuring efficient operation of the AMI communications network.

AER Draft Determination

In the Draft Determination the AER established that JEN's and UE's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.4.[314]

Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM stated that the AER has misunderstood the function of the asset strategy and planning division and had not considered the information that it had provided in its initial Budget Application to substantiate a need for this expenditure. In addition, JAM questioned the robustness of Impaq's bottom up build for this cost and its recommendation to the AER.[315]

JEN's amended Submitted Budget also included advice from Deloitte regarding whether its resourcing requirements for asset strategy and planning was a substantial departure from a commercial standard. Based on its review, Deloitte considered that the FTE forecast by JEN does not involve a substantial departure from the commercial standard.[316]

AER's view

The AER also considered the following information provided by Energeia and Impaq:

[314] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 128–129 and 150–152.
[315] JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 87–93.
[316] Deloitte, *Jemena Asset Management, AMI Opex review - Final report*, 26 August 2011, p. 26.

- Energeia's review of the expenditure for additional metering, communications and security resources has found that these are generally supported by the material change in AMI's functional scope. In particular, AMI requires a step change in telecommunication and security functionality and risk that did not previously exist.[317] [318]

- Impaq's report considered that JEN's and UE's expenditure requires some but not all of the number of FTE's in asset strategy and planning as some of these roles should be obsolete after 2013. The AER has considered Impaq's advice but notes that, as set out in the Deloitte advice, JEN's and UE's circumstances are likely to require ongoing expenditure post-2013.[319]

Further, the AER has reviewed the position descriptions provided by JAM and the Deloitte modelling and research. Based on this, and the report from Energeia, the AER considers that the commercial standard would reflect the needs identified as necessary to a step change of this kind and that the circumstances of JEN and UE would therefore require.

In assessing whether JEN's and UE's forecast expenditure involves a substantial departure from that standard, the AER has reviewed the information provided by JAM, and agrees that:

- the roles outlined by JAM are comparable to those of overseas distributors. Furthermore, JAM's forecasts for communication and metering engineers are conservative compared to other Victorian distributors

- AMI security compliance would be required as the AMI rollout would lead to a step change in telecommunication and security functionality and risk. The AER notes JEN's and UE's response that ISO 27001 compliance was not required prior to the AMI roll-out.[320]

Consequently, the AER has not established that JEN's and UE's incurring of expenditure for asset strategy and planning involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances and has approved JEN's and UE's proposed forecast expenditure.

3.5.4.2 Asset operations opex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for asset operations of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

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317 Excludes field technicians as these FTEs were moved to AMI network operations.

318 Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, pp. 31–32.

319 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp. 67–72 and 186–191.

320 JEN and UE, *Email: JEN's and UE's response to AER information request*, 9 September 2011.

The asset operations category relates to expenditure for the testing of meters already installed.

AER Draft Determination

In the Draft Determination the AER established that JEN's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.4.[321]

Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JEN stated that the batching approach proposed by the AER as a means for cost savings cannot be considered practicable and is flawed as:
    - it does not account for the additional time on site to remove the meter required to be tested and the time to install a new meter asset. The time to carry out this meter exchange, including safety testing of the installation, approaches the time to actually carry out the test on site
    - it does not account for the cost of supplying a new meter and the market cost in updating JEN's asset registers, AEMO's market system and the retailers systems
    - it does not quote a competitively tendered price that a National Association of Testing Authorities laboratory would charge that would need to include freight, labour that would include direct plus overheads for management and test equipment
    - no asset life extension would be achieved for the removed meter as it was removed from service and not reinstated into the network in the same asset location
    - redeploying the tested meter would require the revalidation of the meter and not just an accuracy test.[322]
- JEN has however partially accepted the AER position on the number of meters to be tested. Further JEN has also included in its forecast a program to fully test LVCT's as per the AER draft determination.[323]

In his submission, the Hon. Michael O'Brien MP, Minister for energy and resources noted the lack of explanation behind the AER's Draft Determination on the variation on meter testing costs between UE and JEN.[324]

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321 AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 129–131 and 152–155.

322 JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 97–100.

323 Ibid.

AER's view

The AER also considered the following issues raised by Impaq:

- Impaq noted that JAM required CT meters to be tested prior to it being installed in 2012. Impaq also noted that JAM did not provide a justification for meter control. Consequently Impaq recommended adjustments to these categories.[325]

The AER also sought further information from JEN and UE. In response to the AER's request, JAM stated:

> It is important to recognise that, while AMI Current Transformer (CT) meters have not yet commenced installation, the existing CTs themselves are in service and periodic testing is required under clause S7.3.1 of National Electricity Rules. The clause requires the Responsible Person to periodically test metering equipment, including instrument transformers.[326]
>
> The first part is Meter Control. This is a current business-as-usual non-AMI cost that is equally applicable to AMI meters. The cost is to process meters once removed from service for reasons including abolishment, additions and alterations, and faults. Meter Control includes sorting and assessment of returned meters and updating IT systems to reflect the meter's current status. The results of Meter Control assessment include the decision to return the meter for warranty repair and re-verification test, or re-verification only or for scrapping or non warranty repair. This is a competitively tendered service.
>
> The second part of the cost is to carry out re-verification tests on the returned meters that are not scrapped or returned under warranty. It is expected that the vast majority of returned AMI meters will be suitable for re-use and a re-verification fee will apply. This service is carried out by our AMI meter supplier.[327]

In reviewing the information provided by JAM, the AER notes that both JEN and UE have accepted the AER's meter testing volumes.

The AER considers these processes to be business as usual practice that reflect the commercial standard that would be exercised by a reasonable business in the circumstances. As such, JEN's and UE's expenditure is consistent with that standard. Therefore, the AER has not established that the incurring the expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances and has approved JEN's and UE's assets operation expenditure.

Regarding the Minister's concerns on meter testing costs, the AER's Draft Determination applied the commercial standard test to UE's meter testing forecast by approving UE's alternative control meter testing cost rates. UE has however

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[324] The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011, pp. 3–4.

[325] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp. 73 and 192.

[326] JEN and UE, *Email: JEN's and UE's responses to AER information request 6*, 30 September 2011, p.1.

[327] Ibid.

competitively tendered these costs and these rates must be passed through as per clause 5C.3(a) of the Order. Consequently, this Final Determination has applied the competitively tendered rate. The variance between JEN's and UE's meter testing costs rates as such no longer exists as an issue to be considered under the Order.

3.5.4.3 Customer contact and back office opex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for customer contact and back office of [C-I-C] million and [C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The customer contact and back office expenditure forecast relates to the back office processes required to manage day-to-day delivery of meter data to market and the servicing of retailer requests and enquiries related to regulated services.

AER Draft Determination

In the Draft Determination the AER established that JEN's and UE's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.4.[328]

Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM stated that the AER Draft Determination had not taken into account the extensive work required to manage legacy systems by only considering a bottom-up build that focuses solely on AMI activities and ignores existing legacy metering activities. That is, JEN and UE operate AMI systems in parallel with their existing legacy systems and processes, to ensure a smooth transition between one system and another until the end of 2013 when the AMI mass rollout project is completed.[329]

JEN's and UE's amended Submitted Budget also included advice from Deloitte as to whether its customer contact and back office forecasts were a substantial departure from a commercial standard. Based on its review, Deloitte considered that the FTE forecast by JEN and UE does not involve a substantial departure from the commercial standard.[330]

AER's view

The AER also considered the following issues raised by Impaq:

[328] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 131–133 and 155–156.

[329] JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 103–105.

[330] Deloitte, *Jemena Asset Management, AMI Opex review - Final report*, 26 August 2011, pp. 39–55.

- Impaq considered that the resourcing requirements for new connections and the management of network faults and emergencies to be outside of scope. Impaq further advised that the number of meter data management SME and in scope exception data analysts required for 2014 and 2015 will be 2 for each of JEN and UE.

The AER considers that the applicable commercial standard would reflect the resourcing requirements identified and supported in the Deloitte report and the JAM document. Those circumstances require JEN and UE to manage both the legacy and AMI system at the same time. Consequently, the AER has not established that incurring the operational expenditure for asset strategy and planning involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. Therefore, the AER has approved JEN's and UE's asset strategy and planning opex forecast.

3.5.4.4 AMI network Operations

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for AMI network operations of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

This activity involves operating the 24/7 AMI communications network, including monitoring, identifying, correcting and reporting on AMI network operational and performance issues. Also, this service provides AMI network status and compliance reporting.

AER Draft Determination

In the Draft Determination the AER approved the forecast expenditure for this category.

Submissions from stakeholders

JEN's and UE's amended Submitted Budget, however, has re-allocated its field technician team from asset strategy and planning into this category.

AER's view

The AER's assessment for this Final Determination has not investigated the expenditure that was approved in the Draft Determination but has focussed on JEN's and UE's resourcing requirements for field technicians.

The AER considered the following issues raised by Energeia and Impaq:

- Energeia: Energeia assessed that UE's and JEN proposed expenditure for field technicians as meeting the commercial standard.[331]

- Impaq considered that by 2013 it would expect the network to be stable and as such it considers that the field technician team should be reduced by 2 FTEs.[332]

In assessing what is the commercial standard, the AER considers that typically, assets have a tendency to fail shortly after they are installed or at the end of their life. This is consistent with JAM's meter failure rates. As such it would be expected that there would be an ongoing requirement for field technicians in 2014-15. The AER has considered Impaq's advice but notes that the quantum of the cost forecast by JEN and UE would not qualify as being a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.[333] The AER concluded, as did Energeia, that JAM's failure rates are comparable to industry data and due to the uncertain nature of customer investigations, it is not certain that these levels of resourcing would not be required. Consequently the AER considers these resourcing requirements are consistent with the commercial standard.[334] [335]

The AER therefore has not established that JEN and UE incurring expenditure for network operations involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. The AER has approved JEN's and UE's network operations opex forecast.

3.5.4.5 Meter data collection

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for meter data collection of [C-I-C] and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Meter data collection relates to expenditure for the collection, processing and the maintenance of data for the market.

AER Draft Determination

In the Draft Determination the AER approved the forecast expenditure for this category.

[331] Energeia, *Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15: Prepared by Energeia for the Australian Energy Regulator*, October 2011, p. 32.

[332] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp. 75–77 and 194–196.

[333] JAM model.

[334] AER meeting with Energeia dated 4 October 2011.

[335] JEN and UE, *Email: JEN's and UE's response to AER information request*, 9 September 2011.

Submissions from stakeholders

JEN's and UE's amended submitted budgets revised their forecasts for this category as the initial savings it had forecast for meter routes has not eventuated.[336]

AER's view

The AER considered the advice by Impaq to accept JEN's and UE's forecast for this category.

Similar to the Draft Determination the AER considers this expenditure to be necessary for JEN's and UE's operations and as such, consistent with the commercial standard. The AER has reviewed the information provided by JEN and UE and agree that JAM's forecast rate for cost reduction in the Meter Data Collection is not being realised as meter reading routes are becoming less efficient due to a partial AMI rollout. [337]

Consequently, the AER has not established that JEN and UE incurring the expenditure for meter data collection involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. The AER has approved JEN's and UE's meter data collection forecast expenditure.

3.5.4.6 AMI transitional business activities

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for AMI transitional business activities of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

AMI transitional business activities relate to activities undertaken primarily to manage change between old business activities and new AMI activities.

AER Draft Determination

In the Draft Determination the AER approved the forecast expenditure for this category.

Submissions from stakeholders

JEN's and UE's amended submitted budget revised its forecasts for this category as part of its revised meter roll-out targets for 2011.[338]

AER's view

Impaq advised that expenditure for this category be accepted.[339]

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336 JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 34–35.
337 Ibid., p. 34.
338 Ibid., p. 34–35.
339 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011*, pp. 77 and 197.

Similar to the Draft Determination the AER considers this expenditure to be necessary for JEN's and UE's operations and as such, consistent with the commercial standard. The AER has reviewed the information provided by JAM and note that the increase is due to a revised roll-out target forecast.[340]

Consequently, the AER has not established that JEN and UE incurring the expenditure for AMI transitional business activities involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. The AER has approved JEN's and UE's AMI transitional business activities forecast.

3.5.4.7 AMI backhaul communication opex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for AMI backhaul communication of [C-I-C] and [C-I-C] respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

AMI backhaul communication relates to expenditure to get AMI data to JEN's and UE's networks.

AER Draft Determination

In the Draft Determination the AER established that JEN's and UE's incurring of expenditure for this category involved a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances for the reasons outlined above in section 3.5.4.[341]

Submissions from stakeholders

JEN and UE submitted the following via the JAM document:

- JAM stated that its forecast for telecommunications charges for the backhaul from the data concentrators has been competitively tendered and represents a competitive rate as at the time of the tendering process in 2008. However, JEN notes that these rates do not reflect current market rates and has adjusted it accordingly.[342]

AER's view

The AER considered Impaq's advice to accept JEN's and UE's forecast for this category.[343]

[340] JEN, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination,* August 2011, p. 34.

[341] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp 133 and.157.

[342] JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 111–112.

[343] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015*, version 1.2, 29 September 2011, pp. 77 and 197.

The AER accepts that JEN's and UE's forecast for telecommunication charges was competitively tendered. The AER accepts JEN's and UE's decision to decrease its forecast to be in line with the current market rates.

Consequently, the AER has approved JEN's and UE's AMI backhaul communication forecast.

3.5.4.8 Finance and HR opex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for finance and HR of [C-I-C] million and [C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The finance and HR opex category relates to expenditure for financial and human resources management.

AER Draft Determination

In the Draft Determination the AER established that JEN's forecasts for this category were a substantial departure from the commercial standard because:

- the level of resourcing requirements are excessive compared to the number of transactions involved including the number of tacks, the corresponding reporting requirements would be minimal due to the number of contracts and costing advice for contracted expenditure would not be required
- both UE and JEN's forecasts were considerably in excess of Impaq's bottom-up build[344]

Submissions from stakeholders

JEN and UE submitted the following via the JAM document:

- JAM stated that the functions of the finance and HR team are not purely for the management of a financial register, payment of contractors and monthly reporting. JAM's submission provided more position descriptions to support its FTE forecast for this category. JAM further contends that the AER's assumption that these tasks could be automated is incorrect and should be disregarded in its entirety.[345]
- JAM believes that the AER's Draft Determination is incorrect based on the following;
    - The finance functions include base metering finance roles that existed before the AMI mandate and with the introduction of AMI the finance support requirements have increased significantly. Prior to AMI, the group consisted

[344] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 134-135 and 157–158.

[345] JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 116–123.

of a considerably smaller team and has had to adapt and grow with the increased accountability and service requirements directly related to the rollout and ongoing requirements beyond 2013.

- The number of employees submitted is supported and justified by the increased number of transactions and commercial requirements surrounding the program and, on this basis, both the number of resources and their respective levels are prudent and reasonable.

- Impaq fails to address additional functions that the Finance team provides which include, but are not limited to, the following:

  - Providing financial modelling support and analysis for the forecasting, budgeting and regulatory submissions cycles; and
  - Strategic and commercial support to assist decision making processes required in providing metering services.

- The AMI program requires a role to maintain transactional activities related to the programs which have increased dramatically. As a result there has been additional focus on attending to queries surrounding contractor data.

- Whilst AMI has automated certain functions, many manual functions remain that are required to be managed by the Finance team.

- The AER fails to recognise that the AMI Finance function is a shared service provide to UED and JEN by JAM.[346]

AER's view

In assessing this expenditure, the AER also assessed Impaq's recommendation that the expenditure for JEN's and UE's finance and HR should be adjusted as:

- some of the roles in the finance team were not fully justifiable and

- the roles did not take into account the fact that the roll-out is due to wind down in 2014–15 and as such less resourcing would be required.[347]

The AER considers that the resourcing requirements identified and supported in the JAM document demonstrate the level of expenditure for resourcing that reflects the commercial standard that a reasonable business would exercise in the circumstances. Those circumstances require JEN and UE to manage an increased in number of financial transactions and providing financial modelling support and analysis to support business decisions processes.

For completeness, the AER also notes, after reviewing the information provided by JAM that there appears to be several inconsistencies with JAM's information relating to:

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346 Ibid.

347 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, pp. 78–82 and 198–202.

- JAM's claims about an increase in the number of transactions – the AER considers that more accounts processing staff would be required if this claim is correct

- JAM's position descriptions – the position descriptions relating to some of the accounting roles refers to tasks that is unlikely to be performed by those professional staff.

The AER however has not established that JEN and UE incurring expenditure for finance and HR involves a substantial departure form the commercial standard that a reasonable business would exercise in the circumstances. The AER has approved JEN's and UE's finance and HR opex forecast.

3.5.4.9 Service delivery and contract management opex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for service delivery and contract management of [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The service delivery and contract management expenditure forecast relates to management of contracts and agreements for AMI.

AER Draft Determination

In the Draft Determination the AER established that JEN's and UE's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.4.[348]

Submissions from stakeholders

JEN and UE submitted the following via the JAM document:

- JAM stated that the AER has under estimated the extensive work required for both AMI and business as usual contract management and service delivery to be carried out by the service delivery and contract management team. The JAM document provided more position descriptions to support its FTE forecast for this category.[349]

- In relation to the contract management tasks, other than the contracts relating to the AMI mass rollout project which are predominately managed by the AMI Contract Manager, the other two roles are responsible for ongoing contract maintenance and management activities. This includes review of monthly operational reports from suppliers, placement of logistics orders with suppliers, dealing with supplier contract variations, management of supplier issues,

[348] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 135–136 and 158–159.

[349] JEN, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 126–129.

preparation of papers, agendas and minutes for monthly operations and contract governance meetings with suppliers.

- Additionally, the Service Delivery Manager and Business Performance team are responsible for dealing with any enquiries and issues from the Asset Owners relating to the delivery of services by the SNACS team, development of monthly performance (KPI) reports for Asset Owners, preparing papers, agendas and minutes for Asset Owner monthly governance meetings, management of risks, compliance and business continuity activities for the SNACS team and feeding into the wider JEN risk management and compliance processes, providing support to the SNACS team for all regulatory compliance obligations (such as co-ordinating accreditation and auditing activities for Meter Data Provider (MDP), Meter Provider B (MPB) for AEMO and ISO9001 certification) and general document management and office administration tasks for the wider SNACS team.[350]

AER's view

In assessing this expenditure, the AER also considered Impaq's recommendation that the expenditure for JEN's and UE's service delivery and contract management should be reduced as:

> JEN has many contractors providing services to its overall business that it needs to manage. The additional burden of AMI after the roll out should be incremental to the service delivery and contract management activities already undertaken by the business as a whole. Prior to AMI, JEN had contracts for meter supply, meter installation and back office functions that did not require a separate metering contract management group. Impaq does not accept that AMI will require a separate group in the future.
>
> Impaq accepts that the additional FTEs detailed as required are warranted during the rollout. However, with the exception of the AIMRO Compliance Specialist, Impaq believes that the incremental burden of metering on current business activity would be met with an additional 0.25 FTEs for each of the roles for 2014 and 2015.[351]

The AER considers that the resourcing requirements identified and supported in the JAM document demonstrate the level of expenditure for resourcing that reflects the commercial standard that a reasonable business would exercise in the circumstances as those circumstances require JEN and UE to manage an increased number of complex contracts and suppliers.

The AER notes that Impaq has considered the additional burden of AMI after the roll-out should be incremental to the service delivery contract management activities already undertaken by the business as a whole. However, JEN's and UE's forecast starts to decrease from 2014 albeit at a lower level than what would be expected by Impaq and its recommended adjustments. In reviewing the information provided by JAM, the AER was not able to substantiate that the tasks outlined by JAM would not be required and as such the AER has not established that incurring the expenditure would involve a substantial departure from the commercial standard. Therefore, the

[350] ibid.

[351] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, pp. 82 and 203.

AER has approved JEN's and UE's service delivery and contract management opex forecast.

3.5.4.10 Stakeholder relations

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for stake holder relations of [C-I-C] and [C-I-C] respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

This activity involves liaising with the UE and JEN regulatory managers and assisting in the development of regulatory submissions regarding regulated services, participating in industry working groups such as the Victorian AMI working groups and the IEC national reference groups and engaging with government stakeholders.

AER Draft Determination

In the Draft Determination, the AER considered that stakeholder relations will be recovered under JEN's and UE's asset operations and management forecast expenditure. Consequently the AER's Draft Determination amended JEN's and UE's budgets to remove this proposed expenditure.[352]

3.5.4.11 Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

- JAM stated that the positions for stakeholder relations are separate to the "asset operations" activities. JEN's amended Submitted Budget provided further details on roles and the function to be performed under this activity. Broadly, the role of stakeholder relations is to represent and/or assist UE and JEN in communicating their respective positions at industry working groups, committees and to decision-making bodies.[353]

3.5.4.12 AER's view

The AER has reviewed the position descriptions for stakeholder relations provided by JAM and AER considers that stakeholder relations will be incurred by JEN and UE in addition to expenditure for asset operations. The AER considers that JEN's and UE's incurring of expenditure for such stakeholders and relations roles and the work to be undertaken by that team reflects the commercial standard that a reasonable business would exercise in the circumstances. Consequently the AER accepts JEN's and UE's forecast expenditure for this category.[354]

In coming to this conclusion the AER considered Impaq's recommendation to reduce one FTE for 2014–15 because, in its view, the mass roll-out communication advisor would not be required after the completion of the roll-out. The AER does not agree that this expenditure would not be incurred and that incurring this expenditure would

[352] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012¬15 budget and charges applications*, July 2011, p. 79.
[353] JEN, *Appendix A - JAM Response to AMI Draft Determination*, August 2011, pp. 47–49.
[354] Ibid.

involve a substantial departure from the commercial standard. In particular, the AER notes that the position description for this position is for activities that will continue beyond the roll-out period. For example AER expects that activities such as developing communication material, community education forums and local council information sessions will continue after the roll-out end. Hence the AER has agreed to the inclusion of this FTE.

3.5.4.13 IT opex

AER Final Determination

The AER has not established that JEN incurring the expenditure for IT opex of [C-I-C] million involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The IT infrastructure support category expenditure forecast relates to forecast expenditure for base IT allocation, software licence maintenance, hardware maintenance, operating software maintenance and infrastructure support.

AER Draft Determination

In the Draft Determination the AER established that JEN's expenditure forecasts for this category were a substantial departure from the commercial standard for the reasons outlined above in section 3.5.4.[355]

Submissions from stakeholders

JEN submitted the following via the JAM document:

- JEN stated that the AER was incorrect in its conclusion that it had under utilised its data centre. JEN notes that physical availability alone does not determine under utilisation as there other factors such as power requirements, cooling capabilities and equipment weight that would need to be considered. That is, while visually there may be space for more racks, the data centre design does not have the additional power and cooling capabilities to support additional racks.[356]

JEN's amended Submitted Budget also included advice from Deloitte as to whether its infrastructure support forecast was a substantial departure from the commercial standard. Based on its review, Deloitte considered that JEN's data centre was not able to support additional racks and as such are not under utilised and does not involve a substantial departure from the commercial standard.[357]

AER's view

The AER also examined advice from Impaq that power consumption for JEN's data centre would not amount to 3KW. Impaq further stated that Deloitte had not calculated the power requirements of JAM's existing systems. Impaq concluded that

[355] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, p. 160.
[356] JEN, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 132–133.
[357] Deloitte, *Jemena Asset Management, AMI Opex review - Final report*, 26 August 2011, pp. 66–70.

JEN's and UE's data centre is 30 per cent under-utilised and recommended a 30 per cent reduction in their infrastructure and support forecast.

The AER has considered Impaq's advice but note that considerations about systems cooling, floor space and system consolidation should also be taken into account. Taking all the above factors into account the AER considers that the current data design is reasonable in terms of rack space.[358] [359]

In addition to examining Impaq's advice, the AER has reviewed the position descriptions provided by JAM and the Deloitte modelling and research. In reviewing the information provided by JAM, the AER agrees that:

- There may be merit in JAM's claims regarding power consumption and cooling capacity
- Implementing any consolidation is likely to incur substantial costs which may exceed the benefits of the consolidation. This would include additional cost for floor space and migration cost.[360]

Therefore, the AER considers that JEN's incurring of this expenditure reflects the commercial standard that a reasonable business would exercise in the circumstances. Consequently, the AER has approved JEN's IT opex forecast.

3.5.4.14 Metering IT opex

AER Final Determination

The AER has not established that JEN and UE incurring the expenditure for metering IT opex [C-I-C] million and [C-I-C] million respectively involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The metering IT opex category relates to expenditure forecast for resourcing requirements for amongst other things to comply with regulatory obligations particularly by monitoring, managing and maintaining the production systems and responding to issues as they arise.

AER Draft Determination

In the Draft Determination the AER established that JEN's forecasts for this category were a substantial departure from the commercial standard for the reasons outlined in section 3.5.4.[361]

Submissions from stakeholders

JEN and UE raised the following issues via the JAM document:

[358] Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2,* 29 September 2011, pp. 85–86 and 205–206.
[359] Deloitte, *Jemena Asset Management, AMI Opex review - Final report*, 26 August 2011, pp. 66–70.
[360] Ibid.
[361] AER, *Draft Determination, Victorian Advanced Metering Infrastructure Review 2012–15 budget and charges applications*, July 2011, pp. 137–139 and 160–162.

- JEN stated that the AER's determination had discounted the fact that both JEN and UE operate separate IT systems, all of which require monitoring, maintenance and support. JEN further stated that the AER's assumption that all IT systems should already be bedded down after the third year of the roll-out is incorrect. JEN notes that, by January 2012 UE and JEN will only have approximately 46 per cent of the meters exchanged. From that date until the end of the rollout, approximately 15 months later, the remaining 53 per cent of the meters will come online. While UE and JEN have designed and implemented a solution that will scale to handle the expected data volumes, these systems will require constant monitoring and maintenance to ensure delivery of data to the market by 6am, as mandated by the Victorian AMI service level specifications.[362]

- Additionally, JEN noted that its budget request relates to maintenance and operation of IT systems that are required to comply with metering regulatory obligations. In addition, these costs relate to vendor releases required to ensure that all IT systems remain supported by vendors under commercial arrangements.[363]

- JEN's amended Submitted Budget also included advice from Deloitte asking whether its IT metering opex forecast was a substantial departure from a commercial standard. Based on its review, Deloitte considered that JEN's IT resourcing requirement does not involve a substantial departure from the commercial standard.[364]

AER's view

The AER considered Impaq's revised recommendation to accept this expenditure forecast.[365]

The AER has also reviewed JAM's amended Submitted Budget information. In light of this additional information and Impaq's and Energeia's recommendations, the AER considers that JEN's and UE's forecast expenditure reflect the commercial standard that would apply given the circumstances particular to JEN and UE. In particular, the AER agrees with Deloitte on its assessment regarding the:

- metering IT teams structure

- the current rollout of JEN's IT systems and its stability issues

- the regulatory and business requirements for 24x7 support.[366]

The AER therefore has not established that JEN and UE incurring the expenditure for metering IT opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances and accordingly has approved this expenditure.

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362 JEN and UE, *Amended Submitted Budget, Appendix A - JAM response to AMI draft determination*, August 2011, pp. 134–137.

363 Ibid.

364 Deloitte, *Jemena Asset Management, AMI Opex review - Final report*, 26 August 2011, pp. 56–65.

365 Impaq Consulting, *Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2*, 29 September 2011, pp. 86 and 206.

366 Deloitte, *Jemena Asset Management, AMI Opex review - Final report*, 26 August 2011, pp. 56–65.

3.6 Calculation of charges

The calculation of charges is based on the Approved Budget summarised in table 2.23 and table 3.10. The Approved Budget is the result of analysis in section 2.2 to 2.5. The AER must then determine the revenue required (section 2.6.2.6) to fund this Approved Budget by:

- applying the cost of capital to the capital component of the Approved Budget in section
- incorporating the capex for 2012–15 into the metering asset base and adjusting for actual expenditure for the 2011 calendar year
- determining the rate of depreciation for the metering asset base based on the standard asset lives assigned in clause 4.1(g) of the Order
- calculating the tax allowance for the DNSP for metering revenues.

The AER then uses this revenue requirement to determine the charges for consumers such that the costs of the AMI roll-out as summarised by the revenue requirement will equal the amount of revenue collected from consumers through charges by the end of 2015 (see section 2.6.3).

Table 3.9 AER's Final Determination on JEN's capex and opex budget ($000, Real $2011)

	2012	2013	2014	2015	Total
Capex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total capex	34,602	16,806	5,437	5,144	61,989
Opex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total opex	19,885	17,589	15,920	16,049	69,443
Total Budget	54,487	34,395	21,357	21,193	131,432

Source: AER analysis

Table 3.10 AER's Final Determination on UE's capex and opex budget ($000, Real $2011)

	2012	2013	2014	2015	Total
Capex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total capex	98,995	17,285	5,755	5,537	127,572
Opex					
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total opex	29,482	24,311	21,952	22,163	97,909
Total Budget	128,477	41,597	27,707	27,701	225,481

Source: AER analysis

3.6.2 Revenue Requirement

This section determines the revenue requirement required by the DNSP to be compensated for the cost of the AMI roll-out for the period 2012–15. The revenue is determined through the reconciliation to the regulatory accounts and application of the cost of capital, depreciation, tax to determine the metering asset base and the revenue requirement (sections 2.6.2.1 to 2.6.2.6).

3.6.2.1 Reconciliation to the regulatory accounts

The AER must ensure the actual costs are included in it final charges determination to ensure that the revenue earned by DNSPs equals the cost of the AMI roll-out. To this end the AER has ensured that costs reported in the DNSPs' regulatory accounts are incorporated into each DNSP's revised budget application.

The Victorian Energy Minister's commented[367] that the AER should critically examine the regulatory accounts of each DNSP to ensure the costs incurred by related parties in assessing the actual expenditure to 2010 and the revised forecasts for 2011. The AER undertook this critical examination as part of its AMI 2012–15 Draft Determination[368] and has ensured DNSPs amended Submitted Budgets are compliant in this Final Determination.

JEN has submitted a revised budget application that reconciles to JEN's regulatory accounts. Therefore the amounts of $139,023 for capex and $153,932 for opex identified in the AER's Draft Determination have been accounted.[369] The AER therefore considers the historical expenditure supplied by JEN to support its revenue requirement for 2012–2015 is appropriate.

3.6.2.2 Cost of capital

The CROIC allows DNSPs to receive a regulated rate of return on capital expenditure throughout the period 2009–2015. The initial Weighted Average Cost of Capital (WACC) period of 2009–2013 was set in 2009 at 9.51 per cent in accordance with clause 4.1(i) of the CROIC, as summarised in table 2.24.

[367] The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011, p. 3.

[368] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications*, July 2011, pp. 204–205.

[369] ibid, pp 205–206.

Table 3.11 AER final determination on WACC parameters for AMI period 1 January 2009 to 31 December 2013

WACC Parameter	Initial WACC period (2009-13)
10 year nominal risk free rate	4.63%
Inflation	2.56%
Equity beta	1.00
Market risk premium	6.00%
Debt risk premium	4.00%
Gearing ratio	60.0%
Cost of Debt	8.76%
Cost of Equity	10.63%
Nominal Vanilla WACC	9.51%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, p. 61.

The WACC for the subsequent WACC period for 2014–15 must be set by the AER in accordance with the measurement of market observables in 2013 and the AER's Statement of Regulatory Intent (SORI) under clause 4.1(j). Clause 4.1(j)(i) of the CROIC requires the AER to make a decision on WACC market observables for 2014–15 in 2013. To this end the AER advised the DNSPs in writing[370] that the following approach would be adopted to set WACC for 2014–15:

- 28 February 2011 – DNSPs to propose to the AER a placeholder WACC and placeholder AMI Charges for 2014-15 as part of the their budget and charges applications for 2012-15, (which the AER will assess as part of its final determination on 31 October 2011);
- 30 November 2012 – DNSPs to submit a proposed averaging period in 2013 to the AER for the purposes of calculating the subsequent AMI WACC;
- 10 January 2013 – AER to write to each DNSP to advise its decision on the proposed averaging period;
- 31 August 2013 – DNSPs to submit to the AER revised charges applications for 2014; and
- 31 October 2013 – AER final decision on AMI revised charges for 2014, incorporating the market observables measured in the approved averaging period.

[370] AER, *Letter to Victorian DNSPs re: 2012-15 AMI Budget and Charges Information Templates*, 15 February 2011.

This process relies on the averaging period ending in time for the AER to determine revised charges for 2014 on 31 October 2013.

The SORI set the following non-market variable for WACC. These values can be altered under clause 4.1(j)(ii) in accordance with clause 6.5.4(g) of the National Electricity Rules (NER). This clause allows the AER to alter the non-market observables of the SORI on the basis of persuasive evidence.

Table 3.12 AER final determination on WACC parameters for the AMI period 1 January 2009 to 31 December 2013

WACC Parameter	Initial WACC period (2009-13)
Gearing (debt to equity ratio)	60%
Market risk premium	6.50%
Equity beta	0.80
Gamma	0.65
Credit rating	BBB+
Nominal risk free rate	10 year Commonwealth Government Securities

Source: AER, Electricity transmission and distribution network service providers: Statement of the revised WACC parameters (transmission): Statement of the revised WACC parameters (distribution), May 2009

The values summarised for a placeholder WACC for 2014–15 have been submitted by the Victorian DNSPs following the AER's draft decision.

Table 3.13 AER final determination on the placeholder WACC for the AMI period 1 January 2014 to 31 December 2015

	All DNSPs initial Submitted Budget	AER draft determination*	JEN amended Submitted Budget	UE amended Submitted Budget	AER final determination
Nominal Vanilla WACC	9.19%	9.50%	9.50%	9.19%	9.77%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, p. 61.
Note Contains transposition error between SA gas decision and AER draft determination. The WACC value should have been 9.77 per cent.

The AER must therefore set a placeholder WACC for use in this decision for the 2014—15 period. The AER, in its draft decision, did not accept the DNSPs initial proposed placeholder WACC of 9.19 per cent and instead adopted its most recent

WACC decision of 9.50 per cent.[371] The AER has uncovered an error in copying this WACC value from the AER's South Australian gas access decision.[372] This error alters the AER's draft decision from 9.50 per cent to 9.77 per cent for WACC. Table 2.27 summarises the WACC from this South Australian decision.

Table 3.14 AER final determination on WACC parameters for the SA gas access decision

WACC Parameter	Subsequent WACC period (2014-15)
10 year nominal risk free rate	5.56%
Inflation	2.55%
Equity beta	0.80
Market risk premium	6.00%
Debt risk premium	3.81%
Gearing ratio	60.0%
Cost of Debt	9.37
Cost of Equity	10.36
Nominal Vanilla WACC	9.77%

Source: AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, p. 59.

The AER notes in the amended Submitted Budget that the DNSPs have raised the following concerns with the AER's proposed placeholder WACC:

- all Victorian DNSPs suggest the market risk premium in the AER's placeholder WACC should be 6.0 per cent rather than the 6.5 per cent applied in the AER's most recent WACC decision.
- JEN considers the method of calculating the Debt Risk Premium should not be based on one bond but a weighted average of multiple bonds
- CitiPower and Powercor suggest that market observables are based on data that is highly volatile, and suggests that the current market risk premium is 4.5 per cent not the 5.4 per cent presented in the AER's draft determination.
- Citipower and Powercor has suggested that forecast inflation be calculated consistent with the AMI 2009—11 Final Determination and in the CROIC for the AMI 2014—15 period.

[371] AER, *Final Decision: Envestra Ltd Access arrangement proposal for SA gas network: 1 July 2011 – 30* June 2016, pp 59.
[372] Ibid., pp. 35-59.

- UE, JEN, Citipower and Powercor accept the debt raising costs of 10.8 basis points for the period 1 January 2014 to 31 December 2015. SP AusNet considers a debt raising cost of 12.5 per cent to be appropriate as the AER should not benchmark costs but take the circumstances of the DNSP into account.

- Citipower and Powercor have proposed an updated debt risk premium but have not clarified how this update was made for 2014–15.

- SP AusNet has proposed a gamma (the valuation of franking credits) of 0.25 be used for the 2009–15 period consistent with the Australian Competition Tribunal decision (discussed in section 2.6.2.4).

The AER considers that the DNSPs' arguments concerning the value of the underlying value of the placeholder WACC will be relevant in the AER's 2013 AMI WACC Determination. The AER considers that its decision must be whether the placeholder WACC proposed by the DNSPs or the AER's most recent decision on WACC represents the most current view of WACC.

To do this the AER considered the impact of market observables and non-market observables:

- Market observables - the AER's proposed market observables from the June 2011 South Australian gas access decision are more up-to-date than those proposed by the Victorian DNSPs whose market observables are based on the 2009–11 AMI determination.

- Non-market observables - the DNSPs have proposed to alter a number of non-market observables from the original 2009–11 AMI determination. These include the market risk premium and equity beta on which the AER changed its view in the recent South Australian gas access decision. The AER considers that its most recent decision on WACC represents its current view on these parameters.

The AER considers that the value of WACC proposed by the DNSPs based on the AER's 2009–11 market observables is less likely to represent the value of WACC in 2013 than the AER's most recent decision on WACC. The AER therefore considers it appropriate to adopt its most recent determination on WACC from its South Australian gas decision as the placeholder for the 2014–15 subsequent WACC period.

The AER considers it appropriate to adopt the entire WACC decision as it represents the AER's most recent view. The AER does not consider it appropriate to alter elements of this WACC decision.

Gamma

The AER considers that its decision to utilise the South Australian gas decision extends to other elements of WACC that were not clearly stated in the draft decision

such as the value of gamma. The gamma for the South Australian gas decision was 0.25 consistent with the Australian Competition Tribunal Decision.[373]

The AER did not clearly state this in its draft decision and therefore offered the DNSPs a chance to comment on gamma. All DNSPs have responded that a gamma of 0.25 was acceptable. The AER has therefore adopted a gamma of 0.25 for this decision consistent with the Australian Competition Tribunal decision and the South Australian gas decision WACC.

The AER notes that gamma has no impact on the revenue requirements as tax losses are sufficient for tax liabilities to be zero as required by the Order.

Inflation

The AER also notes that the DNSPs have proposed an inflation rate of 2.56 per cent. The current inflation rate incorporated into the WACC decision is 2.55 per cent. The AER considers that the inflation rate decision will be revisited as part of the AMI WACC decision in 2013 and therefore the AER will not be pre-empting this decision in this placeholder but will continue to adopt the AER's current view of inflation as incorporated into the South Australian gas decision.

Market and Debt Risk Premium

The AER notes the arguments lodged by the DNSPs concerning the value of the Market Risk Premium being 6.5 per cent instead of the 6.0 per cent value the AER considered appropriate in its last decision on WACC. The AER considers it will be appropriate for these DNSPs to make arguments on the value of WACC components including the value of the Market Risk Premium and the Debt Risk Premium during the AER's 2013 AMI WACC determination process.

The AER considers it appropriate to adopt a placeholder WACC that represents the AER's current view of the value of WACC. The AER does not consider it appropriate to change a placeholder value when this value will be updated in 2013. Therefore the AER considers the WACC value determined by the AER in June 2011 to represent the AER's current view of WACC.

3.6.2.3 Depreciation

JEN has applied the correct straight line depreciation schedules as required by clause 4.1 (g) of the Order.

3.6.2.4 Tax

JEN has applied a tax rate of zero which is consistent with clause 4.1 (e) of the Order as required when there is an estimated loss for tax purposes in a given year.

3.6.2.5 Metering Asset Base

The AER's Final Determination on JEN's and UE's capex and opex budget determines the metering asset base summarised in table 2.28.

[373] Australian Competition Tribunal, *Application by Energex Limited (Gamma) (No 5), [2011] ACompT 9*, 12 May 2011, as updated 13 May 2011.

Table 3.15 AER Final Determination - JEN Meter Asset Base ($000, Real 2011)

	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	33,357	89,833	112,504	128,777	137,517	126,355	108,065
Capital Expenditure	67,067	40,751	38,926	34,602	16,806	5,437	5,144
Depreciation	10,591	18,080	22,653	25,862	27,968	23,727	22,923
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	89,833	112,504	128,777	137,517	126,355	108,065	90,286

Source: AER analysis

Table 3.16 AER Final Determination - UED Meter Asset Base ($000, Real 2011)

	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	53,955	115,912	152,753	194,745	255,808	230,319	198,776
Capital Expenditure	76,627	60,679	72,823	98,995	17,285	5,755	5,537
Depreciation	14,670	23,838	30,831	37,932	42,775	37,298	34,960
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	115,912	152,753	194,745	255,808	230,319	198,776	169,354

Source: AER analysis

3.6.2.6 Revenue Requirement

The AER's Final Determination opex and capex budget equates to a revenue requirement for the period 2012–2015 summarised in table 2.29 and table 3.18. The revenue requirement for the period 2009–11 has been included from the AER's 2009–11 AMI Budget and Charges Final Determination.

Table 3.17 AER Final Determination on JEN's revenue requirement ($000, nominal)

	2009	2010	2011	2012	2013	2014	2015
Return on capital	6,815	7,891	11,441	12,656	12,862	12,040	10,448
Depreciation	7,367	16,363	19,381	23,116	25,954	22,450	22,629
Operating and Maintenance costs	8,438	10,168	17,015	20,394	18,501	17,172	17,754
Tax liability	0	0	0	0	0	0	1,601
Total revenue requirement	22,620	34,422	47,838	56,166	57,317	51,662	52,430

Source: AER analysis

Table 3.18 AER Final Determination on UE's revenue requirement ($000, nominal)

	2009	2010	2011	2012	2013	2014	2015
Return on capital	9,397	10,478	16,478	21,413	23,695	22,039	19,390
Depreciation	10,223	21,564	26,119	33,135	38,611	34,477	33,609
Operating and Maintenance costs	14,023	16,012	26,353	30,237	25,572	23,679	24,517
Tax liability	0	0	0	0	0	0	0
Total revenue requirement	33,643	48,053	68,950	84,785	87,878	80,196	77,516

Source: AER analysis

3.6.3 Determination of meter charges

The Order requires the AER to ensure the net present value (NPV) of costs equals revenues for the period 2012–2015 to ensure DNSPs are compensated for the cost of the AMI roll-out. The NPV of costs and revenues are summarised in table 2.30 and table 3.20.

In his submission, the Hon. Michael O'Brien MP, Minister for energy and resources stated concern that JEN's costs per customer appears to be higher than its peers.[374]

3.6.3.1 AER's view

To ensure transparency the AER has incorporated the under and over recovery for the initial AMI budget period 2009–11. The under or over recovery is determined using the DNSPs' regulatory account data up until 2010. The 2011 values represents the DNSPs' estimate of actual expenditure. This expenditure will receive a 'true-up' as required by the Order so that only actual (not forecast) DNSP expenditure for the AMI roll-out will be recovered.

The forecast expenditure approved in this Final Determination for 2012–15 will be adjusted for actual expenditure under clause 5G for the years 2012 and 2013 by 31 August of 2013 and 2014. This adjustment will impact the 2014 and 2015 charges. In addition the forecast expenditure in 2014 and 2015 will be adjusted in 2015 and 2016 under clauses 5L.3 and 5L.4 to impact the 2016 and 2017 charges.

The AER accepts the Energy Minister's view that JEN's cost per customer is higher than other DNSPs. However the differences in JEN's cost per customer basis are due to several factors including:

- JEN did not have immediate in-house capability to implement the AMI program
- Unlike CitiPower and Powercor, JEN had no existing information systems that were able to be modified to meet the AMI requirements and had to build completely new systems

[374] The Honourable Michael O'Brien MP, *Response to the AER's 2012–2015 AMI Draft Determination*, September 2011, September 2011, pp. 3–4.

- As a smaller DNSP with a relatively low customer base, JEN would have incurred higher costs in rolling out AMI due to lower scale efficiencies.[375]

JEN's proposed under-recovery of revenue in the 2012–15 budget period

JEN has proposed to under-recover costs in the 2009-15 budget period, proposing that these costs would be recovered through adjusted charges in 2016-17. If JEN were to under-recover costs in 2015 under clause 4.1(p) of the Order, and defer cost recovery beyond 2015, the effect would be that costs would be passed through to consumers outside the subsequent AMI budget period (1 January 2012 – 31 December 2015).

The AER considers that there is no specific provision that gives the AER the power to allow a distributor to pass-through under-recovered costs from the 2012-2015 period, to consumers in 2016 which is outside the subsequent AMI budget period. The AER notes JEN's legal argument in support of its proposal,[376] but while clause 5L (which sets out the transition charges for the 2016-20 Subsequent Prices Determination) does not preclude such recovery, it does not provide for more than the recovery of the difference between forecast and actual values. The AER further notes the absence in the Order of a provision that would allow for the true-up of forecast and actual values related to any proposed recover in 2016 or 2017.

While the AER considers a distributor may propose to under-recover costs in any year of the subsequent AMI budget period, these reduced charges, and the carry-over of under recovered expenditure, will be subject to the AER's approval.[377]

The AER has exercised its discretion not to approve reduced charges for JEN in the year 2015 under clause 4.1(p) of the Order. This will ensure that all cost recovery by JEN occurs by the end of the AMI subsequent budget period (31 December 2015).

Table 3.19 AER Final Determination on JEN's revenue under and over recovery ($000, nominal)

	2009	2010	2011	2012	2013	2014	2015
AMI cost	28,549	58,620	96,700	137,528	175,576	206,819	235,706
AMI revenue	10,291	47,300	81,792	117,920	155,666	194,912	235,706
Under/Over recovery	-18,258	-11,320	-14,908	-19,608	-19,910	-11,908	0

375 JEN, *Email response to AER's information request number 5*, 4 October 2011.
376 JEN, Email: *JEN's response to AER information request, 9 September 2011 (Attachment 2), and JEN Amended AMI Budget and Charges Application*, 28 August 2011, pp. 19–20.
377 Clause 4.1(p) of the Order

Table 3.20 AER Final Determination on UE's revenue under and over recovery ($000, nominal)

	2009	2010	2011	2012	2013	2014	2015
AMI cost	26,273	68,253	123,138	184,770	243,105	291,605	334,313
AMI revenue	17,704	57,886	106,314	157,990	213,130	271,828	334,313
Under/Over recovery	-8,569	-10,367	-16,824	-26,780	-29,975	-19,777	0

The AER's Final Determination on the metering charges to compensate JEN and UED for the AMI roll-out are summarised in table 2.31 and table 3.22.

Table 3.21 AER Final Determination on JEN's meter charges ($ nominal per meter)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase single element meter	134.63	136.70	153.95	173.38	195.26	219.90
Single phase single element meter with contactor	134.63	136.70	153.95	173.38	195.26	219.90
Three phase direct connected meter	165.46	167.99	189.19	213.07	239.95	270.24
Three phase CT connected meter	183.95	186.77	210.34	236.88	266.78	300.45

Note: * historical charges approved by the AER

Table 3.22 AER Final Determination on UE's meter charges ($ nominal per meter)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase single element meter	71.80	92.12	106.57	123.30	142.64	165.02
Single phase single element meter with contactor	73.30	94.02	108.77	125.84	145.58	168.43
Three phase direct connected meter	81.01	103.89	120.19	139.05	160.87	186.11
Three phase CT connected meter	86.40	110.82	128.21	148.33	171.60	198.52

Note: * historical charges approved by the AER

4 CitiPower and Powercor

Key points

- The AER approves a total budget of $123.6 million and $311.9 million for CitiPower and Powercor respectively, which allows CitiPower and Powercor to increase charges related to single-phase single-element meters by 39.5 per cent and 37.9 per cent respectively from 2011 to 2015.
    - The increased customer charges will allow CitiPower and Powercor to pass through costs incurred associated with the roll-out of advanced metering infrastructure.
- CitiPower proposed a total of $87.9 million in capital expenditure and $40.1 million in operating expenditure.
- For CitiPower, the AER considers that a budget of $86.5 million in capital expenditure and $37.1 million in operating expenditure meets the relevant tests set out in the Order.
    - The AER's assessment represents a reduction of 2 per cent and 7 per cent for capital and operating expenditure respectively from that proposed by CitiPower.
- Powercor proposed a total of $227.2 million in capital expenditure and $91.8 million in operating expenditure.
- For Powercor, the AER considers that a budget of $221.6 million in capital expenditure and $90.3 million in operating expenditure meets the relevant tests set out in the Order.
    - The AER's assessment represents a reduction of 2 per cent and 2 per cent for capital and operating expenditure respectively from that proposed by Powercor.

CitiPower and Powercor function as two separate distribution networks but are managed through a single corporate structure. Consequently, CitiPower and Powercor have managed their AMI roll-out together. This Final Determination has jointly assessed the amended Submitted Budgets of CitiPower and Powercor.

CitiPower's distribution network is located in Melbourne's central business district and inner suburbs, and services over 310,000 customers. Powercor's distribution network stretches from Melbourne's western suburbs to the borders of South Australia and New South Wales. Powercor's distribution network is the biggest in Victoria, and covers over 150,000 square kilometres. Around 700,000 customers are serviced by the Powercor distribution network.

CitiPower and Powercor provided their Submitted Budgets concerning the 2012–15 budget period on 28 February 2011.[378] The AER made its Draft Determination on 28 July 2011, which rejected CitiPower's and Powercor's Submitted Budgets. The Draft Determination set out the new Submitted Budgets that the AER would determine to approve.[379]

CitiPower and Powercor applied to the AER for approval of their amended Submitted Budgets on 26 August.[380] The Order allows the distributors to revise their budget applications by 31 August 2011 where there is a change in expenditure by reason of a contract entered into between the budget application and 31 August or a material change in a metering regulatory obligation or requirement.[381] CitiPower and Powercor revised their budget applicationS resulting from re-negotiated contracts with field force service providers associated with meter and communications installation.

The AER's Final Determination rejects CitiPower's and Powercor's amended Submitted Budgets. [382] In accordance with the Order, this Final Determination sets out the AER's Approved Budgets.[383] CitiPower's and Powercor's Approved Budgets are set out in Table 2.3 and Table 4.6 respectively.

The AER' s Approved Budget allows $86.5 million in capital expenditure and $37.1 million in operating expenditure for CitiPower.

The AER's Approved Budget allows $221.6 million in capital expenditure and $90.3 million in operating expenditure for Powercor.

The AER’s assessment of CitiPower's and Powercor's amended Submitted Budgets has been conducted in accordance with the requirements of the Order.[384]

Expenditure that the AER considers to be outside scope has been rejected by the AER (section 2.2). Expenditure that is within scope of the Order is subject to the prudent tests, including the competitive tender test (section 2.3), the expenditure incurred test (section 4.4) and the commercial standard test (section 2.5). The requirements of each test are outlined in section 1.2.

The AER's calculation of charges is outlined in section 4.6 of this Final Determination. This section also includes the expenditure approved by the AER against the tests of the Order as discussed in sections 2.2 to 2.5.

4.1 AER Final Determination

The AER's Final Determination sets out the metering charges that will be incurred by eligible customers for the 2012–15 budget period.[385]

[378] In accordance with clause 5A.1(c)(i)(ii) of the Order
[379] In accordance with clause 5C.5(a) of the Order
[380] In accordance with clause 5C.5(b) of the Order
[381] Clause 5B.3 of the Order
[382] In accordance with clause 5C.6 of the Order
[383] Clause 5C.7
[384] Clause 5C
[385] Customers with annual electricity consumption of 160MWh or less

The AMI charge that a customer incurs will depend on their metering set-up, the most common being a single-phase single-element meter with a contactor. Customers can obtain information regarding their metering set-up and AMI charges from their electricity distributor. Table 2.1 and Table 4.2 (below) outline the charges for CitiPower and Powercor approved in this Final Determination.

Table 4.1 AER Final Determination charges for CitiPower ($ nominal per NMI)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase	104.79	91.38	99.31	107.92	117.29	127.46
Three phase direct connected	136.98	119.44	129.80	141.06	153.30	166.60
Three phase current Transformer connected	172.99	150.85	163.94	178.16	193.62	210.41

Note: * historical charges set by the AER in a previous determination

Table 4.2 AER Final Determination charges for Powercor ($ nominal per NMI)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase	96.67	95.01	102.96	111.57	120.90	131.01
Three phase direct connected	127.50	125.32	135.80	147.16	159.47	172.80
Three phase current Transformer connected	168.94	166.05	179.94	194.99	211.29	228.96

Note: * historical charges set by the AER in a previous determination

CitiPower's and Powercor's amended Submitted Budgets would lead to an increase in charges of around 43.4 per cent and 38.7 per cent respectively over the 2012–15 budget period.[386]

The AER's Approved Budgets for CitiPower and Powercor result in an increase of charges of around 39.8 per cent and 37.9 per cent respectively over the 2012–2015 period.[387]

Table 4.3 and Table 4.4 outline the annual percentage change in CitiPower's and Powercor's charges over the 2012–15 budget period.

[386] For a single-phase single-element meter
[387] For a single-phase single-element meter

Table 4.3 Annual percentage change in charges – CitiPower (%)

Meter	2011	2012	2013	2014	2015
Annual change in meter charges	-12.8%	8.7%	8.7%	8.7%	8.7%

Table 4.4 Annual percentage change in charges – Powercor (%)

Meter	2011	2012	2013	2014	2015
Annual change in meter charges	-1.7%	8.4%	8.4%	8.4%	8.4%

CitiPower's and Powercor's amended Submitted Budget is divided between capital expenditure (capex) and operational expenditure (opex). Table 2.3 and Table 4.6 outline the difference between CitiPower's and Powercor's amended Submitted Budgets and the AER's Approved Budget. Positive values indicate that the Approved Budget is higher than the DNSPs' amended Submitted Budget, and negative values indicate the Approved Budget is lower than the DNSPs' amended Submitted Budget.

The DNSPs updated their foreign exchange rate estimates after submitting their amended Submitted Budgets. The updated foreign exchange rates caused the DNSPs budgets to increase. This is the reason why some of the AER's Approved Budget is higher than that proposed by the DNSPs in their amended Submitted Budget.

Table 4.5 Difference between the AER's Approved Budget and the amended Submitted Budget – CitiPower ('000, Real 2011)

	2012	2013	2014	2015	Total
Capex					
Meter Supply – contract*	1 762	1 172	85	106	3 125
Meter Supply – non-contract	136	110	23	25	294
Meter installation – contract*	0	0	0	0	0
Meter installation – non-contract	-1 041	-986	-9	-8	-2 044
Communications equipment supply – contract*	1	1	2	2	5
Communications equipment supply – non-contract	0	0	0	0	1
Communications equipment installation – contract	0	0	0	0	0
Communications equipment installation – non-contract	-28	-27	-14	-14	-82
IT capex					
Asset management	0	0	0	0	0
Workforce scheduling and mobility	0	0	0	0	0
Connection point management	-1 065	0	0	0	-1 065
Outage management	0	0	0	0	0
Network management	0	0	0	0	0
Meter data management	0	0	0	0	0
Performance and regulatory reporting	-952	-389	-242	0	-1 584
Revenue management	0	0	0	0	0
IT program management	0	0	0	0	0
Infrastructure	0	0	0	0	0
Total capex	-1 187	-120	-155	111	-1 351
Opex					
Meter Data Services	-559	-457	-378	-498	-1 892
Meter Maintenance	0	0	0	0	0
Customer Service	-248	-110	0	0	-358

Backhaul Communications	0	0	0	0	0
Communications operations	0	0	0	0	0
Project Management*	0	0	0	0	0
Executive & corporate services*	-9	-9	-9	-9	-37
Debt raising cost**	0	0	-1	-0	-1
IT opex					
Workforce Scheduling & Mobility	0	0	0	0	0
Connection Point Management	0	0	0	0	0
Network Management	0	0	0	0	0
Meter Data Management	0	0	0	0	0
Performance & Regulatory Reporting	-13	-97	-227	-304	-641
Logistics Management	0	0	0	0	0
IT Infrastructure (incl middleware, B2B and B2M)	0	0	0	0	0
Total opex	-829	-673	-615	-812	-2 930
Total budget	-2 017	-793	-770	-701	-4 281

Table 4.6 Difference between the AER's Approved Budget and the amended Submitted Budget – Powercor ('000, Real 2011)

	2012	2013	2014	2015	Total
Capex					
Meter Supply – contract*	3 956	2 565	174	154	6 849
Meter Supply – non-contract	282	247	127	121	776
Meter installation – contract*	0	0	0	0	0
Meter installation – non-contract	-2 235	-2 093	-27	-24	-4 379
Communications equipment supply – contract*	201	2	3	3	209
Communications equipment supply – non-contract	11	0	-144	-142	-275
Communications equipment installation – contract	0	0	0	0	0
Communications equipment installation – non-contract	-789	-653	-336	-336	-2 113
Project Administrative	0	0	0	0	0
IT capex					
Asset management	0	0	0	0	0
Workforce scheduling and mobility	0	0	0	0	0
Connection point management	-2 924	0	0	0	-2 924
Outage management	0	0	0	0	0
Network management	0	0	0	0	0
Meter data management	0	0	0	0	0
Performance and regulatory reporting	-2 222	-908	-566	0	-3 696
Revenue management	0	0	0	0	0
IT program management	0	0	0	0	0
Infrastructure	0	0	0	0	0
Total capex	-3 720	-841	-769	-224	-5 553
Opex					
Meter Data Services	0	0	0	0	0
Meter Maintenance	0	0	0	0	0

Customer Service	-552	-245	0	0	-797
Backhaul Communications	0	0	0	0	0
Communications operations	0	0	0	0	0
Project Management*	0	0	0	0	0
Executive & corporate services*	-9	-9	-9	-9	-37
Debt raising costs**	0	0	-2	-2	-4
IT opex					
Workforce Scheduling & Mobility	0	0	0	0	0
Connection Point Management	0	0	0	0	0
Network Management	0	0	0	0	0
Meter Data Management	0	0	0	0	0
Performance & Regulatory Reporting	-13	-97	-227	-304	-641
Logistics Management	0	0	0	0	0
IT Infrastructure (incl middleware, B2B and B2M)	0	0	0	0	0
Total opex	-575	-350	-239	-315	-1 479
Total budget	-4 295	-1 191	-1 007	-539	-7 032

4.2 Application of the scope test

The Order provides that activities within scope are those activities that are reasonably required for the provision of Regulated Services and to comply with a metering regulatory obligation or requirement. Schedule 2 of the Order lists activities that are within scope and outside scope, although neither list is exhaustive.

4.2.1 Meter Volumes

AER Final Determination
The AER determines that CitiPower's and Powercor's provision of meters based on its proposed meter supply volumes, and meter installation volumes is an activity within scope of the Order.

The supply and installation of remotely read interval meters to be installed as part of the AMI roll-out is an activity within scope.[388] If a DNSP proposes expenditure which relates to the supply or installation of meters in excess of the number of meters it

[388] Revised Order, schedule 2.1, 2.6, and 2.10.

reasonably requires for the AMI roll-out, then it follows that the activity of providing meters beyond the required number is an activity outside scope.

Draft Determination

The AER determined that CitiPower's and Powercor's Submitted Budgets proposed expenditure that related to both the supply and installation of meters in excess of the number reasonably required for the AMI roll-out. These two issues are discussed separately below.

Meter supply volumes

The AER established that CitiPower's and Powercor's Submitted Budgets did not account for the reuse of meters following AMI meter replacements and meter abolishments. The AER considered that the meters left over following replacements and abolishments can be reused. CitiPower and Powercor did not reduce the quantity of meters required for the roll-out by this amount.[389]

Also, the AER took the view that CitiPower's and Powercor's Submitted Budgets had proposed meter purchases for 2014 and 2015 in excess of the number required to fulfil their business as usual metering obligations. The AER considered that as the AMI roll-out will be complete by 2014, the number of AMI meters being purchased should not significantly exceed the number of new customers.[390]

Meter installation volumes

The AER took the view that CitiPower's and Powercor's Submitted Budgets proposed to recover costs relating to new connection installations in 2012 and 2013. For new connections, the connecting customer pays for the installation cost through Alternative Control Services charges. Therefore, the AER concluded that the cost of installation should not be recovered through AMI charges.[391]

Submissions from stakeholders

In respect of meter supply volumes, CitiPower and Powercor state:

> Upon further review, CitiPower (Powercor) accepts that its meter unit rates in its Initial Budget Application did not include an allowance for the reuse of removed AMI meters in its future installations. However, CitiPower (Powercor) does not agree with the manner in which the AER has reflected an allowance for the reuse of AMI meters into CitiPower's (Powercor's) expenditure forecasts.[392] [393]

In respect of meter installation volumes, CitiPower and Powercor state:

> The AER has made an error in assuming that the costs submitted by CitiPower include costs related to the installation of new connections.[394] [395]

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389 AER, Draft Determination: Victorian Advanced Metering Infrastructure Review, 2012–15 budget and charges applications, July 2011, pp. 47–49

390 ibid.

391 ibid., pp. 49–51

392 CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 36

393 Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 37

394 CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 41

395 Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 42

Further, CitiPower and Powercor have provided models which demonstrate that the costs of new connections do not affect their AMI budgets.

Final Determination

The AER considers that CitiPower's and Powercor's method for taking into account the reuse of meters is appropriate. Further, the AER considers that CitiPower and Powercor have demonstrated that the number of meter purchases for 2014 and 2015 are not in excess of the number required to fulfil their business as usual metering obligations. Therefore, the AER approves the meter supply volumes proposed by CitiPower and Powercor as part of their amended Submitted Budgets against the scope test.

Further, the AER considers that CitiPower and Powercor have demonstrated that the installation costs arising from new connections have no impact on their AMI budgets. Therefore, the AER approves the meter installation volumes proposed by CitiPower and Powercor as part of their amended Submitted Budgets against the scope test.

4.2.2 Two-element meters

AER Final Determination

The AER determines two-element meters are outside scope. However, the AER has approved CitiPower's and Powercor's proposed expenditure relating to two-element meters for the 2012–15 budget period on a cost-benefit basis.

Two-element meters enable distributors to separately record the electricity consumption of two circuits at customers' premises. Single-element meters on the other hand only enable distributors to record the electricity consumption of a single circuit. A contactor (also referred to as a time switch) allows a circuit to be switched on and off at set times.[396]

Two-element meters with a single contactor are commonly installed working in conjunction with electric hot water systems or electric slab heating units, particularly in areas where customers don't have access to reticulated gas.

In the case of electric hot water systems, customers may receive a discounted tariff for their hot water unit's electricity consumption in return for allowing their distributor to 'control' when the hot water unit reheats. The distributor will usually assign the hot water reheating to an off-peak time (for example, 11pm to 7am), which can avoid or defer the need for network augmentation. This benefits both customers and distributors as the high cost of network augmentation will be avoided or deferred.

Two-element meters are not included in the AMI minimum functionality specifications. The Order states that services beyond those in the specifications[397] are outside scope.[398] However, the AMI framework and approach paper provides that the AER can approve expenditure related to AMI activities in excess of the minimum

[396] PricewaterhouseCoopers Australia, Assessment of the justifiable need for investment in two-element meters, May 2011, p. 7.
[397] The specifications of 1 January 2009.
[398] Revised Order, schedule 2.2(iii), 2.7(iii), 2.11(iii).

specifications if a DNSP is able to demonstrate that the AMI activity will result in net benefits to customers and market participants.[399] [400]

AER approval of two-element meters for the 2009–11 budget period

The AER understands that the policy intent of the Victorian Government was for single-element meters with a contactor to work in conjunction with time-of-use (ToU) tariffs.[401]

At the time of the AER's decision for the 2009–11 budget period, the DNSPs were unable to reassign customers onto ToU tariffs as AMI communications were not yet functional.[402] This meant that customers needed to remain on their existing tariff structures. This was not a problem for single-element customers as they could remain on their existing tariff with an AMI single-element meter.

However, in order for two-element customers to remain on their existing tariff, they would require an AMI two-element meter to be installed. As two-element meters are outside the scope of the Order, two-element customers would not be able to remain on their existing tariff.

If a two-element customer was transferred to an AMI single-element meter, they would likely face a price shock. This is because their off-peak consumption would no longer be charged at an off-peak rate, and would instead incur the higher electricity tariff that would usually apply to their other electricity usage.

CitiPower, JEN, and UE were able to postpone the meter replacements for its two-element meter customers until AMI communications were functional and ToU tariffs were available.[403] This was possible because their customer base has a relatively small number of two-element meter customers. Therefore, CitiPower, JEN, and UE did not propose to install two-element meters during the 2009–11 budget period.

Powercor and SP AusNet, on the other hand, have a relatively large number of two-element meter customers. As a result, these DNSPs were unable to postpone the meter replacements for their two-element meter customers without seriously impacting on their ability to meet the mandated roll-out schedule provided in schedule 1 of the Order. Therefore, Powercor and SP AusNet proposed to install two-element meters during the 2009–11 budget period.[404]

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399 AER, Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009–11, January 2009, p. 29

400 The framework and approach paper states that the 'distributors will need to provide a separate cost/benefit analysis quantifying benefits to the distributor, retailers and end customers, and demonstrating why regulated tariffs should provide the revenue required.'

401 ToU tariffs allow distributors to offer different electricity tariffs depending on the time of day a customer consumes electricity. For example, a day may be divided up to allow for 'peak', 'shoulder', and 'off peak' tariffs. Generally peak consumption will be charged at a higher tariff than off peak consumption as an incentive to reduce peak demand.

402 AER Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications, July 2009, p. 25

403 ibid., p. 24

404 ibid., p. 24

Powercor and SP AusNet argued that a net benefit would arise from the installation of two-element meters for a number of reasons, such as the avoidance of customer price shocks, and the delay of network augmentation.[405]

The AER approved Powercor's and SP AusNet's proposal to install two-element meters during the 2009–11 budget period. The AER considered that the installation of two-element meters would result in a net-benefit and should be approved.

However, the AER anticipated that two-element meters were unlikely to be required for the 2012–15 budget period as AMI communications would be functional and ToU tariffs would be available.[406] Accordingly, the AER noted that it would reconsider the issue for the 2012–15 budget period.[407]

Draft Determination

SP AusNet, UE, and CitiPower and Powercor proposed to install two-element meters during the 2012–15 budget period.[408]

The AER considered that activities relating to two-element meters are outside scope. Further, where a DNSP had submitted a cost benefit analysis, the AER considered that the DNSPs' arguments in support of two-element meters, were based on the assumption that the ToU moratorium would continue beyond 31 December 2011.

The AER noted at the time that it understood the ToU moratorium was due to expire on 31 December 2011, meaning the DNSPs would be required to mandatorily reassign their customers onto ToU tariffs. Therefore, customers would not remain on their existing tariff structure regardless of whether two-element or single-element meters are installed. As the moratorium was to expire, the AER concluded that no net benefit would arise.

As a result, the AER did not approve SP AusNet's, UE's, CitiPower's and Powercor's proposed expenditure relating to two-element meters as part of its Draft Determination.

Submissions from distribution businesses on two-element meters

SP AusNet, UE, and CitiPower and Powercor maintained their proposals to install two-element meters. SP AusNet provided a cost-benefit analysis prepared by Price Waterhouse Coopers (PwC) in support of its proposal. CitiPower and Powercor provided a letter from PwC updating its cost-benefit analysis that was provided to the AER as part of CitiPower's and Powercor's Submitted Budgets.

The PwC reports outline that the installation of two-element meters will result in benefits in excess of the incremental cost of a two-element meter relative to a single-element meter.

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405 AER Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications, July 2009, p. 24

406 ibid., p. 25

407 AER Final Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications, October 2009, p. 44

408 SP AusNet and United Energy Distribution also proposed to install two-element meters during the 2012–15 budget period.

In summary, SP AusNet, UE, and CitiPower and Powercor each maintain that significant benefits will arise from the installation of two-element meters with a contactor for existing customers with controlled loads.

Submissions from stakeholders - the Victorian Minister for Energy and Resources

The Honourable Michael O'Brien MP, the Victorian Minister for Energy and Resources (the Minister), raised the issue of two-element meters in his submission in response to the AER's Draft Determination. The Minister's submission states:

> I note that the Draft Determination establishes that the installation of two element meters by Powercor, CitiPower, SP AusNet and United Energy is out of scope as the moratorium on time-of-use tariffs is due to end after 31 December 2011.
>
> However I am advised that, should the moratorium continue in some form, it should be possible to provide a specialised two-part tariff for a customer with a controlled hot water or space heating service, with only a single element smart meter that avoids or minimises price changes for the customer. In this circumstance two element meters would not be required to be rolled out.[409]

However, on 31 October 2011, the Minister for Energy and Resources Victoria informed the AER that the ToU moratorium will be extended beyond 31 December 2011. The Minister states:

> The Draft Determination established that the installation of two element meters by Powercor, CitiPower, SP AusNet, and United Energy is out of scope as the moratorium on time-of-use tariffs is due to end after 31 December 2011.
>
> Following consultation with stakeholders as part of the ongoing review of the Advanced Metering Infrastructure (AMI) program, and further to my original submission, I advise that I intend to, subject to final Government approval, extend the current moratorium for a further twelve months. I understand that this advice is important for the AER in making its Final Determination on the budgets and charges applications.
>
> This action will be taken to ensure that there are no undue impacts on customers who may be affected by a change of network tariff following the installation of a single element smart meter in place of a two-element meter (or two separate meters). The extension will be implemented in consultation with industry.
>
> This decision should not be interpreted as pre-empting any decision by the Government as to the future of the AMI Program, consequent to the current ongoing review.
>
> This decision is intended to protect consumers from unanticipated changes to their tariffs.[410]

[409] The Honourable Michael O'Brien MP, Response to the AER's 2012–2015 AMI Draft Determination, September 2011, p. 5

[410] The Honourable Michael O'Brien MP, Response to the AER's 2012–2015 AMI Draft Determination – suplimentary submission, 28 October 2011

Final Determination

The AER has considered the benefits arising from the installation of two-element meters rather than single-element meters for customers who currently have a non-AMI two-element meter. These arguments include that the installation of two-element meters will result in a range of benefits to customers and market participants—based on the assumption that the ToU moratorium would extend beyond 31 December 2011. The benefits include the avoidance of customer price shock, lower costs resulting from customer complaints and tariff reassignments, and less network augmentation.

The AER notes that the cost of a two-element meter is around $20 to $30 more than a single-element meter based on information provided by the DNSPs in their amended budget applications.

Despite the additional cost of two-element meters, the AER considers that the benefits of two-element meters submitted by the DNSPs can be realised because the ToU moratorium is likely to be extended. On this basis, the AER accepts the DNSPs' claims that the benefits of two-element meters will be greater than the additional costs.

Therefore, while the AER considers that activities related to two-element meters are outside scope, it approves the expenditure relating to two-element meters for the 2012–15 budget period for SP AusNet, UE, and CitiPower and Powercor on a cost-benefit basis.

4.2.3 Community engagement and education – customer service opex

AER Final Determination

The AER determines CitiPower's and Powercor's proposed activity described as 'community engagement and education' is not in scope of the Order. The AER has not approved CitiPower's and Powercor's proposed expenditure relating to community engagement and education for the 2012–15 budget period.

CitiPower and Powercor have proposed a total of $1.1 million for community engagement and education for 2012 and 2013.

This expenditure item forms part of customer service opex.

The AER assessed customer service opex in the Draft Determination. CitiPower and Powercor did not provide information to the AER relating to the community engagement and education component of customer service opex in their Submitted Budgets. In their amended Submitted Budgets, CitiPower and Powercor provided information to the AER detailing the community engagement and education expenditure component.

In its assessment of customer service opex in this Final Determination, the AER considers it appropriate for this component to be assessed against the scope test. The remainder of customer service opex is assessed in section 4.5.18 against the commercial standard test.

CitiPower and Powercor have described their forecast expenditure relating to community engagement and education as follows:

> The Business forecasts include incremental costs in 2012-13 to develop and distribute additional community engagement education information regarding the AMI program. The majority of these costs are incurred in 2012.
>
> In 2011, the Victorian Government announced a review of the AMI program. This review is ongoing and not expected to be completed until the end of 2011. This review, coupled with a number of media campaigns targeting the AMI program has created significant uncertainty and confusion regarding the AMI program in the community.
>
> On completion of the Victorian Government review, it is anticipated the Business will be required to undertake further AMI rollout education programs to regain the confidence of the community in the AMI program.[411] [412]

As noted in the introduction to section 2.2, the AER considers that for an activity to be within scope of the Order, it must be reasonably required for the provision of Regulated Services and to comply with a metering regulatory obligation or requirement.

There is currently no metering regulatory obligation or requirement for CitiPower and Powercor to conduct community engagement and education. Therefore, the AER considers that expenditure related to this activity is outside scope.

The AER has determined that the expenditure relating to community engagement and education should not be approved, because CitiPower and Powercor have no obligation to commit to the expenditure.

4.2.4 Smart grid engineers – CHEDS direct costs

AER Final Determination
The AER determines activities in relation to 'smart grid' are not in scope of the Order. The AER has not approved CitiPower's and Powercor's proposed expenditure relating to two smart grid engineers for 2012 and 2013.

CitiPower and Powercor have proposed capex relating to two smart grid engineers for both 2012 and 2013, totalling $[C-I-C].

This expenditure item forms part of CHEDS direct costs. As illustrated in Table 4.9 and Table 4.10, CHEDS direct costs form part of meter installation non-contract capex and communications installation non-contract capex.

The AER assessed meter installation non-contract capex and communications installation non-contract capex in the Draft Determination.[413] CitiPower and Powercor did not provide information to the AER relating to CHEDS direct costs, or the costs that comprise CHEDS direct costs, in their Submitted Budgets. In their amended Submitted Budgets, CitiPower and Powercor provided information to the AER

[411] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 116
[412] Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 123
[413] In the Draft Determination, meter installation non-contract capex was referred to as 'meter installation other costs' and communications installation non-contract capex was referred to as 'communications installation other costs.'

detailing CHEDS direct costs, which includes expenditure relating to smart grid engineers.

The AER has assessed CHEDS direct costs in this Final Determination. In its assessment, the AER considers it appropriate to assess the expenditure relating to smart grid engineers against the scope test. The remainder of CHEDS direct costs have been accepted as within scope. These other costs have been assessed in section 4.5.9 against the commercial standard test.

As noted in the introduction to section 2.2, the AER considers that for an activity to be within scope of the Order, it must be reasonably required for the provision of Regulated Services and to comply with a metering regulatory obligation or requirement.

Regulated Services is defined in the Order as relating to metering services. Metering services is defined in the Order as relating to metering installation provision services and metering data services.

Metering installation provision services is defined in the Order to mean 'the supply, installation and maintenance of a metering installation.'

Metering data services is defined in the Order to mean 'the collection, processing and storage of, and provision of access to, metering data.'

The AER considers that activities associated with smart grid are not reasonably required for the provision of the Regulated Services. Further, the AER considers that there is no metering regulatory obligation or requirement for CitiPower and Powercor to commit expenditure relating to 'smart grid'.

The AER considers that activities in relation to 'smart grid' are outside the scope of the Order.

Regarding the distinction between 'smart grid' and the AMI roll-out, CitiPower and Powercor state that 'the smart grid function is entirely separate to the AMI program.'[414] The AER shares this view, and considers that expenditure related to smart grid should not be recovered through DNSPs' AMI budgets and customers' AMI charges.

The AER has determined that the expenditure relating to the work of smart grid engineers should not be approved because 'smart grid' is beyond the scope of CitiPower and Powercor in rolling out advanced metering infrastructure.

[414] CitiPower and Powercor, Response to Energeia Questions of 20 September 2011, p. 14

4.3 Application of the competitive tender test

AER Final Determination
The AER considers that $49.7 million and $138.9 million respectively of CitiPower's and Powercor's amended Submitted Budget was competitively tendered.

The Order sets out in clause 5C.3(a) that in scope expenditure classed as a contract cost is prudent and must be approved unless the AER establishes that the contract was not let in accordance with a competitive tender process.[415] This Final Determination refers to this assessment as the competitive tender test.

Draft Determination

Both CitiPower and Powercor entered into contracts for the AMI roll-out together, and followed the same tendering processes. Citipower and Powercor distinguished between 'contract costs' and 'other costs', in their submissions. Citipower and Powercor submitted that costs labelled as contract costs had been competitively tendered. For the most part, the AER accepted in its draft determination that the nominated contract costs had been competitively tendered. The exception was 10% of meter supply costs. The AER found this portion of meter supply costs, together with those costs listed as 'other costs', as not having been competitively tendered, and they were assessed under the expenditure incurred and commercial standard tests to determine if the expenditure was prudent for the purposes of the Order. [416]

CitiPower and Powercor have updated their contract expenditure with actual contract rates that were re-negotiated with field force service providers associated with meter and communications installation. CitiPower and Powercor also identified some costs that were incorrectly classified as non-contract ' other costs' in their Submitted Budget. CitiPower and Powercor have corrected this error in their amended Submitted Budget.

Final Determination

The AER has not established that CitiPower's and Powercor's contract costs, as opposed to their 'other costs'[417], as set out in their amended Submitted Budgets, were not let in accordance with a competitive tender process. The AER must therefore approve these contracts costs in accordance with clause 5C.3 of the Order.

CitiPower's and Powercor's contract costs are summarised in Table 2.9 and Table 4.8.

[415] If the expenditure does not meet the competitive tender test it must still be approved unless it fails to meet certain other requirements set out in clause 5C.3(b)

[416] AER Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications, July 2009, pp. 23 and 76–78

[417] Also referred to as 'non-contract costs.'

Table 4.7 Competitively tendered contract cost allocation – CitiPower ('000, Real 2011)

	2012	2013	2014	2015	Total
Capex					
Meter supply	20 273	14 162	1 059	1 417	36 911
Meter installation	7 276	5 001	-	-	12 277
Communications supply	11	11	20	23	65
Communications installation	62	61	27	21	171
Final Determination capex	27 621	19 234	1 105	1 461	49 421
Opex					
Backhaul communications	45	71	73	74	263
Final Determination opex	45	71	73	74	263

Table 4.8 Competitively tendered contract cost allocation – Powercor ('000, Real 2011)

	2012	2013	2014	2015	Total
Capex					
Meter supply	45 511	30 990	2 197	2 118	80 816
Meter installation	20 114	12 943	-	-	33 057
Communications supply	2 312	25	36	36	2 409
Communications installation	6 630	2 590	424	167	9 811
Final Determination capex	74 567	46 548	2 657	2 320	126 092
Opex					
Backhaul communications	2 195	3 486	3 563	3 638	12 882
Final Determination opex	2 195	3 486	3 563	3 638	12 882

4.4 Application of the expenditure incurred test

The effect of clause 5C.3(b)(iii) of the Order is that in scope expenditure classed as a contract cost that was not competitively tendered, or in scope expenditure not classed as a contract cost, must be assessed by the AER against the expenditure incurred test.

If the AER establishes that it is more likely than not the expenditure proposed by a DNSP will not be incurred, the AER can reject the expenditure. If the AER cannot establish the expenditure is more likely than not to not be incurred, the AER must assess the expenditure under the commercial standard test (section 2.5).

Draft Determination

CitiPower and Powercor proposed expenditure relating to call centre costs, customer interactions, AMI data delivery and technology acceptance as part of their Submitted Budget.

In its Draft Determination, the AER took the view that this expenditure had been recovered elsewhere in CitiPower's and Powercor's Submitted Budgets. Therefore, the AER took the view that it would be more likely than not that the expenditure will not be incurred.[418]

Final Determination

CitiPower and Powercor provided sufficient information to the AER demonstrating that the expenditure relating to call centre costs, customer interactions, AMI data delivery and technology acceptance was not included elsewhere in their Submitted Budgets or amended Submitted Budgets. Therefore, the AER has not established that it is more likely than not that the expenditure will not be incurred.

However, the AER has identified other costs which it has established do not meet the expenditure incurred test.

These costs are assessed below in sections 4.4.1 – 4.4.6.

In the Draft Determination, the AER assessed expenditure in the categories of meter supply / installation non-contract capex and communications supply / installation non-contract capex as not meeting the commercial standard test.[419] CitiPower and Powercor did not provide the AER with specific information relating to how these costs were calculated in their Submitted Budgets. Therefore, the AER based its assessment largely on the bottom-up builds provided by Impaq.

In response to the Draft Determination, CitiPower and Powercor provided information detailing the individual cost components that make up their meter supply / installation non-contract capex and communications supply / installation non-contract capex.

When assessing the additional information provided by CitiPower and Powercor in their amended Submitted Budgets, the AER identified the following costs that do not meet the expenditure incurred test:

- logistics buffer stock storage
- cable installation of access points / relays (Powercor only)

[418] AER Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications, July 2009, pp. 81–82

[419] In the Draft Determination, meter installation non-contract capex was referred to as 'meter installation other costs' and communications installation non-contract capex was referred to as 'communications installation other costs.'

- performance and regulatory reporting IT capex
- performance and regulatory reporting IT opex
- program reporting
- PSTN modems (Powercor only)
- meter data services opex (CitiPower only)

These costs are discussed below in more detail in sections 4.4.1 – 4.4.7. The remaining additional expenditure that makes up meter supply/installation non-contract capex and communications supply /installation non-contract capex, which the AER has assessed as more likely than not to be incurred, has then been assessed against the commercial standard test, which is outlined in sections 4.5.3 – 4.5.13.

4.4.1 Logistics buffer stock storage - PNS direct costs

AER Final Determination
The AER has established that it is more likely than not that CitiPower's and Powercor's 'logistics buffer stock storage' costs will not be incurred.

CitiPower and Powercor have proposed $2.8 million in expenditure for 2012 and 2013 relating to the capital cost associated with two months worth of meter stock rotated through storage.

This expenditure forms part of 'PNS direct costs', the remainder of which is assessed in section 4.5.5 against the commercial standard test.

CitiPower's and Powercor's expenditure is based on using a WACC of 10 per cent, an average meter cost of $[C-I-C], and a stock holding of 57,600 for both 2012 and 2013. This stock holding represents two months worth of CitiPower's and Powercor's combined meter stock.

In its report, Impaq states the values nominated by CitiPower and Powercor 'appear to be excessive.' Impaq notes the proposals are not realistic, as they do not account for the reduction in meter installations from 2012 to 2013. Further, Impaq noted that the average cost of meters used by CitiPower and Powercor was too high. Impaq's own calculation for the average cost of meters was $[C-I-C].[420]

The AER has assessed CitiPower's and Powercor's calculation for logistics buffer stock storage and has also considered the analysis provided by Impaq. The AER considers that the average cost of meters used by CitiPower and Powercor is too high. The AER has calculated its own weighted average meter price, which totalled $[C-I-C] and $[C-I-C] for 2012 and 2013 respectively. These prices also take into account the two meter vendors who supply 20 per cent and 80 per cent respectively of CitiPower's and Powercor's meter supply.

[420] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p.20 and p.94

The AER also calculated its own forecast[421] of two months worth of meter stock, resulting in a total of 103,330 over 2012 and 2013. The AER considers the forecast of CitiPower and Powercor – 115,200 – to be incorrect on the basis of its assessment.

The AER considers that CitiPower's and Powercor's logistics buffer stock storage costs should be calculated using an after tax WACC, which is 6.77 per cent for the 2009–13 period. The AER therefore considers the forecast of CitiPower and Powercor of 10 per cent is also incorrect.

The AER has established that the proposed expenditure relating to logistics buffer stock storage is more likely than not to not be incurred, because it has been calculated using incorrect information.

The AER's Approved Budget has amended CitiPower's and Powercor's logistics buffer stock storage expenditure to reflect its own assessment.

4.4.2 Cable installation of access points / relays - PNS direct costs (Powercor only)

AER Final Determination
The AER has established that it is more likely than not that Powercor's 'cable installation of access points/relays' costs will not be incurred.

Powercor states this expenditure relates to connecting access points (APs) and relays to the nearest 'telco pit' when there is no 3G coverage available.

This expenditure forms part of 'PNS direct costs', the remainder of which is assessed in section 4.5.5 against the commercial standard test.

The Impaq report notes that relays are not connected to the wide area network (WAN); however they are connected to the local area network (LAN). Because of this, relays will not be required to be connected to the nearest 'Telco pit'.[422] The AER requested further explanatory information from Impaq. In response, Impaq stated:

> Relays are not access points. Access points are the interface between the LAN and the WAN. They therefore need to connect to the WAN which is typically done by 3G but can be done through wired connections to Telco pits. Relays are just used to boost the LAN signal strength. They receive LAN communications and boost the level of signal and transmit it on. They are a LAN repeater. Hence the only connections they need are power supply.[423]

For 2012, Powercor estimates that 5 per cent of 953 relays will need to be connected, at a rate of $[C-I-C] per connection. The AER considers that, based on the advice from Impaq, this proposed expenditure is not required.

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421 The AER's forecast used CitiPower's and Powercor's installation volumes for 2012 and 2013, and calculated the 2 month average supply for each year.

422 Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 103

423 Impaq Consulting, email of 29 September 2011

Therefore, the AER has established that the proposed expenditure relating to cable installation of access points / relays is more likely than not to not be incurred.

The AER's Approved Budget has removed Powercor's expenditure relating to cable installation of access points/relays.

4.4.3 Performance and regulatory reporting – IT capex

AER Final Determination
The AER has established that it is more likely than not that CitiPower's and Powercor's 'performance and regulatory reporting' IT capex will not be incurred.

In their Submitted Budget, CitiPower and Powercor claimed that this expenditure related to:

- reporting enhancements in support of service level agreements and other industry requests
- software, licences and hardware[424]

However, in their amended Submitted Budgets CitiPower and Powercor explained that the expenditure related to a data warehousing project.[425] [426]

This expenditure makes up the total of the cost category IT capex – performance and regulatory reporting.

Draft Determination
Impaq advised that as there has been no change to the regulatory reporting requirements of the Victorian DNSPs, that there should be no requirement for enhancements or modifications to reporting systems.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination
In their amended Submitted Budget, CitiPower and Powercor state:

> The AER has not understood the nature of the expenditure included under performance and regulatory reporting. The expenditure relates to the creation of a data warehouse using the Teradata product.
>
> The data warehouse is required to store the interval data for a period of 7 years. The costs of the project are spread over multiple years to allow for the scaling of the data warehouse as the data population grows.[427] [428]

[424] AER Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications, July 2009, p. 178
[425] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 83
[426] Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 89
[427] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 83

In their Submitted Budgets, CitiPower and Powercor proposed $1.1 million and $2 million respectively for expenditure relating to performance and regulatory reporting. In their amended Submitted Budgets, expenditure increased to $1.6 million and $3.6 million for CitiPower and Powercor respectively.

The AER requested further information from CitiPower and Powercor regarding the proposed expenditure. In response, CitiPower and Powercor stated:

> At this stage the Businesses are running a process to confirm and finalise their AMI data reporting requirements and confirm if Teradata or products similar are appropriate solutions.
>
> The Businesses have not yet finalised the choice of Teradata.[429]

In their responses, CitiPower and Powercor also indicated that:

- they have considered other methods[430] for archiving 7 years of interval data,
- that the storage allowed for under the separate IT capex category 'IT infrastructure' is capable of storing 7 years of interval data, albeit using a 'tiered' approach

The AER has assessed CitiPower's and Powercor's proposed expenditure relating to performance and regulatory reporting.

The AER considers:

- CitiPower and Powercor have not confirmed or finalised the proposed expenditure in respect of the data warehouse
- CitiPower and Powercor have not confirmed their preferred solution for the data warehouse
- CitiPower and Powercor are capable of storing 7 years of interval data (the reason stated by CitiPower and Powercor as the 'reason' for the data warehouse) using existing infrastructure

Therefore, the AER has established that the proposed expenditure relating to performance and regulatory reporting is more likely than not to not be incurred.

The AER's Approved Budget has removed CitiPower's and Powercor's expenditure relating to performance and regulatory reporting IT capex.

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428 Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 89

429 CitiPower and Powercor, Reponse to AER questions of 30 September, October 2011, p. 1

430 The AER asked what other methods CitiPower and Powercor have investigated, however they did not respond.

4.4.4 Performance and regulatory reporting – IT opex

AER Final Determination
The AER has established that it is more likely than not that CitiPower's and Powercor's 'performance and regulatory reporting' IT opex will not be incurred.

As discussed in section 4.4.3 above, the AER has established that the performance and regulatory reporting IT capex — which relates entirely to the data warehousing project — is more likely than not to not be incurred.

This expenditure forms part of IT opex – performance and regulatory reporting, the remainder of which is assessed in section 4.5.21.3.

Therefore, the AER has established that the portion of performance and regulatory reporting IT opex which relates to the data warehousing project is more likely than not to not be incurred.

The AER's Approved Budget has removed the data warehousing component from CitiPower's and Powercor's performance and regulatory reporting IT opex.

4.4.5 Program reporting – executive and corporate services opex

AER Final Determination
The AER has established that it is more likely than not that CitiPower's and Powercor's 'program reporting - executive and corporate services' opex will not be incurred.

CitiPower and Powercor state this expenditure relates to program reporting for Board and Steering committee meetings. This expenditure forms part of executive and corporate services opex the remainder of which is assessed in section 4.5.20 against the commercial standard test.

The AER has identified an error in CitiPower's and Powercor's forecasts. For this item, CitiPower's and Powercor's amended Submitted Budget states that they require one FTE for one day a month for the task of program reporting. However, CitiPower and Powercor have calculated their budgets assuming the FTE will work 12 weeks per annum. The AER considers that a FTE working one day a month would only work 2.4 weeks per annum.

Therefore, the AER has established that the proposed expenditure relating to program reporting is more likely than not to not be incurred.

The AER's Approved Budget has amended CitiPower's and Powercor's proposed expenditure accordingly.

4.4.6 PSTN modems – PNS non-contract unit costs (Powercor only)

AER Final Determination
The AER has established that it is more likely than not that Powercor's 'PSTN modems' costs will not be incurred.

The AER identified an error relating to Powercor's number of public switched telephone network (PSTN) modems for 2014 and 2015.

The AER requested further information from Powercor regarding their PSTN modem volumes. In response, Powercor stated:

> An error has been detected in the PSTN volumes for 2014 and 2015 (submitted volumes 126 and 122 respectively). The correct Powercor Australia volumes for PSTN for 2015 and 2015 should have been 14 and 14 respectively.[431]

The AER has established that the proposed expenditure relating to PSTN modems that forms part of Powercor's amended Submitted Budget is more likely than not to not be incurred because Powercor has stated the volume of PSTN modems is incorrect.

The AER's Approved Budget has amended Powercor's proposed expenditure to allow for the correct number of PSTN modems.

This expenditure forms part of PNS non-contract unit costs, the remainder of which is assessed in section 4.5.3 against the commercial standard test.

4.4.7 Meter data services opex (CitiPower only)

AER Final Determination
The AER has established that it is more likely than not that CitiPower's meter data services opex will not be incurred.

CitiPower and Powercor stated that the main reason of the expenditure was related to human intervention in the delivery of data for the AMI program.

Draft Determination
The AER sought further information regarding the expenditure from CitiPower and Powercor. In response, CitiPower and Powercor stated that their forecasts were based on the fact that the businesses were expecting an increase in data loads as AMI meters were producing data at half hour intervals. The AER considered that CitiPower and Powercor did not provide an adequate explanation for the costs proposed for this forecast.

Therefore, the AER sought advice from Impaq regarding the proposed expenditure.

Impaq conducted a bottom-up build of CitiPower's and Powercor's expenditure after taking into account the following areas of possible expenditure:

[431] Powercor, Response to AER questions of 23 September, September 2011, p. 18

- Collection and processing of data
- Management of national metering identifiers
- Handling of market participants request for data
- Provision of data to AEMO

The Impaq assessment confirmed the AER's view that CitiPower and Powercor are unlikely to require the high level of resourcing outlined in their budget and charges applications.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budget was a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.[432]

Final Determination

CitiPower's proposed meter data services opex increased from $5.9 million in its Submitted Budget to $7.8 million in its amended Submitted Budget. CitiPower gave no explanation for the increase in expenditure, other than providing a Deloitte model which totalled $6.6 million.

CitiPower discussed the difference between its figures and Deloitte's, stating:

> CitiPower's forecast of Meter Data Services Operating Expenditure is comparable with the detailed bottom up build up undertaken by Deloitte. On this basis, CitiPower believes that its forecast is prudent and is consistent with the 'commercial standard that a reasonable business would exercise in its circumstances.'[433]

However, the AER identified several errors in the Deloitte forecast. For example, the Deloitte model included expenditure relating to non-AMI meters and FTE requirements for activities which CitiPower and Powercor already receive funding for outside of their AMI budgets and revenue received from customers' AMI charges.[434]

The AER requested CitiPower's own model for meter data services opex. CitiPower responded, stating:

> The Businesses did not construct a model for the purposes of determining its meter data service costs.[435]

Instead, CitiPower has provided an amended version of the Deloitte report, which now totals $6 million.[436]

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[432] ibid. pp. 184–186

[433] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 102

[434] The AER identified three errors; 'effort related to "Import - Type 1-4"', 'energisation effort relating to manual, semi-automatic, and fully automatic', and expenditure relating to non-ami meters.

[435] CitiPower and Powercor, Response to AER questions of 28 September, October 2011, p. 4

[436] ibid., pp. 7–15

The AER has established that the proposed meter data services opex that forms part of CitiPower's amended Submitted Budget is more likely than not to not be incurred because CitiPower has stated that the supporting Deloitte model had errors.

The AER's Approved Budget has amended CitiPower's proposed meter data services opex to allow the expenditure calculated as per the corrected version of the Deloitte model.

The assessment of Powercor's meter data services opex is in section 4.5.16.

4.5 Application of the commercial standard test

The Order states that expenditure that is within scope, not competitively tendered, and likely to be incurred must be assessed by the AER against the commercial standard test.

The commercial standard test requires the AER to approve such expenditure unless it can establish that incurring it would involve a substantial departure from the commercial standard a reasonable business would exercise in the circumstances.

In response to the Draft Determination, Citipower and Powercor stated they are concerned that the AER's assessment under the commercial standard test should more broadly encompass what is prudent and should not be limited to quantum but include also consideration of 'the process followed and principles applied' in incurring the expenditure.[437]

The AER notes that, in its assessment of CitiPower's and Powercor's amended Submitted Budgets under the commercial standard test, it has considered the process followed and the principles applied by CitiPower and Powercor in incurring the expenditure. The AER's response to CitiPower's and Powercor's concerns is discussed in further detail in section 1.2.3.4.

Indirect costs

Indirect costs are those applied to either opex or capex costs that act as a multiplier. The indirect costs examined below amount to expenditure that is not competitively tendered but which is likely to be incurred. The expenditure must therefore be assessed against the commercial standard test. These indirect costs can sum to large figures when applied to DNSPs' proposed capex and opex.

[437] Citipower, Amended Submitted Budget & Charges Application 2012-15, p. 21-24.

4.5.1 Related party margins

AER Final Determination
The AER has not established that CitiPower and Powercor incurring the expenditure for related party margin transactions involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CitiPower and Powercor submit that related party transactions should include a margin for services provided. Both DNSPs engage in outsourcing to contractors that are related to the DNSPs through common ownership. As a result, some of the operating and capital expenditure forecasts are based on the charges they expect to pay to these related party contractors.

The AER considers related party margins are within scope. However, Citipower and Powercor did not conduct a competitive tender process prior to the establishment of the related party contracts. The AER must therefore assess whether the related contractors' underlying costs and the margins in the contracts do not reflect prudent costs under the commercial standard test.

4.5.1.1 Draft Determination

In the Draft Determination, the AER considered that the applicable commercial standard for all DNSPs generally would not provide for double counting of costs and would have factored in the historical efficiency of the contractor as well as the corporate and indirect costs of the contractor.

Further, the AER sought to establish the commercial standard for each DNSP by conducting a bottom-up assessment of what it considered to be prudent expenditure based on the above factors. After assessing Citipower and Powercor's contracts which included related party margins, the AER allowed for an efficiency margin to reward the businesses for productivity gains achieved in the 2009–11 budget period, as well as corporate overhead costs that were not included in the DNSPs' regulatory asset base. The AER allowed efficiency margin was based on historical multi-factor productivity estimates.

Based on this assessment, in the Draft Determination the AER rejected Citipower's and Powercor's proposed related party margins – with the exception of the CHED margin related to outsourced service costs – as incurring the expenditure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.[438]

4.5.1.2 CitiPower and Powercor response

CitiPower and Powercor submitted that the AER should give greater weight to the businesses decision-making process, principles applied in making that decision, and

[438] AER, *AMI Draft Determination 2012–15 budget and charges application*, July 2011, p. 83: As noted in the Draft Determination, the AER's determination in this regard is made under the AMI Cost Recovery Order in Council, and does not involve the application of any of the expenditure provisions under chapter 6 or 6A of the NER.

the standard of prudence that would ordinarily and reasonably be exercised by a business engaged in commerce.[439] [440]

CitiPower and Powercor highlight that the intent of the regime established by the Cost Recovery Order is not to create efficiency incentives or mirror outcomes in a competitive market, but to provide for the pass-through of the DNSPs' actual expenditure. The two DNSPs suggest that in its assessment of the amended budget applications, the AER cannot apply the efficiency principles that exist under the National Electricity Rules (NER).[441]

4.5.1.3 Submissions from stakeholders

The Minister for Energy and Resources (Vic) suggests the AER should not apply an efficiency sharing mechanism for determining the margin on related party contracts. The Minister notes the Order is based on a cost pass-through mechanism. Therefore, the Minister considers customers should receive the benefits associated with any historical efficiencies.[442]

4.5.1.4 Final Determination

In response to Citipower and Powercor's concerns regarding the AER's application of the commercial standard, and with reference to the Minister's submission, the AER has set out its application of the test in section 1.2.3.4 of the Introduction. The AER recognises that the commercial standard may require consideration of the principles and process applied by a DNSP in its decision-making process. The commercial standard test may encompass a wide range of factors with the quantum of expenditure likely to be a relevant factor and possibly a critical factor. With regard to the Minister's and Citipower's and Powercor's comments on the relevance of efficiency, the AER has also addressed this at 1.3.6 of the Introduction.

Taking into account information provided in CitiPower's and Powercor's amended Submitted Budgets and the related party contracts, the AER has further considered the factors it is to take account of and given fundamental weight to under clause 5C.4.

Citipower's and Powercor's circumstances prior to the AMI rollout included that they had an existing contract with CHED for corporate services. Following the Victorian Government's announcement of the AMI rollout in 2006, both entered into a contract with CHED for Field and Metering Services in November 2008.

In addition the AER notes that all DNSPs as a result of the Victorian Government's decision to proceed with the roll-out became subject to a new regulatory regime that was specific to the AMI roll-out. Further, the roll-out required each DNSP to apply new technology. The technology was to be rolled out to all customers. The scale of the roll-out was therefore significant but risks and implications of the roll-out may not have been apparent at that stage.

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439 CitiPower, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 30

440 Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 31

441 Powercor, pp. 17–18, 20, 24, 32–35; Citipower, Amended Submitted Budget and Charges Application, 17–18, , 20, 24, 32–35; Citipower and Powercor letter to AER dated 6 October 2011: 'AMI Draft Determination - Submission of Minister for Energy and Resources'.

442 Hon. Michael O'Brien, Minister for Energy and Resources, Submission to the AER, 9 September 2011, pp. 4–5.

The AER maintains that the principles it applied to determining the commercial standard in the Draft Determination remain relevant. However, on further considering Citipower and Powercor's specific circumstances, and with particular reference to the above factors that would have impacted upon any decision making process to incur expenditure for related party margins, the AER is unable to establish that the commercial standard applicable to each business would not have included a margin as was proposed by CitiPower and Powercor.

In incurring the related party margins, CitiPower and Powercor submit that they relied on empirical evidence provided by their expert consultants, which reflected actual commercial practice at the time. The AER places no particular weight on these benchmarked margins other than for this purpose of assessing that they are comparable with margins as included in the contracts with related party contractors.

While there is some evidence to the contrary in that not all DNSPs applied a related party margin, the DNSPs' decision to commit to the related party margins was a commercial option that may have reflected the commercial standard that a reasonable business would have exercised in the particular circumstances of this case. As a result, the AER is unable to establish the related party margins represent a substantial departure from the commercial standard.

The AER has reached this conclusion by applying the commercial standard test under the Order which is specific to the AMI regime and which differs to the analysis that is applied to expenditure under the NER.

4.5.2 Exchange rates

AER Final Determination
The AER has not established that CitiPower's and Powercor's foreign exchange forecasts are a substantial departure from a commercial standard that a reasonable business would exercise in the circumstances.

CitiPower and Powercor purchase their meters from the United States and therefore require an allowance to take into account any foreign exchange exposure as part of this process.

Draft Determination

The AER rejected the CitiPower's and Powercor's foreign exchange forecasts in the Draft Determination as it considered that the rates used by the businesses did not reflect:

- the current AUD to USD exchange rate or
- the foreign exchange rate currently available in the money market.

The AER determined the commercial standard should reflect an exchange rate forecast based on a 1 month historical swap rate from Bloomberg.[443]

[443] AER, *Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012¬15 budget and charges applications*, July 2011, p. 103.

Submissions from stakeholders

CitiPower and Powercor raised the following issues in their amended Submitted Budgets:

- The commercial standard should reflect the forward foreign exchange rates that are currently available in the foreign exchange market.

- The AER's application of the Bloomberg forward rate in the Draft Determination was not reasonable as it is not possible to transact using Bloomberg and, as such, the pricing does not accurately reflect executable pricing in the foreign exchange market. Further, Bloomberg is backward looking and historical rates are not a reliable measure of future exchange rates.[444] [445]

Final Determination

The AER has reviewed CitiPower's and Poweror's updated foreign exchange forecasts and considers them to be consistent with the commercial standard. In particular, the AER notes that CitiPower's and Powercor's hedging arrangement is in accordance with good industry practice.[446] Further, CitiPower and Powercor's revised forecasts are in-line with the Bloomberg forward exchange rate. The AER notes that the Bloomberg data is based on market rates available in the foreign exchange market and as such is the best estimates of a commercial standard. Indeed, the Bloomberg forward exchange rate reflects the current market rate available to the DNSPs.

The AER therefore has approved CitiPower's and Powercor's foreign exchange rate forecasts.

The AER notes that CitiPower and Powercor has requested the AER give consideration to excluding movements in the foreign exchange rate from its calculation of the 110 per cent threshold. The AER has considered this proposition but notes that the prescriptive Order does not allow it the discretion to include or exclude certain elements from its budget assessment. Consequently the AER considers that CitiPower and Powercor should refer this matter on to the policy makers– the Department of Primary Industries.[447]

4.5.2.1 The effect of the exchange rate on CitiPower's and Powercor's budget

CitiPower's and Powercor's amended Submitted Budgets were prepared using several foreign exchange rate assumptions over the 2012–15 period.

The weighted average exchange rate used in CitiPower's and Powercor's amended Submitted Budgets for 2012 and 2013 is $1.0082 and $0.9725 respectively. For 2014 and 2015, CitiPower and Powercor have used forecast exchange rates provided by the National Australia Bank (NAB) of $0.9420 and $0.9090 respectively.[448] [449]

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444 CitiPower, *Amended Submitted Budget and Charges Application 2012-15,* August 2011, pp. 63–65.
445 ibid., pp. 65–66.
446 ibid., pp. 1–2.
447 Ibid., p.2
448 CitiPower, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 66
449 Powercor, Amended Submitted Budget and Charges Application 2012–15, 26 August 2011, p. 64

CitiPower and Powercor contended they should be allowed to update their foreign exchange rate assumptions between the submission of their amended Submitted Budget and the time of the AER's Final Determination. This was to ensure that the foreign exchange rate assumptions in the Approved Budget took into account the most up-to-date information available.

The AER allowed CitiPower and Powercor to update their foreign exchange rate assumptions, which were provided on 5 October 2011.

The updated weighted average exchange rate provided by CitiPower and Powercor for 2012 and 2013 is $0.9275 and $0.8980 respectively. For 2014 and 2015, CitiPower and Powercor have provided updated forecast exchange rates provided by the National Australia Bank (NAB) of $0.8693 and $0.8420 respectively.[450]

These exchange rate adjustments have resulted in an increase of CitiPower's and Powercor's budget. Any expenditure that is accounted for in US dollars will increase, however this increase is also multiplied through various other costs.

For example, PNS logistics is calculated in part by applying a [C-I-C] per cent meter stores recovery rate to BAU meter supply and communications supply contract unit costs. An increase in the exchange rate increases the PNS logistics cost.

The increase in PNS logistics then causes increases PNS corporate overheads, and PNS margin.[451] [452]

The AER has calculated that CitiPower's and Powercor's updated exchange rate has resulted in a budget increase of $3.2 million and $7.2 million for CitiPower and Powercor respectively.

Throughout the Final Determination, CitiPower's and Powercor's amended Submitted Budget calculations are based on the exchange rate assumptions provided on 26 August.

The AER's Approved Budget calculations are based on the updated exchange rate assumptions of 5 October and any expenditure reductions resulting from the AER's assessment.

In a number of cases the updated exchange rate has resulted in increases larger than the reductions determined by the AER. For example, for meter supply non-contract costs (see Table 4.11 and Table 4.12) the value of the AER's Approved Budget is higher than the value of CitiPower's and Powercor's amended Submitted Budget.

Capital expenditure analysis

For the purposes of this Final Determination, capital expenditure (capex) represents the purchase of physical assets installed into the distribution network as part of the AMI roll-out, including meters, communications infrastructure and computer systems.

[450] CitiPower and Powercor, email of 5 October 2011

[451] All PNS costs are discussed in further detail in section 4.5.3 to 4.5.7.

[452] This multiplier effect is not restricted to PNS costs. PNS has been used as an example of the multiplier effect that flows through CitiPower's and Powercor's models following a change in the exchange rate.

Relevantly[453], CitiPower's and Powercor's non-contract capex[454] has been divided into the following categories:

- Meter supply – non-contract costs
- Meter installation – non-contract costs
- Communications supply – non-contract costs
- Communications installation – non-contract costs
- IT capex
- Project and administrative costs (Powercor only)

In the Draft Determination, the AER conducted its assessment largely on the basis of bottom-up assessments provided by Impaq. At the time, the AER noted CitiPower and Powercor had not sufficiently explained their proposed expenditure for several capex items.[455] The AER notes that in their budget applications, DNSPs are to set out the information on which they rely.[456]

CitiPower's and Powercor's amended Submitted Budgets note the AER had misunderstood how several capex items had been built up. The AER was provided additional information which sets out the breakdown of the costs, particularly in relation to meter supply/installation non-contract costs and communications supply/installation non-contract costs (the first four dot points above).

The amended Submitted Budgets note that meter supply/installation non-contract costs and communications supply/installation non-contract costs have been calculated using an allocation of costs relating to Powercor Network Services (PNS), CHED Services, and CitiPower / Powercor overheads.[457] The complete list of these costs is as follows:

- PNS non-contract unit costs
- PNS logistics
- PNS direct costs
- PNS corporate overhead
- PNS margin

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453 CitiPower and Powercor have also proposed capex relating to 'project management'. These costs were approved in the Draft Determination and are therefore not assessed further.

454 All of CitiPower's and Powercor's contract costs met the competitive tender test (as noted in section 2.3). Therefore, the only capex that is assessed against the commercial standard test relates to non-contract costs.

455 AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012-15 budget and charges applications, July 2011, p.168, p. 170.

456 Clause 5.3 of the Order

457 PNS and CHED Services are related parties of CitiPower and Powercor.

- CHEDS connection services
- CHEDS direct costs
- CHEDS project management
- CHEDS margin
- CitiPower / Powercor fleet and property overhead
- CitiPower / Powercor corporate overhead

Table 4.9 and Table 4.10 set out the impact each of these costs have on the capex proposed by CitiPower and Powercor for meter supply/installation non-contract costs and communications supply/installation non-contract costs. The tables also state if the costs relate to the AMI roll-out, or BAU activities.

CitiPower and Powercor did not provide information about these different cost categories to the AER as part of their Submitted Budgets. The AER has only had the opportunity to assess CitiPower's and Powercor's expenditure in the detail outlined below as part of the Final Determination process. For the Draft Determination, the AER's assessment was based largely on bottom-up cost builds produced by Impaq.

Table 4.9 CitiPower – Summary of non-contract capital expenditure by category and source ($'000, 2011 Real)

	Meter Supply		Communications Supply		Meter Installation		Communications Installation		Total 2012–15
	AMI Mass Rollout	BAU	AMI Mass Rollout	BAU	AMI Mass Rollout	BAU	AMI Mass Rollout	BAU	
PNS non-contract unit costs	-	8	5	-	106	1 437	26	-	1 582
PNS logistics	-	620	-	4	-	-	-	-	624
PNS direct costs	-	-	-	-	7 871	-	10	-	7 880
PNS corporate overhead	-	341	-	2	-	67	-	-	410
PNS margin	-	51	-	-	423	80	2	-	556
CHEDS connection services	-	-	-	-	282	65	-	-	348
CHEDS direct costs	-	-	-	-	253	-	398	-	651
CHEDS project management	1 943	-	1	-	1 367	-	2	-	3 314
CHEDS margin	525	78	-	-	426	23	48	-	1 104
CitiPower / Powercor fleet and property overhead	-	66	-	1	-	16	-	-	83
CitiPower / Powercor corporate overhead	-	1 833	-	15	-	437	-	-	2 285
Total	2 468	2 997	7	22	10 727	2 215	846	0	18 834

Source: CitiPower's amended Submitted Budget and Charges Application 2012–15, page 141, 26 August 2011

Table 4.10 Powercor - Summary of non-contract capital expenditure by category and source ($'000, 2011 Real)

	Meter Supply		Communications Supply		Meter Installation		Communications Installation		Total 2012–15
	AMI Mass Rollout	BAU	AMI Mass Rollout	BAU	AMI Mass Rollout	BAU	AMI Mass Rollout	BAU	
PNS non-contract unit costs	-	79	4 133	204	2 641	2 654	628	54	10 392
PNS logistics	-	1 058	-	7	-	-	-	-	1 065
PNS direct costs	-	-	-	-	15 100	-	733	-	15 833
PNS corporate overhead	-	585	-	13	-	123	-	2	724
PNS margin	-	87	-	1	940	147	72	3	1 251
CHEDS connection services	-	-	-	-	611	466	18	14	1 108
CHEDS direct costs	-	-	-	-	564	-	9 463	-	10 026
CHEDS project management	4 057	-	130	-	3 106	-	83	-	7 377
CHEDS margin	1 160	133	80	3	1 010	83	1 209	6	3 682
CitiPower / Powercor fleet and property overhead	-	2 575	-	71	-	713	-	19	3 377
CitiPower / Powercor corporate overhead	-	7 031	-	194	-	1 946	-	51	9 222
Total	5 217	11 549	4 342	493	23 971	6 131	12 205	147	64 056

Source: Powercor's amended Submitted Budget and Charges Application 2012–15, page 149, 26 August 2011

The AER has assessed the costs of PNS, CHED Services, and CitiPower / Powercor overheads against the commercial standard test in sections 4.5.4 to 4.5.13. The Final Determination then outlines the effect of this assessment on meter supply/installation non-contract costs and communications supply/installation non-contract costs.

The AER's assessment of CitiPower's and Powercor's IT capex and project administration (Powercor only) against the commercial standard test is set out in sections 4.5.14 and 4.5.15.

4.5.3 PNS non-contract unit costs

AER Final Determination
The AER has not established that incurring the expenditure in respect of PNS non-contract unit costs[458] involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

PNS non-contract unit costs relate to:

- works necessary to replace meters and time-switches on customer installations[459]
- new or replacement communications equipment that is used to transfer data from AMI meters to a central data collection point[460]
- the supply of meter antenna[461]
- works necessary to remove and install meters and time-switches on customer installations with AMI meters, manually read interval meters (MRIMs), and accumulation meters[462]
- the installation of new or replacement communications equipment used to transfer data from AMI meters to a central data collection point[463]

PNS non-contract unit costs total $1.6 million and $10.4 million for CitiPower and Powercor respectively.

The AER has assessed CitiPower's and Powercor's amended Submitted Budget. The AER has also conducted an extensive information request process in accordance with clause 5.6 of the Order, and has accordingly assessed this additional information.

As discussed in section 4.4.6, the AER identified an error regarding the PSTN modem volumes for Powercor. This was assessed against the expenditure incurred test. The remaining expenditure has been assessed against the commercial standard test.

458 Less the PSTN modems PNS non-contract unit costs rejected against the expenditure incurred test in section 4.4.6
459 CitiPower, Amended Submitted Budget and Charges Application 2012-15, August 2011, p. 146
460 ibid., p. 146
461 ibid., p. 144
462 ibid., p. 144
463 ibid., p. 144

The AER has not established that incurring the expenditure in respect of PNS non-contract unit costs[464] involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.4 PNS logistics

AER Final Determination
The AER has not established that incurring the expenditure in respect of PNS logistics involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

PNS's logistics costs relate to the logistics services that are provided by PNS to CHED Services in relation to BAU meter supply and communications supply.[465] PNS's logistics costs total $624,000 and $1 million for CitiPower and Powercor respectively.

These non-contract costs have been calculated by applying a [C-I-C] per cent meter stores recovery rate to the BAU meter supply and communications supply contract unit costs. This is the rate applied by PNS to all materials handled through its standard stores process to recover its stores recovery costs.[466]

The AER has assessed CitiPower's and Powercor's amended Submitted Budget. The AER has also conducted an extensive information request process in accordance with clause 5.6 of the Order, and has accordingly assessed this additional information.

The AER has not established that incurring the expenditure in respect of PNS logistics involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.5 PNS direct costs

AER Final Determination
The AER has established that incurring the expenditure in respect of PNS direct costs involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

PNS's roll-out direct costs relate to either AMI roll-out meter installations or communications installations.[467] PNS's roll-out direct costs total $7.8 million and $15.8 million for CitiPower and Powercor respectively.

AMI roll-out meter installation - logistics buffer stock storage
CitiPower and Powercor have proposed $2.8 million in expenditure for 2012 and 2013 relating to the capital cost associated with two months worth of meter stock rotated through storage.

[464] Less the PSTN modems PNS non-contract unit costs rejected against the expenditure incurred test in section 4.4.6
[465] CitiPower, Amended Submitted Budget and Charges Application 2012-15, August 2011, p. 145
[466] ibid., p. 145
[467] ibid., p. 145

The AER has assessed CitiPower's and Powercor's proposed capex relating to logistics buffer stock storage. The AER considers that the appropriate test to assess the expenditure is the expenditure incurred test, rather than the commercial standard test.

Therefore, the assessment is outlined above in section 4.4.1.

AMI roll-out meter installation - field management and training
CitiPower and Powercor have proposed $3.1 million and $7 million respectively for field management and training.

The expenditure relates to [C-I-C] FTEs for both 2012 and 2013. A labour cost of $[C-I-C] has been applied to each FTE.

The AER engaged Impaq to assess CitiPower's and Powercor's amended Submitted Budgets.

Impaq notes that the number of FTEs is 'possibly an acceptable level for the first phases of meter installation' however it is 'an excessive level of resources for 2012–15.' Impaq concludes that for 2012, only [C-I-C] FTEs will be required, and for 2013 only [C-I-C] FTEs will be required.[468] [469]

Further, Impaq notes that 'the average fully absorbed annual salary cost for the resources listed above, at $[C-I-C], is excessive.' Impaq considers that CitiPower's and Powercor's labour rate is 30 per cent above the commercial standard. Impaq concludes that $[C-I-C] reflects the commercial standard for the type of resource required by CitiPower and Powercor.[470]

The AER asked CitiPower and Powercor why they required [C-I-C] FTEs. CitiPower and Powercor stated:

> Field installation costs continue to be incurred until the completion of the roll out. Further, 2013 is expected to be the most challenging for the Businesses as it will involve resolving many of the difficult sites bypassed earlier in the AMI roll out program, and customers who have previously refused to have an AMI meter installed. The need to train, schedule, deploy, audit, and supply contracted service providers to install AMI meters does not diminish in 2013.
>
> The Deloitte Report considers field force training and management costs on pages 31 - 35. Deloitte identify a higher FTE allowance as being appropriate ([C-I-C] FTEs in 2012, [C-I-C] FTEs in 2013 and [C-I-C] FTEs in 2014). [471]

The AER also asked why the cost of $[C-I-C] per FTE is prudent, considering that under 'CHEDS direct costs' for the roll-out closeout FTEs are calculated at $[C-I-C] each. CitiPower and Powercor stated:

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468 The Impaq assessment was in respect of the total number of FTEs required for PNS direct costs, rather than field management and training specifically.

469 Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, pp. 18–20 pp. 92–24

470 ibid. 92–24

471 CitiPower and Powercor, Response to AER questions of 23 September, September 2011, p. 1

> CHED Service and PNS salary assumptions are not comparable. They involve completely different skill sets and expertise.
>
> The Businesses' expenditure estimates are however higher than Deloitte's as a consequence of more conservative salary assumptions. [472]

CitiPower and Powercor provided a report prepared by Deloitte (the Deloitte Report) which outlines forecasts concerning CitiPower's and Powercor's field management and training staff requirements.

The Deloitte Report allows [C-I-C] FTEs and [C-I-C] FTEs for 2012 and 2013 respectively; however the FTE salary allowance is substantially lower than CitiPower's and Powercor's. For 'manager' positions, Deloitte has used a labour rate of $[C-I-C] (including 30 per cent oncost loading). For 'coordinator' positions, Deloitte has used a labour rate of $[C-I-C] (including 30 per cent oncost loading).

The AER considers that the rates applied in the Deloitte Report provide independent support for the labour rate analysis provided by Impaq. On this basis, the AER considers that incurring expenditure based on the rates proposed by Deloitte would reflect the commercial standard of a reasonable business in the circumstances. The rates proposed by CitiPower and Powercor are more than 20 per cent above those proposed by both their own consultants and Impaq. The AER considers this to be substantial.

The AER has therefore established that CitiPower's and Powercor's proposal to incur expenditure based on a labour rate of $[C-I-C] involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

In respect of the number of FTEs, the AER has not established that incurring the expenditure related to [C-I-C] FTEs involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Of the [C-I-C] FTEs allocated to field management and training, [C-I-C] are management positions. The AER considers that the labour rate for these management positions should be changed to $[C-I-C]. For the remaining [C-I-C] positions, the AER considers that the labour rate be changed to $[C-I-C].

The AER's Approved Budget has amended CitiPower's and Powercor's PNS direct costs accordingly.

AMI roll-out meter installation - customer calling card
CitiPower and Powercor have proposed $817,000 and $1.8 million respectively for capex relating to the provision of customer calling cards. Since 1 July 2011, installers have been required to fill in customer calling cards at the end of each installation. CitiPower and Powercor claim that the cost of each calling card is $4.26 per customer.

In its report, Impaq notes:

> There is very little information to be filled in on this card (the installer's name, registration details and other minor information). This card is quite

[472] CitiPower and Powercor, Response to AER questions of 23 September, September 2011, p. 1

> simple and the printing cost is low. The installation contractor would complete this card at the conclusion of the installation and the time cost for doing this is an installation contractor cost. Impaq does not consider the proposed cost of $4.26 to be prudent. The time to complete the card will be less than 1 minute. At a cost of $4.26 this equates to an hourly rate of $255 which is excessive. Installation contractor rates are closer to $100 per hour. Hence Impaq considers that a prudent cost is half this rate.[473]

The AER asked CitiPower and Powercor to provide further information regarding the customer calling card. In response, CitiPower and Powercor stated:

> The scope and cost of introducing the customer calling card was market tested with all three of the Businesses' field force service providers in April/May 2011. The unit rates provided to the AER are a direct representation of the unit rates negotiated with each field force service provider.
>
> The unit rate for each customer calling card includes:
>
> * the cost of production, to the standards and format specified by ESV;
> * the field force service provider effort to manage these as another inventory item;
> * the installers effort to complete the details on each card as specified by ESV; and
> *the installers effort to issue the card to the customer in accordance with CitiPower and Powercor Australia Powerful Customer Service requirements.[474]

The AER requested a breakdown of the $4.26 cost, accounting for each of the cost components. In response, CitiPower and Powercor stated:

> To develop the Calling Card cost estimate, each field force service provider used time-in-motion analysis to determine the additional time it would take a meter installer, per installation, to:
>
> * obtain the specific site information from their field mobile device,
> * record the installation details on the card;
> * record their own details on the card; and
> * make contract with the customer and provide them with the card, taking the time to answer any questions that may arise[475]

The AER requested a copy of the customer calling card from CitiPower and Powercor. The AER notes from the card provided that the installer is only required to write the following information on the card:

- The customer's address
- The customer's meter number
- The installer's name
- The installers signature

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473 Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 21 p. 95

474 CitiPower and Powercor, Response to AER questions of 28 September, October 2011, p. 3–4

475 ibid., p. 9–10

- The installers licence / ESA passport number
- The date

The AER considers that it would take the installer less than one minute to provide this information. This estimate is in line with the advice provided by Impaq consulting.

Further, the AER has not been provided any information from CitiPower and Powercor demonstrating that the ESV requires the distributors to 'take the time to answer any questions that may arise' following the customer receiving the card.

CitiPower and Powercor were asked to provide a breakdown of the expenditure, accounting for each cost component. In response, CitiPower and Powercor have provided limited information. For example, although CitiPower and Powercor say the cost is made up of a variety of components, they do not state the cost for each of these components.[476] The AER has taken the absence of this information into account when making its assessment under the commercial standard test.

Therefore, the AER considers it is appropriate to conduct its own build up of costs relating to the customer calling card using the following assumptions:

- it takes one minute to fill in the customer calling card (supported by Impaq)
- an installer earns $[C-I-C] per hour (as per CitiPower and Powercor labour rate information)
- the installer is not required by ESV to answer questions on site (the customer calling card also provides a customer enquiry phone number)

The AER's assessment has resulted in a per customer cost of $1.25 for the customer calling card.

The AER considers that this cost reflects the commercial standard of a reasonable business in CitiPower's and Powercor's circumstances. Further, the AER considers that CitiPower's and Powercor's proposed expenditure of $4.26 per customer to be a substantial departure from the commercial standard.

The AER considers that going beyond the ESV requirements and spending more time at a customer's property than necessary is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Therefore, the AER has established that incurring the expenditure in respect of the customer calling card involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER's Approved Budget has amended CitiPower's and Powercor's expenditure accordingly.

AMI roll-out communications installation - Cable installation of access points / relays

[476] CitiPower and Powercor, Response to AER questions of 5 October, October 2011, p. 9–10

This expenditure relates to connecting access points (APs) and relays to the nearest Telco pit when there is no 3G coverage available.

The AER has assessed CitiPower's and Powercor's proposed capex relating to cable installation of access points / relays. The AER considers that the appropriate test to assess the expenditure is the expenditure incurred test, rather than the commercial standard test.

Therefore, the assessment is outlined above in section 4.4.2.

4.5.6 PNS corporate overhead

AER Final Determination
The AER has not established that incurring the expenditure in respect of PNS corporate overheads involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

A share of PNS's corporate overhead costs is allocated to CHED Services as part of the provision of BAU meter and communications supply and installation non-contract capex.[477] The PNS corporate overhead totals $410,000 and $724,000 for CitiPower and Powercor respectively.

- contract unit costs, PNS non-contract unit costs and PNS logistics costs for BAU meter and communications supply

- PNS non-contract unit costs for BAU meter and communications installation[478]

The AER has not established that incurring the expenditure in respect of PNS corporate overheads involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.7 PNS margin

AER Final Determination
The AER has not established that incurring the expenditure in respect of PNS margin involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

A PNS margin is charged on AMI mass roll-out and BAU meter and communications installation and on BAU meter and communications supply non-contract capital expenditure.[479] The PNS margin totals $556,000 and $1.2 million for CitiPower and Powercor respectively.

This has been calculated by applying a margin rate of [C-I-C] per cent to:

- PNS logistics and PNS corporate overhead for BAU meter and communications supply

[477] ibid., p. 148
[478] ibid., p. 148
[479] ibid., p. 148

- PNS non-contract unit costs, PNS roll-out direct costs and PNS corporate overhead for AMI mass roll-out and BAU meter and communications installation[480]

As outlined in section 4.5.1, the AER has not established that the related party margins proposed by CitiPower and Powercor are a substantial departure from the commercial standard that a DNSP performing an AMI roll-out would incur. This decision applies to PNS margin.

4.5.8 CHEDS connection services

AER Final Determination
The AER has not established that incurring the expenditure in respect of CHEDS connection services involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CHED Services' connection services are the meter exchange processing costs that are recovered through meter and communications installation non-contract capex. This expenditure is allocated between AMI roll-out costs and BAU costs.[481]

CitiPower and Powercor have proposed $348,000 and $1.1 million respectively for capex relating to CHEDS connection services.

For AMI roll-out costs, the CHED Services' connection costs are calculated by apportioning (based on NMIs) the costs of six FTEs between CitiPower and Powercor. These six FTEs undertake the following tasks:

- Manual actioning of Service Order Create and Close (SOCC) exceptions that are created by data validation errors or process failures[482]
- Investigating queries sent through to the SOCC in relation to the back office processing of the meter exchanges[483]
- Manual back-office re-processing to convert installed AMI Type 5 meters to manually read interval meters Type 5 or basic Type 6 meters where reliable field communications cannot be established with AMI Type 5 meters following installation[484]
- Raising IT Support calls when SOCC inbox exceptions that can not be handled by the process team and IT intervention is required[485]
- Undertaking business verification regression testing of incremental process changes to ensure that new process relating to meter exchanges work correctly[486]

480 ibid., p. 148
481 ibid., p. 148
482 ibid., p. 148
483 ibid., p. 148
484 ibid., p. 148
485 ibid., p. 149
486 ibid., p. 149

- Corresponding with AMI Field Planning to resolve any outstanding SOCC exchanges and incorrect metering that has been installed in the field[487]

For BAY costs, the CHED Services' connection costs are calculated by applying a unit rate to a forecast volume of fault meter and communication replacements.[488]

The AER has assessed CitiPower's and Powercor's amended Submitted Budget. The AER has also conducted an extensive information request process in accordance with clause 5.6 of the Order, and has accordingly assessed this additional information.

The AER notes that the Impaq report did not raise any concerns regarding this expenditure.

The AER has not established that incurring the expenditure in respect of CHEDS connection services involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.9 CHEDS direct costs

AER Final Determination
The AER has established that incurring the expenditure in respect of CHEDS direct costs involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CHED Services' direct costs relate to AMI roll-out meter and communications installation capex.

CitiPower and Powercor have proposed $651,000 and $10 million respectively for capex relating to CHEDS connection services.

For AMI roll-out meter installation, these costs are calculated by apportioning (based on NMIs) the costs of 2.5 FTEs between CitiPower and Powercor. These 2.5 FTEs are the Manager of Energy Metering Solutions, the Deployment Manager and the Business Analyst - Strategy.[489]

For AMI roll-out communications installation, these costs are calculated based on:

- the travel and labour costs of a System Development & Performance Manager, three Deployment Project Managers, a Metering Engineer, a Graduate Engineer, two Systems Investigation Engineers and two Smart Grid Engineers during the technology management and roll-out close-out phases[490]

- the labour costs of six FTEs undertaking technology acceptance - the Technology Assurance Manager, a AMI Meter Test Technician, a AMI Lab Co-ordinator, two Systems Engineers and a Senior Systems Engineer[491]

487 ibid., p. 149
488 ibid., p. 149
489 ibid., p. 149
490 CitiPower, Amended Submitted Budget and Charges Application 2012-15, August 2011, p. 149
491 ibid., p. 149

The AER considers that activities in relation to smart grid are outside scope. Therefore, the two smart grid engineers for both 2012 and 2013 have been assessed against the scope test in section 4.2.4.

The AER has assessed the forecast expenditure relating to technology acceptance. CitiPower and Powercor propose six FTEs, for each year of the 2012–15 period. JEN and UE have only proposed [C-I-C] FTEs between them for the 2012–15 period to fulfil the same role.

The AER has sought advice from both Impaq and Energeia regarding this issue. Both consultants considered that the number of FTEs proposed by CitiPower and Powercor were too high. Energeia noted that [C-I-C] FTEs would be reasonable.[492] Impaq noted that [C-I-C] FTEs would be reasonable.[493]

The AER has taken into account the FTE requirement of JEN and UE, and the advice from Impaq and Energeia in addition to the submissions raised by CitiPower and Powercor. Following this, the AER considers the commercial standard FTE requirement relating to technology acceptance, after taking into account the size of CitiPower and Powercor and their particular circumstances, is [C-I-C] FTEs. Further, the AER considers that 6 FTEs is a substantial departure from the commercial standard of a reasonable business in their circumstances.

The AER's Approved Budget has amended CitiPower's and Powercor's expenditure accordingly.

4.5.10 CHEDS project management

AER Final Determination
The AER has not established that incurring the expenditure in respect of CHEDS project management involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CHED Services project management costs are based on forecast expenditure for the 2012–15 budget period. CHEDS Services project management expenditure totals $5.7 million and $12.7 million for CitiPower and Powercor respectively.

The forecast expenditure for 2012 and 2013 is allocated entirely to meter supply/installation non-contract capex and communications supply/installation non-contract capex. These costs make up $3.3 million and $7.3 million of CHEDS project management for CitiPower and Powercor respectively.

The forecast expenditure for 2014 and 2015 is allocated entirely to the opex category of 'project management.' These costs make up the remaining $2.4 million and $5.4 million of CHEDS project management for CitiPower and Powercor respectively. These costs, plus the CHEDS margin, were approved by the AER in its Draft Determination.

[492] Energeia, Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15, October 2011, p. 38

[493] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 106

The Honourable Michael O'Brien MP, the Victorian Minister for Energy and Resources (the Minister), raised the issue of CitiPower's and Powercor's project management costs in his submission to the Draft Determination. The Minister's submission states:

> CitiPower has project management costs in excess of $1 million per annum that continue after completion of the AMI roll out. Similarly, Powercor has project management costs of around $3 million per annum that continue after completion of the AMI roll out. There is no obvious reason for those costs to continue after the completion of the roll out and, as a consequence, they should be disallowed.[494]

The AER notes that for this Final Determination, its discretion is limited to stating the Approved Budget that removes not more than the expenditure it has established as being for activities outside scope at the time of commitment to that expenditure and at the time of the determination, or not prudent. In other words, the Final Determination must set a budget that is no lower than that approved in the Draft Determination.

In respect of CHEDS project management, Impaq's report notes the following:

> The large number of FTEs in the PMO is consistent with a major project in its start-up phase or mid-term phase, not with a project coming into completion. This project will be well advanced by the start of 2012 and the rollout will be 40% complete. The business processes will be bedded down and the work instructions fine-tuned. There should be reduced resourcing needed in the PMO after this time. Further, CP (and PC) forecasts that the PMO resources continue into 2014 and 2015, although the project is completed in 2013, which is not prudent.[495]

CHEDS project management 2012 and 2013 is comprised of costs relating to labour, consultants, legal advice, travel, materials, taxes and other indirect cost items. These costs relate to several projects for CitiPower and Powercor, being:

- Industry planning and liaison
- Project management office in program operation mode
- The management of the AMI program
- Pilot meter groups
- Resource management
- Transition planning

CitiPower and Powercor have provided the AER with an extensive breakdown of all their project management costs.

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494 The Honourable Michael O'Brien MP, AER's 2012–2015 AMI Draft Determination, September 2011, pp. 7–8

495 Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 16

The AER has assessed the information provided by CitiPower and Powercor in their amended Submitted Budgets. The AER has also conducted an extensive information request process in accordance with clause 5.6 of the Order regarding CitiPower's and Powercor's CHEDS project management expenditure, and has accordingly assessed this additional information.

While the AER notes the concerns of the Minister and Impaq, the AER has not established that incurring the expenditure in respect of CHEDS project management involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.11 CHEDS margin

AER Final Determination
The AER has not established that incurring the expenditure in respect of CHEDS margin involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The CHED Services' margin is applied to all eight categories of meter and communications capex.[496] The CHED Services' margin totals $1.1 million and $3.6 million for CitiPower and Powercor respectively.

The margin on services that CHED Services receives from PNS and other third party suppliers is charged at a rate of [C-I-C] per cent.

The margin on services that CHED Services provides itself is charged at a rate of [C-I-C] per cent on CHED Services' costs.

As outlined in section 4.5.1, the AER has not established that the related party margins proposed by CitiPower and Powercor are a substantial departure from the commercial standard that a DNSP performing an AMI roll-out would incur. This decision applies to the CHEDS margin.

4.5.12 CitiPower / Powercor fleet and property overhead

AER Final Determination
The AER has not established that incurring the expenditure in respect of CitiPower/Powercor fleet and property overhead involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CitiPower's and Powercor's fleet and property overhead is applied to BAU meter and communications supply and installation. The fleet and property overheads for CitiPower and Powercor are $83,000 and $3.3 million respectively.[497]

These costs are based on CitiPower's and Powercor's actual fleet and property costs for 2010 which were allocated to metering activities in the 2010 regulatory accounts,

[496] CitiPower, Amended Submitted Budget and Charges Application 2012-15, August 2011, p. 150
[497] CitiPower, Amended Submitted Budget and Charges Application 2012-15, August 2011, p. 150

escalated to 2012–15 by applying the AER's indirect cost escalators in its Victorian 2011–15 electricity distribution final determination.[498]

The AER has not established that incurring the expenditure in respect of fleet and property overheads involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.13 CitiPower / Powercor corporate overhead

AER Final Determination
The AER has not established that incurring the expenditure in respect of CitiPower/Powercor corporate overhead involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CitiPower's and Powercor's corporate overhead is applied to BAU meter and communications supply and installation. The corporate overheads for CitiPower and Powercor are $2.2 million and $9.2 million respectively.[499]

These costs are based on CitiPower's and Powercor's actual corporate overhead costs for 2010 which were allocated to metering activities in the 2010 regulatory accounts, escalated to 2012–15 by applying the AER's indirect cost escalators used in its Victorian 2011–15 electricity distribution final determination.[500]

The AER has not established that incurring the expenditure in respect of corporate overheads involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Meter supply – non-contract costs

Meter supply – non-contract costs are comprised of costs relating to the AMI roll-out and BAU activities. These costs are set out in Table 4.9 and Table 4.10.

Sections 4.5.3 – 4.5.13 outline the AER's application of the commercial standard test against the costs of PNS, CHED Services, and CitiPower / Powercor overheads. This assessment has determined the Approved Budget for meter supply – non-contract costs for CitiPower and Powercor as set out in this Final Determination.

Table 4.11 and Table 4.12 (below) set out the 'meter supply – non-contract costs' proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

[498] ibid., p. 150
[499] ibid., p. 150
[500] ibid., p. 151

Table 4.11 CitiPower - Meter supply – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	2 389	1 825	455	595	5 263
Draft Determination	150	150	150	150	600
Amended Submitted Budget	2 352	1 822	595	696	5 466
Final Determination	2 488	1 932	618	720	5 759

Table 4.12 Powercor - Meter supply – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	4 697	3 986	1 140	1 085	10 907
Draft Determination	300	300	300	300	1 200
Amended Submitted Budget	6 247	5 382	2 564	2 573	16 766
Final Determination	6 528	5 629	2 691	2 694	17 542

Meter installation – non-contract costs

Meter installation – non-contract costs are comprised of costs relating to the AMI roll-out and BAU activities. These costs are set out in Table 4.9 and Table 4.10.

Sections 4.5.3 – 4.5.13 outline the AER's application of the commercial standard test against the costs of PNS, CHED Services, and CitiPower / Powercor overheads. This assessment has determined the Approved Budget for meter installation – non-contract costs for CitiPower and Powercor as set out in this Final Determination.

Table 4.13 and Table 4.14 (below) set out the 'meter installation – non-contract costs' proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

Table 4.13 CitiPower - Meter installation – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	10 183	8 025	1 822	1 811	21 841
Draft Determination	959	824	-	-	1 783
Amended Submitted Budget	6 174	5 384	659	637	12 853
Final Determination	5 132	4 398	649	629	10 809

Table 4.14 Powercor - Meter installation – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	20 886	17 462	2 494	2 487	43 328
Draft Determination	1 877	1 513	-	-	3 390
Amended Submitted Budget	14 083	12 369	1 791	1 859	30 102
Final Determination	11 849	10 276	1 764	1 835	25 724

Communications equipment supply – non-contract costs

Communications equipment supply – non-contract costs are comprised of costs relating to the AMI roll-out and BAU activities. These costs are set out in Table 4.9 and Table 4.10.

Sections 4.5.3 – 4.5.13 outline the AER's application of the commercial standard test against the costs of PNS, CHED Services, and CitiPower / Powercor overheads. This assessment has determined the Approved Budget for communications equipment supply – non-contract costs for CitiPower and Powercor as set out in this Final Determination.

Table 4.15 and Table 4.16 (below) set out the 'communications equipment supply – non-contract costs' proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

Table 4.15 CitiPower - Communications equipment supply – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	6	1	2	2	12
Draft Determination	6	1	2	2	12
Amended Submitted Budget	6	1	11	11	29
Final Determination	6	1	12	12	30

Table 4.16 Powercor - Communications equipment supply – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	2 726	1 891	108	105	4 830
Draft Determination	222	2	3	3	230
Amended Submitted Budget	2 579	1 763	246	247	4 835
Final Determination	2 590	1 763	102	105	4 561

Communications equipment installation – non-contract costs

Communications equipment installation – non-contract costs are comprised of costs relating to the AMI roll-out and BAU activities. These costs are set out in Table 4.9 and Table 4.10.

Sections 4.5.3 – 4.5.13 outline the AER's application of the commercial standard test against the costs of PNS, CHED Services, and CitiPower / Powercor overheads. This assessment has determined the Approved Budget for communications equipment installation – non-contract costs for CitiPower and Powercor as set out in this Final Determination.

Table 4.17 and Table 4.18 (below) set out the 'communications equipment installation – non-contract costs' proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

Table 4.17 CitiPower - Communications equipment installation – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	1 119	1 034	400	27	2 580
Draft Determination	304	304	87	91	786

Amended Submitted Budget	198	168	79	41	487
Final Determination	171	140	65	28	404

Table 4.18 Powercor - Communications equipment installation – non-contract costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	8 145	3 345	892	47	12 429
Draft Determination	2 726	1 010	178	178	4 092
Amended Submitted Budget	5 154	4 196	1 949	1 053	12 352
Final Determination	4 365	3 543	1 613	717	10 239

4.5.14 IT capex

AER Final Determination

The AER approves CitiPower's and Powercor's removal of workforce scheduling and mobility from their amended Submitted Budgets.

The AER has established that CitiPower and Powercor incurring their proposed connection point management IT capex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER has not established that CitiPower and Powercor incurring their proposed program management and infrastructure IT capex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CitiPower and Powercor have divided IT capital expenditure into a number of different cost categories.

Relevantly[501], CitiPower's and Powercor's IT opex is as follows:

- workforce scheduling and mobility
- performance and regulatory reporting (assessed against the expenditure incurred test in section 4.4.3)
- IT program management

[501] IT capex relating to asset management, connection point management, outage management, network management, and meter data management was approved in the Draft Determination against the commercial standard test. With the exception of connection point management, these items will not be assessed further. In the case of connection point management, CitiPower and Powercor have proposed additional expenditure to that approved in the Draft Determination; therefore connection point management will be assessed in the Final Determination.

- infrastructure

The AER's assessment in the Final Determination is based on these categories above, along with connection point management. Connection point management was initially approved in the Draft Determination; however CitiPower and Powercor have increased the expenditure for this category in their amended Submitted Budget.

Table 4.19 and Table 4.20 (below) set out the amount of IT capex proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

Table 4.19 CitiPower - IT capex ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	8 875	5 834	3 674	2 934	21 316
Draft Determination	6 598	4 274	1 576	1 437	13 885
Amended Submitted Budget	9 109	4 664	3 471	2 379	19 623
Final Determination	7 092	4 274	3 229	2 379	16 974

Table 4.20 Powercor - IT capex ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	11 682	10 366	7 402	5 795	35 246
Draft Determination	9 143	8 544	3 982	3 844	25 513
Amended Submitted Budget	14 787	9 452	7 303	5 021	36 563
Final Determination	9 641	8 544	6 738	5 021	29 943

The AER assessed the relevant IT capex categories against the commercial standard test, having regard to the advice of consultants where appropriate. The AER's assessment is as follows:

4.5.14.2 Workforce scheduling and mobility

In their Submitted Budget, CitiPower and Powercor described workforce scheduling and mobility as follows:

> CitiPower's (and Powercor's) Initial Budget Application included a field mobile computing program that has, and is continuing to, enable a more efficient and effective delivery of the AMI meter exchange and customer response process through:
>
> * automating the dispatch of service orders and tracking the progress of field crews associated with exchanging and commissioning of meters and access points

> * delivering savings in reduced travel times due to more efficient route planning, increases in home starts, more efficient allocation of re-scheduled installation work, and reduced fleet costs
>
> * providing a scheduling and dispatching solution to automate the metering and communication fault response process to efficiently manage the increased faults expected to arise from the implementation of new technology and multiple failure points.
>
> Minor enhancements and selected field device replacements will be necessary over the AMI Budget Period to ensure the field mobile computing systems remain current and functional.[502]

Draft Determination

The AER asked CitiPower and Powercor to provide further information regarding workforce scheduling and mobility expenditure. In response, CitiPower and Powercor stated:

> Below are tables for the Businesses providing a further breakdown of the workforce and mobility scheduling projects.
>
> There are no specific business cases for workforce and mobility scheduling. This is a categorisation developed by the AER.[503]

The tables referred to by CitiPower and Powercor are as follows:

[502] CitiPower, Budget and Charges Application 2012-15, February 2011, p. 151

[503] CitiPower and Powercor, Response to AER questions of 16 June 2011, June 2011, pp. 3–4

Table 4.21 CitiPower - IT capex - workforce scheduling and mobility

CitiPower ($'000 2011)	2012	2013	2014	2015
Software, licences hardware	50	-	-	50
System integration, software customisation and implementation	540	420	60	60
- HAN pilot (1.14)	870	820	-	-
- Remote meter reconfiguration (1.15)	450	-	-	-
- Customer portal refinements (8.14)	35	35	-	-
- AMI remote reconnect / disconnect	44	-	-	-
Total	1 993	1 275	60	110

Table 4.22 Powercor - IT capex - workforce scheduling and mobility

CitiPower ($'000 2011)	2012	2013	2014	2015
Software, licences hardware	50	-	-	50
System integration, software customisation and implementation	540	420	60	60
- HAN pilot (1.14)	870	820	-	-
- Remote meter reconfiguration (1.15)	454	-	-	-
- Customer portal refinements (8.14)	77	77	-	-
- AMI remote reconnect / disconnect	44	-	-	-
Total	2 035	1 317	60	110

Impaq submitted that there was no need for CitiPower and Powercor to further invest in the system as it is only required for another 2 years.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination

In their amended Submitted Budget, CitiPower and Powercor have removed workforce scheduling and mobility expenditure. However, CitiPower and Powercor note they 'have identified two projects that were previously included under the workforce scheduling and mobility category of the Initial Budget Application that were better classified as connection point management projects, namely 'remote configuration of meters' and 'remote connect disconnect."

CitiPower and Powercor have added the cost of these projects to their proposed expenditure relating to connection point management. CitiPower and Powercor propose expenditure of $1.5 million and $3.4 million respectively for these projects.

As this expenditure has been transferred to the category of connection point management, the assessment of this expenditure will be set out in section 4.5.14.3.

Table 4.23 CitiPower – IT capex – workforce scheduling and mobility ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	1 992	1 275	60	110	3 437
Draft Determination	0	0	0	0	0
Amended Submitted Budget	0	0	0	0	0
Final Determination	0	0	0	0	0

Table 4.24 Powercor – IT capex – workforce scheduling and mobility ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	2 035	1 317	60	110	3 522
Draft Determination	0	0	0	0	0
Amended Submitted Budget	0	0	0	0	0
Final Determination	0	0	0	0	0

4.5.14.3 Connection point management

CitiPower and Powercor stated in their Submitted Budgets that in 2012 the costs for connection point management relate to a pilot trial of in-home displays, the introduction of further security measures and the engagement of call centre agents whose function is to check to see if a customer's premises are on supply.

Draft Determination
The AER approved CitiPower's and Powercor's connection point management expenditure to the amount of $2.4 million respectively.[504]

Final Determination
As described above, CitiPower and Powercor have removed workforce scheduling and mobility expenditure. However, CitiPower and Powercor note they 'have identified two projects that were previously included under the workforce scheduling and mobility category of the Initial Budget Application that were better classified as connection point management projects, namely 'remote configuration of meters' and 'remote connect disconnect."

CitiPower and Powercor have added the cost of these projects to their proposed expenditure relating to connection point management. CitiPower and Powercor propose expenditure of $1.5 million and $3.4 million respectively for these projects.

The AER considers that these amounts are substantially higher than what CitiPower and Powercor proposed for these projects in their Submitted Budgets. In their Submitted Budgets, expenditure for the projects 'remote configuration of meters' and 'remote connect disconnect' totalled $494,000 and $498,000 for CitiPower and Powercor respectively. This can be seen in Table 4.21 and Table 4.22 above.

The AER notes CitiPower and Powercor, when making an application under the Order, must set out the information and identify the documents upon which they rely. Further, if CitiPower and Powercor are relying in information previously provided to the AER, it does not need to set out that information again in its application.

CitiPower and Powercor have not provided the AER additional information to substantiate the revised increase.

The AER considers that incurring the expenditure originally outlined in the Submitted Budgets reflected the commercial standard of a reasonable business in CitiPower's and Powercor's circumstances, being $494,000 and $498,000 respectively.[505]

In the absence of further information to justify such substantial increases in such a short period of time, the AER considers that proposals to incur $1.5 million and $3.4 million respectively, involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER's Approved Budget has amended CitiPower's and Powercor's expenditure accordingly.

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[504] There is an error in the Draft Determination, which states that 'the AER considers that it does not meet the commercial standard test.' However, the AER did approve the expenditure and this approval was set out in the Draft Determination tables on page 180.

[505] CitiPower and Powercor, Response to AER questions of 16 June 2011, June 2011, pp. 3–4

Table 4.25 CitiPower – IT capex – connection point management ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	2 302	0	140	0	2 442
Draft Determination	2 302	0	140	0	2 442
Amended Submitted Budget	3 861	0	140	0	4 001
Final Determination	2 796	0	140	0	2 936

Table 4.26 Powercor – IT capex – connection point management ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	2 302	0	140	0	2 442
Draft Determination	2 302	0	140	0	2 442
Amended Submitted Budget	5 724	0	140	0	5 864
Final Determination	2 801	0	140	0	2 941

4.5.14.4 Performance and regulatory reporting

CitiPower and Powercor stated in their Submitted Budget Applications, that the costs for performance and regulatory reporting relate to:

- reporting enhancements in support of service level agreements and other industry requests
- software, licences and hardware[506]

However, in their amended Submitted Budget Applications, CitiPower and Powercor explained that the expenditure related to a data warehousing project.[507] [508]

The AER has assessed CitiPower's and Powercor's expenditure relating to performance and regulatory reporting. The AER considers that the appropriate test to assess the expenditure against is the expenditure incurred test, rather than the commercial standard test.

Therefore, the assessment is outlined above in section 4.4.3.

4.5.14.5 IT program management

CitiPower and Powercor stated that the costs for IT program management are comprised of labour costs, and are based on a split of external and internal labour.

[506] AER Draft Determination: Victorian advanced metering infrastructure review, 2009–11 AMI budget and charges applications, July 2009, p. 178
[507] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 83
[508] Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 89

Draft Determination
The AER considered that CitiPower and Powercor did not provide sufficient information to explain the expenditure.

Impaq advised that IT program management costs should cease at the end of 2013 alongside the end of the AMI roll-out.

The AER considered that a prudent business would not forecast to incur expenditure of $300,000 annually for 2014 and 2015 for the management of an IT system designed to coordinate a program which will finish at the end of 2013.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination
CitiPower and Powercor have reviewed their IT program management expenditure, and as a consequence have reduced their proposal. Originally CitiPower and Powercor proposed expenditure relating to IT project management of $1.2 million respectively. CitiPower and Powercor have now lowered their proposed expenditure to $941,000 each.

CitiPower and Powercor state in their amended Submitted Budgets:

> Historically, the IT program management cost has been at about 10 per cent of the total IT capital expenditure for each year. The figures presented in this Amended Application represent approximately 5 per cent of the total IT capital costs, which reflects the reduced complexity of the program, during 2014-15. It is noted that the Garnet Group has published research that indicates organisations could cut project overruns by 50 per cent by establishing enterprise standards for project management, including a program office with suitable governance. Thus, the Business believes a 5 per cent allowance is highly prudent.[509] [510]

The AER sought advice from Impaq regarding the proposed expenditure. Impaq considers the expenditure is prudent considering there will be some IT projects occurring in 2014 and 2015.

The AER sought advice from Energeia regarding the proposed expenditure. Energeia considers that incurring the expenditure is consistent with the commercial standard.[511]

The AER has not established that incurring the expenditure in respect of IT program management involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

[509] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August, p. 84
[510] Powercor, Amended Submitted Budget and Charges Application 2012–15, August, p. 90
[511] Energeia, Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15, October 2011, p. 37

Table 4.27 CitiPower – IT capex – program management ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	300	300	300	300	1 200
Draft Determination	300	300	0	0	600
Amended Submitted Budget	300	300	200	140	941
Final Determination	300	300	200	140	941

Table 4.28 Powercor – IT capex – program management ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	300	300	300	300	1 200
Draft Determination	300	300	0	0	600
Amended Submitted Budget	300	300	200	140	941
Final Determination	300	300	200	140	941

4.5.14.6 Infrastructure

CitiPower and Powercor state that the need for greater storage and backup capacity due to meter and data volume growth will drive expenditure for IT infrastructure in 2012–15.

Draft Determination
CitiPower proposed expenditure of $1.9 million and $1.3 million for 2014 and 2015 respectively. Powercor proposed expenditure of $4.5 million and $3 million for 2014 and 2015 respectively.

The AER sought advice from Impaq. Impaq advised that CitiPower's and Powercor's proposed expenditure was too high, and supported this view with a bottom-up cost assessment.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination
After the Draft Determination, CitiPower and Powercor engaged Deloitte to conduct an assessment of their IT infrastructure capex.

The Deloitte assessment was in line with CitiPower's and Powercor's expenditure forecasts. Deloitte noted several areas of concern regarding Impaq's assessment in the Draft Determination, notably:

- underestimates relating to data volumes and storage

- the sourcing and costs of data storage
- underestimates relating to the costs of server replacement[512] [513]

The AER sought advice from Impaq regarding the proposed expenditure. Impaq considered CitiPower's and Powercor's amended Submitted Budget and supporting documentation, including the Deloitte report. Impaq considers the expenditure is prudent.[514]

The AER also sought advice from Energeia regarding the proposed expenditure. Energeia considered CitiPower's and Powercor's amended Submitted Budget, the Deloitte report, and further information obtained from CitiPower and Powercor following an extensive information request. Energeia considers the expenditure is of a commercial standard.[515]

The AER has not established that incurring the expenditure in respect of IT infrastructure involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Table 4.29 CitiPower – IT capex – infrastructure ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	893	936	1 952	1 301	5 082
Draft Determination	893	936	500	500	2 829
Amended Submitted Budget	893	936	1 952	1 301	5 082
Final Determination	893	936	1,952	1,301	5,082

Table 4.30 Powercor – IT capex – infrastructure ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	2 083	2 185	4 555	3 036	11 858
Draft Determination	2 083	2 185	2 000	2 000	8 268
Amended Submitted Budget	2 083	2 185	4 555	3 036	11 858
Final Determination	2 083	2 185	4 555	3 036	11 858

[512] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August, p. 81
[513] Powercor, Amended Submitted Budget and Charges Application 2012–15, August, p. 87
[514] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 32 p. 111
[515] Energeia, Review of Victorian Distribution Network Service Provider's Advanced Metering Infrastructure Budget Applications 2012–15, October 2011, p. 37

4.5.15 Project and administrative costs (Powercor only)

AER Final Determination
The AER approves Powercor's project and administrative costs as they are in accordance with the costs approved in the Draft Determination.

Powercor's submitted Budget Application outlined a total of $1.4 million for project and administrative costs during the 2012–15 budget period. Powercor states that the expenditure relates to motor vehicles and general equipment and test lab expenses.[516]

Draft Determination

The AER sought further information from Powercor to explain the reasons behind the forecast expenditure. Powercor did not provide any additional information.

Therefore, the AER sought advice from Impaq consulting regarding the proposed expenditure.

Impaq considered that the proposed expenditure for 'general equipment and test lab' appears reasonable. However, Impaq considered that the proposed expenditure for motor vehicles was too high. Impaq's analysis determined that the proposed expenditure for motor vehicles would cover the costs of around 30 vehicles. Impaq considered that Powercor will only need about 5 technicians to maintain its communications network. Impaq concluded that Powercor's expenditure should be reduced to allow only for the expenses relating to 5 vehicles.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination

CitiPower and Powercor accepted the AER's Draft Determination. Consequently, the AER has maintained its decision in the Draft Determination, in this Final Determination.

[516] ibid.

Table 4.31 Powercor – Project and administrative costs ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	210	390	405	364	1 369
Draft Determination	123	117	117	126	483
Amended Submitted Budget	123	117	117	126	483
Final Determination	123	117	117	126	483

Operational expenditure analysis

For the purposes of this Final Determination, operational expenditure (opex) relates to the costs of operating and maintaining physical assets of the distribution network involved in the AMI roll-out.

Relevantly[517], CitiPower's and Powercor's opex has been divided into the following categories:

- Meter data services
- Meter maintenance
- Customer service
- Communications operations
- Executive and corporate services
- IT opex
- Debt raising costs

4.5.16 Meter data services

AER Final Determination

The AER has assessed CitiPower's meter data services opex under the expenditure incurred test in section 4.4.7.

The AER has not established that Powercor incurring the expenditure in respect of meter data services opex as proposed in its amended Submitted Budget involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Meter data services opex relates to the collection, validation, and provision of data services to the market.

[517] Opex relating to backhaul communications was approved against the competitive tender test and therefore is not assessed further. Opex relating to project management was approved in the Draft Determination against the commercial standard test and therefore is not assessed further.

Table 4.32 and Table 4.33 (below) set out the 'meter data services opex' proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

Table 4.32 CitiPower - Meter data services ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	1 909	1 701	1 321	982	5 913
Draft Determination	465	378	246	246	1 335
Amended Submitted Budget	2 714	2 120	1 500	1 500	7 834
Final Determination	2 155	1 662	1 122	1 002	5 942

Table 4.33 Powercor - Meter data services ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	5 343	4 663	3 577	2 824	16 407
Draft Determination	1 079	904	641	553	3 177
Amended Submitted Budget	6 285	4 516	2 896	2 896	16 593
Final Determination	6 285	4 516	2 896	2 896	16 593

Draft Determination

CitiPower and Powercor stated that the main reason for the expenditure was for human intervention in the delivery of data for the AMI program. The AER did not accept this as significant investment has been undertaken to ensure the automation of meter data management.

The AER sought further information regarding the expenditure from CitiPower and Powercor. In response, CitiPower and Powercor stated that their forecasts were based on the fact that the businesses were expecting an increase in data loads as AMI meters were producing data at half hour intervals. The AER considered that CitiPower and Powercor did not provide an adequate explanation for the costs proposed.

Therefore, the AER sought advice from Impaq regarding the proposed expenditure.

Impaq conducted a bottom-up build of CitiPower's and Powercor's expenditure after taking into account the following areas of possible expenditure:

- Collection and processing of data
- Management of national metering identifiers
- Handling of market participants request for data

- Provision of data to AEMO

The Impaq assessment confirmed the AER's view that CitiPower and Powercor are unlikely to require the high level of resourcing outlined in their budget and charges applications.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination

CitiPower's proposed meter data services opex increased from $5.9 million in its Submitted Budget to $7.8 million in its amended Submitted Budget. CitiPower gave no explanation for the increase in expenditure, other than providing a Deloitte model which totalled $6.6 million.

The AER has assessed CitiPower's meter data services opex in light of the fact that the only supporting document (the Deloitte model) does not indicate that this expenditure will be incurred. The AER considers that the appropriate test to assess the expenditure against is therefore the expenditure incurred test, rather than the commercial standard test.

Therefore, this assessment is outlined above in section 4.4.7.

Powercor's proposed meter data services opex slightly increased — from $16.4 million in its Submitted Budget to $16.6 million in its amended Submitted Budget. The Deloitte report set out its assessment regarding Powercor's expenditure, which totalled $18.2 million. Powercor discussed the difference between its figures and Deloitte's, stating:

> Powercor Australia's forecast of Meter Data Services Operating Expenditure is highly conservative compared with the detailed bottom up build up undertaken by Deloitte. On this basis, Powercor Australia believes that its forecast is prudent, and is consistent with the 'commercial standard that a reasonable business would exercise in its circumstances.'[518]

However, the AER identified several errors in the Deloitte forecast. For example, the Deloitte model included expenditure relating to non-AMI meters and FTE requirements for activities which CitiPower and Powercor already receive funding for outside of their AMI budgets and revenue received from customers' AMI charges.[519]

The AER requested Powercor's own model for meter data services opex. Powercor responded, stating:

> The Businesses did not construct a model for the purposes of determining its meter data service costs. [520]

[518] Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 109

[519] The AER identified three errors; 'effort related to "Import - Type 1-4"', 'energisation effort relating to manual, semi-automatic, and fully automatic', and expenditure relating to non-ami meters.

[520] CitiPower and Powercor, Response to AER questions of 28 September, October 2011, p. 4

Instead, Powercor provided an amended version of the Deloitte report, which now totals $16.8 million (higher than Powercor's proposal in its amended Submitted Budget of $16.6 million).[521]

The AER considers that the Deloitte model, with the errors corrected, provides a reliable forecast of Powercor's expenditure. The AER considers that the Deloitte model represents the commercial standard that a reasonable business would exercise in the circumstances.

The AER notes, however, that Powercor's proposal for meter data services opex, as per its amended Submitted Budget, is $16.6 million. The AER considers that this is not a substantial departure from the commercial standard set out in Deloitte's amended model.

The AER has not established that Powercor incurring the expenditure in respect of meter data services opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.17 Meter maintenance

AER Final Determination
The AER has not established that incurring the expenditure in respect of meter data opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Meter maintenance opex relates to the maintenance of meters and meter testing requirements.

Table 4.34 and Table 4.35 (below) set out the 'meter maintenance opex' proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

[521] CitiPower and Powercor, Response to AER questions of 28 September, October 2011, pp. 7–15

Table 4.34 CitiPower - Meter maintenance ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	1 420	1 451	2 795	2 662	8 327
Draft Determination	394	354	557	557	1 862
Amended Submitted Budget	1 045	1 023	1 334	1 357	4 758
Final Determination	1 045	1 023	1 334	1 357	4, 758

Table 4.35 Powercor - Meter maintenance ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	1 274	2 004	2 429	2 299	8 005
Draft Determination	787	707	1 114	1 114	3 722
Amended Submitted Budget	1 401	1 440	1 859	1 890	6 591
Final Determination	1 401	1 440	1 859	1 890	6 591

Draft Determination

The AER sought further information regarding the expenditure from CitiPower and Powercor. The AER considered that CitiPower and Powercor did not provide an adequate explanation for the costs proposed.

Therefore, the AER sought advice from Impaq regarding the proposed expenditure.

Impaq conducted a bottom-up build of CitiPower's and Powercor's expenditure which was based on:

- the activities outlined by CitiPower and Powercor and any regulatory requirements (the Order and the National Electricity Rules [NER])
- Australian engineering standard AS12841 part 13

Impaq noted that the expenditure outlined by CitiPower and Powercor was above the requirements of the Australian engineering standard AS1284 and the regulatory requirements of the Order and the NER.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination

The Impaq report considers that CitiPower's and Powercor's meter maintenance opex does not satisfy the requirements of the commercial standard test. Part of CitiPower's

and Powercor's meter maintenance opex relates to 'customer investigations.' CitiPower and Powercor have described this activity as follows:

> These activities are associated with field metering investigations and rectification where no equipment is replaced and the customer has not requested a meter accuracy test. Historically, the Businesses have not charged customers for these activities, particularly where the investigation cannot establish any fault of the customer in contributing to the problem identified.
>
> These field investigations are initiated via:
> * Customer / retailer meter data enquiries;
> * EWOV enquiries; and
> * Internal business initiated investigations
>
> As noted, these activities do not include customer requested meter investigation and accuracy tests for which the associated costs are recovered through an Alternative Control Service charge where the tested meter is be found (sic) to be operating within required accuracy specifications.[522] [523]

Impaq considers that the number of these requests will reduce because of AMI. For example, Impaq claims that 'Retailers will not need to ask for investigations of a particular meter as the data will be available to them on a daily basis. Similarly with EWOV enquiries, customers will be able to see their own interval data and make this available to EWOV.'[524]

Further, Impaq considers that the times and costs proposed by CitiPower and Powercor for all the activities are excessive and do not conform to a commercial standard. Impaq compares the rates proposed by CitiPower, to UED's Alternative Control Service rate, and a quotation from a meter service provider. The comparison shows CitiPower's rates significantly higher than both the quotation, and UED's Alternative Control Service Rate.[525]

The Minister raised the issue of CitiPower's and Powercor's meter testing costs in his submission to the Draft Determination. The Minister's submission states:

> I note that the Draft Determination appears to have adopted a different approach to assessing reasonable costs associated with meter testing in the CitiPower/Powercor and Jemena/United Energy areas. In the CitiPower/Powercor areas, the number of meters to be tested is assessed by considering the aggregate number of meters across both areas and assuming a cost to test of either $250 or $412.50 per meter, depending on the meter type. The number of meters to be tested in the Jemena/United Energy areas has been considered in isolation, with a cost to test of $239 per meter in the Jemena area whilst the cost to test is $51.22 or $79.67 per meter in the United Energy area.[526]

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522 CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, pp. 110–111

523 Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 117

524 Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 44

525 For example, a 'single phase meter test' from CitiPower is $259.28, when the quotation rate is $60, and the UED rate is $51.22.

526 The Honourable Michael O'Brien MP, AER's 2012–2015 AMI Draft Determination, September 2011, p. 5

The Minister also states:

> It is also unclear why the cost to test a meter varies so much across the distributors (United Energy appear to test meters at a much lower cost than Jemena, CitiPower or Powercor). There being no obvious reason for this disparity, and with efficiency considerations being relevant, the lower costs of United Energy are to be preferred. [527]

Although Impaq has stated that it is able to obtain quotations for the services at a significantly lower rate than CitiPower's and Powercor's proposal, Impaq did not provide the AER written quotation.[528] Further, CitiPower's and Powercor's proposed rates are in line with their own Alternative Control Service rates – previously approved by the AER – for the same services. The AER considers this a more accurate and appropriate comparison than the Alternative Control Service rates for UED as provided by Impaq.

The AER notes the concerns raised by the Minister. The AER requested information regarding CitiPower's and Powercor's meter testing rates. In response, CitiPower and Powercor stated:

> The Businesses are unable to compare their costs with those provided by the AER, as the Businesses cannot meaningfully comment on quotes with no supporting information or documentation contract terms etc to ensure comparability.
>
> The Businesses note their own meter testing times are built up from components consisting of:
>
> * average travel time: this is 40 minutes inclusive of parking
>
> * planning and completing the job on site: this includes contacting the customer, gaining access to the installation, undertaking a safety job audit prior to commencement, setting up test equipment, isolating the installation for test, conducting the tests at various test points and power factors, recording the test results, re-energising the installation, reviewing the installation, reviewing the test results on-site, sealing the installation, packing up test equipment etc.
>
> For (generally commercial/industrial) customers with CT metering arrangements, additional site specific activity such completing site inductions are required (sometimes requires a special visit and more than an hour to complete).
>
> * records management: (15 minutes. Includes: completing paperwork, faxing paperwork, discussing with billing if account adjustments are required.)
>
> Each of the above activity times have been built up from actual time sheet analysis for many years and reflect the real and practical time expended in conducting such work.
>
> Testing of metering CTs (unlike CT meter testing) is performed on a 10 year rotating basis and requires a coordinated shutdown of a customer's supply

[527] The Honourable Michael O'Brien MP, AER's 2012–2015 AMI Draft Determination, September 2011, p. 8

[528] On 14 October, Impaq provided the AER with additional information to the quotation in its report. The AER considers that this information could not be afforded significant weight in its assessment.

(generally commercial/industrial customers) to provide access/isolation to the CTs.

The activity is built up from three components: planning/travel, testing and records management.

* planning & travel: 1 hour 20 minutes - 2 x 40 minute travel allowed, 2 visits required. First visit to liaise with customer, check if CT's can be tested, are they accessible, is there sufficient room in the CT window to allow test leads to pass through, is there LV isolation, is a service truck required, is a HV operator required, is a site induction required, negotiate a suitable time for a shut down. Second visit is to complete the testing. (sometimes a further visit is required to complete an induction);

* testing: 2 hours 50 minutes - includes introducing yourself upon arrival, checking metering details on site, completing JSA (job safety assessment) completing standard safety tests, preparing test equipment, isolating supply and testing, connecting test equipment, reconnecting supply and testing, testing current transformer 1 and recording results, testing current transformer 2 and recording results, testing current transformer 3 and recording results, isolating supply and testing, disconnecting test equipment, reconnecting supply, completing standard safety checks, sealing equipment, discussions with customer before leaving; and

* records management: update CIS/database 15 minutes - includes completing paperwork, updating data bases.

Each of the above activity times are been built up from actual time sheet analysis for many years and reflect the real and practical time expended in conducting such work.

AEMO has recently convened an industry working group to review CT testing requirements. From these meeting, it is apparent that the Businesses are one of the most experienced organisations in terms of undertaking CT testing and that their approaches to CT testing are prudent and of a 'commercial standard.'

The AER has considered the views of the Minister and Impaq. The AER considers, that on balance, that there is insufficient evidence to establish that CitiPower's and Powercor's meter data opex involves a substantial departure from the commercial standard.

The AER has not established that incurring the expenditure in respect of meter data opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.18 Customer service

AER Final Determination
The AER has not established that incurring the expenditure in respect of customer service opex[529] involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Customer service opex relates to call centre costs, customer interaction, and revenue management.

Table 4.36 and Table 4.37 (below) set out the customer service opex proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

Table 4.36 CitiPower - Customer service ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	2 722	2 221	507	523	5 972
Draft Determination	212	187	114	114	627
Amended Submitted Budget	2 686	2 185	454	471	5 796
Final Determination	2 438	2 075	454	471	5 438

Table 4.37 Powercor – Customer service ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	6 192	5 083	1 274	1 315	13 864
Draft Determination	336	264	114	114	828
Amended Submitted Budget	6 113	5 004	1 156	1 199	13 472
Final Determination	5, 61	4 759	1 156	1,199	12 675

Draft Determination
The AER sought further information regarding the expenditure from CitiPower and Powercor. In response, CitiPower and Powercor stated that the forecast expenditure was based on the volume of AMI meters deployed and the additional full time employees (FTEs) required to handle customer inquiries. The AER considered that CitiPowers' and Powercor's response did not provide sufficient detail regarding the origin of the proposed expenditure.

Therefore, the AER sought advice from Impaq regarding the proposed expenditure.

[529] Less the community engagement and education customer service opex rejected in section 4.2.3 against the scope test

Impaq conducted a bottom up build of CitiPower's and Powercor's expenditure which was based on costs relating to the call centre, customer interactions and revenue management.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination

CitiPower and Powercor provided the AER with further information substantiating their proposed customer service opex. CitiPower's and Powercor's amended Submitted Budget addresses the following expenditure components in detail:

- Customer interaction and treatment
- Call centre
- Revenue management
- Community engagement and education
- Customer service overheads

The AER has considered the information concerning CitiPower's and Powercor's proposed customer service opex, and considers that the appropriate test to assess community engagement and education against is the scope test. This is outlined in section 4.2.3.

The AER sought advice from Impaq regarding the proposed expenditure. Impaq was concerned that CitiPower's and Powercor's expenditure related to revenue management was too high. Impaq considered that the number of errors resulting from a final meter read were excessive.[530]

The AER has assessed CitiPower's and Powercor's amended Submitted Budgets further. While the AER notes Impaq's concerns, the AER considers that Impaq has provided insufficient information to substantiate its view.

Impaq's assessment also considered the expenditure related to the call centre, and customer interaction and treatment. Impaq considers that the expenditure for both these categories is prudent.

In respect of customer service overheads, CitiPower and Powercor state:

> In addition to the incremental AMI rollout program, the Business allocates a portion of corporate customer service overhead costs to the AMI program. The allocation is made consistent with the Business' Regulatory Accounts for 2009 and 2010. These allocations have been audited and approved by

[530] Impaq Consulting, Australian Energy Regulator: Review of DNSPs Amended AMI Budget Submissions for 2012 to 2015, version 1.2, 29 September 2011, p. 47 p. 126

> Deloitte as being within the AMI Scope. The amount included in the forecasts is consistent with the allocation for 2009–10.[531] [532]

The AER has not established that incurring the expenditure in respect of customer service opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.19 Communication operations

AER Final Determination
The AER has not established that incurring the expenditure in respect of communications operations opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Communications operations opex relates to AMI technology, AMI communications control, technology acceptance and home area network support.

Table 4.39 and Table 4.39 (below) set out the communications opex proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

[531] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 116
[532] Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 123

Table 4.38 CitiPower - Communications operations ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	1 323	1 323	1 323	1 322	5 293
Draft Determination	633	633	633	633	2 532
Amended Submitted Budget	508	508	877	877	2 770
Final Determination	508	508	877	877	2,770

Table 4.39 Powercor - Communications operations ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	3 082	3 082	3 082	3 083	12 330
Draft Determination	1 267	1 267	1 267	1 267	5 068
Amended Submitted Budget	1 131	1 131	1 952	1 952	6 166
Final Determination	1 131	1 131	1 952	1 952	6, 66

Draft Determination

The AER sought further information regarding the expenditure from CitiPower and Powercor. In response, CitiPower and Powercor provided the following explanations for each cost category:

- AMI technology, which provides management expertise with respect to the AMI project and is also responsible for fault detection, fault investigation, fault resolution and reporting;
- AMI communications control, which is responsible for operational aspects of the AMI network, including meter data delivery and prescribed market transactions;
- Technology acceptance, which is responsible for quality testing, regression testing and functionality testing of new firmware and software released by SSN and other meter providers; and
- Home area network (HAN) support, which is responsible for assessing and testing HAN technology and its compatibility with the AMI meters and Powercor Australia network.

The AER sought advice from Impaq regarding the proposed expenditure.

Impaq advised that CitiPower's and Powercor's forecasts were excessive because they did not take into account the highly reliable Silversprings network and the low number of expected faults. Impaq also considered that some of the expenditure had already been recovered by CitiPower and Powercor elsewhere in their budget applications.

The AER acc epted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination

CitiPower and Powercor provided additional information in response to the Draft Determination. CitiPower and Powercor disagreed with the AER's conclusions outlined in the Draft Determination concerning:

- AMI technology
- AMI communications control
- Technology acceptance

In support of their amended Submitted Budgets, CitiPower and Powercor have provided a Deloitte assessment concerning their communications operations opex. The Deloitte report has prepared a bottom-up analysis of functions and related activities relevant to the proposed expenditure.

The AER sought advice from Impaq regarding the proposed expenditure. Impaq states in its advice that it considers the proposed expenditure prudent. Further, the AER notes that the proposed expenditure is in line with the expenditure approved as part of its Draft Determination – which relied on Impaq's assessment.

The AER has not established that incurring the expenditure in respect of communications operations opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

4.5.20 Executive and corporate services

AER Final Determination

The AER has not established that incurring the expenditure in respect of executive and corporate services opex[533] involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Executive and corporate services opex relates to financial management and EDPR preparation expenditure.

Table 4.41 and Table 4.41 (below) set out the executive and corporate services opex proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

[533] Less the program reporting executive and corporate services opex rejected in section 4.4.5.

Table 4.40 CitiPower - Executive and corporate services ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	300	309	403	392	1 404
Draft Determination	105	105	393	393	997
Amended Submitted Budget	300	309	403	392	1 404
Final Determination	291	300	393	383	1 368

Table 4.41 Powercor - Executive and corporate services ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	424	436	638	609	2 108
Draft Determination	105	105	393	393	997
Amended Submitted Budget	424	436	638	609	2 108
Final Determination	415	427	629	600	2 071

Draft Determination

The AER sought further information regarding the expenditure from CitiPower and Powercor. In response, CitiPower and Powercor stated that the expenditure was for professional and legal services fees. No other information was provided.

The AER sought advice from Impaq regarding the proposed expenditure.

Impaq conducted a bottom up build of CitiPower's and Powercor's expenditure which was based on the number of FTEs that the expenditure could cover, relative to the number of FTEs Impaq considered were required for the activities.

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.

Final Determination

CitiPower and Powercor described the expenditure further in their amended Submitted Budget, stating:

> Executive and Corporate Services Operating Expenditure comprises regulatory and finance costs supporting the Regulated Services business.
>
> The AER's Draft Determination includes an allowance for the next price review for the period 2016–20 but no allowance for BAU activities.

> However, CitiPower (and Powercor) is required to incur costs associated with a variety of regulatory activities.[534] [535]

CitiPower and Powercor go on to list various regulatory activities, such as the preparation of charges applications each year for the period 2012–15, auditing AMI data input tables each year for the period 2012–15, preparing annual pricing proposals and undertaking internal compliance reporting.

As discussed in section 4.4.5, the AER established that CitiPower's and Powercor's proposed expenditure relating to program reporting was more likely than not to not be incurred. The AER made this determination based on an error in CitiPower's and Powercor's calculation. The AER has corrected this calculation in the Approved Budget.

Impaq's report identifies several expenditure items within executive and corporate services opex which it considers are excessive. Most of Impaq's concerns relate to the number of FTEs required for certain tasks. Some of these costs are described further below.

Firstly, CitiPower and Powercor claim they require three FTEs for a total of 18 weeks relating to the preparation of the annual budget. Impaq considers this is excessive, and that three FTEs for six weeks is sufficient.

CitiPower and Powercor claim they require 2.5 FTEs for ten weeks relating to the preparation of annual regulatory accounts. Impaq considers this is excessive, and that one FTE for four weeks is sufficient.

Further, CitiPower and Powercor have forecast expenditure for external audit fees and legal advice. Impaq notes these costs rise over the 2012–15 period, and 'sees no reason' why this should happen.

The AER considers that Impaq has provided insufficient information to substantiate its views.

The AER has not established that incurring the remaining expenditure in respect of executive and corporate services opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

[534] CitiPower, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 120
[535] Powercor, Amended Submitted Budget and Charges Application 2012–15, August 2011, p. 127

4.5.21 IT opex

AER Final Determination
The AER has not established that incurring the expenditure in respect of workforce scheduling and mobility IT opex involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

The AER has not established that incurring the expenditure in respect of performance and regulatory reporting IT opex[536] involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

CitiPower and Powercor have divided IT capital expenditure into a number of different cost categories.

Relevantly[537], CitiPower's and Powercor's IT opex is as follows:

- workforce scheduling and mobility
- meter data management

The AER's assessment in the Final Determination is based on the categories above, along with 'performance and regulatory reporting'. 'Performance and regulatory reporting' was initially approved in the Draft Determination; however CitiPower and Powercor have increased the expenditure for this category in their amended Submitted Budget.

Table 4.19 and Table 4.20 (below) set out the amount of IT capex proposed in CitiPower's and Powercor's Submitted Budget and amended Submitted Budget, alongside the expenditure approved by the AER in the Draft Determination and this Final Determination.

[536] Less the performance and regulatory reporting IT opex rejected in section 4.4.4 against the expenditure incurred test

[537] IT opex relating to asset management, connection point management, outage management, network management, performance and regulatory reporting, and logistics management was approved in the Draft Determination against the commercial standard test. With the exception of performance and regulatory reporting, these items will not be assessed further. In the case of performance and regulatory reporting, CitiPower and Powercor have proposed additional expenditure to the amount approved in the Draft Determination; therefore performance and regulatory reporting will be assessed in the Final Determination.

Table 4.42 CitiPower - IT opex ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	6 007	6 092	6 240	6 308	24 647
Draft Determination	3 704	3 740	3 012	3 031	13 487
Amended Submitted Budget	3 662	3 816	3 412	3 458	14 349
Final Determination	3 649	3 720	3 185	3 154	13 708

Table 4.43 Powercor - IT opex ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	9 365	9 485	9 710	9 803	38 364
Draft Determination	6 463	6 523	5 277	5 304	23 567
Amended Submitted Budget	7 332	7 378	6 395	6 427	27 533
Final Determination	7 319	7 282	6 168	6 123	26 892

The AER assessed the relevant IT opex categories against the commercial standard test, having regard to the submissions from CitiPower and Powercor and the advice from Impaq consulting, where appropriate. The AER's assessment is as follows:

4.5.21.2 Workforce scheduling and mobility

Workforce scheduling and mobility is defined in section 4.5.14.2.

Draft Determination
The Draft Determination rejected costs for workforce scheduling and mobility in 2014 and 2015 on the basis the mass deployment process would be completed by the end of 2013.

Final Determination
CitiPower and Powercor removed workforce scheduling and mobility expenditure from 2014 and 2015. In addition, CitiPower and Powercor removed further expenditure from 2012 and 2013, which related to the data warehouse project.

CitiPower and Powercor transferred the expenditure relating to the data warehousing project to the performance and regulatory reporting IT opex category, discussed in section 4.5.21.3 below.

The AER has not established that incurring the expenditure in respect of workforce scheduling and mobility IT opex in the amended Submitted Budgets involves a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Table 4.44 CitiPower - IT opex – workforce scheduling and mobility ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	675	675	710	710	2 770
Draft Determination	675	675	0	0	1 350
Amended Submitted Budget	450	450	0	0	901
Final Determination	450	450	0	0	901

Table 4.45 Powercor - IT opex – workforce scheduling and mobility ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	1 275	1 275	1 297	1 297	5 145
Draft Determination	1 275	1 275	0	0	2 550
Amended Submitted Budget	1 051	1 051	0	0	2 102
Final Determination	1 051	1 051	0	0	2 102

4.5.21.3 Performance and regulatory reporting

Performance and regulatory reporting is defined in section 4.5.14.4.

Draft Determination
The Draft Determination accepted CitiPower's and Powercor's proposed performance and regulatory IT opex forecasts.

Final Determination
As discussed above in section 4.5.21.2, CitiPower and Powercor have transferred expenditure relating to the data warehousing project from the IT opex category workforce scheduling and mobility to the IT opex category performance and regulatory reporting. This has resulted in an increase of $641,000 for both CitiPower's and Powercor's performance and regulatory reporting IT opex.

The AER has assessed CitiPower's and Powercor's performance and regulatory reporting IT opex. The AER considers that the appropriate test to assess the portion of performance and regulatory reporting IT opex which relates to the data warehousing project ($641,000 for both CitiPower and Powercor respectively) is the expenditure incurred test, rather than the commercial standard test.

Therefore, this part of the assessment is outlined above in section 4.4.1.

The portion of performance and regulatory reporting IT opex that does not directly relate to the data warehousing project was approved by the AER in its Draft Determination. The AER upholds its decision in this Final Determination.

Table 4.46 CitiPower - IT opex – performance and regulatory reporting ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	54	54	54	54	216
Draft Determination	54	54	54	54	216
Amended Submitted Budget	67	151	281	358	857
Final Determination	54	54	54	54	216

Table 4.47 Powercor - IT opex – performance and regulatory reporting ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	54	54	54	54	216
Draft Determination	54	54	54	54	216
Amended Submitted Budget	67	151	281	358	857
Final Determination	54	54	54	54	216

4.5.21.4 Meter data management

CitiPower and Powercor required a new Meter Data Management System (MDMS) to manage the AMI meter data processing requirements and provide the platform for integrating multiple meter data collection technologies with back office applications.

Draft Determination
The AER sought further information regarding the expenditure from CitiPower and Powercor. In response, CitiPower and Powercor briefly outlined what the cost drivers for this activity were for but provided no information on how their forecasts were derived.

The AER sought advice from Impaq regarding the proposed expenditure. Impaq provided the following advice relating to each cost category:

- Meter data management system: While a major upgrade was required to handle the volumes of AMI data (through capex), the operating cost should be more moderate (around $250,000 for the Market Transaction System). Impaq expected the use of the gateway to be limited for AMI purposes
- Utility services bus: That cost of this should be borne across the whole businesses as it services all the major applications that operate on it. Further, the infrastructure cost of the utility services bus is covered under IT infrastructure
- Customer information portal: This is outside scope

The AER accepted the Impaq assessment as the commercial standard. The AER determined that CitiPower's and Powercor's budgets were a substantial departure from this standard and should be amended to reflect the commercial standard as set out in Impaq's advice.[538]

Final Determination
In their amended Submitted Budgets, CitiPower and Powercor removed expenditure relating to the customer information portal because of the AER Draft Determination that the activity is out of scope. CitiPower and Powercor also prepared a revised estimate for operating its MDMS.

The AER considers that CitiPower's and Powercor's revised forecasts are in line with Impaq's assessment as part of the Draft Determination.

The AER has not established that incurring the expenditure in respect of the meter data management IT opex is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Table 4.48 CitiPower - IT opex – meter data management ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	3 744	3 804	3 857	3 913	15 318
Draft Determination	1 439	1 450	1 338	1 345	5 572
Amended Submitted Budget	1 611	1 656	1 512	1 470	6 249
Final Determination	1 611	1 656	1 512	1 470	6 249

Table 4.49 Powercor - IT opex – meter data management ($'000, 2011 Real)

	2012	2013	2014	2015	Total
Submitted Budget	4 743	4 803	4 868	4 934	19 347
Draft Determination	1 841	1 841	1 732	1 732	7 146
Amended Submitted Budget	2 921	2 824	2 623	2 551	10 918
Final Determination	2 921	2 824	2 623	2 551	10 918

[538] ibid. pp. 196–197

4.5.22 Debt raising costs

AER Final Determination
CitiPower and Powercor have accepted the AER's Draft Determination which allowed a debt raising cost benchmark of 10.8 basis points per annum for the 2014–15 period.

The AER maintains its Draft Determination.

Draft Determination
The AER accepts the debt raising costs of 12.5 basis points per annum as provided for by clause 4.1(h) of the Order and proposed by the DNSPs for the initial WACC period 2009 to 2013.

The AER did not accept the DNSPs proposed debt raising cost of 12.5 basis points per annum for the period 2014 to 2015 when compared to its benchmark debt raising cost of 10.8 basis points per annum.[539] The AER considers that DNSPs proposals were a substantial departure from the commercial standard represented by the AER's proposed debt raising cost benchmark of 10.8 basis points per annum. The AER allowed only a debt raising cost benchmark of 10.8 basis points per annum for the period 2014 to 2015.

Final Determination
CitiPower and Powercor have accepted the AER's Draft Determination which allowed a debt raising cost benchmark of 10.8 basis points per annum for the 2014–15 period.

The AER maintains its Draft Determination.

4.6 Calculation of charges

The calculation of charges is based on the Approved Budget for Citipower and Powercor summarised in Table 4.62 and Table 4.63 respectively. The Approved Budget is the result of analysis in section 2.2 to 2.5. The AER must then determine the revenue required (section 4.6.2) to fund this Approved Budget by:

- applying the cost of capital to the capital component of the Approved Budget in section
- incorporating the capex for 2012–15 into the metering asset base and adjusting for actual expenditure for the 2011 calendar year
- determining the rate of depreciation for the metering asset base based on the standard asset lives assigned in clause 4.1(g) of the Order
- calculating the tax allowance for the DNSP for metering revenues.

The AER then uses this revenue requirement to determine the charges for consumers such that the costs of the AMI roll-out as summarised by the revenue requirement will

[539] AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012-15 budget and charges applications, July 2011, pp. 209-211

equal the amount of revenue collected from consumers through charges by the end of 2015 (see section 4.6.3).

Table 4.50 The AER's Approved Budget – CitiPower ('000, Real 2011)

	2012	2013	2014	2015	Total
Capex					
Meter Supply – contract*	22 035	15 334	1 144	1 523	40 036
Meter Supply – non-contract	2 488	1 932	618	720	5 759
Meter installation – contract*	7 276	5 001	0	0	12 277
Meter installation – non-contract	5 132	4 398	649	629	10 809
Communications equipment supply – contract*	12	12	22	24	69
Communications equipment supply – non-contract	6	1	12	12	30
Communications equipment installation – contract	62	61	27	21	171
Communications equipment installation – non-contract	171	140	65	28	404
IT capex					
Asset management	60	0	0	0	60
Workforce scheduling and mobility	0	0	0	0	0
Connection point management	2 796	0	140	0	2 936
Outage management	126	36	0	0	162
Network management	710	1 960	409	410	3 490
Meter data management	1 947	922	527	527	3 923
Performance and regulatory reporting	0	0	0	0	0
Revenue management	260	120	0	0	380
IT program management	300	300	200	140	941
Infrastructure	893	936	1 952	1 301	5 082
Total capex	44 273	31 153	5 766	5 336	86 528
Opex					
Meter Data Services	2 155	1 662	1 122	1 002	5 942
Meter Maintenance	1 045	1 023	1 334	1 357	4 758

Customer Service	2 438	2 075	454	471	5 438
Backhaul Communications	45	71	73	74	263
Communications operations	508	508	877	877	2 770
Project Management*	0	0	1,429	1,287	2 715
Executive & corporate services*	291	300	393	383	1 368
Debt raising cost**			84	76	160
IT opex					
Workforce Scheduling & Mobility	450	450	0	0	901
Connection Point Management	34	34	34	34	137
Network Management	562	606	615	626	2 409
Meter Data Management	1 611	1 656	1 512	1 470	6 249
Performance & Regulatory Reporting	54	54	54	54	216
Logistics Management	4	4	4	4	14
IT Infrastructure (incl middleware, B2B and B2M)	934	916	966	966	3 782
Total opex	10 131	9 359	8 951	8 681	37 122
Total budget	54 404	40 512	14 717	14 017	123 650

Table 4.51 The AER's Approved Budget – Powercor ('000, Real 2011)

	2012	2013	2014	2015	Total
Capex					
Meter Supply – contract*	49 467	33 555	2 371	2 272	87 665
Meter Supply – non-contract	6 528	5 629	2 691	2 694	17 542
Meter installation – contract*	20 114	12 943	0	0	33 057
Meter installation – non-contract	11 849	10 276	1 764	1 835	25 724
Communications equipment supply – contract*	2 514	27	39	39	2 619
Communications equipment supply – non-contract	2 590	1 763	102	105	4 561
Communications equipment installation – contract	6 630	2 590	424	167	9 810
Communications equipment installation – non-contract	4 365	3 543	1 613	717	10 239
Project and administrative costs	123	117	117	126	482
IT capex					
Asset management	60	0	0	0	60
Workforce scheduling and mobility	0	0	0	0	0
Connection point management	2 801	0	140	0	2 941
Outage management	174	84	0	0	258
Network management	1 657	4 573	955	957	8 142
Meter data management	2 307	1 282	887	887	5 363
Performance and regulatory reporting	0	0	0	0	0
Revenue management	260	120	0	0	380
IT program management	300	300	200	140	941
Infrastructure	2 083	2 185	4 555	3 036	11 858
Total capex	113 821	78 987	15 859	12 976	221 642
Opex					
Meter Data Services	6 285	4 516	2 896	2 896	16 593

Meter Maintenance	1 401	1 440	1 859	1 890	6 591
Customer Service	5 561	4 759	1 156	1 199	12 675
Backhaul Communications	2 195	3 487	3 564	3 638	12 884
Communications operations	1 131	1 131	1 952	1 952	6 166
Project Management*	0	0	3 180	2 864	6 044
Executive & corporate services*	415	427	629	600	2 071
Debt raising cost**			212	195	407
IT opex					
Workforce Scheduling & Mobility	1 051	1 051	0	0	2 102
Connection Point Management	34	34	34	34	137
Network Management	1 071	1 174	1 195	1 222	4 661
Meter Data Management	2 921	2 824	2 623	2 551	10 918
Performance & Regulatory Reporting	54	54	54	54	216
Logistics Management	8	8	8	8	34
IT Infrastructure (incl middleware, B2B and B2M)	2 180	2 137	2 254	2 254	8 824
Total opex	24 307	23 042	21 616	21 358	90 323
Total budget	138 128	102 029	37 475	34 333	311 965

4.6.2 Revenue Requirement

This section determines the revenue requirement required by the DNSP to be compensated for the cost of the AMI roll-out for the period 2012–15. The revenue is determined through the reconciliation to the regulatory accounts and application of the cost of capital, depreciation, tax to determine the metering asset base and the revenue requirement (sections 4.6.2.1 to 4.6.2.6).

4.6.2.1 Reconciliation to the regulatory accounts

The AER must ensure the actual costs are included in it final charges determination to ensure that the revenue earned by DNSPs equal the cost of the AMI roll-out. To this end the AER has ensured that costs reported in the DNSPs regulatory accounts are incorporated into each DNSPs revised budget application.

The Victorian Energy Minister's comment[540] that the AER should critically examine the regulatory accounts of each DNSP to ensure the costs incurred by related parties in assessing the actual expenditure to 2010 and the revised forecasts for 2011. The AER did this critical examination as part of its AMI 2012–15 Draft Determination[541] and has ensured DNSPs amended Submitted Budgets are compliant in this Final Determination.

CitiPower has submitted a revised budget application that reconciles to Citipower's regulatory accounts. Therefore the amount of $5,332 for opex identified in the AER's Draft Determination has been accounted.[542] The AER therefore considers the historical expenditure supplied by CitiPower to support its revenue requirement for 2012–2015 is appropriate.

Powercor has submitted a revised budget application that reconciles to Powercor's regulatory accounts. Therefore the amount of $86,195 for opex identified in the AER's Draft Determination has been accounted.[543] The AER therefore considers the historical expenditure supplied by Powercor to support its revenue requirement for 2012–2015 is appropriate.

4.6.2.2 Cost of capital

The Order allows DNSPs to receive a regulated rate of return on capital expenditure throughout the period 2009–2015. The initial Weighted Average Cost of Capital (WACC) period of 2009–2013 was set in 2009 at 9.51 per cent in accordance with clause 4.1(i) of the Order, as summarised in Table 4.52.

[540] Hon. Michael O'Brien, Minister for Energy and Resources, Submission to the AER, 9 September 2011

[541] AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2012–15 budget and charges applications, July 2011, pp 204–205

[542] ibid., pp 205–206.

[543] ibid., pp 205–206.

Table 4.52 AER final determination on WACC parameters for AMI period 1 January 2009 to 31 December 2013

WACC Parameter	Initial WACC period (2009-13)
10 year nominal risk free rate	4.63%
Inflation	2.56%
Equity beta	1.00
Market risk premium	6.00%
Debt risk premium	4.00%
Gearing ratio	60.0%
Cost of Debt	8.76%
Cost of Equity	10.63%
Nominal Vanilla WACC	9.51%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, pp 61

The WACC for the subsequent WACC period for 2014–15 must be set by the AER in accordance with the measurement of market observables in 2013 and the AER's Statement of Regulatory Intent (SORI) under clause 4.1(j). Clause 4.1(j)(i) of the Order requires the AER to make a decision on WACC market observables for 2014–15 in 2013. To this end the AER advised the DNSPs in writing[544] that the following approach would be adopted to set WACC for 2014–15:

- 28 February 2011 – DNSPs to propose to the AER a placeholder WACC and placeholder AMI Charges for 2014-15 as part of the their budget and charges applications for 2012-15, (which the AER will assess as part of its final determination on 31 October 2011);
- 30 November 2012 – DNSPs to submit a proposed averaging period in 2013 to the AER for the purposes of calculating the subsequent AMI WACC;
- 10 January 2013 – AER to write to each DNSP to advise its decision on the proposed averaging period;
- 31 August 2013 – DNSPs to submit to the AER revised charges applications for 2014; and
- 31 October 2013 – AER final decision on AMI revised charges for 2014, incorporating the market observables measured in the approved averaging period.

[544] AER, Letter to Victorian DNSPs re: 2012-15 AMI Budget and Charges Information Templates, 15 February 2011

This process relies on the averaging period ending in time for the AER to determine revised charges for 2014 on 31 October 2013.

The SORI set the following non-market variable for WACC. These values can be altered under clause 4.1(j)(ii) in accordance with clause 6.5.4(g) of the National Electricity Rules (NER). This clause allows the AER to alter the non-market observables of the SORI on the basis of persuasive evidence.

Table 4.53 AER final determination on WACC parameters for the AMI period 1 January 2009 to 31 December 2013

WACC Parameter	Initial WACC period (2009-13)
Gearing (debt to equity ratio)	60%
Market risk premium	6.50%
Equity beta	0.80
Gamma	0.65
Credit rating	BBB+
Nominal risk free rate	10 year Commonwealth Government Securities

Source: AER, Electricity transmission and distribution network service providers: Statement of the revised WACC parameters (transmission): Statement of the revised WACC parameters (distribution), May 2009

The values summarised for a placeholder WACC for 2014–15 have been submitted by the Victorian DNSPs following the AER's draft decision.

Table 4.54 AER final determination on the placeholder WACC for the AMI period 1 January 2014 to 31 December 2015

	DNSPs initial Submitted Budget	AER draft determination*	CitiPower and Powercor amended Submitted Budget	AER final determination
Nominal Vanilla WACC	9.19%	9.50%	9.11%	9.77%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, pp 61

Note Contains transposition error between SA gas decision and AER draft determination. The WACC value should have been 9.77%.

The AER must therefore set a placeholder WACC for use in this decision for the 2014—15 period. The AER, in its draft decision, did not accept the DNSPs initial proposed placeholder WACC of 9.19 per cent and instead adopted its most recent

WACC decision of 9.50 per cent.[545] The AER has uncovered a transposition error in copying this WACC value from the AER's South Australian gas access decision.[546] This error alters the AER's draft decision from 9.50 per cent to 9.77 per cent for WACC. Table 4.55 summarises the WACC from this South Australian decision.

Table 4.55 AER final determination on WACC parameters for the SA gas access decision

WACC Parameter	Subsequent WACC period (2014-15)
10 year nominal risk free rate	5.56%
Inflation	2.55%
Equity beta	0.80
Market risk premium	6.00%
Debt risk premium	3.81%
Gearing ratio	60.0%
Cost of Debt	9.37
Cost of Equity	10.36
Nominal Vanilla WACC	9.77%

Source: AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, pp 59

The AER notes in the amended Submitted Budget that the DNSPs have raised the following concerns with the AER's proposed placeholder WACC:

- all Victorian DNSPs suggest the market risk premium in the AER's placeholder WACC should be 6.0 per cent rather than the 6.5 per cent applied in the AER's most recent WACC decision.
- JEN considers the method of calculating the Debt Risk Premium should not be based on one bond but a weighted average of multiple bonds
- CitiPower and Powercor suggest that market observables are based on data that is highly volatile, and suggests that the current market risk premium is 4.5 per cent not the 5.4 per cent presented in the AER's draft determination.
- Citipower and Powercor has suggested that forecast inflation be calculated consistent with the AMI 2009—11 Final Determination and in the Order for the AMI 2014—15 period.

[545] AER, Final Decision: Envestra Ltd Access arrangement proposal for SA gas network: 1 July 2011 – 30 June 2016, pp 59.

[546] AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, pp35-59

- UED, JEN, Citipower and Powercor accept the debt raising costs of 10.8 basis points for the period 1 January 2014 to 31 December 2015. SP AusNet considers a debt raising cost of 12.5 per cent to be appropriate as the AER should not benchmark costs but take the circumstances of the DNSP into account.

- Citipower and Powercor have proposed an updated debt risk premium but have not clarified how this update was made for 2014–15.

- SP AusNet has proposed a gamma (the valuation of franking credits) of 0.25 be used for the 2009–15 period consistent with the Australian Competition Tribuneral decision (discussed below).

The AER considers that the DNSPs arguments concerning the underlying value of the placeholder WACC will be relevant in the AER's 2013 AMI WACC Determination.

The AER considered the impact of market observables and non-market observables:

- Market observables - the AER's proposed market observables from the June 2011 South Australian gas access decision are more up-to-date than those proposed by the Victorian DNSPs whose market observables are based on the 2009–11 AMI determination.

- Non-market observables - the DNSPs have proposed to alter a number of non-market observables from the original 2009–11 AMI determination. These include the market risk premium and equity beta on which the AER changed its view in the recent South Australian gas access decision. The AER considers that its most recent decision on WACC represents a more accurate view on these parameters, for the reasons outlined in that decision.

For these reasons, the AER considers that the value of WACC proposed by the DNSPs based on the AER's 2009–11 market observables is less likely to represent the value of WACC in 2013 than the AER's most recent decision on WACC. The AER therefore considers it appropriate to adopt its most recent determination on WACC from its South Australian gas decision as the placeholder for the 2014–15 subsequent WACC period.

The AER considers it appropriate to adopt the entire WACC decision as it represents the AER's most recent view. The AER does not consider it appropriate to alter elements of this WACC decision.

Gamma

The AER considers that its decision to utilise the South Australian gas decision extends to other elements of WACC that were not clearly stated in the draft decision such as the value of gamma. The gamma for the South Australian gas decision was 0.25 consistent with the Australian Competition Tribunal Decision.[547]

[547] Australian Competition Tribuneral, Application by Energex Limited (Gamma) (No 5), [2011] ACompT 9, 12 May 2011, as updated 13 May 2011

The AER did not clearly state this in its draft decision and therefore offered the DNSPs a chance to comment on gamma. All DNSPs have responded that a gamma of 0.25 was acceptable. The AER has therefore adopted a gamma of 0.25 for this decision consistent with the Australian Competition Tribuneral decision and the South Australian gas decision WACC.

The AER notes that gamma has no impact on the revenue requirements as tax losses are sufficient for tax liabilities to be zero as required by the Order.

Inflation

The AER also notes that the DNSPs have proposed an inflation rate of 2.56 per cent. The current inflation rate incorporated into the WACC decision is 2.55 per cent. The AER considers that the inflation rate decision will be revisited as part of the AMI WACC decision in 2013 and therefore will not be pre-empting this decision in this placeholder but will continue to adopt the AER's current view of inflation as incorporated into the South Australian gas decision.

Market and Debt Risk Premium

The AER notes the arguments lodged by the DNSPs concerning the value of the Market Risk Premium being 6.5 per cent instead of the 6.0 per cent value the AER considered appropriate in its last decision on WACC. The AER considers it will be appropriate for these DNSPs to make arguments on the value of WACC components including the value of the Market Risk Premium and the Debt Risk Premium during the AER's 2013 AMI WACC determination process.

The AER considers it appropriate to adopt a placeholder WACC that represents the AER's current view of the value of WACC. The AER does not consider it appropriate to change a placeholder value when this value will be updated in 2013. Therefore the AER considers the WACC value determined by the AER in June 2011 to represent the AER's current view of WACC.

4.6.2.3 Depreciation

CitiPower and Powercor have applied the correct straightline depreciation schedules as required by clause 4.1 (g) of the Order.

4.6.2.4 Tax

CitiPower and Powercor have applied a tax rate of zero which is consistent with clause 4.1 (e) of the Order as required when there is an estimated loss for tax purposes in a given year.

4.6.2.5 Metering Asset Base

The AER's Final Determination on CitiPower's and Powercor's capex budget determines the metering asset base summarised in Table 4.56 and Table 4.57 respectively.

Table 4.56 AER Final Determination - CitiPower's Meter Asset Base ($ '000, Real 2011)

	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	18 930	31 718	65,013	93,390	122,030	134,619	123,481
Capital Expenditure	17 474	41 450	40,482	44,273	31,153	5,766	5,336
Depreciation	4 685	8 156	12,105	15,633	18,564	16,904	16,708
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	31 718	65 013	93,390	122,030	134,619	123,481	112,109

Table 4.57 AER Final Determination - Powercor's Meter Asset Base ($ '000, Real 2011)

	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	36 464	64 737	149 383	229 440	305 828	339 238	314 639
Capital Expenditure	37 901	102 637	108 037	113 821	78 987	15 859	12 976
Depreciation	9 628	17 990	27,980	37 433	45 577	40 458	40 698
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	64 737	149 383	229 440	305 828	339 238	314 639	286 916

4.6.2.6 Revenue Requirement

The AER's Final Determination on CitiPower's and Powercor's opex and capex budget equates to a revenue requirement for the period 2012–2015 summarised in Table 4.58 and Table 4.59 respectively. The revenue requirement for the period 2009–11 has been included from the AER's 2009–11 AMI Budget and Charges Final Determination.

Table 4.58 AER Final Determination on CitiPower's revenue requirement ($ '000, nominal)

	2009	2010	2011	2012	2013	2014	2015
Return on capital	2 802	3 772	7 511	10 238	12 510	13 257	12 409
Depreciation	3 347	7 349	9 957	13 276	16 158	14 772	15 242
Operating and Maintenance costs	12 186	10 054	12 673	10 390	9 844	9 655	9 603
Tax liability	0	0	0	0	0	0	0
Total revenue requirement	18 335	21 175	30 141	33 904	38 512	37 684	37 254

Table 4.59 AER Final Determination on Powercor's revenue requirement ($ '000, nominal)

	2009	2010	2011	2012	2013	2014	2015
Return on capital	5 599	8 350	17 963	25 439	31 442	33 584	31 685
Depreciation	6 943	16 205	22 844	31 540	39 472	34 872	36 746
Operating and Maintenance costs	24 814	19 953	25 458	24 930	24 237	23 316	23 625
Tax liability	0	0	0	0	0	0	0
Total revenue requirement	37 356	44 509	66 265	81 908	95 151	91 773	92 056

4.6.3 Determination of meter charges

The Order requires the AER to ensure the net present value (NPV) of costs equals revenues for the period 2012–2015 to ensure DNSPs are compensated for the cost of the AMI roll-out. The NPV of costs and revenues for CitiPower and Powercor are summarised in Table 4.60 and Table 4.61 respectively.

In his submission, the Hon. Michael O'Brien MP, Minister for energy and resources stated concern that JEN's costs per customer appears to be higher than its peers.[548]

4.6.3.1 AER's view

To ensure transparency the AER has incorporated the under and over recovery for the initial AMI budget period 2009–11. The under or over recovery is determined using the DNSPs' regulatory account data up until 2010. The 2011 values represents the DNSPs' estimate of actual expenditure. This expenditure will receive a 'true-up' as required by the Order so that only actual (not forecast) DNSP expenditure for the AMI roll-out will be recovered.

The forecast expenditure approved in this Final Determination for 2012–15 will be adjusted for actual expenditure under clause 5G for the years 2012 and 2013 by 31 August of 2013 and 2014. This adjustment will impact the 2014 and 2015 charges. In

[548] Hon. Michael O'Brien, Minister for Energy and Resources, Submission to the AER, 9 September 2011, pp3-4

addition the forecast expenditure in 2014 and 2015 will be adjusted in 2015 and 2016 under clauses 5L.3 and 5L.4 to impact the 2016 and 2017 charges.

Table 4.60 AER Final Determination on CitiPower's revenue under and over recovery ($ '000, nominal)

	2009	2010	2011	2012	2013	2014	2015
AMI cost	24 781	43 280	67 272	91 917	117 482	140 272	160 797
AMI revenue	11 666	40 526	64 116	88 041	112 192	136 427	160 797
Under/Over recovery	-13 115	-2 753	-3 156	-3 876	-5 290	-3 845	0

Table 4.61 AER Final Determination on Powercor's revenue under and over recovery ($ '000, nominal)

	2009	2010	2011	2012	2013	2014	2015
AMI cost	61 609	100 493	153 240	212 781	275 944	331 445	382 164
AMI revenue	31 301	93 408	150 282	207 649	265 504	323 692	382 164
Under/Over recovery	-30 308	-7 085	-2 958	-5 132	-10 440	-7 753	0

The AER's Final Determination on the metering charges to compensate CitiPower and Powercor for the AMI roll-out are summarised in Table 2.1 and Table 4.2 respectively.

Table 4.62 AER Final Determination charges for CitiPower ($ nominal per NMI)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase	104.79	91.38	99.31	107.92	117.29	127.46
Three phase direct connected	136.98	119.44	129.80	141.06	153.30	166.60
Three phase current Transformer connected	172.99	150.85	163.94	178.16	193.62	210.41

Note: * historical charges set by the AER in a previous determination

Table 4.63 AER Final Determination charges for Powercor ($ nominal per NMI)

Meter	2010*	2011*	2012	2013	2014	2015
Single phase	96.67	95.01	102.96	111.57	120.90	131.01
Three phase direct connected	127.50	125.32	135.80	147.16	159.47	172.80
Three phase current Transformer connected	168.94	166.05	179.94	194.99	211.29	228.96

Note: * historical charges set by the AER in a previous determination