Draft Determination

Victorian Advanced Metering Infrastructure Review

2012-15 budget and charges applications

28 July 2011

AUSTRALIAN ENERGY REGULATOR

Contents

Request for submissions

This document sets out the Australian Energy Regulator's (AER) draft determination on the 2012–15 submitted budgets and 2012–15 initial charges applications of the Victorian distribution network service providers (DNSP) for the roll-out of advanced metering infrastructure (AMI). Where this draft determination rejects a DNSP's submitted budget, clause 5C.5(b) of the revised Order requires that the DNSP must, within 20 business days of this draft determination, make application to the AER for approval of an amended submitted budget.

The AER may hold a public forum to discuss its draft determination subject to the level of stakeholder interest in attending a forum.

Interested parties are invited to make written submissions to the AER on the amendments proposed in this draft determination by the close of business 9 September 2011.

Submissions can be sent electronically to: aerinquiry@aer.gov.au

Alternatively, submissions can be mailed to:

Mr Chris Pattas
General Manager
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

The AER prefers that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to:

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication.

All non-confidential submissions will be placed on the AER's web site: www.aer.gov.au. For further information regarding the AER's use and disclosure of information provided to it, see the ACCC/AER Information Policy, which is also available on the AER's web site.

Enquiries about this draft determination, or about lodging submissions, should be directed to AER enquiries on (03) 9290 1436.

Overview

In 2006 the Victorian Government decided that there should be a roll-out of advanced interval meters to Victorian electricity customers. The regulatory arrangements relating to the roll-out of advanced metering infrastructure (**AMI**) are set out in an Order in Council **(revised Order**)[1] which also sets out the AER's role in the determination of AMI budgets, revenues and charges.

The revised Order provides for a pass through arrangement for metering costs incurred by the Distribution Network Services Providers (DNSPs), whereby metering charges are to be set with reference to a combination of actual costs and forecasts of expenditure determined by the AER using a building block approach and applying the tests set out in the revised Order. The building block approach provides for the capital cost of metering assets to be amortised and recovered from customers over time. Each year charges are to be revised under this approach by updating forecast data with actual costs incurred and revenues received to ensure revenue neutrality for the DNSPs over the roll-out period.

The AER published a framework and approach paper regarding regulatory arrangements for the AMI roll-out on 29 January 2009.[2] 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 on the Victorian DNSPs' 2009-11 AMI budget and charges applications. The AER's determination approved $1.08 billion in expenditure for the 2009-11 budget period, compared to the $1.2 billion proposed by the DNSPs, and also set customer charges for metering services for 2010 and 2011.

Draft decision

The DNSPs submitted their AMI budget applications for the 2012-15 budget period on 28 February 2011. The DNSPs proposed a total of $776 million in capital expenditure and $468 million in operating expenditure (real 2011 dollars) for these four years, a total of $1.24 billion.

The AER has assessed the DNSPs' submitted budgets in this draft determination in accordance with the scope and prudence tests set out in the revised Order and consistent with the requirements set out in the AER's framework and approach paper.

Following this assessment, the AER considers that a total budget of $763 million meets the relevant tests of the revised Order, a reduction of 39 per cent from that proposed by the DNSPs.

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1 The August 2007 Order in Council was revised in November 2008 and again revised in January 2009. Further detail is provided in the Background to this determination.

2 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.

The budgets approved by the AER in this draft determination are set out in the tables below, along with the budgets submitted by the DNSPs in their applications.

SP AusNet

Table 1.1 AER determination—budget for SPA ($'000s, real 2011)

	2012	2013	2014	2015	Total
SPA proposed capex	171,025	49,081	7,367	3,999	231,473
AER determination – SPA capex	133,639	39,249	5,320	1,899	180,107
SPA proposed opex	48,549	40,149	26,441	24,352	139,492
AER determination – SPA opex	18,659	14,290	10,362	9,286	52,598

Source: AER analysis

United Energy Distribution

Table 1.2 AER determination- budget for UED ($'000s, real 2011)

	2012	2013	2014	2015	Total
UED proposed capex	112,406	19,027	8,113	7,770	147,315
AER determination – UED capex	66,844	14,245	5,428	3,905	90,422
UED proposed opex	28,583	23,695	21,996	22,201	96,474
AER determination – UED opex	18,807	15,155	13,227	13,382	60,571

Source: AER analysis

Jemena Electricity Networks

Table 1.3 AER determination- budget for JEN ($'000s, real 2011)

	2012	2013	2014	2015	Total
JEN proposed capex	34,098	17,891	7,669	7,345	67,004
AER determination – JEN capex	24,736	12,617	4,884	3,079	45,316
JEN proposed opex	19,422	17,226	15,820	15,941	68,409
AER determination – JEN opex	12,608	10,847	9,493	9,551	42,499

Source: AER analysis

Citipower

Table 1.4 AER determination- budget for CitiPower ($'000s, real 2011)

	2012	2013	2014	2015	Total
CP proposed capex	50,350	36,391	8,055	7,591	102,388
AER determination – CP capex	35,395	23,980	2,531	2,712	64,619
CP proposed opex	13,726	13,167	14,090	13,551	54,535
AER determination – CP opex	5,541	5,426	6,530	6,395	23,892

Source: AER analysis

Powercor

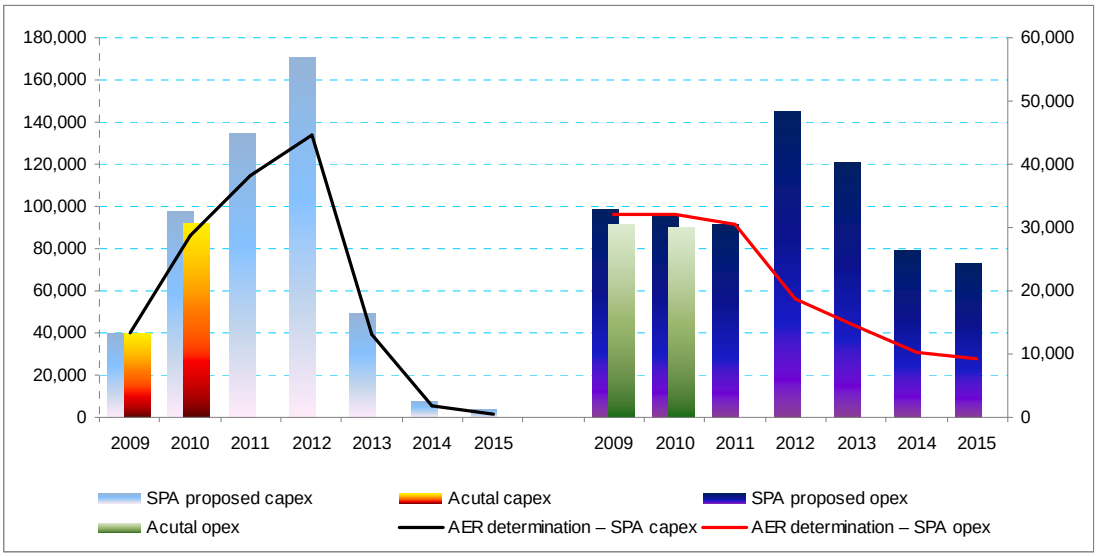
Table 1.5 AER determination- budget for Powercor ($'000s, real 2011)

	2012	2013	2014	2015	Total
PC proposed capex	116,276	81,652	16,210	13,472	227,609
AER determination – PC capex	80,576	52,503	6,699	6,447	146,225
PC proposed opex	27,877	28,241	27,454	26,435	110,006
AER determination – PC opex	12,232	13,257	15,821	15,490	56,800

Source: AER analysis

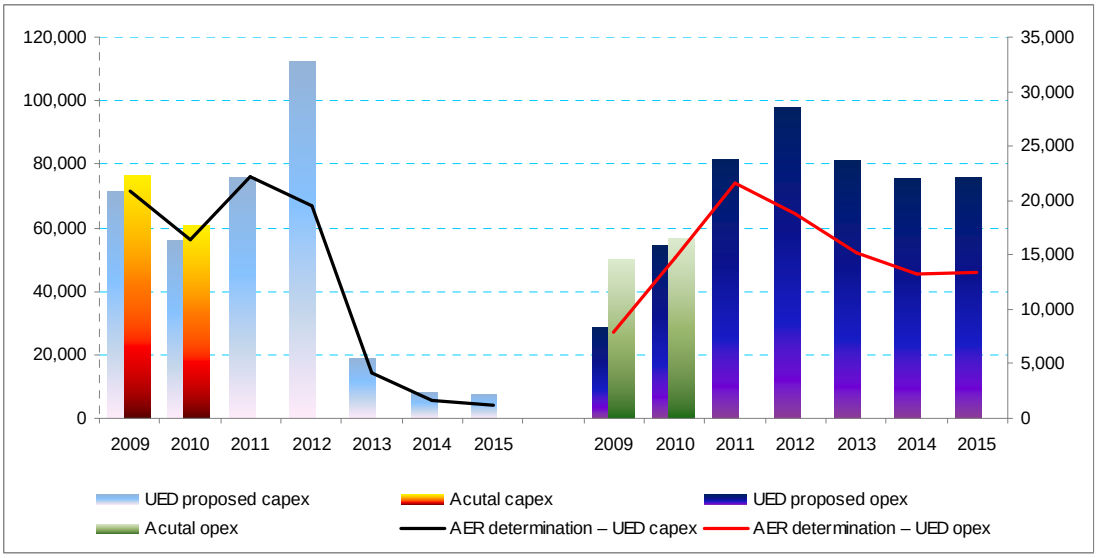
The charts below show the budgets submitted by the DNSPs for the initial AMI regulatory period (2009-11) and the subsequent regulatory period (2012-15) as well as the budgets approved by the AER. The charts outline the captial expenditure and operational expenditure seperately.

Figure 1.1 SP AusNet's proposed budget and AER determination ($ 000, 2011)



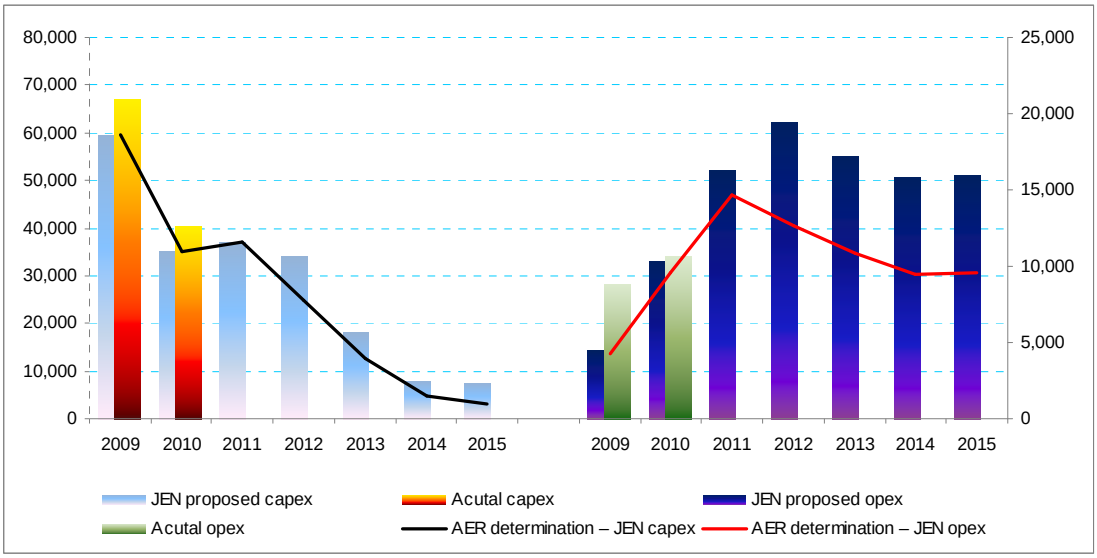
Source: AER analysis

Figure 1.2 UED's proposed budget and AER determination ($ 000, 2011)



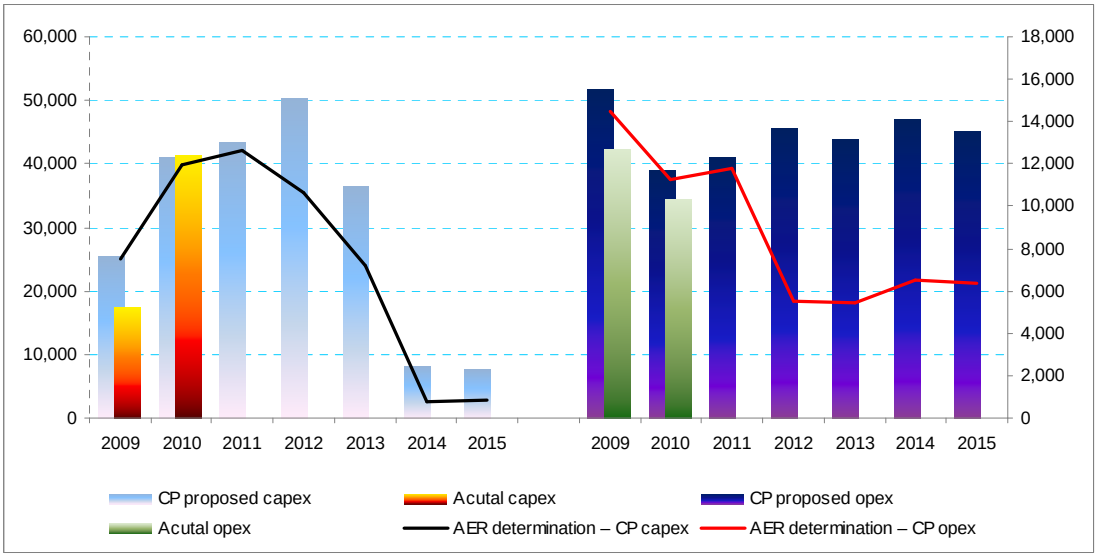
Source: AER analysis

Figure 1.3 JEN's proposed budget and AER determination ($ 000, 2011)



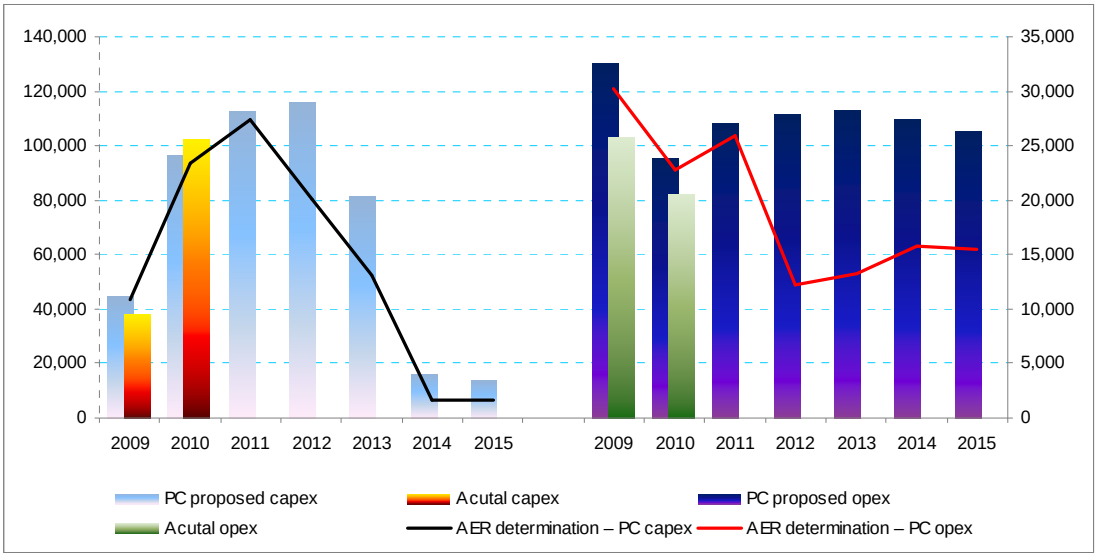
Source: AER analysis

Figure 1.4 CitiPower's proposed budget and AER determination ($ 000, 2011)



Source: AER analysis

Figure 1.5 Powercor's proposed budget and AER determination ($ 000, 2011)



Source: AER analysis

The charts above show rapidly declining capex from 2012-13 as the AMI roll-out nears completion. The AER's draft determination for capex is generally consistent with the trend of the DNSPs forecasts, albeit at a somewhat lower level. In contrast, 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'. The AER's draft determination for opex is considerably lower than the DNSPs' proposals for the 2012-15 period.

The AER considers that the DNSPs' expenditure forecasts for the AMI roll-out over 2012-15 are not consistent with a program that would ordinarily have been expected to mature to a greater extent by this time in line with the AMI roll-out schedule; for example, where significant upfront establishment costs would be expected to have been already incurred. While the AER is of the view that an initial ramp up in operational and capital expenditure to establish and implement the AMI program in the 2009-11 period was justified, the AER does not consider that the continuation of such expenditure levels in the 2012-15 period has been substantiated by the DNSPs as meeting the prudence tests in the revised Order.

The AER has also assessed building block calculations and charges and has included its assessment of these in this draft determination. The charges set out below are based on the budgets and building block calculations in this draft determination and will be updated to reflect any changes in the AER's final determination on 2012-15 budgets in October 2011. The charges submitted by the DNSPs in their applications[3] are set out in the table below along with the charges approved by the AER in this draft determination.

[3] All DNSPs except SP AusNet charge on a National Meter Identifier (NMI) basis.

Table 1.6 DNSP proposed single phase, single element meter charges ($ per meter/NMI)

Meter	2012	2013	2014	2015
SP AusNet	110.51	130.17	153.31	180.57
UED	107.15	124.63	144.97	168.62
Jemena Electricity Networks	149.00	152.84	155.22	157.64
Citipower	105.09	120.65	138.51	159.01
Powercor	109.26	117.71	126.81	136.63

Source: SP AusNet, SP AusNet AMI 2012-15 Charges Model, 28 February 2011; UED, UED AMI 2012-15 Charges Model (resubmit), 30 May 2011; Jemena, Jemena AMI 2012-15 Charges Model, 28 February 2011; Citipower, Citipower AMI 2012-15 Charges Model, 28 February 2011; Powercor, Powercor AMI 2012-15 Charges Model, 28 February 2011

Table 1.7 AER draft determination single phase, single element meter charges ($ per meter/NMI)

Meter	2011[4]	2012	2013	2014	2015
SP AusNet	93.83	101.02	108.75	117.08	126.04
UED	92.12	99.57	107.62	116.33	125.73
Jemena Electricity Networks	136.70	155.84	159.86	162.34	164.88
Citipower	91.38	93.38	95.26	97.17	99.13
Powercor	95.01	92.72	93.91	95.12	96.34

Source: AER analysis

The AER's approved budget will amount to around a 20.3 per cent increase in charges for a single phase single element meter over the 2011-15 period, which is only a third of the increase proposed by the DNSPs. The DNSPs proposed budget applications would lead to an increase in charges of around 61.7 per cent during this period. In the case of JEN's AMI charges, these will increase more significantly as JEN did not fully recover its costs in the 2009-11 budget period.

Assessment approach and advice of Impaq

In undertaking regulatory reviews, the AER endeavours to use benchmark levels of expenditure from previous periods and from other providers, where appropriate, to inform itself in assessing whether the proposed expenditures of the DNSPs are reasonable. In this decision, this would be relevant in the assessment of the commercial standard test. For this decision, however, the use of benchmarking has

[4] AER, Decision Advanced Metering Infrastructure 2011 revised charges - October 2010

been more limited since there are few robust comparators that can be used. Victoria is the first state in Australia to roll-out AMI meters on a large scale and as such there is no comparable cost data to benchmark against in other jurisdictions.

That said, in some circumstances it was possible for the AER to make comparisons between DNSPs' AMI related costs. Where this was appropriate under the revised Order, the AER has set out its basis for doing so.

In the absence of benchmark information, the AER has sought the advice of its technical consultant, Impaq, to assist in the assessment of the DNSPs' AMI budget proposals. Impaq has specialist expertise in AMI, including the related telecommunications technologies and IT systems, and has provided advice on these matters to governments, regulators, electricity retailers and DNSPs. In the course of undertaking its review, Impaq consulted with the DNSPs and sought additional information to clarify the nature and detail of a range of cost items in the budget proposals.

The revised Order states that an application by a DNSP:

- must set out the information and identify the documents upon which the distributor relies

- must also include the information specified by the framework and approach paper, and information templates.[5] .

The revised Order also provides that, if the AER requires further information or documents in order to determine an application the DNSPs must provide that further information.[6]

In accordance with the revised Order, the AER examined the initial budget applications by the DNSPs and sought additional information from the DNSPs to assist it in its evaluation of their budget and charges applications. In many cases, the further information provided by the DNSPs did not fully detail or explain a cost item or cost items in their budget and charges application. In these circumstances, Impaq has usually conducted a 'bottom-up' assessment of the expenditure and come to a view on what the appropriate amount should be.[7]

When undertaking its assessment of the DNSP's 2012-15 budget and charges applications, the AER took into account all information available to it including that submitted by the DNSPs and Impaq's advice.

The AER concluded that some of the expenditure of the DNSPs met the scope and prudence tests in the revised Order.

However, for a range of expenditure items which are discussed in detail in the appendices to this draft determination, the AER considers that they did not meet either the scope test or the prudence test. In conducting its assessment of such expenditure,

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5 Revised Order, cll. 5.3, 5.4 and 5.6.
6 Ibid., cl. 5.6.
7 Ibid.

the AER in many cases considered that Impaq's advice on expenditure, which recommended reductions in place of the expenditure forecasts by the DNSPs, was consistent with the requirements of the revised Order.

The DNSPs have an opportunity to substantiate their proposals in response to this draft decision.

The tables below set out the capital and operating expenditure budgets recommended by Impaq for each DNSP and the budgets approved by the AER in this draft determination.

SP AusNet

Table 1.8 SPA proposal, Impaq's recommendations and AER determination budget ($'000s, real 2011)

	2012	2013	2014	2015	Total
SPA proposed capex	171,025	49,081	7,367	3,999	231,472
Impaq advice – SPA capex	108,239	26,534	3,035	1,883	139,692
AER determination – SPA capex	133,639	39,249	5,320	1,899	180,107
SPA proposed opex	48,549	40,149	26,441	24,352	139,491
Impaq advice – SPA opex	15,343	13,326	9,467	8,695	46,831
AER determination – SPA opex	18,659	14,290	10,362	9,286	52,598

Source: AER analysis

United Energy Distribution

Table 1.9 UED proposal, Impaq's recommendations and AER determination budget ($'000s, real 2011)

	2012	2013	2014	2015	Total
UED proposed capex	112,406	19,027	8,113	7,770	147,316
Impaq advice – UED capex	71,548	14,636	5,525	3,972	95,681
AER determination – UED capex	66,844	14,245	5,428	3,905	90,422
UED proposed opex	28,583	23,695	21,996	22,201	96,475
Impaq advice – UED opex	17,571	14,083	12,143	12,279	56,076
AER determination – UED opex	18,807	15,155	13,227	13,382	60,571

Source: AER analysis

Jemena Electricity Networks

Table 1.10 JEN's proposal, Impaq's recommendations and AER determination budget ($'000s, real 2011)

	2012	2013	2014	2015	Total
JEN proposed capex	34,098	17,891	7,669	7,345	67,003
Impaq advice – JEN capex	25,137	12,795	4,976	3,205	46,113
AER determination – JEN capex	24,736	12,617	4,884	3,079	45,316
JEN proposed opex	19,422	17,226	15,820	15,941	68,409
Impaq advice – JEN opex	12,724	10,932	9,486	9,556	42,698
AER determination – JEN opex	12,608	10,847	9,493	9,551	42,499

Source: AER analysis

Citipower

Table 1.11 CitiPower's proposal, Impaq's recommendations and AER determination budget ($'000s, real 2011)

	2012	2013	2014	2015	Total
CP proposed capex	50,350	36,391	8,055	7,591	102,387
Impaq advice – CP capex	35,230	23,878	2,527	2,705	64,340
AER determination – CP capex	35,395	23,980	2,531	2,712	64,619
CP proposed opex	13,726	13,167	14,090	13,551	54,534
Impaq advice – CP capex	5,538	5,425	5,560	5,479	22,002
AER determination – CP opex	5,541	5,426	6,530	6,395	23,892

Source: AER analysis

Powercor

Table 1.12 Powercor's proposal, Impaq's recommendations and AER determination budget ($'000s, real 2011)

	2012	2013	2014	2015	Total
PC proposed capex	116,276	81,652	16,210	13,472	227,610
Impaq advice – PC capex	80,762	52,679	6,701	6,450	146,592
AER determination – PC capex	80,576	52,503	6,699	6,447	146,225
PC proposed opex	27,877	28,241	27,454	26,435	110,007
Impaq advice – PC opex	12,229	13,254	13,049	12,856	51,388
AER determination – PC opex	12,232	13,257	15,821	15,490	56,800

Source: AER analysis

Background

In 2006, the Victorian Government decided that there should be a roll-out of advanced interval meters to Victorian electricity customers. The regulatory arrangements relating to the roll-out were initially set out in an August 2007 Order in Council made under sections 15A and 46D of the Electricity Industry Act 2000 (Vic).

The Victorian Government published minimum AMI functionality and service level specifications for the AMI roll-out in September 2008 which set the minimum requirements that the DNSPs must comply with in procuring and implementing their AMI systems.[8]

The August 2007 Order in Council was revised in November 2008 following discussions between the Victorian Government, DNSPs and stakeholders. The revised Order amended the timing, regulatory arrangements and regulatory responsibility for the roll-out. In January 2009, the revised Order was further amended to incorporate Schedule 3, which sets out the scope of AMI activities for CitiPower and Powercor.

Under the revised Order, DNSPs are 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 below.

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%

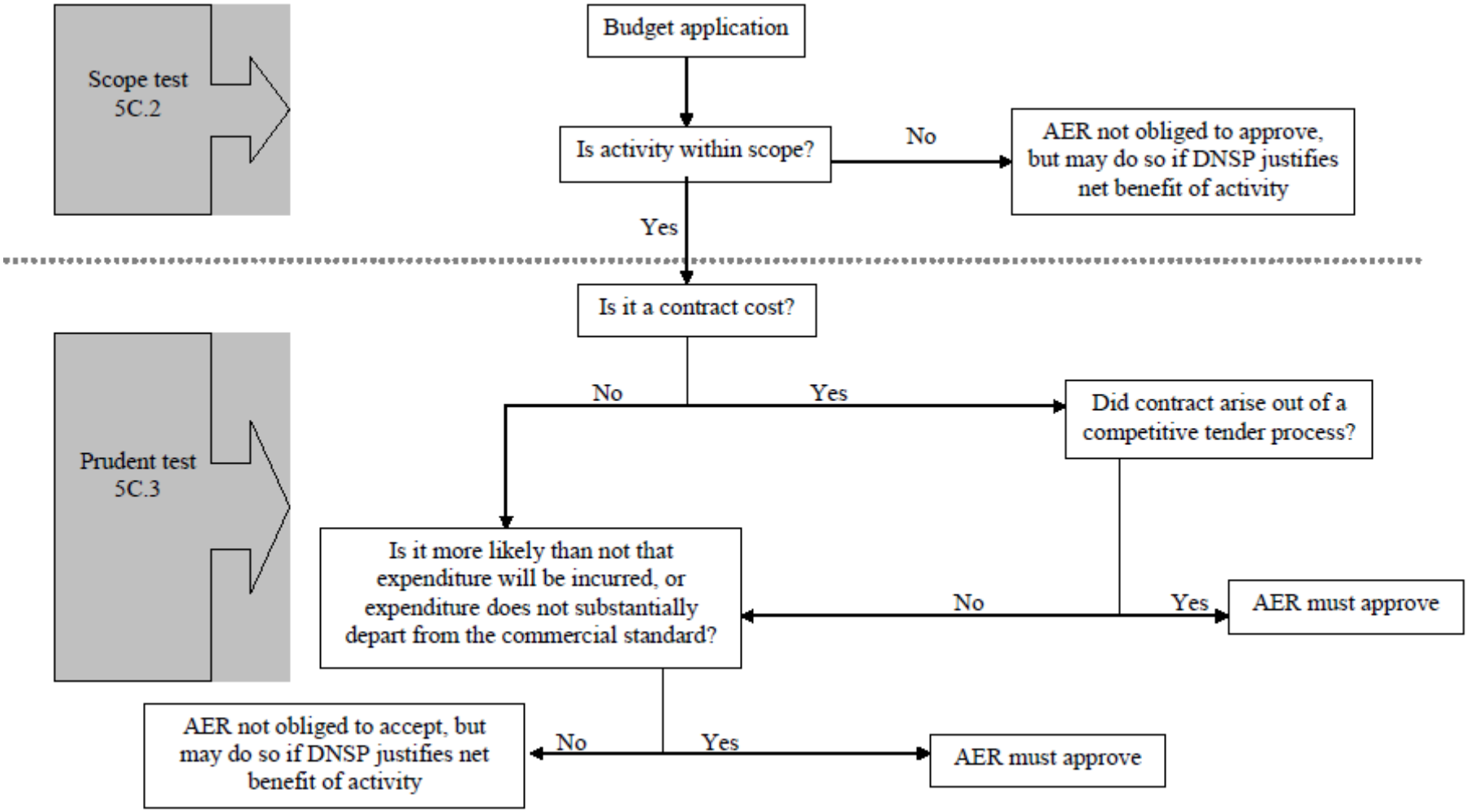
The revised Order provides for a cost pass through model under which budgets for the AMI roll-out are established at the beginning of the budget period and then annual charges are determined based on actual expenditure. The focus of the regulatory framework is on the regulator ensuring that expenditure on the AMI roll-out is within

[8] Department of Primary Industries (Victoria), Advanced metering infrastructure – Minimum AMI functionality Specification (Victoria), September 2008, and Department of Primary Industries (Victoria), Advanced metering infrastructure – Minimum AMI Service Levels Specification (Victoria), September 2008.

scope and is otherwise prudent, in accordance with the tests set out in the revised Order.

A summary of the requirements for the AER's assessment under the revised Order are detailed in figure 1.1 below.

Figure 1.1 – AER approach to assessment as required by the revised Order



Responsibility for regulatory oversight of the roll-out transferred from the Essential Services Commission Victoria (ESCV) to the AER on 1 January 2009. The AER published a framework and approach paper (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 on the Victorian DNSPs' 2009-11 AMI budget and charges applications. The AER's determination approved $1.08 billion in expenditure for 2009 to 2011, compared to the $1.2 billion proposed by the DNSPs, and also set customer charges for metering services for 2010 and 2011.

The AER's 2012-15 AMI budget and charges determination will determine the AMI budget for the remainder of the AMI regulatory period. The AER is required by the revised Order to make a final determination on 2012-15 AMI budgets and charges by 31 October 2011.

From 2015, charges for AMI services will be reviewed under the National Electricity Rules as part of the 2016-20 Victorian electricity distribution determination.

On 28 February 2011, the AER published the DNSPs' proposed budget applications on the AER's web site and requested submissions from stakeholders. No submissions were received by the AER for the DNSPs' 2012-2015 AMI budget and charges proposals.

The timetable for determining budgets and charges for the 2012-15 AMI budget period is set out below.

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

2 Scope Test - Overview

2.1 Assessment framework

The revised Order states 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”[9] (the ‘scope test’)

Regulated Services are defined in the revised Order 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; and
- the DNSP is the responsible person in respect of those services.

For each DNSP, the revised Order contains lists of activities that are deemed to be inside scope and outside scope for the AMI roll-out.[10] 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."[11]

2.2 AER application of scope test

The AER’s framework and approach paper provides that when establishing whether expenditure is within the scope of the revised Order, the AER will seek to understand how the expenditure proposed relates to the activities being undertaken, and how these activities relate to the scope, based on the matters included at Schedule 2 of the revised Order.[12] Further, the AER’s framework and approach paper states that the decision on whether expenditure is within scope must be made by the regulator on a case-by-case basis.[13]

The AER has applied these principles and considers the following proposed activities to be out of scope:

- Meter volumes in excess of customer numbers - all DNSPs: As discussed in section A.1, the AER considers that such an activity does not fall within scope. The AER has adjusted the Victorian DNSPs' budget proposals accordingly

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9 Revised Order, schedule 2.1, 2.6 and 2.10.
10 Revised Order, schedule 2.1, 2.6 and 2.10.
11 Revised Order, clause 5C.2(a).
12 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, page 3
13 ibid., p. 28.

- Two-element - Powercor, SP AusNet, CitiPower and UED: As discussed in section A.2, the AER does not consider the installation of two-element meters to be within scope as:
  - the moratorium on time-of-use tariffs is due to end after 31 December 2011
  - the Victorian DNSPs were not able to demonstrate that a net-benefit would arise through the installation of two-element meters
- Hosting of a customer information portal - CitiPower and Powercor: As discussed in section A.4 the AER considers this expenditure to be beyond the scope outline in the revised Order
- Installation costs of new connections and neutral services testing - JEN: As discussed in section A.5 the AER considers:
  - The installation costs for new connections to be an alternative control services activity
  - Neutral testing to be a standard control services activity.
- Neutral testing UED: As discussed in section A.6 the AER considers this activity to be a standard control services activity and is beyond the scope of the revised Order.

As such these activities are beyond the scope outlined in the revised Order.

3 Prudency Test - Overview

3.1 Assessment framework

For expenditure found to be within scope under the revised Order, the AER must approve the submitted budget unless it can establish that "expenditure (or part thereof) that makes up the Total Opex and Capex for each year is not prudent."[14]

The revised Order further states that the AER must find the expenditure prudent and approve it except when the AER can establish that:

- the contract was not let in accordance with a competitive tender process (the 'competitive tender test'); or
- it is more likely than not that the expenditure will not be incurred (the 'expenditure incurred test'); or
- 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').

The approach to assessing expenditure under these tests is discussed in more detail below.

3.2 The competitive tender test

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

Clause 5C.10 of the revised 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, and
- 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:[15]

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

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[14] Revised Order, 5C.2, pp13.

[15] 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, pp35-36

- 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 pay specific attention to the tender outcome in determining if the process was competitive.[17]

3.2.1 Decision

The AER's application of the competitive tender test is detailed in appendix B. The summary conclusions of the application of this test are outlined below.

3.2.1.1 SP AusNet

The AER determined that the contracts relating to the following categories of expenditure were not let in accordance with a competitive tendering process:

- AMI design services
- Software, licenses, and support services
- Planning services
- Customer information system / meter asset management
- Meter supply
- Software and maintenance and support
- Supply of communications units
- Spectrum
- A portion of WiMAX antennas
- Supply of server equipment
- IT server support and maintenance
- Provision of professional services
- Mobility software licenses, support, and hosting services
- Supply of security seals
- Supply of file sharing service for the AMI programme
- IT consultancy

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16 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, pp37

17 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, pp38-39

- Retrofitting communications modules
- Technical architecture services

3.2.1.2 United Energy and Jemena Electricity Networks

The AER determined that the contracts relating to the following category of expenditure were not let in accordance with a competitive tendering process:

- AMI operations - premises
- IT expenditure - IT software maintenance

3.2.1.3 Citipower and Powercor

The AER determined that the contracts relating to the following categories of expenditure were not let in accordance with a competitive tendering process:

- 10 per cent of meter supply

3.3 Expenditure incurred test

For expenditure that does not meet the competitive tender test, the revised Order requires that the AER assess the expenditure under the expenditure incurred test. The AER must approve such expenditure unless it can establish that it is more likely than not that the expenditure will not be incurred for the AMI roll-out.

In applying the expenditure incurred test test, the AER has examined the information submitted as part of each DNSP's budget applications. It has considered a DNSP's need to incur such costs in order to meet its obligations under the revised Order, and the risks faced in not incurring these costs.

The framework and approach paper specified that if the AER established that the expenditure related to a particular activity that will not be incurred, then the aggregated expenditure proposed will be reduced by this amount.[18]

3.3.1 AER application of expenditure incurred test

3.3.1.1 United Energy Distribution

UED proposed expenditure relating to network augmentation, the management of major AMI technology releases, validation of releases, vendor management and stakeholder relations as part of its 2012-15 budget application.

The AER considers that this expenditure has been recovered elsewhere in UED's budget application. Therefore, the AER has determined that it is more likely than not that the expenditure will not be incurred.

[18] AER, framework and approach paper, p. 40.

3.3.1.2 Jemena Electricity Networks

JEN proposed expenditure relating to network augmentation, the management of major AMI technology releases, validation of releases, vendor management and stakeholder relations as part of its 2012-15 budget application.

The AER considers that this expenditure has been recovered elsewhere in JEN's budget application. Therefore, the AER has determined that it is more likely than not that the expenditure will not be incurred.

3.3.1.3 CitiPower and Powercor

CitiPower and Powercor proposed expenditure relating to call centre costs, customer interactions, AMI data delivery and technology acceptance as part of their 2012-15 budget application.

The AER considers that this expenditure has been recovered elsewhere in CitiPower's and Powercor's budget applications. Therefore, the AER has determined that it is more likely than not that the expenditure will not be incurred.

3.4 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 revised 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 can establish that incurring it would involve a substantial departure from the commercial standard a reasonable business would exercise in the circumstances.

In applying this test, clause 5I.8 of the revised Order requires the AER to take into account, and give fundamental weight to 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, and

- any metering regulatory obligation or requirement.[19]

In applying this test, the AER has examined the information submitted as part of each DNSP's budget application.

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.[20]

In applying the commercial standard test to related party contractual arrangements and expenditure, the AER also takes into account the following factors, as set out in the framework and approach paper[21]:

- the structure of the contract, including whether:
  - the contract gives an incentive for the contractor to lower costs
  - these cost reductions are passed on to the DNSP and
  - the contract gives the DNSP control over expenditure
- the extent to which contract costs represent actual costs incurred in providing the services
- the extent to which contractual arrangements with the related party confer other benefits such as:
  - enabling economies of scope to be achieved
  - cost savings from not conducting a competitive tender process
  - other benefits such as retention of knowledge and avoiding the need for other contractors to 'come up to speed' with the DNSP's working arrangements
- how the costs under the contract compare with benchmarks of efficient costs
- the extent and manner in which risks are allocated under the contract.

3.4.1 Decision

The AER's application of the commercial standard test is detailed in appendix D. The summary conclusions of the application of this test are outlined below.

3.4.1.1 SP AusNet

The AER has established that SP AusNet's proposed expenditure for the following items does not meet the commercial standard test:

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19 Revised Order, clauses 5I.8 and 5C.4.
20 AER, framework and approach paper, p. 41.
21 AER, *Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009-11: Citi*P*ower Pty Ltd, Jemena Electricity Networks (Vic) Ltd, Powercor Australia Pty Ltd, SP AusNet, UED*, January 2009, pp42-43

- Meter and communications module unit capex
- IT opex
- Meter data management opex
- Meter maintenance opex
- Communications infrastructure maintenance opex
- Project management opex.

3.4.1.2 United Energy Distribution

The AER has established that UED's proposed expenditure for the following items does not meet the commercial standard test:

- installation capex (mass roll out and truck support)
- new connections adds and alts capex
- IT infrastructure and systems capex
- asset strategy and planning opex
- asset operations opex
- customer contact and back office opex
- AMI backhaul communication opex
- management opex
- finance and HR opex
- service delivery and contract management opex
- IT opex
- metering IT opex.

3.4.1.3 Jemena Electricity Networks

The AER has established that JEN's proposed expenditure for the following items does not meet the commercial standard test:

- installation capex (mass roll out and truck support)
- new connections adds and alts capex
- AMI technology and communications
- IT infrastructure and systems capex

- asset strategy and planning opex
- asset operations opex
- customer contact and back office opex
- AMI backhaul communication opex
- finance and HR opex
- service delivery and contract management opex
- IT opex
- metering IT opex.

3.4.1.4 Citipower and Powercor

The AER has established that CitiPower's and Powercor's proposed capital expenditure for the following items does not meet the commercial standard test:

- Meter supply 'other costs'
- Meter installation 'other costs'
- Communications equipment supply 'other costs' (for Powercor only)
- Communications equipment installation 'other costs'
- IT capex (various categories of IT capex expenditure)
- Project and administrative costs (for Powercor only)
- Meter data services opex
- Meter maintenance opex
- Customer service opex
- Communications operations opex
- Executive and corporal support opex
- IT opex.

4 AMI Budgets

4.1 Proposed AMI Budget

The section below summarises the budget proposed by each DNSP.

4.1.1 SP AusNet

Table 4.1 SP AusNet Proposed Budget ('000, Real 2011)

	2012	2013	2014	2015
Proposed Capex	171,025	49,081	7,367	3,999
Proposed Opex	48,549	40,149	26,441	24,352

Source: SP AusNet, SP AusNet AMI 2012-15 Budget Template, 28 February 2011

4.1.2 United Energy Distribution

Table 4.2 UED Proposed Budget ('000, Real 2011)

	2012	2013	2014	2015
Proposed Capex	112,406	19,027	8,113	7,770
Proposed Opex	28,583	23,695	21,996	22,201

Source: UED, UED AMI 2012-15 Budget Template (resubmit), 30 May 2011

4.1.3 Jemena Electricity Networks

Table 4.3 JEN Proposed Budget ('000, Real 2011)

	2012	2013	2014	2015
Proposed Capex	34,098	17,891	7,669	7,345
Proposed Opex	19,422	17,226	15,820	15,941

Source: Jemena, Jemena AMI 2012-15 Budget Template, 28 February 2011

4.1.4 Citipower

Table 4.4 Citipower Proposed Budget ('000, Real 2011)

	2012	2013	2014	2015
Proposed Capex	50,350	36,391	8,055	7,591
Proposed Opex	13,726	13,167	14,090	13,551

Source: CitiPower, CitiPower AMI 2012-15 Budget Template, 28 February 2011

4.1.5 Powercor

Table 4.5 Powercor Proposed Budget ('000, Real 2011)

	2012	2013	2014	2015
Proposed Capex	116,276	81,652	16,210	13,472
Proposed Opex	27,877	28,241	27,454	26,435

Source: Powercor, Powercor AMI 2012-15 Budget Template, 28 February 2011

4.2 Decision

The section below summarises the AER's draft determination concerning each DNSPs AMI budget for opex and capex following the AER's assessment of opex and capex required under the Scope test and Prudent test of the revised Order.

4.2.1 SP AusNet

Table 4.6 AER draft determination budget ('000, Real 2011)

	2012	2013	2014	2015
Draft decision Capex	133,639	39,249	5,320	1,899
Draft decision Opex	18,659	14,290	10,362	9,286

Source: AER analysis

4.2.2 United Energy Distribution

Table 4.7 AER draft determination budget ('000, Real 2011)

	2012	2013	2014	2015
Draft decision Capex	66,844	14,245	5,428	3,905
Draft decision Opex	18,807	15,155	13,227	13,382

Source: AER analysis

4.2.3 Jemena Electricity Networks

Table 4.8 AER draft determination budget ('000, Real 2011)

	2012	2013	2014	2015
Draft decision Capex	24,736	12,617	4,884	3,079
Draft decision Opex	12,608	10,847	9,493	9,551

Source: AER analysis

4.2.4 CitiPower

Table 4.9 AER draft determination budget ('000, Real 2011)

	2012	2013	2014	2015
Draft decision Capex	35,395	23,980	2,531	2,712
Draft decision Opex	5,541	5,426	6,530	6,395

Source: AER analysis

4.2.5 Powercor

Table 4.10 AER draft determination budget ('000, Real 2011)

	2012	2013	2014	2015
Draft decision Capex	80,576	52,503	6,699	6,447
Draft decision Opex	12,232	13,257	15,821	15,490

Source: AER analysis

5 Revenue requirement

Under clause 4.1(b) of the revised 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 relating to the metering asset base
- depreciation
- maintenance and operating expenditure associated with the AMI roll-out
- a benchmark allowance for corporate income tax, and
- any other building block required by the revised 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 revised Order are discussed in section 5.1.5 below.

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

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.

5.1.1 Reconciliation with Regulatory Accounts

Clause 4.1(k)(i) of the revised 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.

The AER has discussed the discrepancies between the regulatory accounts and the budget and charges application in section E.1.1.2 of this determination. As a result the AER expects all DNSPs to resubmit a budget and charges application that will reconcile to the regulatory accounts. The AER has highlighted the discrepancies that exist between the regulatory accounts and the budget and charges template for each DNSP in this draft determination. These highlighted differences in actual values will be assessed in the final determination along with consideration of the DNSPs' audited 2010 regulatory accounts.

5.1.2 Return on capital

Clauses 4.1(h) and 4.1(i) of the revised 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 5.1 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.

Table 5.1 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
Gearing (debt to equity ratio)	60	60	60
10 year risk free rate (nominal)	4.63	4.63	5.40
Market risk premium	6.00	6.00	6.00
Equity beta	1.00	1.00	0.80
Cost of equity	10.63	10.63	10.20
Cost of debt (BBB+)	8.76	8.76	9.04
Debt risk premium	4.00	4.00	3.64
Debt raising cost	0.125	0.125	0.108*
Nominal Vanilla WACC	9.51	9.51	9.50

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, pp 61
*calculated and applied in accordance with section E.1.4 of this decision.

For the 2014 and 2015 period the WACC shall be set in accordance with clause 4.1(j) of the revised Order. The DNSPs submitted placeholder WACC values that resulted in a WACC of 9.19 per cent. 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 discusses the placeholder WACC in section E.1.2 of this determination. 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 revised Order, the AER advised the DNSPs in writing[22] 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;

[22] AER, Letter to Victorian DNSPs re: 2012-15 AMI Budget and Charges Information Templates, 15 February 2011

- 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.

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.

5.1.3 Depreciation

The asset lives for the 2012-15 budget period under this draft determination have been determined in accordance with 4.1(j) of the revised Order.

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

- remotely read meters and measurement transformers as 15 years; and

- telecommunications and information technology assets as 7 years.

The AER's framework and approach, consistent with the revised 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.

5.1.4 Corporate income tax benchmark

The corporate income tax benchmark for 2012 and 2013 under this draft determination has been determined in accordance with clause 4.1(j) of the revised 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.

5.1.5 Metering Asset Base

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

Clause 5.E.2 of the revised 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 revised 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 revised Order) and capital expenditure for 2011 using asset lives in accordance with clause 4.1(g) of the revised 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 revised Order, the AER considers that the DNSPs have complied with the requirements of clause 5.E2 of the revised Order.

5.2 Decision

The AER has applied the changes detailed in chapter 5. These changes result in the following revenue requirement using the building block approach required by clause 5E.2 of the revised Order.

5.2.1 SP AusNet

Table 5.2 AER draft determination revenue requirement ('000, nominal)

	2012	2013	2014	2015
Return on Capital	26,321	30,931	29,333	26,173
Depreciation	36,053	44,347	37,639	38,644
Operating & Maintenance costs	19,137	15,031	11,179	10,274
Tax liability	0	0	0	0
Total revenue requirement	81,511	90,309	78,151	75,091

Source: AER analysis

5.2.2 United Energy Distribution

Table 5.3 AER draft determination revenue requirement ('000, nominal)

	2012	2013	2014	2015
Return on Capital	19,871	20,656	18,461	15,976
Depreciation	31,638	35,837	32,513	31,423
Operating & Maintenance costs	19,288	15,941	14,269	14,806
Tax liability	0	0	0	0
Total revenue requirement	70,797	72,434	65,244	62,204

Source: AER analysis

5.2.3 Jemena Electricity Networks

Table 5.4 AER draft determination revenue requirement ('000, nominal)

	2012	2013	2014	2015
Return on Capital	12,503	12,043	10,706	9,100
Depreciation	23,073	25,762	21,722	21,701
Operating & Maintenance costs	12,930	11,409	10,241	10,567
Tax liability	0	0	0	2,644
Total revenue requirement	48,506	49,214	42,670	44,013

Source: AER analysis

5.2.4 CitiPower

Table 5.5 AER draft determination revenue requirement ('000, nominal)

	2012	2013	2014	2015
Return on Capital	9,827	11,348	11,270	10,220
Depreciation	13,149	15,799	14,147	14,329
Operating & Maintenance costs	5,683	5,707	7,045	7,075
Tax liability	0	0	0	0
Total revenue requirement	28,659	32,855	32,463	31,624

Source: AER analysis

5.2.5 Powercor

Table 5.6 AER draft determination revenue requirement ('000, nominal)

	2012	2013	2014	2015
Return on Capital	23,924	27,229	27,031	24,811
Depreciation	30,536	36,622	30,747	31,722
Operating & Maintenance costs	12,545	13,945	17,068	17,138
Tax liability	0	0	0	0
Total revenue requirement	67,006	77,795	74,846	73,671

Source: AER analysis

6 Charges for AMI services

In clause 4.1(n), the revised Order states that charges for meter provision and data may differ in respect of:

- single phase single element meter
- single phase single element meter with contactor
- single phase two–element meter with contactor
- three phase direct connected meter
- three phase direct connected meter with contactor
- three phase current transformer connected meter
- any other customer or metering class proposed by the DNSP and approved by the regulator but may not differ depending upon whether the meter is an accumulation meter, a manually read interval meter or remotely read meter.

The main requirement governing the setting of charges for a particular year is set out in clause 4.1(o) of the revised Order. This clause provides that when determining charges for any year from 2010 to 2015, the regulator shall satisfy itself that the net present value (**NPV**) of total costs up to that year (starting in 2009) is equal to the NPV of total revenue earned in that period.

Notwithstanding this, clause 4.1(p) permits the DNSP to propose reduced charges, where the NPV of revenues is less than the NPV of costs in any given year. This will deliver a smoother price path for customers during the roll-out.

In its framework and approach the AER noted that it would accept 2010 charges where expected revenues are less than the required revenue (as determined by the AER) for that year. However, if DNSPs' proposed 2011 charges over recovered costs, the AER would reduce those charges accordingly to maintain NPV neutrality for the 2011 charges. That is, the AER would only adjust charges where the NPV of revenue was found to exceed the NPV of costs.

The AER considers that differences between DNSPs' metering charges reflect, for example, choice of communications technology, information technology and data processing requirements for AMI meters, cost allocation arrangements and different network characteristics, customer numbers and operational costs.

The framework and approach set out the following principles the AER would apply in assessing proposed charges:[23]

[23] 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, pp 68

- Cost of service provision: a DNSP's charge and terms and conditions for a prescribed metering service must be based on the costs incurred by the DNSP in providing the prescribed metering service, given the customer classes permitted by the revised Order. For example, the charges for serving the class of customers with single phase single element meters should reflect the costs of serving this class of customers

- Cost allocation: in respect of the costs incurred by a DNSP in providing a prescribed metering service

- Those costs must not include costs in respect of which the DNSP is remunerated under the DNSP's distribution tariff or excluded service charges or charges for metering services to unmetered supply points

- Those costs must only include an appropriate allocation of any shared or common costs incurred by the DNSP in providing the prescribed metering service and in providing any other goods or services, whether in the conduct of a DNSP's business as a DNSP or any other business

- Simplicity: charges and terms and conditions for prescribed metering services should be simple and easily comprehensible

6.1 DNSP proposed meter charges

The DNSP proposed meter charges are summarised in this section.

6.1.1 SP AusNet

Table 6.1 SP AusNet proposed NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	249,117	331,052	392,501	446,886
AMI revenue	215,298	285,309	362,271	446,886
Under/over recovery	-33,819	-45,743	-30,230	0

Source: SP AusNet, SP AusNet AMI 2012-15 Charges Model, 28 February 2011

Table 6.2 SP AusNet proposed meter charges ($ per meter)

Meter	2012	2013	2014	2015
Single phase single meter with contract	110.51	130.17	153.31	180.57
Single phase two element meter with contractor*	126.98	149.56	176.15	207.48
Multiphase 1 contactor (1 load control) meter	153.41	180.69	212.82	250.66
Multiphase 2 contactor (2 load control) meter	170.18	200.44	236.08	278.06
Multiphase CT connected	219.13	258.10	303.99	358.04

Source: SP AusNet, SP AusNet AMI 2012-15 Charges Model, 28 February 2011
* The AER rejected two-element meters in this determination

6.1.2 United Energy Distribution

Table 6.3 UED proposed NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	186,646	245,629	294,916	338,823
AMI revenue	158,587	214,325	274,296	338,823
Under/over recovery	-28,059	-31,304	-20,619	0

Source: UED, UED AMI 2012-15 Charges Model (resubmit), 30 May 2011

Table 6.4 UED proposed meter charges ($ per meter)

Meter	2012	2013	2014	2015
Single phase single meter	107.15	124.63	144.97	168.62
Single phase single meter with contract	109.36	127.20	147.96	172.10
Three phase direct connected meter	120.84	140.56	163.49	190.16
Three phase current transformer connected meter	128.90	149.93	174.39	202.85

Source: UED, UED AMI 2012-15 Charges Model (resubmit), 30 May 2011

6.1.3 Jemena Electricity Networks

Table 6.5 JEN proposed NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	139,310	177,662	208,924	237,307
AMI revenue	116,758	150,032	181,396	210,953
Under/over recovery	-22,552	-27,630	-27,527	-26,354

Source: Jemena, Jemena AMI 2012-15 Charges Model, 28 February 2011

Table 6.6 JEN proposed meter charges ($ per meter)

Meter	2012	2013	2014	2015
Single phase single meter	149.00	152.84	155.22	157.64
Single phase single meter with contract	149.00	152.84	155.22	157.64
Three phase direct connected meter	183.11	187.82	190.75	193.73
Three phase current transformer connected meter	203.58	208.82	212.08	215.39

Source: Jemena, Jemena AMI 2012-15 Charges Model, 28 February 2011

6.1.4 CitiPower

Table 6.7 Citipower proposed NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	94,975	124,187	151,251	175,931
AMI revenue	89,435	116,433	145,205	175,931
Under/over recovery	-5,541	-7,754	-6,046	0

Source: Citipower, Citipower AMI 2012-15 Charges Model, 28 February 2011

Table 6.8 Citipower proposed meter charges ($ per NMI)

Meter	2012	2013	2014	2015
Single phase single meter	105.09	120.65	138.51	159.01
Three phase direct connected meter	137.36	157.69	181.03	207.83
Three phase current transformer connected meter	173.48	199.16	228.64	262.49

Source: Citipower, Citipower AMI 2012-15 Charges Model, 28 February 2011

6.1.5 Powercor

Table 6.9 Powercor proposed NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	215,623	282,725	341,491	395,193
AMI revenue	211,162	272,203	333,561	395,193
Under/over recovery	-4,461	-10,521	-7,930	0

Source: Powercor, Powercor AMI 2012-15 Charges Model, 28 February 2011

Table 6.10 Powercor proposed meter charges ($ per NMI)

Meter	2012	2013	2014	2015
Single phase single meter	109.26	117.71	126.81	136.63
Three phase direct connected meter	144.12	155.26	167.27	180.22
Three phase current transformer connected meter	190.96	205.73	221.64	238.79

Source: Powercor, Powercor AMI 2012-15 Charges Model, 28 February 2011

6.2 Decision

The AER is required under clause 4.1(o) of the revised Order to ensure that for the period from 1 January 2010 to 31 December 2015 charges for each DNSP are designed so that the net present value of total costs equals the net present value of revenues.

In addition, clause 4.1(p) of the revised Order under allows DNSPs to propose reduced charges so that for any period between 1 January 2010 and 31 December 2015, the DNSP can propose charges that do not recover the net present value of total costs. The AER considers that this clause allows for the smoothing of charges within the 1 January 2010 and 31 December 2015 period. In addition, clause 4.1(p)(5) allows for any under or over-recovery of revenue to be adjusted when actual costs are applied to charges in the 2016 and 2017 charges.

The AER does not consider that clause 4.1(p) allows for the recovery of deliberate underspends from the period 2012-2015 as proposed by JEN. The AER instead considers that this clause allows the DNSP to propose a smoothed charges profile to the AER with under and over recovery of charges to be adjusted for when actual values are known in 2016 and 2017.

The AER, therefore, does not consider that the charges applied by JEN are appropriate as they will lead to under-recovery of revenues in the period 2012-2015 and the requirement to recover approximately $26 million in the 2016-2017 charges periods.

The AER considers that all other DNSPs have proposed charges that comply with the requirements of the revised Order.

Following the application of the AER's assessment of DNSP expenditure in accordance with the revised Order with respect to Scope (chapter 1), Prudency (chapter 2) and revisions regarding Revenue due to the application of elements of the revised Order (chapter 4), the AER has derived the following charges for each DNSP.

6.2.1 SP AusNet

Table 6.11 AER draft determination NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	224,071	284,020	331,396	372,966
AMI revenue	206,578	261,874	317,335	372,966
Under/over recovery	-17,493	-22,146	-14,061	0

Source: AER Analysis

Table 6.12 AER draft determination meter charges ($ per meter)

Meter*	2012	2013	2014	2015
Single phase single meter with contract	101.02	108.75	117.08	126.04
Multiphase 1 contactor (1 load control) meter	140.22	150.96	162.52	174.97
Multiphase 2 contactor (2 load control) meter	155.55	167.47	180.29	194.10
Multiphase CT connected	200.30	215.63	232.15	249.92

Source: AER analysis
* The AER rejected the inclusion of single phase two element meter with connectractor meter type in section 1.2.2 of this determination

6.2.2 United Energy Distribution

Table 6.13 AER draft determination NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	176,472	224,555	264,107	298,543
AMI revenue	154,593	202,724	250,707	298,543
Under/over recovery	-21,879	-21,831	-13,400	0

Source: AER Analysis

Table 6.14 AER draft determination meter charges ($ per meter)

Meter	2012	2013	2014	2015
Single phase single meter	99.57	107.62	116.33	125.73
Single phase single meter with contract	101.62	109.84	118.73	128.33
Three phase direct connected meter	112.29	121.37	131.19	141.80
Three phase current transformer connected meter	119.78	129.47	139.94	151.26

Source: AER analysis

6.2.3 Jemena Electricity Networks

Table 6.15 AER draft determination NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	133,705	166,374	192,241	216,606
AMI revenue	118,363	153,165	185,873	216,606
Under/over recovery	-15,342	-13,209	-6,368	0

Source: AER Analysis

Table 6.16 AER draft determination meter charges ($ per meter)

Meter	2012	2013	2014	2015
Single phase single meter	155.84	159.86	162.34	164.88
Single phase single meter with contract	155.84	159.86	162.34	164.88
Three phase direct connected meter	191.52	196.44	199.51	202.62
Three phase current transformer connected meter	212.92	218.41	221.81	225.28

Source: AER analysis

6.2.4 Citipower

Table 6.17 AER draft determination NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	88,105	109,915	129,594	147,101
AMI revenue	86,613	107,930	128,056	147,101
Under/over recovery	-1,492	-1,985	-1,537	0

Source: AER Analysis

Table 6.18 AER draft determination meter charges ($ per NMI)

Meter	2012	2013	2014	2015
Single phase single meter	93.38	95.26	97.17	99.13
Three phase direct connected meter	122.05	124.51	127.01	129.57
Three phase current transformer connected meter	154.15	157.25	160.42	163.64

Source: AER analysis

6.2.5 Powercor

Table 6.19 AER draft determination NPV of costs and revenue ($000, nominal)

Meter	2012	2013	2014	2015
AMI cost	201,948	253,590	298,962	339,746
AMI revenue	201,948	250,650	296,540	339,746
Under/over recovery	0	-2,940	-2,422	0

Source: AER Analysis

Table 6.20 AER draft determination meter charges ($ per NMI)

Meter	2012	2013	2014	2015
Single phase single meter	92.72	93.91	95.12	96.34
Three phase direct connected meter	122.31	123.88	125.47	127.08
Three phase current transformer connected meter	162.06	164.14	166.24	168.38

Source: AER analysis

A Application of scope test

A.1 Meter volumes - all DNSPs

The provision and installation of remotely read interval meters to be installed as part of the AMI roll-out is within scope of the revised Order as they are reasonably required for the provision of Regulated Services and to comply with a metering obligation or requirement.[24] However, if a DNSP proposes expenditure related to the provision or installation of meters in excess of the number of meters it reasonably requires to fulfil its roll-out obligations, the AER considers that the provision or installation of such excess meters is an activity outside the scope of the revised Order.

As part of their subsequent budget applications, the Victorian DNSPs have provided forecast meter volumes for the 2012-15 period.

The framework and approach paper states that when establishing whether expenditure is within the scope of the revised Order, the AER will seek to understand how the expenditure proposed relates to the activities being undertaken, and how these activities relate to the scope, based on the matters included at Schedule 2 of the revised Order.[25] Further, the framework and approach paper states that the decision on whether expenditure is within scope must be made by the regulator on a case-by-case basis.[26]

The AER's assessment of the meter volumes proposed by the Victorian DNSPs is consistent with the framework and approach paper.

A.1.1 CitiPower and Powercor

Meter supply volumes

CitiPower's and Powercor's budget applications forecast the quantity of meters required for the 2012-15 budget period. The number of meters forecast for installation exceeds the number of customers serviced by CitiPower and Powercor.

In their budget applications, CitiPower and Powercor stated that the replacement of meters for customers is not performed on a one for one basis.[27] CitiPower and Powercor have noted that pre-AMI, there was approximately 1.27 meters installed per customer.[28] As AMI meters are capable of performing functions that previously required the installation of two meters, CitiPower and Powercor forecast that this ratio would reduce in line with the AMI roll-out.[29] They stated that it would not reduce to a one for one ratio because of some customers' unique metering requirements, such as

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24 Revised Order, schedule 2.1, 2.6 and 2.10.

25 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, page 3

26 ibid., page 28

27 CitiPower and Powercor, *AMI budget and charges application 2012-2015*, February 2011, page 45 and page 48.

28 ibid.

29 ibid.

having 3-phase electricity for slab heating and single phase electricity for other electricity consumption.[30] Therefore, CitiPower and Powercor forecast that the ratio would reduce to 1.1 meters installed per customer after the AMI roll-out.

CitiPower and Powercor have also outlined forecasts for the number of meter abolishments and 'AMI meter for AMI meter' replacements. For this category, CitiPower have forecast a total of 19,160 meters, and Powercor have forecast a total of 30,743 for the 2012-15 budget period.

To assist in its assessment of the volume of meters forecast, the AER sought advice from Impaq.

Impaq advised that following meter abolishments and 'AMI meter for AMI meter' replacements, that the meters left over can be reused given that the AMI meters will still be relatively new in the 2012-15 period.[31] Impaq advised that CitiPower and Powercor had not accounted for this in their budget applications.[32] That is, notwithstanding the number of meter abolishments and 'AMI meter for AMI meter' replacements, CitiPower and Powercor did not reduce the quantity of meters required for the roll-out by this amount. Impaq noted that although the reuse of meters will cause CitiPower and Powercor to incur some costs for re-verification of the AMI meters to be re-used, these costs would be substantially less than the cost of a new meter.[33]

The AER asked CitiPower and Powercor to explain why the effect of re-using meters has not impacted on the number of meters purchased.

CitiPower and Powercor responded that they do not account for the reusing of meters through their volume forecasts, and instead factor it in through the meter unit rates.[34] Notwithstanding this, CitiPower and Powercor did not use this rate in their budget applications, instead using the rates supplied by their meter providers to allow reconciliation with the meter supply contracts.[35]

As a result, the AER considers that CitiPower's and Powercor's budget applications do not account for the re-use of meters.

Impaq also advised that the number of meter purchases after the completion of the AMI roll-out (i.e. for 2014 and 2015) was higher than CitiPower's and Powercor's proposed growth in customer numbers for these years. For example, in 2014 CitiPower have forecast 9,369 meter purchases, however their projected customer base increase is only 3,910 for the same year.[36]

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30 ibid.
31 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, page 15 and page 82.
32 ibid.
33 ibid.
34 CitiPower and Powercor, *Email: Response to AER questions of 16 June 2011*, page 2
35 ibid.
36 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, page 15

The AER considers 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. The AER also considers that the ratio of meters per new customer greatly exceeds the 1.1 meters per customer ratio forecast by CitiPower and Powercor. Impaq has advised that CitiPower is proposing around 2 meters for every new customer for 2014 and 2015, whereas Powercor is proposing around 1.7 meters for every new customer.[37]

Impaq has advised that the number of meter purchases for 2014 and 2015 should be reduced to reflect the number of new customers and also to account for the number of meter abolishments and AMI meter for AMI meter replacements.[38]

The AER accepts Impaq's advice and considers that CitiPower's and Powercor's budget applications do not account for the reusing of meters in either their volume forecasts or in their meter unit rates. Furthermore, the AER considers that CitiPower's and Powercor's budget applications have proposed meter purchases for 2014 and 2015 in excess of the number required to fulfil their business as usual (BAU) metering obligations. Therefore, the AER has determined that the provision of excess meters is an activity that is outside the scope of the revised Order. Accordingly, CitiPower's and Powercor's budget application should be reduced to reflect this.

Meter installation volumes

For the installation of AMI meters in 2012 and 2013, CitiPower and Powercor have proposed expenditure of $10.3m and $27.4m respectively. This expenditure is calculated by multiplying the cost per meter installation by the meter installation volume. CitiPower's and Powercor's proposed expenditure is set out in Table A.3 and Table A.4.

The AER sought advice from Impaq regarding the meter volumes proposed by CitiPower and Powercor as part of their overall meter installation costs.

Impaq considers that the number of meter installations for both CitiPower and Powercor is too high because they also include installations related to new connections. Impaq considers that the installation costs for new connections are recovered through Alternative Control Services, whereby the new connecting customer pays for the installation. Therefore, Impaq considers that the number of meter installations should be reduced by the number of new connections.

Impaq considers that CitiPower's meter installation volumes should be reduced by 8,621 for 2012 and 8,968 for 2013. Impaq considers that Powercor's meter installation volumes should be reduced by 18,624 for 2012 and 21,987 for 2013. Impaq's calculation of these figures is outlined in Table A.1 and Table A.2.

[37] ibid.
[38] ibid.

Table A.1 CitiPower - Impaq's calculation of new connections

	2011	2012	2013
Installs	60,348	127,069	89,826
Abolishments	-784	1,187	-1,750
AMI meter for AMI meter replacements	-728	1,332	-2,637
Projected Customer numbers	316,818	322,742	327,190
Increase in Customer numbers		5,924	4,448
New meter to new customers ratio		1.03	1.03
Total meters for new connections		8621	8968
Reduction in meter installation volumes		6.8%	10.0%

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 19.

Table A.2 Powercor - Impaq's calculation of new connections

	2011	2012	2013
Installs		287,850	188,015
Abolishments		-1,196	-2,136
AMI meter for AMI meter replacements		-3,154	-5,465
Projected Customer numbers	717,745	731,603	745,570
Increase in Customer numbers		13,858	13,967
New meter to new customers ratio		1.1	1.1
Total meters for new connections		19,594	22,965
Reduction in meter installation volumes		6.8%	12.2%

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 86.

The AER has considered CitiPower's and Powercor's budget applications and the advice received from Impaq.

The AER accepts Impaq's advice and considers that CitiPower's and Powercor's budget application has proposed meter installations for 2012 and 2013 in excess of the number required to fulfil its AMI roll-out obligations. Therefore, the AER has determined that the provision of excess meter installations is an activity that is outside the scope of the revised Order and accordingly, CitiPower's and Powercor's budget application should be reduced to reflect this.

Table A.3 CitiPower - The impact of Impaq's assessment on meter installation 'contract costs' ($,000 real 2011)

	2012	2013	2014	2015	Total
Citipower proposal	6,146	4,178	0	0	10,325
Impaq Assessment	5,729	3,762	0	0	9,491

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 19.

Table A.4 Powercor - The impact of Impaq's assessment on meter installation 'contract costs' ($,000 real 2011)

	2012	2013	2014	2015	Total
Powercor proposal	17,009	10,429	0	0	27,438
Impaq Assessment	15,851	9,155	0	0	25,006

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 86.

A.1.2 SP AusNet

Meter supply volumes

Following consideration of advice by Impaq, the AER advised SP AusNet that its forecast meter volumes for 2012-15 did not appear to take into account the effect of abolishments and meter changes on the net number of new meters installed for new connections. The AER advised SP AusNet that it understood that abolishments and meter changes are typically around 20% to 40% of new connection numbers and that the AMI meters from these installations can be returned to the meter vendors for re-verification testing and then used on new installations. The AER advised SP AusNet that because of this it appears that its forecast meter volumes have overstated meter purchases. The AER requested that SP AusNet provide an updated forecast of meter volumes for 2012-15 taking into account the effect of abolishments and meter changes on the net number of new meters installed for new connections.[39]

SP AusNet responded[40] as follows:

> SP AusNet does not agree with the AER's understanding that abolishments and meter changes are typically around 20% to 40% of new connection numbers. SP AusNet records indicate that abolishments and meter changes were approximately 18% in the 2010 calendar year. New connections in SP AusNet's network are typically new estates and therefore do not involve abolishments.
>
> Additionally, SP AusNet's installation costs are incurred on gross number of installations and therefore could not be calculated using net meter volumes.

[39] AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.

[40] SP AusNet response to AER questions of 15 June 2011.

> SP AusNet's submission has not explicitly included the costs associated with abolishments. These costs include meter recovery, refurbishment (where possible) and testing. SP AusNet believes that the cost of an abolishment materially balances out the avoided cost of a meter purchase and is implicitly included within the metering capex cost.
>
> A reduction in net meter volumes within the budget model would need to be accompanied by a corresponding allowance for the costs of abolishment.
>
> Given the small number of installations impacted, and consequent immaterial cost difference, SP AusNet reconfirms the forecast new connections provided in Tables 3.1 and 5.2 of its Subsequent Period Budget Application.

The AER subsequently sought additional explanation[41] from SP AusNet:

- Noting that SP AusNet's increase in customer numbers (as forecast in the 2011-15 EDPR) over 2012-15 and forecast number of new meters required over that period shows meter numbers to be in excess of the increase in customer numbers by around 34%.
- Requesting an explanation of why the number of meters to be purchased is substantially in excess of the increase in customer numbers.

SP AusNet responded[42] that:

> Meter volumes included in the AMI 2012-15 Budget and Charges submission differ from customer numbers in the EDPR submission as (per our previous response on the 23rd of June) meter volumes included in the AMI 2012-15 Budget and Charges submission are gross of abolishments and situations where a customer has more than one meter installed on-site (This can be a significant number; for example, one SP AusNet site has 12 meters installed. This is a legacy from SEC practices due to the technology of the time). Additionally, SP AusNet's forecast of new customers over the period 2012-15 has been updated for AMI since the EDPR decision in 2010 leading to an increase in the forecast number of new connections.

To assist in its assessment, the AER sought further advice from Impaq regarding the information provided by SP AusNet and its meter volume forecast in its budget application. Impaq advised[43] that:

> Historically the number of meters has been greater than the number of customers. The reason for this is that a proportion of customers have had more than one meter. SpAusNet has had a higher proportion of customers with more than one meter than the more Melbourne based DNSPs. The meter to customer ratio for SpAusNet has been 1.26 although SpAusNet have advised the AER that it is 1.18. However this changes with the roll-out of AMI. Customers with off peak water heating that previously had two meters will now only need one AMI meter. It is Impaq's view that the ratio will reduce to about 1.08. However in the SpAusNet application the ratio

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41 AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 30 June 2011.

42 SP AusNet, Email response to AER questions of 30 June 2011.

43 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p. 117.

> reduces to around 1.02. This seems too low. The urban DNSPs are above this value and Powercor is considerably above this.
>
> The meter volumes in Table 128 do not appear to take into account the effect of abolishments and meter changes (eg: when a customer moves from single phase to three phase supply) on the net number of new meters installed for new connections. In the past meters removed from premises were typically not worth re-using. Mostly the cost of having removed meters re-verified for accuracy was more than the written down value of the meter. Hence typically meters that were removed were scrapped. However with AMI this is no longer the case. AMI meters removed from these installations can be returned to the meter vendors for re-verification testing, at a cost of around $15 to $30 (which is a small proportion of the price to purchase a new meter) and then used on new connections. Table 129 shows the adjustment to meter quantities that results from this change and the cost of meter re-verification.

Having considered the information provided by SP AusNet and Impaq's advice, the AER considers that SP AusNet's budget application does not account for the reusing of meters in either its volume forecasts or in its meter unit capital costs. Furthermore, the AER considers that SP AusNet has proposed meter purchases in excess of the number required to fulfil its BAU metering obligations. Therefore, the AER has determined that SP AusNet's budget application should be reduced to reflect this, because the provision of excess meters is an activity outside the scope of the revised Order.

The AER requested Impaq to calculate SP AusNet's meter and communications unit capital costs for 2012-15 taking into account the adjustment to meter volumes (and costs for meter re-verification) and the adjustment to meter unit capital costs in the AER's final determination on SP AusNet's Advanced Metering Infrastructure Revised Budget Application 2009-11. The AER accepts Impaq's advice on meter volumes as set out in its report. The adjustment to SP AusNet's meter and communications unit capital costs is set out in the commercial standard test section of this draft determination.

Meter installation volumes

For the installation of AMI meters for the 2012-15 budget period, SP AusNet has proposed expenditure of $39.9m. This expenditure is calculated by multiplying the cost per meter installation by the meter installation volume.

The AER sought advice from Impaq regarding the meter volumes proposed by SP AusNet as part of their overall meter installation costs.

Impaq considers that the number of meter installations for SP AusNet is too high because they also include installations related to new connections. Impaq considers that the installation costs for new connections are recovered through Alternative Control Services, whereby the new connecting customer pays for the installation. Therefore, Impaq considers that the number of meter installations should be reduced by the number of new connections.

Impaq considers that SP AusNet's meter installation volumes should be reduced by 13,995 for 2012 and 14,363 for 2013. Impaq considers that as the AMI roll-out finishes in 2013, that the expenditure proposed for 2014 and 2015 relates to new

connection installation costs. As these are recovered through Alternative Control Services, Impaq considers that all of SP AusNet's proposed expenditure for 2014 and 2015 should be removed.

The AER has considered SP AusNet's budget application and the advice received from Impaq.

The AER accepts Impaq's advice and considers that SP AusNet's budget application has proposed meter installations for the 2012-15 budget period in excess of the number required to fulfil its AMI roll-out obligations. Therefore, the AER has determined that the provision of excess meter installations is an activity that is outside the scope of the revised Order and accordingly, SP AusNet's budget application should be reduced to reflect this.

Table A.5 SP AusNet - The impact of Impaq's assessment on meter installation 'contract costs'

	2012	2013	2014	2015	total
SPA forecast cost ($,000)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter volumes - SPA forecast	340,715	58,668	14,743	15,132	
Unit install costs ($)	[C-I-C]	[C-I-C]			
Number of new connection meters	13,995	14,363	14,743	15,132	
Total ACS Cost to be deducted ($,000)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011.

A.1.3 Jemena Electricity Networks and United Energy Distribution

The Jemena Electricity Networks (JEN) and United Energy Distribution (UED) budgets applications included forecasts for the quantity of meters required for the 2012-15 budget period. The AER has reviewed these meter volumes and notes that the number of BAU (BUA) meters installation forecasts for the new connections adds and alts category exceeds the number of customers serviced by JEN and UED (see Table A.6 and Table A.7).[44]

[44] AER, *Final decision on Victorian electricity distribution network service providers distribution determination 2011–2015*, table 3 and 5, page XVII and XVIII.

Table A.6 Comparison of meter numbers to growth of customer numbers for JEN

	2011	2012	2013	2014	2015
JEN customer numbers forecast	310,165	315,890	320,889	325,174	329,428
Increase in numbers		5,725	4,999	4,285	4,254
Meter numbers		9322	8167	7348	7348
Ratio of proposed meter numbers to increase in customer numbers		163%	163%	171%	173%

Source: AER, Final decision on Victorian electricity distribution network service providers Distribution determination 2011–2015, table 3, page XVII, JEN; AMI Budget Application 2012-15, Substantiation of base cost to provide regulated services, p. 54.

Table A.7 Comparison of meter numbers to growth of customer numbers for UED

	2011	2012	2013	2014	2015
UED customer numbers forecast	627,203	633,295	638,757	643,600	648,220
Increase in numbers		6,092	5,462	4,843	4,620
Meter numbers		17,158	15,037	13,524	13,524
Ratio of proposed meter numbers to increase in customer numbers		282%	275%	279%	293%

Source: AER, Final decision on Victorian electricity distribution network service providers Distribution determination 2011–2015, table 5, page XVIII; UED, AMI Budget Application 2012-15, Substantiation of base cost to provide regulated services, p. 55.

In a response to an AER request for information, JEN and UED stated that the difference in metering numbers were due to some customers having more than one meter. The AER has considered JEN's and UED's propositions and sought further advice from Impaq.[45]

Impaq advised that the difference in meter numbers were likely due to JEN and UED not considering meter abolishment and 'AMI meter for AMI meter' replacements. In these scenarios, Impaq stated that AMI meters can be reused as these meters are relatively new and under warranty. Impaq also noted that although the reuse of meters will cause JEN and UED to incur some costs for re-verification of the AMI meters, these costs would be substantially less than the cost of purchasing a new meter.[46]

The AER has considered Impaq's advice and upon reviewing JEN's and UED's model were not persuaded by their reasoning that their forecasts:

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45 JEN, *20110628 Email: JEN Response to AER information request on meter abolishment of 24 June 2011*, 28 June 2011, Attachment 2 p. 1, UED, *Email: AER staff questions - meter abolishment*, 27 June 2011.

46 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p.54 and 149.

- have accounted for meter abolishment
- were based on net customer growth

and therefore has taken into account meter for meter replacements.[47]

In particular the AER noted the following from JEN's and UED's substantiation information:

- for BAU metering, JEN's and UED's forecast from 2012-2015 were not based on net customer growth[48]
- the likelihood of all new customers installing more than one meter to be highly unlikely and is contrary to historical data where the ratio of meter to customer were around 1.09
- JEN and UED have not provided any verifiable statistics about meter abolishment or how it has been incorporated into to their forecasts.

As such the AER considers that the number of BAU meters forecasts by JEN and UED should reflect their customer growth (taking into account meter abolishment) with a slight adjustment for some customer having more than one meter. Therefore, the AER has determined that JEN's and UED's budget application should be reduced to reflect meter abolishment and as the provision of excess meters is an activity outside the scope of the revised Order.

The AER requested Impaq to calculate JEN's and UED's BAU metering capex for 2012-15 taking into account the adjustment to meter volumes (and costs for meter re-verification). The AER accepts Impaq's advice on meter volumes as set out in its report.[49] The adjustment to JEN's and UED's BAU meter volumes is set out in section D.5.3 and D.4.5 of this draft determination.

A.2 Two element meters - Powercor, SP AusNet, CitiPower and United Energy Distribution

Initial budget period (2009-11)

2009-11 draft determination

In its draft determination, the AER noted that as two-element meters were not included in the AMI minimum functionality specifications that they were outside the

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47 JEN, 20110628 *Email: JEN Response to AER information request on meter abolishment of 24 June 2011*, 28 June 2011, Attachment 2 p. 1, UED, *email: AER staff questions - meter abolishmen*t, 27 June 2011.

48 JEN, *JEN AER Financial Model Submitted (include margin)*, June 2011, tab 4.New Con & Replace Install Vo and 2.2 JEN; UED, *Copy of UED AER Financial Model Submitted Rec*, June 2011, tab 4.New Con & Replace Install Vo and 2.1.

49 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 52-55 and 148-150.

scope of the revised Order.[50] The draft determination also noted that the framework and approach paper allows AMI activities in excess of the minimum specifications to be approved if the DNSP is able to demonstrate that there are associated net benefits to customers and market participants.[51]

The draft determination noted the role of two-element meters in providing off-peak electricity to customers, particularly for slab heating and hot water units. Greater off-peak consumption reduces the need for network augmentation.[52] However, the AER considered that once the roll-out was complete, AMI will enable cost reflective time of use (ToU) tariffs which would render the second element unnecessary to encourage off-peak consumption.[53]

CitiPower, UED, and JEN submitted they were able to schedule their roll-outs so that their customers using two-element meters would have their meters changed over towards the end of the roll-out, once AMI communications were functional and ToU tariffs were available.[54]

Powercor and SP AusNet were unable to adopt a similar strategy due to the high number of their customers using existing two-element meters. Instead, they proposed to install two-element meters as part of their 2009-11 budget application.[55]

Powercor submitted that installing two-element meters would avoid price shocks for its customers and enabled it to continue its network demand management strategies. Powercor noted that it had investigated shifting customers to new tariffs but considered such an option came at a higher risk.[56] At the time, the AER considered that the cost of transitioning customers onto these transitional tariffs and then shifting the customer to a permanent tariff once AMI technologies became functional outweighed the cost of installing a two-element meter. However, the AER concluded that this issue would not be significant once AMI communications technology became functional, and that the cost of moving customers onto a ToU tariff would likely be lower than the cost of installing and maintaining a two-element meter.[57]

In its draft determination the AER approved two-element meters for the 2009-11 budget period.[58] However, the AER considered that the net benefit would reduce over time as AMI communications technology is rolled out and ToU tariffs become available.[59] Consequently, the AER anticipated that two-element meters were not likely to be required for the 2012-15 AMI budget period.[60]

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50 AER, Draft Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, page 23
51 ibid.
52 ibid., page 24
53 ibid.
54 ibid.
55 ibid.
56 ibid.
57 ibid., page 25
58 ibid., page 26 and page 82
59 ibid., page 26
60 ibid.

2009-11 final determination

The AER received submissions regarding two-element meters in response to its draft determination from Integral Energy, Powercor and SP AusNet.[61] Integral's submission expressed its doubt that ToU tariffs can offer the same network demand management currently provided by using two-element meters.[62] Powercor and SP AusNet provided further justification for two-element meters.[63]

Powercor noted that if customers did not agree to direct load control under a single element meter with a ToU tariff, that the appliances would be used at the discretion of the customers, resulting in a need for network augmentation.[64] The AER considered that such arguments run counter to the policy intent and expectations of AMI, reflected in the revised Order's minimum specifications. These require that all load (regardless of whether it relates to particular appliances) be charged at a rate which reflects its underlying cost to the network, which is possible through a single element meter and a ToU tariff. The AER noted that it has no particular view about the extent of customer responsiveness to ToU tariffs, and considers the issue ultimately as an empirical question that has been subject to some debate.[65]

The AER questioned the uncertainties in the DNSPs' assumptions regarding the impact or size of any network augmentation that may be required should two-element meters not be allowed. However, after taking all factors into account, the AER considered that a net benefit was likely to arise during the 2009-11 period given the relatively low incremental cost of installing the second element in the meters for affected customers and that only the affected customers would be charged the higher meter cost.[66]

The AER noted that it would reconsider this issue for the subsequent AMI budget period of 2012-15.[67]

Subsequent budget period (2012-15)

Consistent with the final determination for the initial budget period, the AER informed the DNSPs that it would be reconsidering the two-element meter issue for the 2012-15 budget period and requested that a business case be provided by any DNSPs proposing to install two-element meters.

Powercor and SP AusNet both proposed to continue to install two-element meters for reasons similar to those given during the initial budget period. In Powercor's case, it submitted a cost-benefit analysis which reiterated many of the issues considered by

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61 AER, Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, page 43
62 ibid., page 21
63 ibid., page 43
64 ibid.
65 ibid., page 44
66 ibid.
67 ibid.

the AER as part of the initial budget period. The report also outlined the effect of the ToU moratorium.[68]

On the other hand, despite proposing to install two-element meters, and stating its intention to provide a cost-benefit analysis to support its decision, SP AusNet did not outline its reasons or provide a cost-benefit analysis in support of the installation of two-element meters.

UED and CitiPower also proposed to install two-element meters citing the uncertainty caused by the ToU moratorium as their main justification.[69] [70]

JEN has not proposed expenditure for two-element meters in its subsequent budget application for 2012-15. JEN has stated that should the ToU moratorium be extended, that it will then submit a revised budget application to recover the additional costs of two-element meters.[71]

The ToU moratorium was initiated by the previous Victorian Government in February 2010 when it requested that DNSPs defer assigning customers to ToU tariffs. The AER understands that the ToU moratorium was initiated to allow for a 'more comprehensive assessment of the impacts of the AMI deployment' including the impacts of ToU tariffs. Initially, the DNSPS agreed to do so until 1 January 2011. In September 2010, a decision by the AMI policy committee, a committee established by the Victorian Department of Primary Industries, in effect extended the moratorium until 31 December 2011.[72] The AER is not aware of any further developments or announcements regarding the future status of the moratorium or its possible extension.

A.2.1 Powercor

Powercor commissioned PricewaterhouseCoopers (PwC) to undertake a cost-benefit analysis regarding two-element meters which was provided to the AER.

Powercor's cost benefit analysis compares the cost associated with three different approaches for the two-element meter issues. The scenarios and their cost breakdowns are set out below:

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68 PricewaterhouseCoopers Australia, Assessment of the justifiable need for investment in two-element meters, May 2011

69 Jemena Asset Management (JAM), AMI Budget Application 2012-15, Substantiation of Base Cost to Provide Regulated Services, 25 February 2011, page 21

70 Citipower, email of 1 June 2011

71 JEN, email of 31 May 2011

72 Jemena Asset Management (JAM), AMI Budget Application 2012-15, Substantiation of Base Cost to Provide Regulated Services, 25 February 2011, pages 20, 21, 22.

Table A.8 Powercor's summary of cost benefit analysis

	Two element AMI meter with contactor	Two single-element AMI meters (one with contactor)	Single-element AMI meter with contactor
Cost of meter	$167	$295	$155
Installation cost [73]	$105	$105	$105
Cost of customer enquires	-	-	$1
Cost of customer complaints	-	-	$18
Cost of tariff reassignment	-	-	$15
Total cost per customer	$272	$400	$294

Source: PricewaterhouseCoopers Australia, Assessment of the justifiable need for investment in two-element meters, May 2011, page 9.

The PwC report reiterates many of the arguments in favour of two-element meters that the AER had previously considered as part of its assessment of the initial budget applications for 2009-11.

As outlined above, the AER considered that the risks associated with replacing two-element meters with single element meters would reduce in line with the progression of the AMI roll-out during its assessment of the initial budget applications. The AER now considers that the roll-out has progressed to a stage where the benefits of AMI can now be realised, further reducing the benefits of two-element meters.

When the AMI roll-out commenced, the AER considered that customers of Powercor and SP AusNet could have suffered price shocks if their two-element meters were replaced with single element meters. Powercor and SP AusNet did not have reliable meter data on which to construct new tariffs for their customers, which would have increased the likelihood that customers would be significantly worse off once their two-element meters were replaced with single element meters. Also, as the communications technology was not fully functional, Powercor and SP AusNet would have had limited access to their customers' meter data, potentially affecting the accuracy of bills, and further impacting on their ability to offer ToU tariffs. Under these circumstances, the AER considers that customers may have been less likely to agree to a load control arrangement with their DNSP, which could lead to an increase in network augmentation.

[73] The installation cost is an average of the installation costs for a two-element meter, single element meter and single-element meter with contactor, estimated by Powercor and provided to PwC. The AER notes that the installation cost of $105 is significantly higher than Powercor proposes as part of its budget application (between $46 and $87). However, the AER considers that as the same installation cost has been applied to each metering scenario, it should not affect the outcome of determining a net-benefit.

For the subsequent budget period, the AER considers that the introduction of ToU tariffs and the advanced stage of the AMI roll-out will significantly reduce any potential benefits of two-element meters. This view is consistent with the draft and final determination of budget applications for the initial budget period.

Single element meters (with a contactor) still have the functionality of providing the Victorian DNSPs with load control. Also, the Victorian DNSPs are able to use their customers time of use data to construct new and effective ToU tariffs which will provide incentives for customers to continue to use electricity during off-peak times.

The PwC report also raised the effect of the ToU moratorium. In fact, in the calculation of the numbers in Table A.8, PwC has assumed that the moratorium will continue until at least until the end of 2013, which will have the effect of preventing Powercor from transferring customers to final ToU tariffs.[74]

Despite the uncertainty regarding the future of the ToU moratorium, the AER understands that the ToU moratorium is expected to conclude on 31 December 2011.[75] The AER will assess Powercor's case for two-element meters on this basis.

In Table A.8above, the AER considers that the costs associated with the installation of a single-element AMI meter with a contactor would also apply to the installation of a two-element AMI meter with a contactor should the ToU moratorium conclude on 31 December 2011. This results in the two-element AMI meter with a contactor costing $12 more per meter than the single-element AMI meter with contactor, which in effect transforms the net benefit to a net cost.

The AER notes, that as determined in the initial budget period 2009-11, two-element meters are outside the scope of the revised Order. The framework and approach paper allows AMI activities in excess of the minimum specifications to be approved by the AER if the DNSP is able to demonstrate that there are associated net benefits to customers and market participants.

The AER notes that Powercor's view that a net-benefit will arise from the installation of two-element meters, as set out in the PwC report, fundamentally relies on the assumption that the ToU moratorium will be extended.

As the AER considers that as the moratorium is expected to expire on 31 December 2011, and given that the figures in Table A.8 assume that this is not the case, it does not accept a net benefit will arise from the installation of two-element meters. In addition, the AER considers that the arguments previously put forward for the 2009-11 period and reiterated again here for the purposes of the 2012-15 period are no longer applicable. Therefore, the AER has not accepted the proposed expenditure relating to two-element meters as part of its draft determination for Powercor.

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74 PricewaterhouseCoopers Australia, Assessment of the justifiable need for investment in two-element meters, May 2011, page 29

75 Jemena Asset Management (JAM), AMI Budget Application 2012-15, Substantiation of Base Cost to Provide Regulated Services, 25 February 2011, page 21

A.2.2 SP AusNet

As set out above, SP AusNet did not clearly outline its reasons for installing two-element meters. The AER considers that in the absence of further information, it is likely SP AusNet intends to install two-element meters for the reasons previously outlined during the assessment for the initial budget period. Those reasons are addressed above in the section on Powercor. The AER considers that these arguments are no longer applicable and do not support SP AusNet's position that a net-benefit will arise from the installation of two-element meters.

SP AusNet did not provide the AER with a business case supporting its proposal to install two-element meters. The AER notes that this is contrary to the requirements set out in the AER's AMI framework and approach which specifically states that for performance in excess of the Victorian specifications, DNSPs will need to provide a separate cost/benefit analysis quantifying the benefits to the DNSP, retailers, and end customers, and demonstrating why regulated tariffs should provide the revenue required.[76]

In the absence of a net benefits case from SP AusNet and given that the AER considers that the justification as put forward in 2009-11 is no longer applicable in 2012-15, the AER does not accept SP AusNet's expenditure relating to two-element meters.

A.2.3 United Energy Distribution and CitiPower

As outlined above, during the initial budget period of 2009-11, CitiPower, UED, and JEN claimed they were able to schedule their roll-outs so that their two-element meter customers would have their AMI meters installed towards the end of the 2009-11 roll-out period, once AMI communications were functional and ToU tariffs were available.

In its subsequent budget application for 2012-15, UED has stated that its roll-out strategy will be placed in jeopardy unless the moratorium is lifted or it receives approval to install two-element meters. UED has assumed that the moratorium will not be lifted after 31 December 2011.[77]

CitiPower has informed the AER that it also intends to install two-element meters. However, CitiPower also noted that if the moratorium does expire after 31 December 2011, that it will install single element meters.[78]

As outlined above, the AER understands that the ToU moratorium is due to conclude after 31 December 2011.

The AER notes that as determined in the initial budget period 2009-11, two-element meters are outside the scope of the revised Order. The framework and approach paper

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[76] 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, page 29

[77] Jemena Asset Management (JAM), AMI Budget Application 2012-15, Substantiation of Base Cost to Provide Regulated Services, 25 February 2011, pages 20, 21, 22

[78] Citipower, email of 1 June 2011

allows AMI activities in excess of the minimum specifications to be approved by the AER if the DNSP is able to demonstrate that there are associated net benefits to customers and market participants.

As CitiPower's and UED's justification for the use of two-element meters is based solely on the assumption that the ToU moratorium will be extended beyond 31 December 2011, the AER has not accepted the proposed expenditure relating to two-element meters as part of its draft determination for UED and CitiPower.

Revised budget applications

The AER notes that should the circumstances regarding the moratorium change, the Victorian DNSPs are able to submit a revised budget application to the AER as set out in clause 5F of the revised Order.

The AER will assess any such applications in accordance with the requirements of the revised Order. In the case of two-element meters, this will require the Victorian DNSPs to justify that a net-benefit will arise from the installation of two-element meters as set out in the framework and approach paper.

Costs relating to two-element meters

The AER considers that the installation of two-element meters would have an effect on the other costs of the AMI roll-out for Powercor, SP AusNet, CitiPower and UED. The AER did not have sufficient time to determine the value of these other costs before the release of this draft determination.

The AER will address this issue with Powercor, SP AusNet, CitiPower, and UED to allow for the full impact of the AER's determination regarding two-element meters to be outlined.

For the draft determination, the AER has calculated the adjustments for CitiPower, Powercor, and UED by replacing the quantity of two-element meters with single element meters with a contactor. The cost of a single element meter with a contactor was taken from the relevant DNSP's proposal.

SP AusNet does not have a cost for a single element meter with a contactor in its budget proposal. The AER has calculated the adjustment for SP AusNet by replacing the quantity of two-element meters with a single element meter, plus $12 for a contactor. $12 was calculated by using the cost for contactors in CitiPower's and Powercor's budget proposals.

A.3 WiMAX – SP AusNet

Impaq identified that SP AusNet's forecast capex communications expenditure for its WiMax network may allow SP AusNet to use its WiMax network to provide non-AMI related communications services which would have implications under the scope test and the commercial standard test.

With respect to Impaq's advice, the AER in its final determination for the 2009-11 Victorian AMI review (2009-11 Final Determination) recognised the potential for SP AusNet to use its WiMax network to provide non-AMI related communications

services. However, the AER determined that SP AusNet's WiMAX communications network is within scope under the revised Order:

> … 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 scope.[79]

The AER's conclusion in the 2009-11 Final Determination is applicable for this 2012-15 determination. As in the 2009-11 Final Determination, the AER has not established that SP AusNet is using its WiMax network for non-AMI purposes.[80] Specifically, the AER has concluded that:

- SP AusNet's contract for its WiMax communications network was let in accordance with a competitive tendering process and as such, the commercial standard test does not apply.
- SP AusNet's contract for spectrum for its WiMax communications network was not let in accordance with a competitive tendering process but as SP AusNet has contracted for use of the spectrum with the only two companies that can provide access and given that these companies have an effective monopoly on the relevant spectrum, this is consistent with the commercial standard test.

A.4 IT opex (customer information portal) – CitiPower and Powercor

CitiPower and Powercor have proposed expenditure for the hosting of a customer information portal.

The AER sought advice from Impaq regarding this expenditure.

Impaq advised that the expenditure is outside the scope of the revised Order.[81]

The AER has reviewed the revised Order which does not include expenditure for a customer information portal as being within scope. The AER therefore considers that the proposed expenditure is outside scope.

Therefore, the AER has determined that CitiPower's and Powercor's budget be reduced by the amount proposed for this out of scope expenditure.

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79 AER, Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, p. 108.

80 The AER notes however that the revised Order does not allow it to include costs that are outside scope in determining future revised charges for AMI services, such as costs for SP AusNet's WiMax network and spectrum to provide non-AMI related communications services.

81 Revised Oder S2.10.

A.5 Installation costs of new connections and neutral services testing – Jemena Electricity Networks

JEN's proposed capex forecasts included expenditure for neutral services testing and installation costs for new connections. In establishing whether expenditure is within scope the AER has applied the principles as set out in its framework and approach paper.[82] Activities are within scope where reasonably required for the provision of regulated services and to comply with a metering regulatory obligation or requirement.[83]

The AER has applied this test and considers the following activities of JEN to be outside scope:

- Installation cost of new connection meters: As outlined in its framework and approach paper the AER does not consider customer requested services to be in scope.[84] JEN has notified the AER of this error and has advised that it will update its budget accordingly after this draft decision.

- Neutral services testing: The AER considers neutral services testing to be beneficial for safety purposes and has provided an allowance for these services in its Victorian Distribution Determination 2011-15. The AER considers that the appropriate mechanism for the recovery of such expenditure is under standard control services. The AER further notes that neutral services testing are not within the scope of the revised Order.[85]

Therefore, the AER has determined that JEN's budget be reduced by the amount proposed for these out of scope expenditure.

A.6 Neutral services testing - United Energy Distribution

UED has proposed expenditure for neutral services testing in its capex forecast. The AER considers neutral services testing to be beneficial for safety purposes and has provided an allowance for these services in its Victorian Distribution Determination 2011-15. The AER considers that the appropriate mechanism for the recovery of such expenditure is under standard control services. The AER further notes that neutral services testing are not within the scope of the revised Order.[86]

Therefore, the AER has determined that UED's budget be reduced by the amount proposed for this out of scope expenditure.

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82 AER, *Framework and approach paper advanced metering infrastructure review 2009-11*, January 2009, pp. 26-26.
83 Such activities include those set out in S2.1(a), (b) and (c) of the revised Order.
84 AER, *Final decision Framework and approach paper Advanced metering infrastructure review 2009-11*, January 2009, p., 29.
85 Revised Oder S2.1.
86 Revised Oder S2.1.

B Application of competitive tender test

B.1 SP AusNet

AMI design services

SP AusNet contracted with one company to provide design services for the AMI project.[87] SP AusNet did not conduct a tender process, and instead chose to contract with a company that was already part of SP AusNet's IT Services Panel.[88] The IT Services Panel was established through a tender process in 2008.[89] The AER notes that under the revised Order the AER must have regard to 'the tender process for that contract'.[90] In other words, the tender process must be particular to a contract.

The AER considers that the tender process that established the IT Services Panel does not satisfy this requirement. The AER notes that this point is also relevant to other contracts examined in this chapter where the contracted company was chosen from the IT Services Panel but no tender process took place with respect to the individual contract.

The AER therefore has established that SP AusNet's contract for AMI IT design services was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

AMI tender management services

SP AusNet contracted with one consulting firm for work relating to three service streams.[91] SP AusNet invited three firms to participate in a closed tender, and all three firms submitted responses to each service stream. SP AusNet followed its tender evaluation plan when assessing the tenders.

The AER did not establish that SP AusNet's consultancy contract was not let in accordance with a competitive tendering process.

Software, licences, and support services

SP AusNet contracted with one company for the provision of software, licences, and support services. SP AusNet did not conduct a tendering process, instead requesting quotes from three separate companies.[92]

The AER therefore has established that SP AusNet's contract for software, licences, and support services was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

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87 SP AusNet, AMI contract management summary.pdf, 28 February 2011, page 6 - 9 of 129.
88 ibid.
89 ibid.
90 The revised Order, clause 5C.10(a)
91 SP AusNet, AMI contract management summary.pdf, 28 February 2011, page 10 - 14 of 129.
92 ibid., pages 15 - 17 of 129.

Planning services

SP AusNet contracted with one company to assist with the preparation of a plan for the upgrade of SP AusNet's existing Enterprise Application Integration infrastructure.[93] SP AusNet did not conduct a tender process. SP AusNet instead chose to contract with a company that was already part of SP AusNet's IT Services Panel.

The AER therefore has established that SP AusNet's contract for planning services was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Customer information system / meter asset management

SP AusNet contracted with one company for the provision of customer information system / meter asset management services. SP AusNet did not conduct a tendering process, instead requesting quotes from three separate companies.[94]

The AER therefore has established that SP AusNet's contract for the provision of customer information system / meter asset management services was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Communications

SP AusNet contracted a communications technology manufacturer to design, build, and deploy a WiMAX based communications network to enable the remote management and reading of AMI electricity meters. The contract does not cover the supply or installation of meters or IT systems.[95]

The AER did not establish that SP AusNet's contract for the manufacture of AMI communications technology was not let in accordance with a competitive tendering process.

Meter installations

Two firms were contracted to provide SP AusNet with services relating to meter installation based on a 50 per cent geographical split. The contracts cover the management and storage of meter stock and associated stock control, and organising and providing meter exchanges. In addition to meter installation services, these contractors are required to provide site inspection services to ensure the meter exchange has been conducted in compliance with requirements outlined by SP AusNet. The contracts do not cover metering equipment costs.[96]

The AER did not establish that SP AusNet's contracts for the AMI meter installation were not let in accordance with a competitive tendering process.

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93 ibid., pages 18 - 21 of 129
94 ibid., pages 22 - 24 of 129
95 ibid., pages 25 - 31 of 129
96 ibid., pages 32 - 39 of 129

Meter supply

The AER has previously assessed SP AusNet's contracts for meter supply as part of its assessment of SP AusNet's revised budget application for the 2009-11 period. In its draft determination, the AER established that the metering supply contracts were not let in accordance with a competitive tendering process. After considering SP AusNet's response to the draft determination, the AER maintained its draft decision in the final determination.[97]

As part of this draft determination, the AER is required to assess the same contract expenditure as it directly affects SP AusNet's budget and charges applications for the subsequent budget period of 2012-15.

For the reasons set out in both the draft determination and the final determination of SP AusNet's revised budget application 2009-11, the AER has established that the metering supply contracts were not let in accordance with a competitive tendering process.[98] These reasons are summarised below:

- The request for information (RFI) process that resulted in the meter supply contracts was a separate process from an earlier request for tender (RFT) process:
    - SP AusNet requested a probity report specifically for the RFI process
    - The probity report and a Deloitte RFT evaluation report both treat the RFT and RFI as separate processes
    - The probity report notes that SP AusNet considered conducting another RFT after the initial RFT, however decided to conduct an RFI instead
    - Three other vendors, who were not shortlisted during the RFT, were invited to participate in the RFI. One of these vendors was not involved in the RFT at all.
    - The requirements of the RFI differed from the RFT
- The RFI process was not a competitive tender process:
    - The actual 'returnable date' for RFI submissions differed between vendors
    - The probity report states that pricing responses from the vendors for both the initial and best and final offer (BAFO) pricing submissions were received at different dates and times. These responses were also distributed immediately upon receipt, raising potential risks in equity, confidentiality, and security.
    - The probity report states that the formal rules of tendering were not applied.

97 AER, Final determination, SP AusNet Revised Budget Application 2009-11, pages 9 - 14
98 ibid.

Software and maintenance support

SP AusNet entered into a separate contract for software and maintenance support at the same time it entered into its meter supply contracts that were not let in accordance with a competitive tendering process.[99] In its budget application for 2012-15, SP AusNet suggests that the tender process leading up to the software and maintenance support contract was the same tender process that preceded the meter supply contracts.[100]

The AER requested further information from SP AusNet regarding its tender process, the value of the contract, and details regarding further amendments to the software and maintenance support contract.[101] SP AusNet did not respond to this request.

The AER considers that the tender process leading up to the software and maintenance contract was the same tender process that preceded the meter supply contracts. The AER has established that this tender process, in respect of the meter supply contracts, was not let in accordance with a competitive tender process. Therefore, it follows that this process was also not competitive in respect of the software and maintenance support contract.

The AER therefore has established that SP AusNet's contract for the software and maintenance support was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Supply of communications units

SP AusNet contracted with one company for the provision of communications units to its AMI meter installers. SP AusNet did not conduct a tendering process, instead requesting quotes from three separate companies.[102]

The AER therefore has established that SP AusNet's contract for the provision of communications units to its AMI meter installers was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

AMI systems integration services

SP AusNet contracted with one company for the provision of AMI systems integration services. SP AusNet conducted a closed tender process, managed by Deloitte, and invited two companies to participate. [103]

The AER did not establish that SP AusNet's contract for the provision of AMI systems integration services was not let in accordance with a competitive tendering process.

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99 SP AusNet, SPI Electricity Pty Ltd - Advanced Metering Infrastructure - AMI Subsequent Budget & Charges Application, 28 February 2011, page 22.
100 ibid.
101 Emails to SP AusNet, 17 June 2011.
102 SP AusNet - AMI contract management summary.pdf, 28 February 2011, page 68 - 71 of 129.
103 ibid., pages 72 - 75 of 129.

Spectrum

SP AusNet contracted with two companies to provide spectrum for the AMI roll-out and service level obligations. SP AusNet chose to contract with the two companies because they had an effective monopoly on the spectrum. As a result, a tender process was not conducted.[104]

The AER has established that SP AusNet's contract for the provision of spectrum was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

WiMAX antennas

In October 2009, SP AusNet issued a request for quotation (RFQ) to five vendors for the supply of WiMAX antennas. SP AusNet received one response to the RFQ, due to the submission deadline of the RFQ and delivery requirements. The respondent was contracted to supply the minimum number of antennas required for deployment of the first 5 per cent of meters.[105]

SP AusNet placed an initial order for 5,000 antennas, which attracted a premium price due to the greatly reduced lead-time. A second order was placed for an additional 40,000 antennas, which were more reasonably priced due to a relatively longer lead-time. The price for each antenna purchased in the initial order was approximately 250 per cent higher than the price of each antenna purchased in the second order. SP AusNet followed its internal processes, and completed a waiver of competition for the purchases.[106]

In 2010, a full tender process was conducted, and the original 5 vendors were invited to participate, all of which responded. SP AusNet has provided the AER with a probity report and other documents detailing this process.[107] This tender resulted in SP AusNet contracting with the same vendor for the remainder of the AMI roll-out.

The AER therefore has established that SP AusNet's antenna supply contracts that resulted in the purchase of the first 45,000 antennas were not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

The AER did not establish that SP AusNet's antenna supply contracts that were entered into as a result of the full tender process conducted in 2010 were not let in accordance with a competitive tender process.

Supply of server equipment

SP AusNet contracted with one company to supply IT servers and storage infrastructure. SP AusNet did not conduct a tender process, and instead obtained a quote from one supplier, and contracted with that supplier.[108]

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104 ibid., pages 76 - 82 of 129
105 SP AusNet, ITT 2010 T02 - Antenna Solutions for AMI meters, 4 May 2010
106 ibid.
107 SP AusNet - AMI contract management summary.pdf, 28 February 2011, page 85 - 88 of 129.
108 ibid., pages 89 - 91 of 129.

The AER therefore has established that SP AusNet's contract for the provision of server equipment was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Supply, installation, and support of network security system

SP AusNet contracted with one company to supply, install, and support the communications network infrastructure security system. In addition to internal evaluation documents of the vendors, SP AusNet has provided the AER with an independent probity report which supports the tender process.[109]

The AER did not establish that SP AusNet's contract for the supply, installation, and support of the network security system was not let in accordance with a competitive tendering process.

IT server support and maintenance

SP AusNet contracted with one company to provide server support and maintenance. SP AusNet did not conduct a tender process because the requirements could only be performed by one company.[110]

The AER therefore has established that SP AusNet's contract for IT server support and maintenance was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Provision of professional services

SP AusNet contracted with one company to provide professional services relating to data management for the AMI programme. The company had an existing agreement in place with SP AusNet. SP AusNet has stated that the company was the only party capable of offering the required services. SP AusNet did not conduct a tender for this contract.[111]

The AER therefore has established that SP AusNet's contract for the provision of professional services was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Mobility software licences, support, and hosting services

SP AusNet contracted with one company to provide mobility software licences, support, and hosting services. SP AusNet has stated that it had conducted a number of open and closed RFQ processes over the past 5-10 years and the company awarded the contract had performed well throughout these processes. However, SP AusNet did not conduct a tender process for this specific contract.

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[109] ibid., pages 92 - 98 of 129
[110] ibid., pages 99 - 103 of 129
[111] ibid., pages 104 - 107 of 129

The AER therefore has established that SP AusNet's contract for the provision of mobility software licences, support, and hosting services was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Supply of security seals

SP AusNet contracted with one company to supply 400,000 security seals for AMI meters. SP AusNet did not conduct a tender process.[112]

The AER therefore has established that SP AusNet's contract for the provision of security seals was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Supply of file sharing service for AMI programme

SP AusNet contracted with one company to supply a file sharing service for SP AusNet's IT systems, directly related to the AMI programme. SP AusNet did not conduct a tender process .[113]

The AER therefore has established that SP AusNet's contract for the supply of a file sharing service for the AMI programme was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

IT consultancy

SP AusNet contracted with one company to provide solution architecture support services for the AMI programme. SP AusNet did not conduct a tender process.[114]

The AER therefore has established that SP AusNet's IT consultancy contract was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

Retrofitting communications modules

SP AusNet contracted with one company for the supply of installation services of communications modules. SP AusNet had an existing agreement with the company in relation to meter reads. SP AusNet considered it appropriate to extend the contract to cover the new installation services. SP AusNet did not conduct a tendering process.[115]

The AER therefore has established that SP AusNet's contract for the installation of communications modules was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

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[112] ibid., pages 112 - 115 of 129
[113] ibid., pages 116 - 119 of 129
[114] ibid., pages 120 - 122 of 129
[115] ibid., pages 123 - 125 of 129

Technical architecture services

SP AusNet contracted with one company for the provision of technical architecture services. SP AusNet did not conduct a tender process because, according to SP AusNet, there was 'extreme urgency' for the services. The company was selected from SP AusNet's IT services panel.[116]

The AER therefore has established that SP AusNet's contract for the provision of technical architecture services was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

B.2 United Energy Distribution and Jemena Electricity Networks

For the initial AMI budget period of 2009-11, UED and JEN contracted with Jemena Asset Management (JAM) to manage the AMI roll-out. For the subsequent AMI budget period of 2012-15, UED and JEN have again contracted with JAM to manage the AMI roll-out.

Both UED and JEN have entered into contracts for the AMI roll-out together, and have followed the same tendering processes. For this reason, for the purposes of the competitively tendered contract test, UED's and JEN's contract expenditure will be assessed together.

Provision and management of data centres

UED and JEN have contracted with one company for the provision and management of data centres. JAM conducted an invited tender process, and has provided the AER with a probity report and other documentation which extensively details the process leading up to the award of the contract.[117]

The AER did not establish that UED's and JEN's contract for the provision and management of data centres was not let in accordance with a competitive tendering process.

Meter supply (AMI roll-out)

UED and JEN have contracted with one company for the provision of meters for both the AMI roll-out and BAU. JAM conducted a closed tender process, and has provided the AER with a probity report and other documentation which extensively details the process leading up to the award of the contract.[118]

The AER did not establish that UED's and JEN's meter supply contract was not let in accordance with a competitive tendering process.

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[116] ibid., pages 126 - 129 of 129

[117] UED and JEN, response to AER email sent 15 June 2011

[118] JAM, AMI Budget Application 2012-15 Substantiation of Base Cost to Provide Regulated Services, 25 February 2008, pages 91 - 92

Meter supply (BAU)

The supply of meters to fulfil post-roll-out obligations (after 2013) will be subject to a future competitive tendering process. As such, these forecast costs will now be considered under the expenditure incurred and commercial standard tests.[119]

Supply of LAN, access points and repeaters (AMI roll-out)

UED and JEN have contracted with one company for the supply of LAN, access points and repeaters. A contract for the provision of the full supply for the AMI roll-out was entered into in December 2008. JAM conducted a closed tender process, and has provided the AER with a probity report and other documentation which extensively details the process leading up to the award of the contract.[120]

The AER did not establish that UED's and JEN's contract for the supply of LAN, access points, and repeaters to fulfil their AMI roll-out obligations was not let in accordance with a competitive tendering process.

Installation services (AMI roll-out)

UED and JEN have contracted with one company for the installation of AMI meters during the roll-out. JAM conducted a closed tender process, and has provided the AER with a probity report and other documentation which extensively details the process leading up to the award of the contract.[121]

The AER did not establish that UED's and JEN's contract for the installation AMI meters during the roll-out was not let in accordance with a competitive tendering process.

IT licences

UED and JEN have entered into contracts which provide the licences required to operate the IT systems established as part of their AMI solution. UED and JEN have stated that there are thirteen contracts related to IT licences.[122]

The AER considers that as these licences are individual contracts, that they represent contract expenditure and must therefore be assessed against the competitive tender test. The AER notes that as IT licences are likely to be provided by one vendor, UED and JEN would be unable to conduct a competitive tender process.

The AER therefore has established that UED's and JEN's contracts related to IT licences were not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

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119 ibid., pages 92 - 93
120 ibid., page 92
121 JAM, AMI Budget Application 2012-15 Substantiation of Base Cost to Provide Regulated Services, 25 February 2008, pages 90 - 91
122 ibid.

Backhaul communication

UED and JEN have entered into a contract with one communications provider for backhaul communications from data concentrators to the network management systems.[123] JAM has provided the AER with a probity report and other documentation which extensively details the process leading up to the award of the contract.[124]

The AER did not establish that UED's and JEN's contract for backhaul communication was not let in accordance with a competitive tendering process.

Meter data collection

UED and JEN have entered into contracts with two companies for the processing and collection of meter data.

The AER did not establish that UED's and JEN's contract for the processing and collection of meter data was not let in accordance with a competitive tendering process.

AMI operations - premises

UED and JEN have proposed expenditure relating to 'AMI operations - premises.' This expenditure is described as being a contract cost in accordance with the revised Order, and having resulted from a competitive tender process.

UED and JEN have not provided any further information relating to this expenditure. In particular, no information was provided about the nature of the tender process that would lead to the conclusion that it was competitive.

Based on the available information, the AER has established that UED's and JEN's expenditure relating to 'AMI operations - premises' was not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

IT expenditure - application support services

UED and JEN have proposed expenditure relating to application support services. Support activities related to operating the data centres and managing the infrastructure for the AMI solution were established through a contract with a company during the initial budget period. There are costs from this contract that are incurred during 2012 and 2013.

JAM has provided the AER with a probity report and other documentation which extensively details the process leading up to the award of the contract.[125]

The AER did not establish that UED's and JEN's contract for application support services was not let in accordance with a competitive tendering process.

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123 ibid.
124 UED and JEN, response to AER email sent 15 June 2011
125 UED and JEN, response to AER email sent 15 June 2011

IT expenditure - IT software maintenance

UED and JEN have proposed expenditure relating to the annual licence costs for IT products procured during the initial budget period. JAM states that these licence costs relate to contracts for software that were competitively tendered.

The AER considers that as these licences are individual contracts, that they represent contract expenditure and must therefore be assessed against the competitive tender test. The AER notes that as IT licenses are likely to be only provided by one vendor, UED and JEN would be unable to conduct a competitive tender process.

The AER therefore has established that UED's and JEN's contracts related to IT licenses were not let in accordance with a competitive tendering process. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

B.3 Citipower and Powercor

CitiPower and Powercor function as two separate distribution networks but are managed through a single corporate structure.

In their budget applications, CitiPower and Powercor have differentiated their costs as either ‘contract costs’ or ‘other costs’.

Both CitiPower and Powercor have entered into contracts for the AMI roll-out together, and have followed the same tendering processes. For this reason, for the purposes of the competitively tendered contract test, CitiPower’s and Powercor’s contract expenditure will be assessed together. All ‘other costs’ will be assessed under the expenditure incurred and commercial standard tests.

Meter Supply

CitiPower and Powercor have signed contracts for 90 per cent of meter supply for the 2012-15 budget period. The meter contracts have been entered into with two metering manufacturers. The allocation of meter supply between the two contractors is as follows: 80 per cent for contractor 1, and 10 per cent for contractor 2.[126]

CitiPower and Powercor have forecast the remaining 10 per cent of meter supply using an allocation of 80 per cent for contractor 1, and 20 per cent for contractor 2.[127]

The AER was provided detailed information outlining the tender process, the evaluation criteria applied to the tenders received, and probity reports.

The AER did not establish that CitiPower’s and Powercor’s existing metering supply contracts were not let in accordance with a competitive tendering process.

However the remaining 10 per cent of meter supply has not yet been contracted. As such, these costs will now be considered under the expenditure incurred and commercial standard tests.

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[126] CitiPower and Powercor, Budget and Charges Application 2012-15, page 40 - 41 and 41 - 42

[127] ibid.

Meter Installation

CitiPower and Powercor have appointed three contractors for the installation of AMI meters. The allocation of work between the three contractors is as follows: 60 per cent for contractor 1, 30 per cent for contractor 2, and 10 per cent for contractor 3.[128]

The AER was provided detailed information outlining the tender process, the evaluation criteria applied to the tenders received, and probity reports.

The AER did not establish that CitiPower's and Powercor's meter installation contracts were not let in accordance with a competitive tendering process.

Supply of communications technology

After conducting a tender process, CitiPower and Powercor entered into a contract with one communications technology provider.[129]

The AER was provided detailed information outlining the tender process, the evaluation criteria applied to the tenders received, and probity reports.

The AER did not establish that CitiPower's and Powercor's communications technology contract was not let in accordance with a competitive tendering process.

Backhaul Communications

After conducting a tender process, CitiPower and Powercor entered into a contract with one communications provider for backhaul communications.[130]

The AER was provided detailed information outlining the tender process, the evaluation criteria applied to the tenders received, and a probity report.

The AER did not establish that CitiPower's and Powercor's communications technology contract was not let in accordance with a competitive tendering process.

Contracts to be competitively tendered in future

In their budget applications, some of the Victorian DNSPs have referred to expenditure that will be competitively tendered in the future.

For its assessment of the Victorian DNSPs' budget and charges applications, the AER uses the definition of 'contract costs' provided by clause 5C.11 of the revised Order. The AER notes that, for the purposes of this assessment, 'contract costs' refer to expenditure incurred pursuant to a contract entered into prior to the day on which a DNSP made its subsequent AMI budget period budget application.

When a DNSP states that expenditure will be incurred after conducting a competitive tender process in the future, this expenditure is not a contract cost. The AER cannot apply the competitive tender test which is only applied to contract costs, and must instead apply the expenditure incurred and commercial standard tests. Expenditure

[128] ibid., page 39 and 40 and 42
[129] ibid., page 40 and 41
[130] CitiPower and Powercor, email of 29 June 2011

must pass both the expenditure incurred and commercial standard tests in order to be approved.

C Application of the expenditure incurred test

C.1 Jemena Electricity Networks

C.1.1 Network augmentation

JEN has proposed network augmentation expenditure as part of its AMI technology and communications capex category.

The AER considers that network augmentation expenditure will be recovered under JEN's IT forecast expenditure, an allowance for which has been provided in this draft determination and is not likely to be incurred twice.

Therefore, the AER has determined that JEN's budget be amended to remove this proposed expenditure.

C.1.2 Management of major AMI technology releases, validation of releases and vendor management

JEN has proposed expenditure for the management of major AMI technology releases, validation of releases and vendor management network augmentation as part of its asset strategy and planning opex category.

The AER considers that the management of major AMI technology releases and the validation of releases will be recovered under JEN's IT capex forecast expenditure, an allowance for which has been provided in this draft determination and is not likely to be incurred twice. Similarly the forecast for AMI vendor management will be recovered under JEN's service delivery and contract management expenditure forecast for which an allowance has also been provided in this draft determination and is not likely to be incurred twice.

Therefore, the AER has determined that JEN's budget be amended to remove these proposed expenditures.

C.1.3 Stakeholder relations

JEN has proposed expenditure for stakeholder relations in its opex forecast.

The AER considers that the documentation provided by JEN does not adequately justify the expenditure for this activity, particularly with respect to the level of activities involved. However, assuming that the matters for stakeholder relations are similar to JEN's "assets operations" and "management" activities, and in the absence of a more detailed justification for the expenditure, the AER considers that this expenditure has been recovered under JEN's assets operations and management forecast for which an allowance has been provided for in this draft determination and is not likely to be incurred twice.

Therefore, the AER has determined that JEN's budget be amended to remove this proposed expenditure.

C.2 United Energy Distribution

C.2.1 Network augmentation

UED has proposed network augmentation expenditure as part of its AMI technology and communications capex category.

The AER considers that network augmentation expenditure will be recovered under UED's IT capex forecast, an allowance for which has been provided in this draft determination and is not likely to be incurred twice.

Therefore, the AER has determined that UED’s budget be amended to remove this proposed expenditure.

C.2.2 Management of major AMI technology releases, validation of releases and vendor management

UED has proposed expenditure for the management of major AMI technology releases, validation of releases and vendor management network augmentation as part of its asset strategy and planning opex category.

The AER considers that the management of major AMI technology releases and the validation of releases will be recovered under UED's IT capex forecast, an allowance for which has been provided in this draft determination and is not likely to be incurred twice. Similarly the forecast for AMI vendor management will be recovered under UED's service delivery and contract management expenditure forecast for which an allowance has also been provided in this draft determination and is not likely to be incurred twice.

Therefore, the AER has determined that UED’s budget be amended to remove these proposed expenditures.

C.2.3 Stakeholder relations

UED has proposed expenditure for stakeholder relations in its opex forecast.

The AER considers that the documentation provided by UED does not adequately justify the expenditure for this activity, particularly with respect to the level of activities involved. However, assuming that the matters for stakeholder relations are similar to UED's "assets operations" and "management" categories, and in the absence of a more detailed justification for the expenditure, the AER considers that this expenditure has been recovered under UED's assets operations and management forecast for which an allowance has been provided for in this draft determination and is not likely to be incurred twice.

Therefore, the AER has determined that UED’s budget be amended to remove this proposed expenditure.

C.2.4 CitiPower and Powercor

C.2.5 Call centre costs

CitiPower and Powercor have proposed call centre costs as part of their customer service operational expenditure. This expenditure appears to be for service desk and fault and emergencies responses. The AER considers that faults and emergency responses will be recovered under CitiPower's and Powercor's AMI network operations expenditure, an allowance for which has been provided in this draft determination. This view is supported by Impaq.[131]

The AER considers that it is more likely than not that the proposed expenditure will not be incurred.

Therefore, the AER has determined that CitiPower's and Powercor's budget be amended to remove the proposed expenditure.

C.2.6 Customer interactions

CitiPower and Powercor have proposed customer interactions costs as part of their customer service operational expenditure. The AER considers that these costs will not be incurred, as they are already included in the meter installation 'other costs' expenditure, specifically for 'resolving exceptions' and 'post and courier costs, stationary and printing for mail outs'. This view is supported by Impaq.[132]

The AER considers that it is more likely than not that the proposed expenditure will not be incurred.

Therefore, the AER has determined that CitiPower's and Powercor's budget be amended to remove the proposed expenditure.

C.2.7 AMI data delivery

CitiPower and Powercor have proposed AMI data delivery costs as part of their communications operations operational expenditure. The AER considers that these costs will not be incurred, as they are already included in the meter data services and IT opex. This view is supported by Impaq.[133]

The AER considers that it is more likely than not that the proposed expenditure will not be incurred.

Therefore, the AER has determined that CitiPower's and Powercor's budget be amended to remove the proposed expenditure.

C.2.8 Technology acceptance

CitiPower and Powercor have proposed technology acceptance costs as part of their communications operations operational expenditure. The AER considers that these

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131 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp.37 and 103.
132 ibid.,
133 ibid., pp. 40 and 106.

costs will not be incurred, as they are already included in the IT communcation capex category. This view is supported by Impaq.[134]

The AER considers that it is more likely than not that the proposed expenditure will not be incurred.

Therefore, the AER has determined that CitiPower's and Powercor's budget be amended to remove the proposed expenditure.

[134] ibid., pp.41 and 107.

D Application of commercial standard test

D.1 Related Party Margins

This section outlines the AER's consideration of indirect costs (related party margins) of contracts between each DNSP and any related parties.

Jemena Electricity Networks (JEN) and UED have outsourced the management of the AMI roll-out to Jemena Asset Management (JAM). Citipower and Powercor have outsourced the management of their AMI roll-out to CHED Services. SP AusNet has a management service agreement with SPI Management Services (SPIMS) which is also applicable to the AMI roll-out.

D.1.1 AER approach to assessment

In assessing whether the DNSPs' expenditure under contracts with related parties meets the commercial standard test, the AER has taken into account and given fundamental weight to the matters referred to in clause 5I.8 of the Revised Order and the AER's framework and approach paper.

As stated in the AER's framework and approach paper, '[e]ach application of the test may be unique, including circumstances and issues that are absent from other cases."[135] For related party contractual arrangements and expenditure, the AER approach in seeking to understand the circumstances of each DNSP and establish whether such expenditure meets the commercial standard test, also takes into account the following factors as set out in the framework and approach paper[136]:

- the structure of the contract, including whether:
  - the contract gives an incentive for the contractor to lower costs
  - these cost reductions are passed on to the DNSP and
  - the contract gives the DNSP control over expenditure
- the extent to which contract costs represent actual costs incurred in providing the services
- the extent to which contractual arrangements with the related party confer other benefits such as:
  - enabling economies of scope to be achieved
  - cost savings from not conducting a competitive tender process

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135 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, pp41

136 AER, *Final Decision: Framework and Approach Paper: Advanced Metering Infrastructure review 2009-11: Citypower Pty Ltd, Jemena Electricity Networks (Vic) Ltd, Powercor Australia Pty Ltd, SP AusNet, UED*, January 2009, pp42-43

- other benefits such as retention of knowledge and avoiding the need for other contractors to 'come up to speed' with the DNSP's working arrangements

- how the costs under the contract compare with benchmarks of efficient costs

- the extent and manner in which risks are allocated under the contract.

As the AER noted in its framework and approach paper, in considering the above matters "the AER is not introducing economic efficiency tests" but through obtaining such information is seeking to understand the circumstances of the DNSP and establish whether the commercial standard test has been met. The AER added:

> Matters relating to the economic consequences for the DNSP are considered to be appropriate matters for consideration given that such matters would typically be considered by businesses when deciding whether to enter into a contract.[137]

As clarification, the AER notes that its assessment of margins in this section is performed under the revised Order's commercial standard test and the test is different from that applied by the AER when assessing related party margins under the requirements of the NEL and NER. While some of what the AER takes into account in applying the commercial standard test under the Revised Order may reflect considerations that are also relevant to assessing efficiencies of margins, the AER is here performing a different task and the result of this commercial standard test does not necessarily have any bearing on the AER's approach to applying its efficiency requirements under the NEL and NER.

The AER further notes that in the AER's 2009-11 AMI budget and charges determination, the AER rejected UED and JEN's management fees in contracts with related parties as being outside of scope. In its Orders of 23 December 2009, the Tribunal accepted those fees, set at [C-I-C] per cent, as within scope.[138] Once within scope, the Tribunal concluded that they should be included in UED's and JEN's budgets on the basis that the AER in its 2009-11 AMI budget and charges determination had not provided any other convincing argument for excluding them.[139] The Tribunal varied the AER's 2009-11 AMI budget and charges determination accordingly. The Tribunal noted in its decision that expenditure once accepted as within scope may be rejected on the basis that it is not prudent.[140]

The AER considers that the Tribunal's findings extend only to a conclusion that management fees are within scope and that such fees may or may not be prudent. The AER further considers that an examination as to what is prudent is to be undertaken

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137 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, pg 43

138 Australian Competition Tribunal, Application by UED Pty Ltd [2009] ACompT 10 (23 December 2009), 25 January 2010

139 Australian Competition Tribunal, Application by UED Pty Ltd [2009] ACompT 10 (23 December 2009), 25 January 2010, Paras 60-62.

140 Australian Competition Tribunal, Application by UED Pty Ltd [2009] ACompT 10 (23 December 2009), 25 January 2010, Paras 56 and 9.

on a case by case basis in accordance with the revised Order and the framework and approach paper.

Consistent with the AER's Victorian Distribution Determination the term 'margin' in this section is used to reflect the difference between a contract price and a contractor's actual direct costs (that is, 'margin' may include corporate and other indirect costs, and profit margins).[141]

D.1.2 The AER's assessment of margins

In applying the commercial standard test to the DNSPs' margins, the AER must ultimately determine what the commercial standard was at the time the contracts were entered into and establish whether the margins as proposed by the DNSPs (UED and JEN for Jemena Asset Management (JAM)) and Citipower and Powercor for CHED) are a substantial departure from that standard.

The AER has included an assessment of SP AusNet's SPI Management Services (SPIMS) contract in this assessment for completeness. However the AER notes SP AusNet's statement that the SPIMS management contract does not include a margin. This is consistent with the AER's assessment in the Victorian distribution determination which determined no margin existed in the SPIMS contract.[142] Therefore the AER considers that SP AusNet's SPIMS margin is zero.

Since the initial AMI Budget and Charges Determination the AER has reviewed its position on whether the commercial standard would involve incurring related party margins, and if so, what the quantum of those margins are.

On the one hand, the AER recognises there are benefits to outsourcing services, including cost savings and increased process efficiencies that a business would pursue. Conversely, if outsourced to a related party, there may also be inefficiencies (such as transfer pricing and unjustified cost inflation) which are not in the long term interests of consumers that a business would therefore not pursue. These concerns are reflected in the Victorian Ring-Fencing Guideline No 17 of October 2004 (Ring-Fencing Guideline) which each of the DNSPs are obligated to comply with as a condition of their distribution licences.[143] To identify the relevant commercial standard therefore requires an assessment of these competing considerations.

In performing its analysis of the related party margins in accordance with the revised Order and the framework and approach paper, the AER had regard to the DNSPs' related party contracts with JAM and CHED Services, specifically:

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[141] AER, Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, pp 149

[142] AER, Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, pp265

[143] The Guideline sets out how DNSPs must operate in regard to related businesses and require that each DNSP must not make decisions or act in a manner that unreasonably discriminates in favour of any "electricity business": see ESCV, Electricity Industry Guideline No.17, Electricity Ring Fencing, Issue 1, October 2004 (Ring-Fencing Guideline), clause 2.1. In particular, clause 2.2 states: 'Without limitation, in any assessment of whether discrimination is unreasonable under clause 2.1, regard must be had to the effect of the discrimination on economic efficiency, effective competition and customer benefit.'

- the structure of the contract, particularly to how the margins associated with the contract are derived and applied in the contract and the budget proposals.

- the extent to which contract costs represent actual costs incurred in providing the services. The AER has in general discussed the actual costs of all contracts in chapters 1 and 2 of this determination. The AER assessment in this section is of the margin associated with the contract.

- the extent to which contractual arrangements with the related party confer other benefits to the DNSP. In the case of the contract presented in each budget proposal the AER notes outsourcing has allowed the DNSPs (Citipower, Powercor, JEN and UED) to gain economies of scope and scale in the AMI roll-out.

- how the costs under the contract compare with benchmarks of efficient costs. The AER's analysis of benchmark costs is discussed below.

- the extent and manner in which risks are allocated under the contract. The AER discusses risk below.

Consistent with clause 5I.8, the AER had regard to the time of commitment to the expenditure or to manage the expenditure including the information available at that time. As a matter of context, the AER notes that policy development for the AMI roll-out began within the Victorian state government in 2002 and by 2006 the Victorian government was working with stakeholders, including DNSPs, to establish the requirements of the roll-out.[144] The original Order in Council was finalised in August 2007. The AER assessed that all DNSPs contracted with related parties for AMI-related services at a time when they were aware that they would have regulatory obligations applicable to the AMI roll-out and in some cases they were aware of the specific regulatory requirements as the original Order in Council had been finalised.

- JEN entered into a contract, the AIMRO Services Requirement Agreement, with Alinta Asset Management Pty Ltd (AAM, now JAM) for the initial AMI roll-out period. The AER understands JEN then renegotiated with JAM for the subsequent AMI roll-out period including the JAM's margin (management fee) in January 2010 without altering the JAM margin.

- UED entered into the Operating Services Agreement (OSA) with AAM (now JAM) in July 2003. The OSA was renegotiated and signed on 30 June 2006. The renegotiated contract retained the same provisions as in the OSA with respect to JAM's [C-I-C] per cent margin and an exclusivity clause for JAM to provide all DNSP services including the AMI roll-out.[145] UED, in November 2008, entered into its Amendment and Restatement of AIMRO Service Requirements contract

[144] Essential Services Commission, Advanced Metering Infrastructure Review: Final Framework and Approach Paper, Volume 1 Guidance Paper, December 2007, p.1.

[145] UED, in November 2008, entered into its Amendment and Restatement of AIMRO Service Requirements contract with JAM which specifically addressed requirements of the AMI Order in Council. That contract clarified the services required for the purposes of the AMI roll-out.

with JAM which specifically addressed requirements of the AMI Order in Council.

- Citipower and Powercor entered into its contract with CHED services for corporate service in 2005. Citipower's and Powercor's Metering and Field Services Agreement (2008-2013) contract with CHED for the AMI roll-out was agreed by its Board on 18 November 2008.

The AER has also had regard to the related party margins forecast by the Victorian DNSPs in relation to the AMI roll-out as set out in the table below.

D.1.2.1 DNSP proposed margins

	Margin	Actual budgeted cost 2012 (real $2011)	Actual budgeted cost 2013 (real $2011)	Actual budgeted cost 2014 (real $2011)	Actual budgeted cost 2015 (real $2011)	Total budgeted cost 2012-2015 (real $2011)
Jemena Energy Networks (JAM margin)	[C-I-C]% of project cost excluding corporate overheads*	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
UED (JAM margin)	[C-I-C]% of project cost excluding corporate overheads*	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
SP AusNet (SPIMS contract)	0% margin included	0	0	0	0	0
Citipower (CHED for outsourced services)	[C-I-C]% on top of any outsourced service cost**	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Powercor (CHED for outsourced services)	[C-I-C]% on top of any outsourced service cost**	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Citipower (CHED for project management)	[C-I-C]% margin on AMI project management cost	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Powercor (CHED for project management)	[C-I-C]% margin on AMI project management cost	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Citipower (CHED for corporate services)***	2008 base year cost inclusive of margins and escalated by Inflation (based on 2010 regulatory account figure)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Powercor (CHED for corporate services)***	2008 base year cost inclusive of margins and escalated by Inflation	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

	(based on 2010 regulatory account figure)					
Citipower (CHED total margin)		[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Powercor (CHED total margin)		[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Source: Citipower, Citipower 2008-2010 Services Agreement; Citipower, Citipower 2008-2013 Metering and Field Services Agreement, pp7; Powercor, Powercor 2008-2010 Services Agreement, Powercor, Powercor 2008-2013 Metering and Field Services Agreement, pp7; UED, Services Agreement UED Network, July 2003; pp.48; Jemena Electricity Network, AIMRO service requirements, pp41; UED, Amendment and Restatement of AIMRO Service Requirements, pp41
*Includes meter purchase, software, cost modelling, project management, IT integration and assessment management
** Based solely on opex due to requirement to reflect services not capital purchases therefore may underestimate any capitalised service costs.
*** Corporate Services contract has been adjusted to remove customer services cost (ie meter data management) and IT support services.
All dollar values are the result of AER analysis of 2012-15 AMI budget and charges applications and the Victorian DNSPs 2010 regulatory accounts

The AER has received submissions from the Victorian DNSPs on margin benchmarking studies. The results of these studies and previous work by the AER on this issue are summarised in the table below. In performing its analysis of the DNSPs' forecast related party margins the AER has also had regard to these studies and previous work undertaken by the AER.

D.1.2.2 DNSP proposed margins

Report	Proposed Margin	Proposed Benchmark	Comments from consultant
Ferrier Hodgson (for UED)	[C-I-C]% margin on project costs excluding corporate overheads	95% confidence interval range of 4.96% to 7.32% 95% confidence interval mean of 6.14% 95% confidence interval range of 5.24% to 7.34% for International comparison 95% confidence interval mean of 6.29% for international comparison	Margin benchmark based on range of businesses providing comparable services. Used EBIT margin for comparable companies in a two tailed 95 per cent confidence interval No directly comparable company in the market providing exactly the same services as JAM. Representative of broad categories of services supplied by JAM Domestic comparison companies considered had turnover between $50 million and $2.5 billion. International comparison companies considered had turnover between $200 million and $1 billion (AUD). Minimal capital required from JAM for provision of AIMRO Services. Such costs incorporated as incremental costs under contract. Maximum capital intensity ratio of 3 per cent based on 0.89 per cent 2004-2006 average ratio These EBIT data were collected for the three years to 2007 or the three years to 2006 as financial information was available. Risk profile of sample may possibly be higher than for UED and JAM for AIMRO due to cost pass through. Management of cost base can lead to higher or lower EBIT margin. Management and reputational risk held by JAM as margin is ‘before risk’ while EBIT margins are ‘after

			risk'. Similarly margin does not account for overheads which benchmark sample would account for.
NERA Economic Consulting (for JEN)	[C-I-C]% margin on project costs excluding corporate overheads	Over the period 2002-2009 the mean EBIT margin was 5.7 per cent. The range of the 95 per cent confidence interval of the 2002-2009 sample was 4.8 per cent to 6.6 per cent. Over the period 2005-2009 the mean EBIT margin was 6.4 per cent. The range of the 95 per cent confidence interval of the sample was 5.4 per cent to 7.4 per cent.	Benchmarking of 25 contractors providing comparable services to those procured by Envestra under its OMA. Based on a study of comparable infrastructure contractors and reflect a range of costs and risks not captured in direct costs including: - the return on and return of capital required for the use of physical and intangible assets employed in the provision of services. - the allowance required for contractor to recover a share of its common costs. - allowance required by contractor to self insure against asymmetric risks arising under the contract. - to align the interests of the contractor with those of the asset owner. NERA controlled the sample for capital intensity to ensure accurate comparison.
Citipower/ Powercor (CHED for outsourced services)	[C-I-C]% on top of any outsourced service cost		
Citipower/ Powercor (CHED for project management)	[C-I-C]% margin on AMI project management cost	Ernest and Young state customer services excluding metering should have a margin of 10.82% with a range of 4.32% to 19.23% For Business improvement it reported a margin of 11.59% with a range of 5.06% to 19.23% For Ancillary services it was 9.85 per cent with a range	KPMG have based its corporate services costs on established salary benchmarks and aggregated the total for different business units such as corporate, customer services, human resources and finance. In addition, Ernest and Young produced a report analysing transfer prices for customer services

		of 4.32% to 14.26%.	(excluding metering).
		Ernest and Young state finance (including office administration) should have a margin of 10.46% with a range of 0.61% to 23.27%	The report was produced in November 2006 using data from the period 2001 to 2005.
		For human resources, training development and corporate affairs it reported a margin of 3.76% with a range of 1.40% to 8.85%	
		For Company secretary, legal, regulation, business development and CEO it was 15.12 per cent with a range of 0.61% to 34.51%.	
		In addition Ernest and Young suggested a comparable ABS data for Business service gave the result 7.72% in 2001-02 to 2002-03	
		Using a weighted average approach of ATO statistics Ernest and Young produced a margin of 5.22%-14.82% using 1995-96 to 2003-04 data	
		ATO ruling TR1999/1 suggested a margin of 7.5% (on a range of 5% to 10%)	
Citipower/ Powercor (CHED for corporate services)	2008 base year cost plus margin plus inflation	Based on 2010 regulatory accounts the margin for corporate service for Citipower is [C-I-C] per cent and Powercor is [C-I-C] per cent	In the Service Agreement for Citipower and Powercor the AER notes that the corporate services cost (including a margin) is stated in the contract and increase over time by the inflation rate. The cost of corporate services are then shared between business units on the basis of Citipower and Powercor's Cost Allocation Methodologies.

Source: Ferrier Hodgson, Expert's report in respect of UED Pty Ltd: Advanced Interval Metering Price Review, 12 June 2008; NERA Economic Consulting, Benchmark Study of Contractor Profit Margins: Envestra, September 2010; KPMG, Powercor Australia Ltd: Supplement to report on Powercor Australia's service model, July 2010; Ernst & Young, CitiPower Pty and Powercor Australia Limited: Analysis of Transfer Prices for Customer Services (excluding Metering), 20 November 2006; Ernst & Young, CitiPower Pty and Powercor Australia Limited: Analysis of Transfer Prices for Corporate Services, 20 November 2006.

D.1.2.3 AER analysis of margins

Report	Proposed Margin	Proposed Benchmark	Comments from consultant
Impaq Consulting (for the AER)		Profit margins from 3% to 8% were common in similar industries	For the 2011-15 Victorian distribution determination Impaq consulting considers profit margins from 3% to 8% were common in similar industries. Impaq Consulting considered that as the alternate control services was a low capital intensive industry and risk in the industry was also low that the profit margin should be at the low end of the scale.
AER		3% margin based on efficiency savings on top of overhead costs	The AER in the 2011-15 Victorian distribution determination considered a margin of 3% for alternative control services to be appropriate to incentivise DNSPs for historical efficiencies. The AER considered ABS data which showed historical Multi-Factor Productivity (MFP) for the period. The AER notes the Productivity Commission is still undertaking research into the fall in MFP in the electricity gas and water sector.

Source: Impaq Consulting, Australian Energy Regulator: Victorian Distribution Determination 2011-15 – Addendum to review of DNSPs proposed rates in ACS charges: Revision 1.3, 26 October 2010, pp8; AER, Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, pp 910-913

The AER has reviewed the submission provided by JEN, including the NERA Economic Consulting benchmarking report which justifies margins on certain economic grounds.[146][147]

The AER has also had regard to the previous work by the AER in its 2011-15 Victorian Distribution Determination which is relevant to the extent that the economic reasons for including a margin which are applicable now, would also have been applicable at the time that the DNSPs entered into contracts for AMI-related services.

In reviewing this material, the AER considers that the commercial standard would encompass the following principles:

- a margin should not permit double counting meaning that where a DNSP recovers costs through revenue provided for standard control or alternate control services these costs should not again be recovered through revised Order.

- a margin should compensate the contractor for the following to the extent that each or any of these factors would have been applicable to the particular circumstances of the DNSP:

    - the asymmetric risk faced by the contractor that are not already borne by the DNSP

    - the return of and return on capital used by the contractor to provide the outsourced regulated service not already included in the DNSPs RAB

    - any efficiencies historically gained by the contractor and shared with the DNSP over the initial AMI period

    - any corporate and indirect costs that need to be passed on from the contractor to the DNSP.

The AER has considered each of these economic factors below.

D.1.3 Any asymmetric risk faced by the contractor that are not already borne by the DNSP

The AER considers that the commercial standard would reflect a DNSP's regulatory obligations under the revised Order and the particular legislative framework of the revised Order namely that it is a cost pass through arrangement. In particular, as long as the regulatory tests of scope and prudence for expenditure are met by the DNSP

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[146] NERA Economic Consulting, Benchmark Study of Contractor Profit Margins: Envestra, September 2010, pp4

[147] NERA Economic Consulting referenced the need to provide margins for:
- the return on and of physical and intangible assets emoyed by the contractor in the provision of the service
- the allowance required by a contractor to enable it to recover a share of its common costs
- the allowance required to self insure against any asymmetric risks arising under the contract; and
- the margin paid to ensure the incentives of the contractor are aligned with those of the asset owner.

under the revised Order, the risk borne by a DNSP is negligible. This is because all costs will be passed through to the consumer for the AMI roll-out along with all the risks associated with the project. The AER notes the following risk mitigation provisions within the revised Order:

- DSNPs are allowed to pass through all costs within scope and considered to be prudent based on the AER's assessment of the DNSPs budget proposal
- DNSPs are allowed to claim costs of up to 110 per cent (and 120% for the 2009-11 period) of the costs approved in the AER's AMI budget and charges determination [148]
- DNSPs are allowed to make revised budget submissions should their costs exceed 110 per cent threshold for the 2012-2015 period[149]
- the activities considered to be in scope of the revised Order are wide ranging[150]
- if all contracts are competitively tendered then all costs in scope would be passed through.[151]

As such, the related party does not bear any relevant risk that would attract a premium on the services that it provides to the DNSPs; the related party would not accumulate any additional risk in the delivery of the AMI roll-out.

Therefore, the AER considers that the commercial standard would reflect that the risk faced by the DNSP and by extension the contractor is negligible as all costs and risks will be passed through to consumers.

D.1.4 The return of and return on capital used by the contractor to provide the outsourced regulated service not already included in the DNSPs RAB

The AER considers that the commercial standard would reflect that capital investments made by contractors to provide AMI services be compensated through appropriate return of and return on capital.

However, the AER has assessed that all assets used in the AMI roll-out either are or will be included in the DNSPs' RABs. The AER is currently unaware of any other capital assets used in the AMI roll-out that would require a return of and return on capital.

If the DNSPs can substantiate the existence of assets that are not already compensated for by the DNSPs' RABs for metering and standard control services the AER will consider this information. Otherwise, for the purposes of this draft determination, the commercial standard reflects that there is no need for compensation through return of and return on capital.

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148 Revised Order clause 5I.2(a)(iii)
149 Revised Order clause 5F
150 Revised Order Schedule 2
151 Revised Order clause 5C.3

D.1.5 Any efficiencies historically gained by the contractor and shared with the DNSP over the initial AMI period.

Under the revised Order the DNSP must pass through all costs associated with the AMI roll-out to consumers. This includes any historical efficiencies that may have been made by the contractor in the AMI roll-out.

The AER considers that the commercial standard would recognise such historical efficiencies and consequently the margin on the AMI roll-out would embed a benefit sharing mechanism to reward past efficiencies for the period 2009-11. The AER's framework and approach paper specifically stated that such benefit sharing mechanisms would be appropriate.

The AER notes that the efficiency benefit sharing scheme (EBSS) rewards opex efficiencies gained on standard control services for a six year period. [152] The AER considers that in similarly rewarding past efficiencies for the AMI roll-out, it is appropriate to apply an efficiency sharing mechanism based on historical Australian Bureau of Statistics (ABS) multi-factor productivity (MFP) of 1.0 per cent for the 1985-86 to 2008-09 period.[153]

The AER, in recognition that the Victorian businesses are more efficient than DNSPs in other states, in the Victorian Distribution Determination allowed a margin based on a 1 per cent productivity rate per year. The AER considers that a DNSP or its related party would achieve similar efficiencies in the provision of services in the EGW sector. Therefore, using an approach adapted from the EBSS and its recognition of efficiency benefits arising from productivity, the AER calculated the margin on the basis of productivity gained over the three year AMI roll-out period 2009 to 2011. These rewards, when shared over the period the 2012-15 budget period, would result in a margin of 3.0 per cent.[154]

The AER considers that a margin of 3 per cent would be required to compensate a contractor operating in the EGW for the efficiencies it has gained in three years of operation of the AMI roll-out and accordingly should be factored into the commercial standard.

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[152] In the 2011-15Victorian distribution determination, alternate control services are not subject to an EBSS. The AMI roll-out is similarly not subject to an EBSS. The AER considers it appropriate to apply the same calculation of efficiency benefits (discussed in a following footnote) from productivity in the electricity, gas and water sector to related party margins for AMI services.

[153] The ABS measures and reports MFP in the market sector industries, which it defines as part the part of output growth that cannot be attributed to the growth of labour or capital inputs. Electricity, gas and Water (EGW) is one market sector measured by the ABS. In January 2010, the ABS released a data set title *Experimental estimates of industry multifactor productivity*, which included some estimated data on MFP for the period 1985-86 to 2008-09. Gross value added MFP is estimated at 1 per cent per annum over the period 1985-86 to 2008-09.

[154] The AER has assumed an incremental productivity gain of 1 per cent per annum over 2009–11, where each year's productivity gain is retained for five years, as per the EBSS. Under the EBSS this would result in a reward of 3 per cent in 2012 to 2014, declining to 2 per cent in 2015 and 1 per cent in 2016. For simplicity in calculating the margin above overheads, the AER has averaged these notional benefits for the period 2012 to 2016 over the 2012-2015 period, resulting in 3.0 per cent per annum margin.

D.1.6 Any corporate and indirect costs that need to be passed on from the contractor to the DNSP.

The AER considers that the commercial standard should take into account the necessity of compensating for corporate and indirect costs of the DNSP. These are legitimate costs faced by the contractor in the delivery of regulated service that need to be compensated.

D.1.7 Applicable commercial standard

For the reasons outlined above the AER considers that the commercial standard applicable to a related party margin in a AMI-related contract would have factored in:

- the historical efficiency of the contractor
- the corporate and indirect costs of the contractor.

The commercial standard may also have taken into account a return of and return on capital not already included in the DNSP's RABs. However the AER is unaware of any assets not already included in the DNSPs' RABs that require compensation and therefore the AER considers that the commercial standard to be applied to AMI roll-out services undertaken by a related party would reflect this.

The AER considers that the commercial standard would also reflect the absence of asymmetric risk as no such risk is passed to the contractor; under the cost pass through arrangements all such risk will be passed to consumers.

The AER has considered the information available to it regarding margins for related parties. This information has been summarised in the table below.

D.1.7.1 Summary of proposed margin ranges

Report	Proposed benchmark margin range
Ferrier Hodgson (for UED)	95% confidence interval range of 4.96% to 7.32%
	The margin range for the entire sample is 1.6% to 11.9%
	95% confidence interval range of 5.24% to 7.34% for International comparison
	The margin range for the entire international sample is 2.9% to 10.4%
NERA Economic Consulting (for JEN)	The range of the 95 per cent confidence interval of the 2002-2009 sample was 4.8 per cent to 6.6 per cent.
	The margin for the entire sample for 2002-2009 is -2.9 per cent to 15.9 per cent
	The range of the 95 per cent confidence interval of the 2005-2009 sample was 5.4 per cent to 7.4 per cent.
	The margin for the entire sample for 2005-2009 is -4.1 per cent to 15.9 per cent
Ernest and Young (for Citipower/ Powercor)	Ernest and Young state customer services excluding metering should have a margin within a range of 4.32% to 19.23%
	For Business improvement it reported a margin within a range of 5.06% to 19.23%
	For Ancillary services should have a margin within a range of 4.32% to 14.26%.
	Ernest and Young state finance (including office administration) should have a margin within a range of 0.61% to 23.27%
	For human resources, training development and corporate affairs it reported a margin of 3.76% with a range of 1.40% to 8.85%
	For Company secretary, legal, regulation, business development and CEO within a range of 0.61% to 34.51%.
	Using a weighted average approach of ATO statistics Ernest and Young produced a margin range of 5.22%-14.82% using 1995-96 to 2003-04 data
	ATO ruling TR1999/1 suggested a margin within a range of 5% to 10%)
KPMG (for Citipower/ PowerCor)	KPMG have reported on Citipower/Powercor's Powercor Australia's service model which produces a bottom up build of labour costs based on various benchmark salary sources. This model has produced a margin of 11.5 per cent.
Impaq Consulting (for the AER)	Reported that margins of 3 per cent to 8 per cent were common for similar industries.
AER	3.0% margin based on MFP of 1 per cent a year for 3 years with the benefit being retained by the DNSP for 5 years.

Source: Ferrier Hodgson, Expert's report in respect of UED Pty Ltd: Advanced Interval Metering Price Review, 12 June 2008; NERA Economic Consulting, Benchmark Study of Contractor Profit Margins: Envestra, September 2010; KPMG, Powercor Australia Ltd: Supplement to report on Powercor Australia's service model, July 2010; Ernst & Young, CitiPower Pty and Powercor

Australia Limited: Analysis of Transfer Prices for Customer Services (excluding Metering), 20 November 2006; Ernst & Young, CitiPower Pty and Powercor Australia Limited: Analysis of Transfer Prices for Corporate Services, 20 November 2006; Impaq Consulting, Australian Energy Regulator: Victorian Distribution Determination 2011 – Addendum to review of DNSPs proposed rates in ACS charges: Revision 1.3, 26 October 2010, pp8; AER, Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, pp 910-913.

D.1.7.2 Margin for United Energy Distribution and Jemena Electricity Networks

The AER notes that the application of the [C-I-C] per cent margin by JAM is on all project costs and represents JAM's management fee. The AER has considered whether, consistent with the commercial standard as outlined above, this margin does not permit double recovery and reflects JAM's historical efficiency and corporate and indirect costs, and if not, whether it is a substantial departure from the commercial standard.

The AER accepts the JAM margin is recovered only once and therefore meets the requirement to not double recover costs under the commercial standard.

As to compensation for JAM's historical efficiency, the AER notes that this results in a margin of 3 per cent based on the AER's analysis of historic MFP in the EGW sector. As the commercial standard must also reflect costs for corporate services, the AER considers that the value would have been greater than 3.0 per cent. However the AER has been unable to calculate the appropriate margin to reward a contractor for its corporate overheads. Therefore the AER has considered the benchmarking studies presented by the DNSPs.

The AER considers that the Ferrier Hodgson report and the NERA Economic Consulting report represent the most relevant reports for the JAM contract. The AER considers that the Ferrier Hodgson report was the most relevant to informing the DNSP's decision making concerning margins before the AMI roll-out began and when contracts were entered into.. The AER considers that the DNSPs' estimates of the likely margins that informed the JAM [C-I-C] per cent margin ranged between 4.96 per cent and 7.32 per cent for the period.

The AER notes that the margins included in the Ferrier Hodgson report are for businesses operating in similar sectors. Therefore the AER assumes these margins would include compensation for the four economic reasons the AER has identified as legitimate economic reasons for inclusion of a margin, regarding asymmetric risk, return of and return on capital, historical efficiencies and corporate overheads. The AER notes its earlier conclusion that a margin should only be allowed in the JAM contract for historical efficiencies and corporate overheads.

The AER considers, when the contract essentially covers the operation of the entire network, comparative cost benchmarking may be more valid. This is the case in the JAM contract. That said, the AER noted that while it has had regard to overall comparative cost benchmarking, it has not previously placed significant weight on this type of benchmarking given the difficulties in comparing different service providers (for example due to differences in network characteristics or capitalisation policies). The AER considers that the benchmarking report presented by JEN and UED are especially flawed in the case of AMI as they do not account for the low level

of risk associated with the project. The AER considers that the benchmarking of margins associated with public private partnerships where consumers also bear all of the costs and risks may be a more appropriate indication of relevant margins.

The AER was unable to locate any benchmarking studies of margins in public private partnerships that would have similar risk profiles to the AMI roll-out under the revised Order. Therefore despite the flaws that exist in the Ferrier Hodgson report the AER has adopted this report to inform the margin required for corporate overheads and historical efficiency.

In assessing the quantum for a contractor's corporate overheads and efficiency only (and thus excluding compensation for other factors), the AER considers that the lower bound of 4.96 per cent of the Ferrier Hodgson report is appropriate for informing the margin.

The AER therefore considers that the commercial standard would be in the range of 3 per cent (the AER's efficiency margin based on productivity) to 4.96 per cent (the lower bound of the Ferrier Hodgson). The AER considers that by taking the mid-point of this range, that is a 4 per cent margin, the related party JAM would be compensated at the level consistent with the commercial standard.

In assessing whether the related party margin for JAM meets the commercial standard test, the AER has had regard to the multiplicative affect of the margin on the total project costs of UED and JEN. The result of applying JAM's [C-I-C] per cent margin can be seen in table D.1.1.1. As a result of this effect, the AER considers that the margin proposed by UED and JEN of [C-I-C] per cent is a substantial departure from the margin of 4 per cent which reflects the commercial standard that a reasonable business would have exercised in the circumstances. Accordingly, the AER considers that a margin of 4 per cent should be applied to JAMs contract costs.

D.1.7.3 Margin for Citipower and Powercor

The AER notes that Citipower/Powercor in the application of their related party contracts adopted a different approach to UED and JEN in that Citipower/Powercor did not apply one margin across all project costs that represents management fees alone. The AER notes that Citipower/Powercor has three margins being applied under two different contracts. They are:

- the CHED services agreement (for corporate services) which provides Citipower/Powercor outsourced corporate services which includes an aggregate margin of [C-I-C] per cent for Powercor and [C-I-C] per cent for Citipower (derived from the application of the Ernest & Young benchmarking studies to the various services provided in the CHED services agreement as summarised in table D.1.1.4).

- the CHED Metering and Field Services agreement (for the AMI roll-out) which includes a margin of [C-I-C] per cent on project management costs and an AMI contract management service margin of [C-I-C] per cent.

The AER has considered whether, consistent with the commercial standard as outlined above, this margin does not permit double recovery and reflects CHED's

historical efficiency and corporate and indirect costs, and if not whether it is a substantial departure from the commercial standard.

The AER notes that the CHED services agreement (incorporating aggregate margins of [C-I-C] per cent and [C-I-C] per cent respectively for Citipower and Powercor) covers the provision of corporate services to Citipower/Powercor for all services including standard control, alternate control, metering and negotiated services. The AER therefore considers that this contract will provide for the corporate overheads of the contract as a defined service provided to Citipower/Powercor. The AER notes that these costs are recovered from metering (along with standard control and alternative control services) under the cost allocation methodology (CAM) used to assign costs in the regulatory accounts.

The AER notes a separate Metering and Field Services contract applies to the AMI roll-out which potentially includes a margin for corporate overheads and efficiency. The AER considers that allowing a separate margin for corporate overheads under the Metering and Field Services contract would double recover the corporate overhead charged to Citipower/Powercor for metering services already recovered under the CHED services agreement. The AER considers that this would permit double recovery of corporate overheads, contrary to the commercial standard.

As all corporate overheads will be recovered under the CHED services agreements for providing Citipower/Powercor corporate services, the AER considers that the margin for CHED's services to Citipower/Powercor under the Metering and Field Services contract would solely be for the provision of efficiencies provided by outsourcing, that is 3 per cent as set out above.

In addition Citipower's/Powercor's proposed margin of [C-I-C] per cent for external contracts under the Metering and Field Services contracts do not represent a substantial departure greater than the commercial standard and therefore meets the commercial standard that a reasonable business would exercise in the circumstances.

Citipower's proposed aggregate margin of [C-I-C] per cent and Powercor's proposed aggregate margin of [C-I-C] per cent under the CHED service agreements represents a substantial departure from the commercial standard. In performing its assessment the AER notes that these aggregate margins are composed of the Ernest and Young margins, summarised in table D.1.1.4, applied to the different service provided under the CHED services agreements.

The AER notes that while this contract applies to all Citipower/Powercor corporate services the AER may only consider under the revised Order those costs attributable to the AMI roll-out under the commercial standard. The AER considers that the provision of corporate services by CHED to Citipower/Powercor under their respective contracts would allow CHED (to recover all of its associated corporate costs for providing all services including AMI). Therefore allowing a margin for corporate overheads of CHED would lead to double cost recovery.

The AER considers that the only margin to apply to CHED for corporate services is for efficiency. As Citipower/Powercor as DNSP are part of the EGW sector the AER considers that it is appropriate to apply the efficiency margin of 3 per cent to

Citipower/Powercor respective CHED services agreements. The AER considers a margin of 3 per cent meets the commercial standard.

D.1.8 Margin for SP AusNet

The AER notes that SP AusNet has stated that no margin exists in its proposed SPIMS contract.[155] The AER further notes this is consistent with its finding in the 2011-15 Victorian distribution determination.[156]

As SP AusNet's margin is 0, no issue arises with respect to the commercial standard test.

D.1.9 Decision

D.1.10 United Energy Distribution and Jemena Electricity Networks

The AER considers that the commercial standard would have disallowed double recovery and permitted the incorporation of a margin to address JAM's historical efficiency and corporate and indirect costs. Applying this commercial standard, a prudent outcome consistent with the commercial standard test would have been the application of a margin of 4 per cent for UED and JEN's JAM contracts.

The AER therefore concluded that the JEN's and UED's proposed margin of [C-I-C] per cent was a substantial departure from the commercial standard.

The AER considers JEN and UED should each receive a margin of 4 per cent in their budgets for the JAM contracts which is consistent with the commercial standard that a reasonable business would exercise in the circumstances.

The AER therefore applied the margin of 4 per cent to total budgeted AMI costs.

D.1.11 Citipower and Powercor

The AER considers that the commercial standard would have disallowed double recovery and permitted the incorporation of a margin to address CHED's historical efficiency and corporate and indirect costs. Applying this commercial standard, a prudent outcome consistent with the commercial standard test would have been the application of a margin of 3 per cent for Citipower's and Powercor's corporate services contract with CHED and its Metering and Field contract with CHED excluding for external contracts. Citipower's proposed aggregate margin of [C-I-C] per cent and Powercor's [C-I-C] per cent under their respective CHED services agreements and the margin of [C-I-C] per cent under the Metering and Field Service contract substantially departed from this commercial standard and therefore did not meet the commercial standard test.

The AER considers Citipower and Powercor should receive a margin of 3 per cent in its budget for the CHED contract which is consistent with the commercial standard that a reasonable business would exercise in the circumstances.

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[155] SP AusNet, SPI Electricity Pty Ltd: Advanced Metering Infrastructure: AMI subsequent Budget and Charges Application, February 2011, pp51

[156] AER, AER, Final Determination: Victorian Advanced Metering Infrastructure Review: 2009–11 AMI Budget and Charges Applications, October 2009, pp265

The AER considers that the Citipower/Powercor proposed margin of [C-I-C] per cent (for external contracts under the Metering and Field Service contract) is not substantially greater than the commercial standard. Therefore the AER approves this margin which is consistent with the commercial standard that a business would exercise in the circumstances.

The AER applied a 3 per cent margin to project management costs consistent with the approach adopted by Citipower/Powercor. The one per cent cost was applied to identifiable contract costs in the AMI budget template. The AER applied a 3 per cent margin to the corporate and executive services costs as representative of the CHED services contract.

D.1.12 SP AusNet

SP AusNet is not subject to any margins under its SPIMS contract.

D.2 Exchange Rate

The Victorian DNSPs' forecasts of metering costs included several assumptions to convert USD to AUD as their meter purchases are conducted in USD. The exchange rates used by the DNSPs are as follows:

- CitiPower and Powercor: [C-I-C] AUD/USD[157]
- JEN and UED: [C-I-C] AUD/USD[158]
- SP AusNet: [C-I-C] AUD/USD. [159]

The AER considers that the commercial standard would reflect the current foreign exchange rate, specifically:

- the recent appreciation in the Australian dollar[160]
- any hedge rates that are currently available in the money market.

The AER considers that the DNSPS foreign exchange rates are a substantial departure from the commercial standard as they do not reflect the recent appreciation in the Australian dollar and the hedge rates that are currently available in the money market.

The AER has therefore adjusted the DNSPs' forecasts by using a 1 month historical swap rate from Bloomberg at 1.04 AUD to USD. [161]

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157 CitiPower and Powercor's contract cost model, April. 2011
158 Jemena and United financial model, June 2011.
159 SP AusNet, Email re: Foreign exchange rate forecast, 11 July 2011.
160 The 1 month average for AUD to USD foreign exchange rate was 1.05 for the month of May 2011.
161 Based on a 1 month average swap rate at 28 June 2011 and maturing at 30 November 2011.

D.3 SP AusNet

Section B of this determination indentifies SP AusNet's contracts that the AER considers were not let in accordance with a competitive tendering process.

The AER has applied the commercial standard test to the following items that were not let in accordance with a competitive tendering process and concluded, on the basis of its own analysis of information provided by SP AusNet and where appropriate advice provided from Impaq,[162] that they meet the commercial standard test:

- IT capex
- Meter reading opex
- AMIPO and AMI ISC opex
- Audit and quality assurance opex
- AMI budget and charges applications opex
- Extra accommodation cost opex
- Customer service opex
- Management fees and overheads opex.

With respect to other expenditure items, the AER's assessment of whether they meet the commercial standard test is set out below (except for meter volume capex, communications capex and equity raising opex and which are assessed in other sections of this draft determination).The assessment below takes into account further substantiation of forecast expenditure where provided by SP AusNet in response to the AER's requests under clause 5.6 of the revised Order for more information regarding the following expenditure items:

- Meter supply capex
- IT opex
- Meter data management opex
- Meter maintenance opex
- Communications infrastructure maintenance opex
- Project management opex.

[162] The AER notes that SP AusNet's meter installation capital expenditure was assessed by Impaq as not being commercially prudent. The AER has assessed SP AusNet's meter installation capital expenditure contracts and has concluded that the expenditure is in scope and was the subject of a competitive tendering process and is therefore not subject to the commercial standard test under the revised Order.

The AER notes that with respect to some of these items, SP AusNet did not provide the information requested by the AER and therefore the AER made its assessment based on the available information before it.

D.3.1 Meter supply capital costs

SP AusNet's forecast meter supply capital costs for 2012-15 are set out in the table below.[163]

Table D.1 SP AusNet forecast meter supply capex

($,000 real 2011)	2012	2013	2014	2015	Total
Meters Contracted	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Other (3G 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]

The AER established in its final determination on SP AusNet's Advanced Metering Infrastructure Revised Budget Application 2009-11 (SP AusNet RBA Final Determination) that SP AusNet's proposed expenditure variances to its Approved Budget for metering capex unit costs associated with:

- AMI meters for single phase single element and single phase two element customers; and
- communications modules for single phase single element and single phase two element customers

were not let in accordance with a competitive tendering process and did not meet the commercial standard test.[164]

SP AusNet's forecast meter and communications unit capital costs for 2012-15 are based on the same revised unit costs forecast by SP AusNet in its AMI Revised Budget Application 2009-11 and the same contracts and procurement processes. Therefore, the AER's approach to the assessment of these costs for 2012-15 is to apply the commercial standard test to the forecast costs as it was applied in the SP AusNet RBA Final Determination and having regard to the issues it considered in that determination. The AER's conclusion for 2009-11 is set out in section 2.3.12 of the SP AusNet RBA Final Determination.[165]

By way of summary, the AER concluded in its SP AusNet RBA Final Determination that SP AusNet's proposed expenditure variances to its Approved Budget per meter exceeded the average of that expended by the other Victorian DNSPs, by greater than

[163] SP AusNet AMI Subsequent Budget & Charges Application - SP AusNet Budget template.
[164] AER, Final determination, SP AusNet Advanced Metering Infrastructure Revised Budget Application 2009-11.
[165] AER, Final determination, SP AusNet Advanced Metering Infrastructure Revised Budget Application 2009-11, pp. 27-29.

50 per cent for single phase single element meters, by greater than 30 per cent for single phase two element with contactor meters, and by greater than 100 per cent for communication modules.[166]

The AER maintains its view that such large differences are commercially significant and involve a substantial departure from the commercial standard that a reasonable business in the circumstances would exercise. For the 2012-15 period, the AER and Impaq have identified similar large differences between the meter unit costs[167] forecast by SP AusNet and the meter unit costs forecast by the other Victorian DNSPs. Impaq has noted that:[168]

> These meter prices are much higher than those of other DNSPs. For example the unit prices for Powercor are shown in Table 135. At a US$ to AUD$ exchange rate of around parity the Powercor prices for single phase meters are about half the SP AusNet prices.

The AER notes that in its SP AusNet RBA Final Determination, it determined to use the units costs it had previously approved for SP AusNet's 2009-11 AMI budget in place of the variances SP AusNet requested in its AMI Revised Budget Application 2009-11. For this draft determination, which maintains that the large differences between the meter unit costs forecast by SP AusNet and the costs forecast by the other Victorian DNSPs involve a substantial departure from the commercial standard that a reasonable business in the circumstances would exercise, the AER considers that the meter unit costs of Powercor are more representative of a commercial standard than the meter units costs the AER previously approved for SP AusNet's 2009-11 AMI budget. This is because Powercor's procurement of meters has been competitively tendered and therefore the cost of Powercor's meters is considered to be prudent under the revised Order. In contrast, the meter units costs the AER previously approved for SP AusNet's 2009-11 AMI budget were based on estimates proposed by SP AusNet which were not subject to a competitive tender. Also, the AER considers Powercor to be reasonable benchmark against which to assess SP AusNet's costs given that Powercor has a similar number of customers to SP AusNet and also provides services across an urban and rural network. For these reasons, the AER has accepted Impaq's approach of using Powercor's meter unit costs for its assessment of SP AusNet's meter unit costs and considers that Impaq's assessment meets the commercial standard test.

Impaq has also assessed SP AusNet's forecast cost for 3G meters noting that:[169]

> SP AusNet has stated that these prices are "best estimates based on quotes". It does appear peculiar that the costs for all the meter types are the same. For example it would be expected that the cost of a multiphase CT connected meter would be much more than for a single phase single element meter.

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166 AER, Final determination, SP AusNet Advanced Metering Infrastructure Revised Budget Application 2009-11, p.29.

167 Meter unit cost is the unit cost of an AMI meter (including AMI communications and ZigBee HAN communications) which meets the requirements of the AMI Minimum Functionality Specification (Victoria) – Release 1.1 - 2008.

168 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p. 118.

169 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p. 122.

Given the apparent anomalies in SP AusNet's forecast cost for 3G meters, Impaq provided analysis to the AER of its own assessment of the cost of 3G meters through a bottom up cost build based on market prices and current information provided by meter vendors on the costs of meters and the additional components required for 3G functionality. The AER notes that SP AusNet's 'best estimates' of the cost of 3G meters are substantially higher than the cost build up assessed by Impaq, which is based on market prices and current information provided by meter vendors. The AER notes that SP AusNet's forecast cost for 3G meters has not been subject to a competitive tender. For these reasons, the AER has accepted Impaq's assessment of 3G meter unit costs and considers that this assessment meets the commercial standard test.

The AER requested Impaq to calculate SP AusNet's meter unit capital costs for 2012-15 taking into account the adjustment to meter volumes (and costs for meter re-verification) discussed in the scope section of this draft determination and the adjustment to meter unit capital costs (including costs for antennas) it had assessed. Applying the meter volumes as adjusted in the scope section of this draft determination and the unit costs assessed by Impaq and accepted by the AER as meeting the commercial standard, the AER has approved the 2012-15 meter and communications unit capex for SP AusNet set out in the table below.

Table D.2 AER decision on SP AusNet meter supply capex

($,000 real 2011)	2012	2013	2014	2015	Total
	65,169	10,753	1,934	1,899	79,756

D.3.2 Information technology operational costs

SP AusNet's forecast of IT operational costs for 2012-15 is set out in the table below.[170]

Table D.3 SP AusNet forecast of IT Opex

($,000 – real 2011)	2012	2013	2014	2015	Total
Network Management	[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]
IT Infrastructure (incl middleware, B2B and B2M)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total	14,745	13,035	13,519	13,552	54,851

In assessing whether SP AusNet's forecast of IT operational costs for 2012-15 meet the commercial standard test, the AER has considered the:

- IT operational costs forecast by the other Victorian DNSPs for the AMI program

[170] SP AusNet AMI Subsequent Budget & Charges Application - SP AusNet Budget template.

- activities included in SP AusNet's IT opex
- the quantum of IT costs forecast by SP AusNet.

In reviewing the IT opex forecast by the other Victorian DNSPs for the AMI program, the AER assessed that SP AusNet's forecast of IT opex is substantially greater than all other DNSPs. In particular, the AER considered the IT costs forecast by Powercor as a comparator for SP AusNet, given that Powercor has a similar number of customers to SP AusNet and also provides services across an urban and rural network. SP AusNet's forecast IT opex was found to be substantially higher than Powercor's forecast IT opex. SP AusNet's budget application provided no detailed information about the activities included in its IT opex.

In responding to a request by the AER to explain its IT opex costs, SP AusNet advised that its IT opex is required for software support costs associated with running its communications network as a whole, is 5.6% of total capex to support and is reasonable given the scale of the project.[171]

In response, the AER advised SP AusNet that its opex for IT is about 14% of its IT capital spend over 2009-15 and that it is substantially greater than the costs forecast by the other Victorian DSNPs. The AER requested that SP AusNet provide evidence to substantiate its forecasts including any relevant factual material, assumptions or modelling used to develop the forecasts.[172] SP AusNet later confirmed that its annual IT opex for 2012-15 is about 14% of its IT capital spend over 2009-15 but did not provide any evidence to substantiate its forecasts or any details about the activities included in its IT opex.[173]

The AER also considered advice from Impaq which assessed the AMI program IT opex costs of all Victorian DNSPs. Impaq concluded that:

> SP AusNet's proposed IT Opex is much higher than for any of the other DNSPs. The Network Management System costs are multiples of that for other DNSPs. In the absence of detailed information from SP AusNet, Impaq is not able to evaluate the prudency of SpAusNet's IT Opex proposal. Instead Impaq considers that the nearest benchmark is that of Powercor. Powercor like SpAusNet is a DNSP 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 SpAusNet. Impaq's assessment is therefore derived from comparison with that of Powercor … .[174]

The AER accepts Impaq's analysis as being consistent with the AER's own analysis.

Having considered all of the available information, the AER has concluded that SP AusNet's forecast of IT opex for 2012-15 does not meet the commercial standard test. This is because SP AusNet has not provided any evidence to substantiate its cost

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171 SP AusNet response to AER questions of 11 April 2011.
172 AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.
173 SP AusNet response to AER questions of 15 June 2011.
174 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p.145.

forecast or detailed information about the activities included in its IT opex, and the forecast is considerably in excess of all other DNSPs' forecast IT opex, including that of Powercor which is a reasonable benchmark against which to assess SP AusNet's costs.

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 forecasts of IT opex for 2012-2015 which the AER considers reflect the commercial standard.

Table D.4 AER decision on SP AusNet IT operational costs

($,000 real 2011)	2012	2013	2014	2015	Total
	6,463	6,523	5,276	5,304	23,567

D.3.3 Meter data management operational costs

SP AusNet's forecast of meter data management operational costs for 2012-15 is set out in the table below.[175]

Table D.5 SP AusNet forecast of meter data management opex

($,000 – real 2011)	2012	2013	2014	2015	Total
SP AusNet Forecast	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

In assessing whether SP AusNet's forecast of meter data management opex for 2012-15 meets 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.

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

[175] SP AusNet AMI Subsequent Budget & Charges Application - SP AusNet Budget template.

this objective, the AMI Functionality Specification[176] requires a performance level of 99% of AMI metering data processed by 4 hours after midnight and 99.9% within 24 hours. The AMI Service Level Specification requires 96% data processed by 6 am. The Victorian DNSPs are required to comply with these obligations from 1 January 2012.[177]

SP AusNet's budget proposal identified a range of data processing and management activities and data transfer processes in support of its forecast of meter data management costs. SP AusNet also provided additional information including a breakdown of costs and FTEs for the final year of the subsequent budget period, 2015.[178]

The AER assessed that the costs forecast by SP AusNet for 2012-15 in its budget proposal equated to about 63 staff in 2012 reducing to about 33 staff in 2015, assuming a staff FTE cost of $90K-$100K. To the AER this level of resourcing appeared inconsistent with the objective of the AMI program to automate these processes, and the nature of the obligations under AMI Functionality Specification and Service Level Specification that SP AusNet is required to meet.

The AER advised SP AusNet that its forecast opex for meter data management appeared high given the AER's understanding that the significant investment in AMI IT systems and infrastructure will result in automation of these processes with very limited manual intervention required. The AER referenced the AMI Functionality Specification and Service Level Specification obligations and advised SP AusNet that its forecast cost for meter data management equated to the staffing levels assessed by the AER and referred to above. The AER noted that:[179]

- the AMI Functionality Specification requires a performance level of 99% of data processing by 4 hours after midnight and 99.9% within 24 hours. The Service Level Specification requires 96% actual data processed (not substituted) by 6am.

- given the performance level requirements the vast majority of the processing of the data, including validation, estimation and substitution will be automated.

The AER requested that SP AusNet provide evidence to substantiate its forecasts including any relevant factual material, assumptions or modelling used to develop the forecasts.[180]

SP AusNet advised that it believed that it had already given the AER sufficient information but it did provide another version of the same data "for completeness

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176 Advanced Metering Infrastructure Minimum AMI Functionality Specification (Victoria) - September 2008 Release 1.1.

177 Advanced Metering Infrastructure AMI Minimum Service Level Specification (Victoria), September 2008 Release 1.1., section 4.3.

178 SP AusNet response to AER questions of 11 April 2011.

179 AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.

180 AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.

sake"[181] which was a more detailed breakdown of costs and FTEs for the whole of the subsequent budget period, 2012-15. It stated that its costs equated to 77 FTEs in 2012 reducing to 62 FTEs in 2013 and 44 FTEs in 2014-15 at a staff FTE cost of [C-I-C]. SP AusNet also stated that its exception rate for manual processing would reduce from [C-I-C] to [C-I-C] over the 2012-15 period[182] but did not substantiate its forecast level of manual data processing and the number of FTEs required in terms of its AMI Functionality Specification obligations for data automation.

The AER also considered advice from Impaq on a prudent level of resourcing for the data management activities identified by SP AusNet. Impaq undertook a bottom up analysis to establish a prudent level of resourcing for these activities given SP AusNet's obligations under the AMI Functionality Specification and Service Level Specification. Impaq noted that 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. A summary of Impaq's advice is set out in the table below and in its report.[183] The AER accepts Impaq's analysis.

Taking into account the above information, the AER has concluded that SP AusNet's forecast of data management costs for 2012-15 does not meet the commercial standard test. Of relevance to this assessment is SP AusNet's obligation to automate data processing from 1 January 2012 and the fact that this requires SP AusNet to minimise the data processing activities that need to be undertaken by staff. The FTEs and costs forecast by SP AusNet, although reducing over the 2012-15 period, are substantially greater than the prudent level forecast by Impaq which takes into account SP AusNet's obligations under the AMI Functionality Specification and Service Level Specification. .

Table D.6 Impaq adjustment to SP AusNet's meter data management opex

($,000 – real 2011)		2012	2013	2014	2015	Total/Average
SP AusNet Forecast		[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Impaq FTE	Office Manager	1.0	1.0	1.0	1.0	1.0
	Maintain accreditation	0.25	0.25	0.25	0.25	0.25
	Estimation, validation, exceptions mgt	3.0	3.0	2.0	2.0	2.5
	Other activities	0	0	0	0	0
Impaq recommended FTEs		4.25	4.25	3.25	3.25	3.75
Impaq recommended cost		396	396	309	309	1,410

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

[181] SP AusNet response to AER questions of 15 June 2011.
[182] SP AusNet response to AER questions of 15 June 2011.
[183] Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 131-134.

adjustment to SP AusNet's forecast of data management costs for 2012-2015 which the AER considers reflect the commercial standard.

Table D.7 AER decision on SP AusNet data management operational costs

($,000 – real 2011)	2012	2013	2014	2015	Total
	396	396	309	309	1,410

D.3.4 Meter maintenance operational costs

SP AusNet's forecast of meter maintenance operational costs for 2012-15 is set out in the table below.[184]

Table D.8 SP AusNet forecast of meter maintenance opex

($,000 – real 2011)	2012	2013	2014	2015	Total
SP AusNet Forecast	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

In assessing whether SP AusNet's forecast of meter maintenance opex for 2012-15 meets the commercial standard test, the AER has considered:

- 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 this equates to
- obligations SP AusNet is required to comply with in respect of meter maintenance.

The AER sought advice from Impaq on the level of resources to undertake required meter maintenance activities. Impaq initially assessed that .75 of an FTE would be required. The quantum of meter maintenance costs forecast by SP AusNet for meter maintenance for 2012-15 equated to about 4 staff in 2012 increasing to about 9 staff over 2013-15, assuming staff FTEs cost around $165K.

The AER advised SP AusNet of its understanding of the resources required (i.e. three quarters of an FTE) for meter testing in accordance with relevant standards. The AER provided SP AusNet with the assumptions supporting this analysis, which was based on Impaq's assessment. The AER requested that SP AusNet provide evidence to substantiate its forecasts including any relevant factual material, assumptions or modelling used to develop the forecasts.[185]

[184] SP AusNet AMI Subsequent Budget & Charges Application - SP AusNet Budget template.
[185] AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.

In response, SP AusNet provided a breakdown of meter maintenance costs for the final year of the subsequent budget period, 2015. For that year, SP AusNet forecast that it would spend [C-I-C] on 'visual inspections' of installed AMI meters to check that the meters have not been altered or tampered with. SP AusNet also forecast that it would spend [C-I-C] for 'usual maintenance' for technicians to travel to meter sites to troubleshoot malfunctioning meters and [C-I-C] for meter testing to comply with the Australian Standard.[186]

The AER considered 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 which AMI meter tampering, alteration and malfunction will be issues for SP AusNet's meter fleet in 2012-15.

The AER also 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.[187] Impaq increased its previous cost estimate provided to the AER to that set out in the table below. It is noted that Impaq's estimate of the cost for meter testing to comply with the Australian Standard is greater than that forecast by SP AusNet however Impaq's assessment of overall costs for meter testing is substantially less than forecast by SP AusNet.

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. The AER accepts Impaq's advice as to what is a prudent level of resourcing. A summary of Impaq's advice is set out in the table below and its analysis is set out in its report.[188]

Based on the above information, the AER has concluded that SP AusNet's forecast of meter maintenance costs for 2012-15 is substantially greater than the costs expected of a reasonable business in the same circumstances given SP AusNet's obligations in respect of the required test regime for meters under Australian Standard 1284 and chapter 7 of the NER.

Table D.9 Impaq adjustment to SP AusNet's meter maintenance opex

($,000 – real 2011)	2012	2013	2014	2015	Total/Average
SP AusNet Forecast	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Impaq recommended cost	538	538	689	689	2454

[186] SP AusNet response to AER questions of 15 June 2011.
[187] Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p.134.
[188] Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 134-136.

Accordingly, and 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 forecasts of meter maintenance costs for 2012-2015 which the AER considers reflect the commercial standard.

Table D.10 AER decision on SP AusNet meter maintenance opex

($,000 – real 2011)	2012	2013	2014	2015	Total
	538	538	689	689	2454

D.3.5 Communications infrastructure maintenance operational costs

SP AusNet's forecast of communications infrastructure maintenance operational costs for 2012-15 is set out in the table below.[189]

Table D.11 SP AusNet forecast of communications infrastructure maintenance opex

($,000 – real 2011)	2012	2013	2014	2015	Total
SP AusNet Forecast	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

In assessing whether SP AusNet's forecast of communications infrastructure maintenance opex for 2012-15 meets the commercial standard test, the AER has considered:

- 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 this equates to
- the number of communications base stations installed by SP AusNet.

SP AusNet's budget application for 2012-15 provided limited information on the activities that would be funded by its forecast communications infrastructure maintenance costs. Based on the information in SP AusNet's budget application[190] the AER considered that this forecast cost is for the maintenance of WiMAX communications infrastructure which will consist of 37 base stations, and that installation of the base stations would be completed during the budget period.

The AER considered that as these base stations would have just been installed in 2010-11 and therefore would be new infrastructure, very little hardware maintenance would be likely to be required over the 2012-15 period. The quantum of communications infrastructure maintenance costs forecast by SP AusNet for 2012-15 equated to about 20 FTEs annually, at an FTE cost of around $150K. The AER sought

[189] SP AusNet AMI Subsequent Budget & Charges Application - SP AusNet Budget template.
[190] SP AusNet AMI Subsequent Budget & Charges Application, p.42.

advice from Impaq on the level of staff resources typically required by electricity utilities to undertake communications infrastructure maintenance activities. Impaq advised that there are several Transmission Network Service Providers (TNSPs) in Australia with large microwave communications networks that are maintained by between 2 to 6 communications technicians.

In correspondence with SP AusNet,[191] the AER advised that it:

- assumed in the absence of further information that SP AusNet's forecast of communications infrastructure maintenance opex is for the maintenance of 37 WiMAX base stations which will be new infrastructure and require very little hardware maintenance

- calculated SP AusNet's cost forecast for 2012-15 to equate to about 20 FTEs (communications technicians) annually, assuming FTEs cost around $150K.

The AER also noted its understanding that there are several TNSPs in Australia with large microwave communications networks that are maintained by between 2 to 6 communications technicians, and referred to ElectraNet as an example.

The AER requested SP AusNet to provide evidence to substantiate its forecast communications infrastructure maintenance costs including any relevant factual material, assumptions or modelling used to develop the forecasts.[192]

In response, SP AusNet provided a high level summary of the difference between its distribution and transmission networks in respect of communications infrastructure and noted that within its model the forecast costs for AMI communications infrastructure are made up software licensing, hardware and power maintenance costs.[193] However, SP AusNet did not provide a model, did not distinguish its software licensing, hardware and power maintenance costs within its cost forecast and did not provide any other evidence to substantiate its forecast.

The AER also considered advice from Impaq on a prudent level of resourcing for the communications infrastructure maintenance activities identified by SP AusNet. Impaq undertook a bottom up analysis to establish a prudent level of resourcing for these activities given the number of WiMax base stations that will be in place in SP AusNet's network over the 2012-15 period and the age of the infrastructure. A summary of Impaq's advice is set out in the table below and its analysis is set out in its report. Impaq assessed that SP AusNet would require 4 FTEs to maintain its WiMax communications network on the basis that the network will consist of 37 base stations and that one technician per 9 base stations would be sufficient, recognising that the base stations would be unmanned, will be new infrastructure and require very little hardware maintenance during 2012-15.[194]

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191 AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.

192 AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.

193 SP AusNet response to AER questions of 15 June 2011.

194 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 138-139.

Although SP AusNet noted in its response to questions from the AER that it had a model of the forecast costs for AMI communications infrastructure,[195] it did not provide a model, a break down of costs or any other evidence to substantiate its forecasts.

The AER therefore concludes that SP AusNet cost forecast for maintenance of new infrastructure is substantially greater than the prudent level of resourcing established with reference to Impaq's analysis.

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 forecasts of new infrastructure costs for 2012-2015 which the AER considers reflect the commercial standard.

Table D.12 AER decision on SP AusNet meter maintenance opex

($,000 – real 2011)	2012	2013	2014	2015	Total
	600	600	600	600	2,400

D.3.6 Project management operational costs

SP AusNet's forecast of project management operational costs for 2012-15 is set out in the table below.[196]

Table D.13 SP AusNet forecast project management opex

($,000 – real 2011)	2012	2013	2014	2015	Total
SP AusNet Forecast	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

In assessing whether SP AusNet's forecast of project management operational costs for 2012-15 meets the commercial standard test, the AER has considered:

- 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 this equates to
- that the AMI project will be in a mature implementation phase in the 2012-15 period.

The AER considered the activities identified by SP AusNet as being included in its project management costs, that is:

- Project administration;

[195] SP AusNet response to AER questions of 15 June 2011.
[196] SP AusNet AMI Subsequent Budget & Charges Application - SP AusNet Budget template.

- Project coordination (Issues and Risks);
- Financial management and Reporting Requirements; and
- Resourcing, training and Change Management.[197]

The AER was unable to reconcile project management resourcing of the magnitude forecast for the activities identified by SP AusNet, having regard to the scale and scope of the AMI program, and did not consider SP AusNet would incur costs at the level forecast. While SP AusNet incurred project management costs of $16.6M in 2010 and has forecast to incur project management costs of $17.2M in 2011,[198] the AER expected that project management costs would reduce significantly in the subsequent budget period as the project will then be in a mature implementation phase. This expectation was on the basis that costs for project management and related coordination and training activities would be high during the project start up phase compared to the subsequent period when project implementation is mature and management systems and processes are bedded down and operating efficiently.

In correspondence with SP AusNet,[199] the AER:

- Noted that SP AusNet's expenditure forecast for project management costs for 2012-15 is equivalent to 80 project manager FTEs in 2012 reducing to about 10 project manager FTEs in 2014, assuming a project manager FTE cost at [C-I-C]
- Noted that it was unable to reconcile project management resourcing of this magnitude for the activities identified by SP AusNet, having regard to the scale and scope of the AMI program, and did not consider SP AusNet will incur costs at the level forecast
- Requested SP AusNet to provide evidence to substantiate its forecast project management costs including any relevant factual material, assumptions or modelling used to develop the forecasts.

SP AusNet responded by referring to information in section 5.6 of its budget application and providing an extract of this information. The information is a set of dot points outlining the key objectives of SP AusNet's Project Management Office (PMO) in 2012-15 and a breakdown of the number of employees in the PMO, their work stream and the cost of the employees per month.[200]

The AER has considered this information and notes in particular that for the PMO's:

- Meter & communications stream, SP AusNet has forecast 21 FTEs in 2012 at a cost of [C-I-C] per annum per FTE, and 18 FTEs in 2013 at a cost of [C-I-C] per annum per FTE

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197 SP AusNet AMI Subsequent Budget & Charges Application, p.30.
198 SP AusNet AMI Subsequent Budget & Charges Application - SP AusNet Budget template.
199 AER, Email, SP AusNet AMI 2012-15 budget and charges application - questions from AER staff, 15 June 2011.
200 SP AusNet response to AER questions of 15 June 2011.

- General, finance & industry stream, SP AusNet has forecast 15 FTEs in 2012 and 2013 at a cost of around [C-I-C] per annum per FTE

Considering the cost of the FTE's per annum the AER has assessed that these FTEs are experienced and tertiary qualified management level staff.

Having assessed the dot points outlining the key objectives of SP AusNet's PMO, the AER notes that this information is very high level and considers there is not sufficient detail for the AER to assess whether the magnitude of the resources forecast for its PMO is prudent in the 2012-15 period. SP AusNet has not substantiated its forecast by, for example, reconciling and validating the level of resources forecast against the activities required to achieve the PMO's key objectives or other project management activities listed in its budget application.

The AER has also 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 undertook a bottom up analysis to establish a prudent level of resourcing for overall management of the PMO and for project administration and coordination for meters, installation and communications, IT and process changes, as well as financial management and reporting, training and change management. A summary of Impaq's advice is set out in the table below and its analysis is set out in its report.[201]

Based on the above information, the AER therefore concludes that SP AusNet's cost forecast for project management is substantially greater than the prudent level of resourcing established with reference to Impaq's analysis.

Table D.14 Impaq adjustment to SP AusNet's project management opex

($,000 – real 2011)		2012	2013	2014	2015	Total/Average
SP AusNet Forecast		[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Impaq view	PMO mgr	1.0	1.0	1.0	0	0.75
	Project Director	1.0	1.0	1.0	0	0.75
	Administration and coordination	4.0	3.0	2.0	0	2.25
	Finance and reporting	3.0	2.0	1.0	0	1.50
	Change mgt	2.0	1.0	0	0	0.75
	Additional costs	200	100	0	0	300
Impaq recommended FTE		11.0	9.0	5.0	0	6.25
Impaq recommended cost		1,582	1,257	679	0	3,518

[201] Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 140-141.

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 D.15 AER decision on SP AusNet project management costs

($,000 – real 2011)	2012	2013	2014	2015	Total
	1,582	1,257	679	0	3,518

D.3.7 AER conclusion

For the reasons set out above, the AER has established that SP AusNet's proposed AMI expenditure forecasts for:

- Meter and communications module unit capex
- IT opex
- Meter data management opex
- Meter maintenance opex
- Communications infrastructure maintenance opex
- Project management opex

involve a substantial departure from the commercial standard that a reasonable business in the circumstances would exercise.

Accordingly, the AER has rejected this proposed expenditure from SP AusNet's budget application and approved the expenditure set out in the table below.

Table D.16 AER conclusion on SP AusNet's budget for 2012-2015 ($, 000 real 2011)

	2012	2013	2014	2015
Capex				
Meter Supply	65,169	10,753	1,934	1,899
Meter Installation	32,814	4,180	0	0
IT Capex	10,761	6,914	0	0
Comms Capex	24,894	17,402	3,386	0
Total capex	133,639	39,249	5,320	1,899
Opex				
Meter Reading	2,923	2,262	471	471
Meter Data Management	396	396	309	309
Meter maintenance	538	538	689	689
Customer Service	3,191	525	525	131
Communication infrastructure maintenance	600	600	600	600
Project Management	1,582	1,257	679	0
AMIPO and AMI ISC costs	150	150	0	0
Audit and quality assurance	55	55	55	55
AMI budget and charges applications	83	83	33	33
Equity raising costs	0	0	0	0
Management fees or overhead	2,401	1,625	1,259	1,253
Extra Accommodation Cost	277	276	276	276
IT Opex	6,463	6,523	5,276	5,304
Debt raising costs*	0	0	190	165
Total opex	18,659	14,290	10,362	9,286

Source AER analysis
* Debt raising costs are calculated consistent with section E.1.4 of this determination.

D.4 United Energy Distribution

D.4.1 AER approach to assessment of non contract other cost for United Energy Distribution and Jemena Electricity Networks

Section B indentifies UED's and JEN's contracts that the AER considers were not let in accordance with a competitive tendering process.

The AER has applied the commercial standard test to the following items that were not let in accordance with a competitive tendering process:

- installation capex (mass roll out and truck support)
- new connections adds and alts capex
- AMI technology and communications (JEN only)
- IT infrastructure and systems capex
- asset strategy and planning opex
- asset operations opex
- customer contact and back office opex
- AMI backhaul communication opex
- management opex (UED only)
- finance and HR opex
- service delivery and contract management opex
- IT opex
- metering IT opex

The AER's assessment of each item is set out below.

The assessment below takes into account further substantiation of forecast expenditure where provided by UED and JEN in response to the AER’s requests under clause 5.6 of the revised Order.

D.4.2 Capital expenditure

United Energy Distribution (UED) proposed a forecast of $147.3 million for capex for the 2012-2015 subsequent budget period. Table D.17 outlines UED's forecasts for 2012-15.

Table D.17 Forecast capex over the subsequent budget period ($,000 real 2011)

	2012	2013	2014	2015
Meters (Mass Roll-out)	65,081	5,852	0	0
Installation (Mass Roll-out)	24,656	3,278	0	0
New Connections, Adds and Alts	4,242	3,404	3,598	3,472
AMI Technology and Communications	5,915	3,712	701	906
IT Infrastructure & Systems	10,848	2,260	3,814	3,391
Projects (AMI Phase 6)	0	0	0	0
MRO Back Office	1,650	519	0	0
Total capex	**112,391**	**19,025**	**8,113**	**7,769**

Source: UED financial model.
Note: Totals may not add up due to rounding.

D.4.3 Meters (mass roll-out)

As discussed in section A.2.3 the AER considers the installation of 2 elements meter to be out of scope.

D.4.4 Installation (mass roll-out and truck support)

The installation capex category refers to activities related to the AMI mass roll-out. The drivers for these activities include but are not limited to standard installation, panel rewiring, asbestos removal, neutral screen testing appointments and revisits. UED has forecast $27.9 million for this activity. UED calculates its forecast for this activity by:

> Mass roll-out forecast activity = unit cost for the activity * volumes of meters to be installed * percentage of expected incidence.[202]

The AER has reviewed this forecasting formula and considers that UED's assumptions for the percentage of expected incidences cannot be supported. In general, UED has not provided any statistical evidence to substantiate its claims that these assumptions are reflective of its operations. Specifically:

- UED's incidences for panel replacement are substantially higher than other DNSPs and UED's practice of passing over panel replacements sites adds considerable additional costs with no demonstrated benefits[203]

[202] UED, Email re: *Ami questions from the AER of 13 April 2011*, 13 May 2011. UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.

[203] Impaq consulting, *Review of DNSPs AMI Budget Submissions for the 2012-15 budget period*, 27 June 2011,
p. 151.

- for incident rates for no access letters, UED uses a rate of 100 per cent which is far in excess of the percentage of around 6.3 per cent which is the industry-wide statistic provided in the recent Industry Steering Committee AMI deployment dashboard minutes[204]

- UEDs duration for a truck visit of 2 hours is substantially higher than those approved for alternative control services in the AER's Victorian Distribution Determination 2011-15. That determination was based on a detailed analysis by the AER,[205] and the expenditure here is for a similar service.[206]

- with regard to neutral services testing, as discussed in section A.6 the AER considers this activity to be out of scope.

For these reasons the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In forming its bottom-up forecasts Impaq has taken into account the above mentioned issues. [207] Impaq's conclusion is set out in the table below.

Table D.18 Impaq conclusion on UED's installation forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
UED Proposal	21,652	3,278			24,930
Impaq view	**16,412**	**2,618**			**19,030**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 152.

Based on the AER's assessment, the AER considers that UED's expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 30 per cent above Impaq's bottom-up build

- the practice of passing over difficult sites cannot be considered as prudent

- assumptions regarding the incidence rate for no access letters is above known statistics

- the duration for a truck support visit is above those UED's has quoted for similar services under alternative control services.

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204 Ibid; Industry Steering Committee, *AMI deployment dashboard*, as at 28 February 2011.

205 AER, *Final decision Victorian electricity distribution network service providers Distribution determination 2011–2015*, October 2010.

206 ibid; UED, *Email: Re: Questions regarding Alternative control services - additional pricing from Tenix*, 17 August 2010.

207 Includes UED's truck support costs for alternative control services and correct incidence rate for no letter access.

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecast of installation costs for 2012-2015 which the AER considers reflect the commercial standard.

D.4.5 New connections adds and alts

The new connections adds and alts category refers to activities related to installation costs of new connection meters and the costs of the meters. UED has requested $14.7 million for this expenditure category.[208]

On reviewing the information provided by UED the AER made the following assessments:

- as stated in section 0 the AER considers that UED's meter volumes forecasts are excessive compared to its customer growth forecast in the Victorian determination regulatory proposal.[209] While UED stated that it has taken meter abolishment into account in its forecast and that some customers have more than one meter, these reasons are not robust as the volume of meters forecast by UED are double the number of customer growth. The AER considers that the likelihood of all new customers installing more than one meter is remote. Furthermore, while stating that it has taken meter abolishment into account, UED has not backed up this statement with any numbers. As such the AER considers UED's BAU meter volumes to be out of scope

- UED's proposal to include external antennas for 100 per cent of its BAU meters. contradicts UED's MRO meter roll-out where only 10 per cent of external antennas were used, a figure which the AER considers reflects the commercial standard

- as discussed in section D.2, the AER considers UED's foreign exchange forecast to be a substantial departure from the commercial standard.

For these reasons the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account meter abolishment, customer growth, antennas costs and foreign exchange costs.[210] This advice is set out in the table below.

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[208] UED, *Email re: Ami questions from the AER of 13 April 2011*, 13 May 2011. UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.

[209] Meter forecast: section 5.2.1 page 55 of UED's substantiation of base cost to provide regulated services. Customer numbers: from AER's Victorian DNSP's determination, p. XVIII.

[210] Impaq consulting, *Review of DNSPs AMI Budget Submissions for the 2012-15 budget period*, 27 July 2011,
pp. 152-154.

Table D.19 Impaq conclusion on UED's meter supply costs ($,000 real 2011)

	2012	2013	2014	2015	Total
UED Proposal*	4,242	3,404	3,598	3,472	14,176
Impaq view	**1,199**	**980**	**1,009**	**975**	**4,163**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 154.
Note*: Revised for UED updated forecast

The AER therefore considers that UED's meter supply costs are a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 240 per cent above Impaq's bottom-up build
- the meter volumes forecast is not reflective of UED's customer growth and are therefore excessive and are out of scope (as per section 0)
- the assumption that external antennas would be used for 100 per cent of meter is contrary to UED's MRO forecast.

Accordingly, the AER has approved the costs set out in Table D.29.[211] These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecasts of adds and alts installation for 2012-2015 which the AER considers reflect the commercial standard.

D.4.6 IT infrastructure and systems capex

The IT infrastructure and systems capex category refers to activities related to the purchase and replacement of software and hardware. UED has requested $20.3 million for IT infrastructure and systems capex.[212]

The AER has reviewed the information provided by UED to support the expenditure forecast associated with this activity and has considered Impaq's advice. Similar to Impaq, the AER has assessed this expenditure as being necessary but considers that a commercial standard would be to review and assess whether some of the replacements can be deferred. In particular the AER considers:

- UED's IT systems can still be regarded as relatively new having been in service for 6 years by 2015 and having an expected life of at least 15 years
- UED's IT systems are designed to accomondate dual redundancy (exclude another system for disaster recovery). As all three systems are unlikely to all fail at once, the AER considers that a prudent business would consider progressively replacing these systems over time in order to moderate costs.

[211] Excludes Impaq's advice on meter installation costs as per UED's revised budget template that has excluded this expenditure.
[212] UED, *Email re: Ami questions from the AER of 13 April 2011*, 13 May 2011. UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.

In respect to UED's need for a second meter supplier, the AER notes Impaq advice which states that any changes between meter suppliers will be small including changes to support different meter configurations management settings.[213] As such the AER considers any resourcing requirements sought by UED should be reflective of this minimalistic change in circumstances.

Furthermore, as discussed in section A.2, the AER considers the installation of two element meters to be out of the scope of the revised Order.

For these reasons the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has considered the above-mentioned issues.[214] This advice is set out in the table below.

Table D.20 Impaq conclusion on UED's IT capex forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
UED Proposal	10,848	2,260	3,815	3,391	20,313
Impaq view	**2,106**	**2,260**	**3,815**	**2,091**	**10,271**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 157.

Based on the above assessment, the AER considers that UED's expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 98 per cent above Impaq's bottom-up build
- a more prudent business decision for the replacement of servers (given the back up mechanism and the age of the systems) would be to delay some server replacements to moderate costs.[215]

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecast of IT infrastructure and systems for 2012-2015 which the AER considers reflect the commercial standard.

[213] Impaq consulting, *Review of DNSPs AMI Budget Submissions for the 2012-15 budget period*, July 2011, pp. 156-157.
[214] ibid., pp. 155-157
[215] ibid.

D.4.7 Operating expenditure

UED has proposed a forecast of $94.5 million for opex for the 2012-15 subsequent budget period. Table D.21 outlines UED's forecasts for the 2012-15. As UED's forecast for opex was denominated in ($, million real 2011), Impaq has conducted its bottom up assessment based on this basis and the AER tables for opex are reflective of this position.

Table D.21 Forecast opex over the subsequent budget period ($, million real 2011)

	2012	2013	2014	2015
Asset Strategy and Planning	1.7	1.7	1.8	1.8
Asset Operation	1.1	1.1	1.5	1.6
Customer Contact & Back Office	3.9	2.7	2.6	2.7
AMI Network Operations	1.0	1.0	1.1	1.1
Meter Data Collection	1.2	0.2	0.0	0.0
AMI Transitional Business Activities	2.0	0.5	0.0	0.0
Backhaul Communications	0.5	0.5	0.5	0.5
Management	0.7	0.8	0.8	0.8
Finance & HR	0.7	0.6	0.6	0.6
Service Delivery & Contract Management	1.0	1.0	0.9	0.9
Stakeholder Relations	0.2	0.2	0.2	0.2
Premises	0.5	0.5	0.5	0.5
Base IT allocation	2.7	1.3	0.0	0.0
Software licence maintenance	1.9	2.0	1.9	1.9
Hardware maintenance	0.9	0.9	0.9	0.9
Operating Software maintenance	0.8	0.8	0.8	0.8
Infrastructure support	4.5	4.5	4.5	4.5
Metering IT Opex	3.3	3.3	3.4	3.5
Total opex	**28.6**	**23.7**	**22.0**	**22.2**

Source: UED financial model.
Note: Totals may not add up due to rounding. Denominated in millions as per UED's proposal.

D.4.8 Asset Strategy & Planning

Asset strategy 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. UED has forecast $6.9 million for asset strategy and planning in the subsequent budget period.[216]

On reviewing the information provided by UED, the AER considers that:

- while this resourcing requirement may be justifiable at the start of the AMI roll-out, UED has not indicated why the same level of expenditure should be maintained at this excessively high level. In particular UED has cited a need for numerous staff for strategic management but considering that the roll-out is due for completion in 2013 and the AMI technology being leading edge, the AER considers the need and level of resourcing for such tasks to be highly unlikely[217]

- the AER is not aware that UED is not compliant with the revised Order's roll-out and service level obligations and consequently UED's reasoning that it is making its systems compliant, or more compliant, does not support the high level of expenditure[218]

- the resourcing requirements appear to be excessive. For example, JEN and UED requested 6 persons (to be shared between the two businesses) until 2013 and 5 persons thereafter to diagnose and resolve AMI issues. UED's forecast number therefore appears excessive given the number of JEN's and UED's access points (around 100 for JEN and 203 for UED) and the likelihood of an access point failure being 5 per cent per annum[219]

- As discussed in section C.2.2, the AER considers that the management of major AMI technology releases and the validation of releases will be recovered under UED's IT capex forecast expenditure, an allowance for which has been provided in this draft determination and is not likely to be incurred twice. Similarly the forecast for AMI vendor management will be recovered under UED's service delivery and contract management expenditure forecast for which an allowance has been provided in this draft determination and is not likely to be incurred twice.

For these reasons the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by UED.[220] This advice is set out in the table below.

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[216] UED, *Email re: Ami questions from the AER of 13 April 2011*, 13 May 2011. UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.
[217] UED, *Email re: UED response to AER AMI questions*, 15 June 2011, pp. 3-7.
[218] Ibid.
[219] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p. 40.
[220] Ibid., pp. 159-160.

Table D.22 Impaq's conclusion on UED's Asset strategy and planning forecast ($, million real 2011)

	2012	2013	2014	2015	Total/Average
UED's forecast	1.7	1.7	1.8	1.8	7.0
Equivalent FTE	11.74	11.51	11.86	11.66	11.69
IMPAQ FTE	1.0	1.0	1.0	1.0	1.0
Impaq view	**0.22**	**0.22**	**0.23**	**0.23**	**0.90**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 159.

Taking the above information into account, the AER considers that UED's asset strategy and planning expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances for the following reasons:

- UED's forecast is 670 per cent above Impaq's bottom-up build
- the AMI technology is leading edge and proposing excessive resources to consider other AMI technology developments is not efficient
- the resourcing forecast is excessive given the nature of the tasks
- there appears to be duplications in UED's forecast with other capex and opex categories.

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecasts of asset strategy and planning costs for 2012-2015 which the AER considers reflect the commercial standard.

D.4.9 Asset operations

Asset operations relates to expenditure for the testing of meters already installed. UED has requested $5.4 million for asset operations in the subsequent budget period.[221]

The AER has reviewed the information provided by UED to support the expenditure forecast associated with this activity. The AER considers that UED has not demonstrated that the resourcing for this activity to be of a commercial standard as the number of tests resulting from the forecast expenditure is materially higher than the minimum requirements of Australian engineering standard AS1284 and UED's other regulatory obligations.

[221] UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.

In order to assist in its assessment the AER sought advice from Impaq. In conducting its review of UED's asset operations expenditure, Impaq undertook a bottom-up build of the likely costs of UED's meter testing regime based on:

- the activities outlined by UED and any regulatory requirements (revised Order and NER)
- Australian engineering standard AS1284 part 13.[222]

Table A.3 sets out Impaq's bottom build for meter testing numbers and costs based on AS1284 and revised Order requirements.

Table D.23 Impaq's bottom-up build on meter testing ($, real 2011)

	Meter numbers	No of families	Meter per family	Sample Size	Meters to be tested	Testing cost ($)	Annual test Cost($)
Single Phase single element	424,146	14	30,296	315	4410	51.22	56,470
Single Phase two element with contactor	119,177	6	19,863	315	1890	51.22	24,201
3 Phase Direct Connect	71,478	4	17,870	315	1260	79.67	25,096
3 Phase direct connect with contactor	13,156	2	6,578	200	400	79.67	7,967
3 Phase CT connect	2,861	2	1,431	125	250	79.67	4,979
Total	**630,818**	**28**	**22,529**		**8210**		**118,714**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 162.

Subsequently Impaq noted that the expenditure outlined by UED was above the requirements of Australian engineering standard AS1284 and its obligations as set out in the revised Oder.

As UED's forecast for asset operations was above the requirements of the revised Order (particularly in respect to the number of meters its needs to test), the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. This is set out in tables below.

[222] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 160-163.

Table D.24 Impaq's conclusion on UED's assets operations forecast ($, million real 2011)

	2012	2013	2014	2015	Total/Average
UED Forecast	1.1	1.1	1.5	1.6	5.3
Impaq view	**0.32**	**0.32**	**0.36**	**0.36**	**1.4**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 160.

Based on the above information, the AER considers that UED's asset operations expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 278 per cent above Impaq's bottom-up build
- the activities proposed do not meet Australian standard AS1284 and is therefore above the meter testing obligations under the revised Order.

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecast of asset operations for 2012-2015 which the AER considers reflect the commercial standard.

D.4.10 Customer contact and back office

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. UED has requested $11.9 million for the provision of these services.[223]

The AER notes that the supporting information provided by UED indicates that the major driver for this expenditure appears to be for the management of meter data.[224] The AER considers 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 service level specification requires 96 per cent data processed by 6 am. That is, any proposed AMI solution should be designed so that data processing is done automatically. As such the AER considers that the majority of data processing, validation, estimation and substitution will be automated. In addition,

[223] UED, *Email re: UED response to AER AMI questions*, 15 June 2011, p. 8; UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.
[224] Ibid., pp. 8-11.

where possible data errors are detected, for the majority of cases, error correction will be undertaken automatically.

Another component of customer contact and back office expenditure appears to be for fault and emergencies responses. The AER considers that fault and emergencies responses will be recovered under UED's AMI network operations expenditure, an allowance for which has been provided in this draft determination and is not likely to be incurred twice.

For service desk expenditure, the AER notes that metering and metering installation data are available from MSAT. Given the limited level of human inputs, the AER considers the resourcing requirements for this activity to be on the low side.

For these reasons the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by UED.[225] This advice is set out in the table below.

Table D.25 Impaq's conclusion on UED's customer contact and back office forecast ($, million real 2011)

		2012	2013	2014	2015	Total/Average
UED Forecast		3.8	2.7	2.6	2.7	11.8
Equiv FTEs - Proposal	Office Manager	1	1	1	1	1
	Staff	39.2	26.9	25.2	25.8	29.27
FTE – Impaq view	Office Manager	1	1	1	1	1
	Staff	3	3	1.5	1.5	2.0
Impaq view		**0.40**	**0.41**	**0.28**	**0.28**	**1.37**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 164.

Taking the above information into account, the AER considers that UED's customer contact and back office expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 590 per cent above Impaq's bottom-up build
- the activities proposed do not meet the standard with respect to the level of automation of data processing required under the AMI functionality specification.

[225] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 163-165.

The AER notes that the Victorian DNSPs are required to meet these obligations from 1 January 2012.

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecast of customer contact and back office costs for 2012-2015 which the AER considers reflect the commercial standard.

D.4.11 AMI backhaul communication

AMI backhaul communication relates to expenditure to get AMI data to UED's networks. UED has requested $2.1 million for the provision of this activity.[226]

In considering a commercial standard for this expenditure the AER has assumed that:

- an access point receives 20 GB of data per annum,
- an internet service provider would charge $20 per month for this amount of data and UED has 203 access points,
- the total for this expenditure would equate to approximately $49,000 per annum.

The AER therefore considers UED's forecast of $2.1 million for 4 years to be a substantial departure from a commercial standard of around $200,000 for this period.

Accordingly, the AER has approved the costs set out in Table D.29.[227] These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecasts of AMI backhaul communication costs for 2012-2015 which the AER considers reflect the commercial standard.

D.4.12 Management

The management activity relates to expenditure by UED for the management of regulatory submissions, participating in industry groups, engaging with Government and other regulatory and compliance activities. UED has requested $3.1 million for the provision of these services.[228]

On reviewing the information provided by UED, the AER considers that the resourcing requirements appear to be excessive in light of the fact that efficiencies could be gained by merging other areas into this category. Furthermore it should be noted that the tasks to be performed in this category are similar to the functions outlined for the asset strategy and planning and stakeholder relations categories. Similarly, given that these activities are not directly correlated to meter volumes, the AER is unclear on why UED resourcing requirements are 336 per cent above JEN's management forecast for similar services.

As such, the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial

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[226] UED, *UED AER Financial Model Submitted Rec, 17 June 2011*.
[227] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 166-167.
[228] UED, *UED AER Financial Model Submitted Rec, 17 June 2011*.

departure from a commercial standard is the Impaq advice based on its industry knowledge and bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by UED.[229] This advice is set out in the table below.

D.4.12.1 Impaq's conclusion on UED's management forecast ($, million real 2011)

	2012	2013	2014	2015	Total
UED Forecast	0.7	0.8	0.8	0.8	3.1
Equiv. FTE's	3.8	4.2	4.1	4.0	3.8
FTE Impaq	1.0	1.0	1.0	1.0	1.0
Impaq view	**0.3**	**0.3**	**0.3**	**0.3**	**1.2**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 167.

Taking the above information into account, the AER considers that UED's management expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 157 per cent above Impaq's bottom-up build
- the resourcing requirements appears excessive given the tasks.

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecasts of management costs for 2012-2015 which the AER considers reflect the commercial standard.

D.4.13 Finance and HR

The finance and HR category relates to expenditure for financial and human resources management. UED has requested $2.5 million for the provision of these services.[230] In reviewing the information provided by UED, the AER considered that:

- the small number of contracts would suggest limited inputs and outputs for financial processing and reporting[231]
- core AMI installation services are contracted out to external providers and as such the AER does not see the benefit of employing 2 management accountants and numerous other finance staff to provide costing advice on already contracted costs.

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229 Impaq Consulting, Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 167.

230 UED, *Email re: UED response to AER AMI questions*, 15 June 2011, pp. 12-14; UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.

231 The AER has assumed that UED's 11 contractors would be billed JEN monthly. The AER considers that processing 11 invoices and reporting on the financial outcomes would not require 2.5 FTEs.

Having considered UED's response on the assumptions it had used for its forecast, the AER has therefore concluded that UED's forecast of finance and HR costs for 2012-15 does not meet the commercial standard test because the level of resourcing requirements are excessive compared to the number of transactions involved, the corresponding reporting requirements for these transactions and the minimal level of financial advice required for already contracted expenditure.[232] As such, the AER considers that the Impaq assessment represents and bottom-up build to be the commerical standard. This advice is set out below.

Table D.26 Impaq's conclusion on finance and HR ($, million real 2011)

	2012	2013	2014	2015	Total
UED Forecast	0.7	0.6	0.6	0.6	2.5
Equiv. FTE's	6.4	5.4	5.2	5.1	5.5
FTE Impaq	1.0	1.0	1.0	1.0	1.0
Impaq Cost	0.1	0.1	0.1	0.1	0.5

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 167.

The AER has therefore assessed that UED's finance and HR expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 500 per cent above Impaq's bottom-up build
- the resourcing forecast is excessive given the nature of the tasks.

Accordingly, the AER has approved the costs set out in Table D.29.[233] These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecasts of finance and HR costs for 2012-2015 which the AER considers reflect the commercial standard.

D.4.14 Service delivery and contract management

The service delivery and contract management expenditure forecast relates to management of contracts and agreements for AMI. UED has requested $2.1 million for the provision of these services.[234]

On reviewing the information provided by UED, the AER considers that:

- while this resourcing requirement may be justifiable at the start of the AMI roll-out, UED has not indicated why the same level of expenditure should be maintained at this excessively high level. In particular UED has cited a need for

[232] UED, *Email re: UED response to AER AMI questions*, 15 June 2011, pp. 11-13.
[233] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 167-168.
[234] UED, *Email re: UED response to AER AMI questions*, 15 June 2011, p. 14; UED, *UED AER Financial Model Submitted Rec*, 17 June 2011.

numerous staff for ongoing contract management but considering that most contracts are well established, the AER considers the need and level of resourcing required should be less than the start of the roll-out

- the resourcing requirements appear to be excessive in light of the fact that efficiencies could be gained by merging other areas into this category. Furthermore it should be noted that the tasks to be performed by these FTE's appear to be similar to the functions outlined for asset strategy and management and IT opex. For example JEN and UED forecast an engineer compliance specialist in this category while at the same time requesting numerous FTE's in strategic asset management to conduct similar tasks.

For these reasons the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by UED.[235] This advice is set out in the table below.

Table D.27 Impaq's conclusion on service deliver forecast ($, million real 2011)

	2012	2013	2014	2015	Total
UED's forecast	1.0	1.0	0.9	0.9	3.8
Impaq view – FTE	2.5	2.5	2.5	2.5	2.5
Impaq view – other costs	0.05	0.05	0.05	0.05	0.20
Impaq view	**0.5**	**0.5**	**0.5**	**0.6**	**2.1**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, 168-169.

The AER has therefore assessed that UED's service delivery and contract management expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 81 per cent above Impaq's bottom-up build

- the resourcing forecast is excessive given the nature of the tasks.

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecasts of service delivery and contract management costs for 2012-2015 which the AER considers reflect the commercial standard.

[235] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015, July 2011*, pp. 168-170.

D.4.15 Stakeholder relations

As discussed in section, C.2.3, the AER considers that this expenditure has been recovered under stakeholder relations and management expenditure and is not likely to be incurred twice.

D.4.16 IT opex

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.

On UED's infrastructure support forecast, the AER notes Impaq's advice that UED's plans for its new data centre is excessive as around 30-50 per cent of the data centre's capacity has not been used. While the AER considers this spare capacity to be excessive, it was not able to substantiate that this expenditure was a substantial departure from a commercial standard as the difference in UED's forecasts compared to Impaq's bottom build was below the 20 per cent threshold allowed by the revised Order.[236]

D.4.17 Metering IT opex

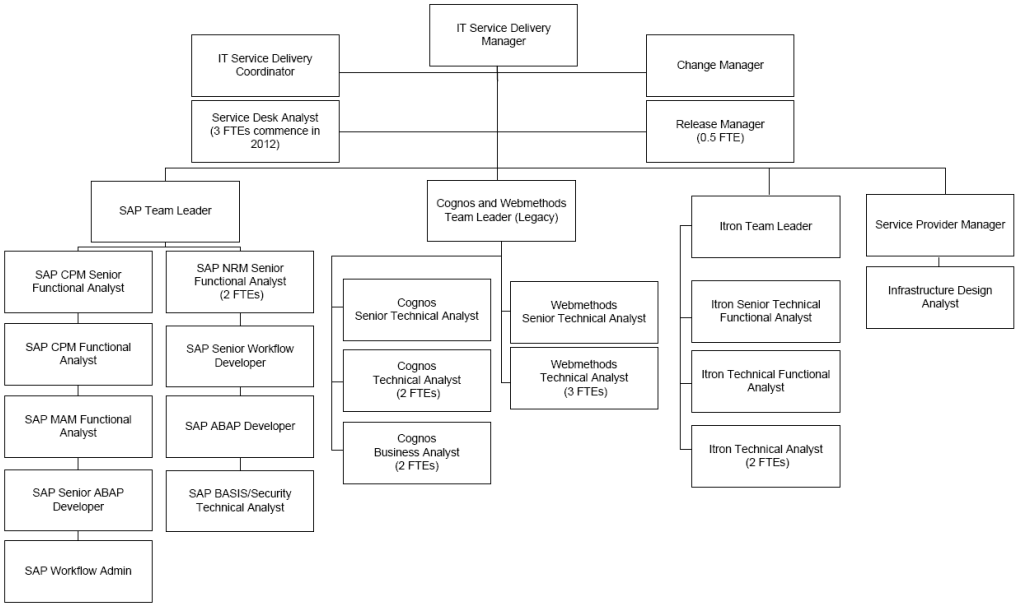
The metering IT opex category relates to expenditure forecast for resourcing requirements to comply with regulatory obligations particularly by monitoring, managing and maintaining the production systems and responding to issues as they arise. UED has forecast $13.5 million for the provision metering IT opex.[237]

The AER considers that:

- while this resourcing requirement may be justifiable at the start of the AMI roll-out, UED has not indicated why the same level of expenditure in terms of staffing (see Figure 6.1) should be maintained at this level. Furthermore, while it is reasonable that systems development, testing and deployments requirements were required at the beginning of the AMI roll-out (where no such systems existed), after the third year of the roll-out UED's IT systems should already have been bedded down and such tasks would occur less frequently

[236] Ibid., pp. 171-172.
[237] UED, *Email re: UED response to AER AMI questions*, 15 June 2011, p. 2; UED, UED AER Financial Model Submitted Rec, 17 June 2011.

Figure 6.1 UED's and JEN's IT group structure



Source: UED

- as there is no indication to suggest that UED is not compliant with the revised Order's roll-out and service performance obligations, UED's justification of systems compliance does not appear to be reasonable

- the revised Order only provides expenditure for initial systems integration and not ongoing systems upgrades and does not recognise expenditure to maintain the level of staffing to keep the expertise within a business.[238]

For these reasons the AER considers it appropriate that the commercial standard against which UED's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by UED.[239] This advice is set out in the table below.

[238] Ibid., pp. 2-3

[239] Impaq Consulting: *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 170-174.

Table D.28 Impaq's conclusion on metering IT opex ($, million real 2011)

	2012	2013	2014	2015	Total
UED's forecast	3.3	3.3	3.4	3.5	3.3
Impaq view	**1.7**	**1.7**	**1.8**	**1.8**	**1.7**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 171.
Note: These values include related party margins and are in $2011. These values do not include the AER adjustment for related party margins which has been adjusted at the aggregate opex level.

Based on the above information, the AER considers that UED's metering IT opex is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- UED's forecast is 94 per cent above Impaq's bottom-up build
- the resourcing forecast is excessive given the nature of the tasks.

Accordingly, the AER has approved the costs set out in Table D.29. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to UED's forecasts of IT opex for 2012-2015 which the AER considers reflect the commercial standard.

D.4.18 AER conclusion

For the reasons set out above, the AER has established that UED's proposed AMI forecasts for:

- installation capex (mass roll out and truck support)
- new connections adds and alts capex
- IT infrastructure and systems capex
- asset strategy and planning opex
- asset operations opex
- customer contact and back office opex
- AMI backhaul communication opex
- management opex
- finance and HR opex
- service delivery and contract management opex
- IT opex

- metering IT opex.

involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Accordingly, the AER has rejected these proposed expenditure from UED's budget applications and approved the following expenditure.

Table D.29 AER conclusion on United Energy Distribution's budget for 2012-2015 ($, million real 2011)

	2012	2013	2014	2015
Capex				
Meters (Mass Roll-out)	40.4	4.3	0.0	0.0
Installation (Mass Roll-out)	16.1	2.6	0.0	0.0
New Connections, Adds and Alts	1.2	1.0	1.0	1.0
AMI Technology and Communications	5.7	3.6	0.7	0.9
IT Infrastructure & Systems	1.8	2.2	3.7	2.1
Projects (AMI Phase 6)	0.0	0.0	0.0	0.0
MRO Back Office	1.6	0.5	0.0	0.0
Total capex*	**66.8**	**14.2**	**5.4**	**3.9**
Opex				
Asset Strategy and Planning	0.2	0.2	0.2	0.2
Asset Operation	0.3	0.3	0.4	0.4
Customer Contact & Back Office	0.4	0.4	0.3	0.3
AMI Network Operations	1.0	1.0	1.1	1.1
Meter Data Collection	1.2	0.2	0.0	0.0
AMI Transitional Business Activities	2.0	0.5	0.0	0.0
Backhaul Communications	0.1	0.1	0.1	0.1
Management	0.2	0.3	0.3	0.3
Finance & HR	0.1	0.1	0.1	0.1
Service Delivery & Contract Management	0.5	0.5	0.5	0.6
Stakeholder Relations	0.0	0.0	0.0	0.0
Premises	0.5	0.5	0.5	0.5
Base IT allocation	2.7	1.3	0.0	0.0
Software licence maintenance	1.9	2.0	1.9	1.9
Hardware maintenance	0.9	0.9	0.9	0.9
Operating Software maintenance	0.8	0.8	0.8	0.8
Infrastructure support	4.1	4.1	4.1	4.1

Metering IT Opex	1.7	1.7	1.8	1.8
FX adjustment for IT hardware &infrastructure support	0.0	0.0	0.0	0.0
Regulatory management	0.1	0.1	0.1	0.1
Commercial management	0.4	0.4	0.4	0.4
Related party margin adjustment	-0.4	-0.3	-0.3	-0.3
Debt raising costs**	0.0	0.0	0.1	0.1
Total opex*	**18.8**	**15.2**	**13.2**	**13.4**

Source: AER analysis

*incorporates related party margin as discussed in section D1.1 of this determination

** Debt raising costs are calculated consistent with section E.1.4 of this determination.

D.5 Jemena Electricity Networks

D.5.1 Capital expenditure

Jemena Electricity Networks (JEN) proposed a forecast of $65.2 million for capex for the subsequent budget period. Table D.30 outlines JEN's forecasts for 2012-15.

Table D.30 Forecast capex over the subsequent budget period ($,000 real 2011)

	2012	2013	2014	2015
Meters (Mass Roll-out)	18,700	7,533	0	0
Installation (Mass Roll-out)	8,564	3,547	0	0
New Connections, Adds and Alts	4,134	3,433	3,207	3,207
AMI Technology and Communications	1,318	998	647	747
IT Infrastructure & Systems	606	2,135	3,814	3,391
MRO Back Office	777	244	0	0
Total capex	**34,098**	**17,891**	**7,669**	**7,345**

Source: JEN financial model.
Note: Totals may not add up due to rounding.

D.5.2 Installation (mass roll-out and truck support)

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. JEN has forecast $26.2 million for this activity and calculates its forecast for this activity by:

> Mass roll-out forecast activity = unit cost for the activity * volumes of meters to be installed * percentage of expected incidence.[240]

The AER has reviewed this forecasting formula and considers that JEN's assumptions for the percentage of expected incidences cannot be supported. In general, JEN has not provided any statistical evidence to substantiate its claims that these assumptions are reflective of its operations. Specifically:

- JEN's incidences for panel replacement are substantially higher than other DNSPs and JEN's practice of passing over panel replacements sites adds considerable additional costs with no demonstrated benefits[241]

[240] JEN, Email re: *Response to AMI Questions from the AER of 13 April 2011*, 16 May 2011; JEN, *JEN AER Financial Model Submitted (include margin)*.

[241] Impaq consulting, *Review of DNSPs AMI Budget Submissions for the 2012-15 budget period*, July 2011, pp. 51-52.

- for incident rates for no access letters, JEN uses a rate of 100 per cent which is far in excess of the percentage of around 6.3 per cent which is the industry-wide statistic provided in the recent Industry Steering Committee AMI deployment dashboard minutes[242]

- JEN's duration for a truck visit of 2 hours is substantially higher than those approved for alternative control services in the AER's Victorian Distribution Determination 2011-15. That determination was based on a detailed analysis by the AER,[243] and the expenditure here is for a similar service.[244]

- With regard to neutral services testing, as discussed in section A.5 the AER considers this activity to be out of scope.[245]

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from a commercial standard is Impaq's advice based on its bottom-up build. In forming its bottom-up forecasts Impaq has taken into account the above mentioned issues. [246] Impaq's conclusion is set out in the table below.

Table D.31 Impaq conclusion on JEN's installation forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
JEN Proposal	8,564	3,547	0	0	12,112
Impaq view	**6,892**	**2,851**	**0**	**0**	**9,743**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 52.

Taking into account the above information, the AER considers JEN's installation forecast is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 28 per cent above Impaq's bottom-up build

- the practice of passing over difficult sites cannot be considered as prudent

- assumptions regarding the incidence rate for no access letters is above known statistics

- the duration for a truck support visit is above those it has quoted for similar services under alternative control services.

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242 Ibid; Industry Steering Committee, *AMI deployment dashboard*, as at 28 February 2011.

243 AER, *Final decision Victorian electricity distribution network service providers Distribution determination 2011–2015*, October 2010, JEN, Revised *regulatory proposal, appendix A20.3 - ACS cost build-up model*, 20 July 2010.

244 Ibid;

245 S2.1 of the revised Order.

246 Includes Impaq's advice on truck support costs and correct incidence rate for no letter access.

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of installation costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.3 New connections adds and alts

The new connections adds and alts category refers to activities related to the installation costs of new connection meters and the costs of the meters. JEN has requested $14.0 million for this expenditure category.[247]

On reviewing the information provided by JEN the AER has assessed that:

- As discussed in section 0 JEN's meter volumes forecasts are excessive compared to its customer growth forecast in the Victorian determination regulatory proposal.[248] While JEN's stated that it has taken meter abolishment into account in its forecast and that some customers have more than one meter, these reasons are not robust as the volume of meters forecast by JEN are double the number of customer growth. The AER considers that the likelihood of all new customers installing more than one meter is remote. Furthermore, while stating that it has taken meter abolishment into account, JEN has not backed up this statement with any numbers.

- JEN's proposal to include external antennas for 100 per cent of its BAU meters. contradicts JEN's MRO meter roll-out where only 10 per cent of external antennas were used.

- As discussed in section D.2, the AER considers JEN's foreign exchange forecast to be a substantial departure from a commercial standard.[249]

- As discussed in section A.5 the AER considers the installation costs for new connections to be outside scope.

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from a commercial standard is Impaq's advice based on its bottom-up build. In forming its bottom-up forecasts Impaq has taken into account the above mentioned issues.[250]

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247 JEN, Email re: *Response to AMI Questions from the AER of 13 April 2011*, 16 May 2011; JEN, *JEN AER Financial Model Submitted (include margin)*.

248 Meter forecast: section 5.2.1 p. 54 of JEN's substantiation of base cost to provide regulated services. Customer numbers: Table 6.1 from JEN's regulatory proposal 30 November 2009, p. 64.

249 Impaq consulting, *Review of DNSPs AMI Budget Submissions for the 2012-15 budget period*, July 2011, pp. 53-55.

250 Ibid.

Table D.32 Impaq conclusion on JEN's metering supply costs ($,000 real 2011)

	2011	2012	2013	2014	2015	Total
BAU metering purchase cost proposed		1,722	1,498	1,488	1,488	6,195
Metering cost adjusted for reduction in antennas to 5% and exchange rate of 1.05		1,422	1,231	1,215	1,215	5,083
JEN Customer Numbers	310,165	315,890	320,889	325,174	329,428	
Increase in customer numbers		5,725	4,999	4,285	4,254	19,263
Meter numbers proposed by JEN		9322	8167	7348	7348	32,185
Impaq cost estimates for new meters		899	776	730	725	3,130
Meter re-verification cost		69	60	59	59	247
Impaq Total Metering purchase cost		968	836	789	784	3,377

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 55.

Table D.33 Impaq conclusion on JEN's adds and alts forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
JEN Proposal	3,610	3,106	2,937	2,937	12,590
Impaq assessment	**968**	**836**	**789**	**784**	**3,377**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 56.

The AER therefore considers, based on the above information, that JEN's forecast expenditure in this category is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 300 per cent above Impaq's bottom-up build
- the assumption that external antennas would be used for 100 per cent of meter is contrary to JEN's other forecast
- BAU meter volumes and installation costs for new customers are out of scope (refer to sections 0 and A.5).

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of adds and alts costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.4 AMI technology and communications

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. JEN has requested $3.7 million for AMI technology and communications in the subsequent budget period.[251]

The AER has reviewed the information provided by JEN to support the expenditure forecast associated with this activity. The AER considers that JEN's resourcing requirements appears to be more relevant to what might be expected in the initial setup phase to ramp-up systems, processes and resources for project implementation, than for a late stage in a roll-out where it would be expected that these levels would decrease into BAU (BAU) levels.

Specifically, on JEN's AMI technology testing labs expenditure, the AER considers that a prudent business in the circumstances would have already conducted numerous tests 3 years into the roll-out period.

Furthermore, the AER has not received any information from JEN to suggest that it is not compliant with the revised Order and therefore it can be assumed that the meters are working well and a need for testing should be lower than the initial phase of the roll-out where the technology was untried.[252]

As discussed in C.1.1 another component of AMI technology and communications expenditure appears to be for network augmentation. The AER considers that network augmentation expenditure will be recovered under JEN's IT forecast expenditure, an allowance for which has been provided in this draft determination and is not likely to be incurred twice.

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from a commercial standard is the Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by JEN.[253] This advice is set out in the table below.

Table D.34 Impaq conclusion on JEN's AMI technology and communications forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
JEN Proposal	1,317	997	647	747	3,710
Impaq assessment	**954**	**711**	**373**	**453**	**2,490**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 57.

[251] JEN, Email re*: JEN AMI Budget and charges applications 2012-15: Impaq consulting questions*, 21 April 2011, p.p1-3; JEN, *JEN AER Financial Model Submitted (include margin).*

[252] Ibid. pp. 2-3.

[253] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 56-57.

Taking into account the above information, the AER considers that JEN's AMI technology and communcations expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 49 per cent above Impaq's bottom-up build
- the use of the testing labs is likely to be limited as JEN is compliant with the revised Order
- network augmentation cost has been included in JEN's IT forecast.

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of AMI technology and communications costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.5 IT infrastructure and systems capex

The IT infrastructure and systems capex category refers to activities related to the purchase and replacement of software and hardware. JEN has requested $9.9 million for IT infrastructure and systems capex.[254]

The AER has reviewed the information provided by JEN to support the expenditure forecast associated with this activity and has considered advice on this matter from Impaq. Similar to Impaq, the AER has assessed this expenditure as being necessary but considers that a commercial standard would be to review and assess whether some of the replacements can be deferred. In particular the AER considers that JEN's IT systems:

- can still be regarded as relatively new having been in service for 6 years by 2015 and having an expected life of at least 15 years
- JEN's IT system has a dual redundancy system architecture (exclude another system for disaster recovery). As all three systems are unlikely to all fail at once, the AER considers that a prudent business would consider progressively replacing these systems over time in order to moderate costs.

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the issues outlined above. This advice is set out in the table below.

[254] JEN, *Email re: JEN AMI Budget and charges applications 2012-15: Impaq consulting questions*, 21 April 2011, p. 3. JEN, *JEN AER Financial Model Submitted (include margin).*.

Table D.35 Impaq conclusion on JEN's IT infrastructure and systems forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
JEN Proposal	606	2,135	3,814	3,390	9,946
Impaq view	**606**	**2,135**	**3,814**	**1,968**	**8,523**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 58.

The AER considers that JEN's expenditure in this category is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances because a more prudent business decision for the replacement of servers (given the back up mechanism and the age of the systems) would be to delay some server replacements to moderate costs.[255]

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of IT infrastructure and systems costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.6 Operating expenditure

JEN proposed a forecast of $68 million for opex for the 2012-15 subsequent budget period. Table D.36 outlines JEN's forecasts for the 2012-15.

[255] Impaq consulting, *Review of DNSPs AMI Budget Submissions for the 2012-15 budget period*, 27 June 2011, p. 57-58.

Table D.36 Forecast opex over the subsequent budget period ($,000 real 2011)

	2012	2013	2014	2015
Asset Strategy and Planning	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Asset Operations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Customer Contact & Back Office	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMI Network Operations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Collection	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMI Transitional Business Activities	[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]
Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Finance & HR	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Regulatory Audit	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Service Delivery & Contract Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Stakeholder Relations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Premises	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Base IT allocation	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Software licence maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Hardware maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Operating Software maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Infrastructure support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Metering IT Opex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total opex	**19,420**	**17,227**	**15,819**	**15,942**

Source: JEN financial model.
Note: Totals may not add up due to rounding.

D.5.7 Asset Strategy & Planning

The asset strategy category 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. JEN has forecast $5.4 million for asset strategy and planning in the subsequent budget period.[256]

[256] JEN, *Financial model*; JEN; *Email: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, p. 6.

On reviewing the information provided by JEN, the AER considers that:

- while this resourcing requirement may be justifiable at the start of the AMI roll-out, JEN has not indicated why the same level of expenditure should be maintained at this excessively high level. In particular JEN has cited a need for numerous staff for strategic management but considering that the roll-out is due for completion in 2013 and the AMI technology being leading edge, the AER considers the need and level of resourcing for such tasks to be highly unlikely[257]

- the AER is not aware that JEN is not compliant with the revised Order's roll-out and service level obligations and consequently JEN's reasoning that it is making its systems compliant, or more compliant, does not support the high level of expenditure[258]

- the resourcing requirements appear to be excessive. For example, JEN and UED requested 6 persons (to be shared between the two businesses) until 2013 and 5 persons thereafter to diagnose and resolve AMI issues. This number appears excessive given the number of JEN's and UED's access points (around 100 for JEN and 203 for UED) and the likelihood of an access point failure being 5 per cent per annum[259]

- as stated in C.1.2 the AER considers that the management of major AMI technology releases and the validation of will be recovered under JEN's IT capex forecast expenditure, an allowance for which has been provided in this draft determination and is not likely to be incurred twice. Similarly the forecast for AMI vendor management will be recovered under JEN's service deliver and contract management expenditure forecast for which an allowance has been provided in this draft determination and is not likely to be incurred twice.

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by JEN.[260] This advice is set out in the table below.

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257 Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 61.

258 JEN; *Email: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, pp. 6-9; JEN, *Email re: JEN AMI Budget and charges applications 2012-15: Impaq consulting questions*, 21 April 2011, p. 6-7

259 Impaq Consulting: *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 560-61.

260 Ibid.

Table D.37 Impaq's conclusion on JEN's asset strategy and planning forecast ($,000 real 2011)

	2012	2013	2014	2015	Total/Average
Contract cost – competitive tender	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Other	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
JEN forecast	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Equivalent FTE	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IMPAQ FTE	1.0	1.0	1.0	1.0	1.0
IMPAQ cost	**145**	**148**	**152**	**154**	**599**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 60.

Based on the above information, the AER considers that JEN's asset strategy and planning expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 800 per cent above Impaq's bottom-up build
- the AMI technology is leading edge and proposing excessive resources to consider other AMI technology developments is not efficient
- the resourcing forecast is excessive given the nature of the tasks
- there appears to be duplications in JEN's forecast with other capex and opex categories.

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of asset strategy and planning costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.8 Asset operations

The asset operations category relates to expenditure for the testing of meters already installed. JEN has requested $3.2 million for asset operations in the subsequent budget period.[261]

The AER has reviewed the information provided by JEN to support the expenditure forecast associated with this activity. The AER considers that JEN has not demonstrated that the resourcing for this activity to be of a commercial standard as the number of tests resulting from the forecast expenditure is materially higher than the

[261] JEN, Financial model; JEN, *Email re: JEN AMI Budget and charges applications 2012-15: Impaq consulting questions*, 21 April 2011, p. 3

minimum requirements of Australian engineering standard AS1284 or JEN's other regulatory obligations.

In order to assist in its assessment the AER sought advice from Impaq. In conducting its review of JEN's asset operations expenditure, Impaq undertook a bottom-up build of the likely costs of JEN's meter testing regime using:

- the activities outlined by JEN and any regulatory requirements (revised Order and NER)
- Australian engineering standard AS1284 part 13.[262]

Table D.38 sets out Impaq's bottom build for meter testing numbers and costs based on AS1284 and revised Order requirements.

Subsequently Impaq noted that the expenditure outlined by JEN was above the requirements of Australian engineering standard AS1284 and its obligations as set out in the revised Oder.

As JEN's forecast for asset operations was above the requirements of the revised Order (particularly in respect to the number of meters its needs to test), the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is the Impaq's advice based on its bottom-up build. This is set out in Table D.39.

[262] Impaq Consulting; *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 61-65.

Table D.38 Impaq's bottom-up build on meter testing

	Meter numbers	No of families	Meter per family	Sample Size	Meters to be tested	Testing cost ($)	Annual test Cost($)
Single Phase single element	235,431	8	29,429	315	2520	239	150,570
Single Phase single element with contactor	35,256	2	17,628	315	630	239	37,643
3 Phase Direct Connect	29,775	2	14,888	315	630	239	37,643
3 Phase CT Connect	2,887	2	1,444	125	250	239	14,938
Total	**303,349**	**14**	**21,668**		**4030**		**240,793**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 63.

Table D.39 Impaq's conclusion on JEN's assets operations forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
JEN's forecast	743	758	827	844	3,172
Meter testing	241	241	241	241	963
CT meter testing			138	138	276
Unmetered supply audits	15	15	15	15	60
Metering Engineer	150	150	150	150	600
Impaq's view	**406**	**406**	**544**	**544**	**1,899**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 65.

Based on the above information, the AER considers the JEN's assets operations expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as :

- JEN's forecast is 67 per cent above Impaq's bottom-up build
- the activities proposed do not meet Australian standard AS1284 and is therefore above the meter testing obligations under the revised Order.

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of assets operations costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.9 Customer contact and back office

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. JEN has requested $8.1 million for the provision of these services.[263]

The AER notes that the supporting information provided indicates that the major driver for this expenditure appears to be for the management of meter data. The AER considers 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 service level specification requires 96 per cent data processed by 6 am. That is, any proposed AMI solution should be designed so that data processing is done automatically. As such the AER considers that the majority of data processing, validation, estimation and substitution will be automated. In addition, where possible data errors are detected, for the majority of cases, error correction will be undertaken automatically.[264]

Another component of customer contact and back office expenditure appears to be for fault and emergencies responses. The AER considers that fault and emergencies responses will be recovered under JEN's AMI network operations expenditure, an allowance for which has been provided in this draft determination and is not likely to be incurred twice.

For service desk expenditure, the AER notes that metering and metering installation data are available from MSAT. Given the limited level of human inputs, the AER considers the resourcing requirements for this activity to be on the low side.

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[263] JEN, Financial model; *Email: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, p. 9.

[264] Ibid,. pp. 10-11.

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by JEN.[265] This advice is set out in the table below.

Table D.40 Impaq's conclusion on JEN's customer contact and back office forecast ($,000 real 2011)

		2012	2013	2014	2015	Total/Average
Contract cost – competitive tender		[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Other		[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
JEN's forecast		[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Equiv FTEs - Proposal	Office Manager	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
	Staff	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
FTE – Impaq view	Office Manager	1	1	1	1	1
	Staff	2	2	1	1	1.50
Impaq view		**311**	**317**	**227**	**231**	**1,086**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 65.

Taking the above information into account, the AER considers JEN's customer contact and back office expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 640 per cent above Impaq's bottom-up build
- the activities proposed do not meet the standard with respect to the level of automation of data processing required under the AMI Functionality Specification. The AER notes that the Victorian DNSPs are required to meet these obligations from 1 January 2012.

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of customer contact and back office installation costs for 2012-2015 which the AER considers reflect the commercial standard.

[265] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 65-67.

D.5.10 AMI backhaul communication

AMI backhaul communication relates to expenditure to get AMI data to JEN's networks. JEN has requested $1.2 million for the provision of this activity.

In considering a commercial standard for this expenditure the AER has assumed that:

- an access point receives 20 GB of data per annum,
- an internet service provider would charge $20 per month for this amount of data and JEN has 100 access points,
- the total for this expenditure would equate to approximately $24,000 per annum.

The AER therefore considers JEN's forecast of $1.1 million for 4 years to be a substantial departure from a commercial standard of around $100,000 for this period.

Accordingly, the AER has approved the costs set out in Table D.44.[266] These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of AMI backhaul communication costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.11 Finance and HR

The finance and HR category relates to expenditure for financial and human resources management. JEN has requested $1.2 million for the provision of these services.[267]

In reviewing the information provided by JEN, the AER considers that:

- the small number of contracts would suggest limited inputs and outputs for financial processing and reporting[268]
- core AMI installation services are contracted out to external providers and as such the AER does not see the benefit of employing 2 management accountants and numerous other finance staff to provide costing advice on already contracted costs.

Having considered JEN's response on the assumptions it had used for its forecast, the AER has therefore concluded that JEN's forecast of finance and HR costs for 2012-15 does not meet the commercial standard test because the level of resourcing requirements are excessive compared to the number of transactions involved, the corresponding reporting requirements for these transactions and the minimal level of financial advice required for already contracted expenditure.[269] As such, the AER considers that the Impaq assessment represents and bottom-up build to be the commerical standard. This advice is set out below.

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266 Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, p. 69.

267 JEN, *Financial model*; *Email: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, p. 13.

268 The AER has assumed that JEN's 11 contractors would be billed JEN monthly. The AER considers that processing 11 invoices and reporting on the financial outcomes would not require 2.5 FTEs.

269 JEN, *Email re: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, pp. 13-15.

Table D.41 Impaq's conclusion on JEN's finance and HR forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
Contract cost – competitive tender	0	0	0	0	0
Other	[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]
FTE's	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Impaq view - FTE's	1.0	1.0	1.0	1.0	1.0
Impaq view Cost	**110**	**112**	**115**	**117**	**454**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 70.

Based on the above information, the AER considers JEN's finance and HR expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 60 per cent above Impaq's bottom-up build
- the resourcing forecast is excessive given the nature of the tasks.

Accordingly, the AER has approved the costs set out in Table D.44.[270] These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of finance and HR costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.12 Service delivery and contract management

The service delivery and contract management expenditure forecast relates to management of contracts and agreements for AMI. JEN has requested $2.1 million for the provision of these services.[271]

On reviewing the information provided by JEN, the AER considers that:

- while this resourcing requirement may be justifiable at the start of the AMI roll-out, JEN has not indicated why the same level of expenditure should be maintained at this excessively high level. In particular JEN has cited a need for numerous staff for ongoing contract management but considering that most contracts are well established, the AER considers the need and level of resourcing required should be less than the start of the roll-out
- the resourcing requirements appear to be excessive in light of the fact that efficiencies could be gain by merging other areas into this category. Furthermore

[270] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015, July 2011*, pp. 70-71.
[271] JEN, *Financial model*; JEN, *Email: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, p. 15.

it should be noted that the tasks to be performed by these FTE's appear to be similar to the functions outlined for asset strategy and management and IT opex. For example JEN's and UED forecasts an engineer compliance specialist in this category while at the same time requesting numerous FTE's in strategic asset management to conduct similar tasks.[272]

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by JEN.[273] This advice is set out in the table below.

Table D.42 Impaq's conclusion on service deliver and contract management forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
JEN's forecast	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Impaq view – FTE	2.5	2.5	2.5	2.5	2.5
Impaq view – other costs	50	50	50	50	200
Impaq view	**517**	**526**	**541**	**550**	**2,134**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 71.

Based on the above informaton, the AER considers JEN's service delivery and contract management expenditure is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 27 per cent above Impaq's bottom-up build
- the resourcing forecast is excessive given the nature of the tasks.

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of service delivery and contract management costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.13 Stakeholder relations

As stated in section C.1.3 the AER considers that this expenditure has been recovered under asset operations relations and management expenditure for which an allowance has been provided and is not likely to be incurred twice.

[272] Ibid, pp. 15-16 and 6-9.
[273] Impaq Consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 71-72.

D.5.14 IT opex

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.

On JEN's infrastructure support forecast, the AER notes Impaq's advice that JEN's plans for its new data centre is excessive as around 30-50 per cent has not been used. In the absence of further information from JEN on why it needed this spare capacity, the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from a commercial standard is Impaq's advice based on its expert knowledge of the industry.

In conducting its review, Impaq also considered the spare capacity of JEN's data centre to be excessive. As such Impaq has advised that JEN's budget forecast for infrastructure support should be reduced by 30 per cent to reflect JEN's overbuild. Impaq also advised a further reduction on what it considers to be out of scope activities for outage management services costs.[274]

Based on Impaq's advice, the AER considers JEN's overbuild of its data centre of 30-50 per cent to be a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. However, in light of new information from JEN the AER did not establish that JEN's outage management services costs is a substantial departure from a commercial standard.[275]

Accordingly, the AER has approved the costs set out in Table D.44.[276] These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of IT infrastructure support costs for 2012-2015 which the AER considers reflect the commercial standard.

D.5.15 Metering IT opex

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. JEN has forecast $9.0 million for the provision metering IT opex.[277]

The AER considers that:

- while this resourcing requirement may be justifiable at the start of the AMI roll-out, JEN has not indicated why the same level of expenditure in terms of staffing (see diagram 1) should be maintained at this level. Furthermore, while it is reasonable that systems development, testing and deployments requirements were required at the beginning of the AMI roll-out (where no such systems existed),

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274 Ibid., pp.74-75.

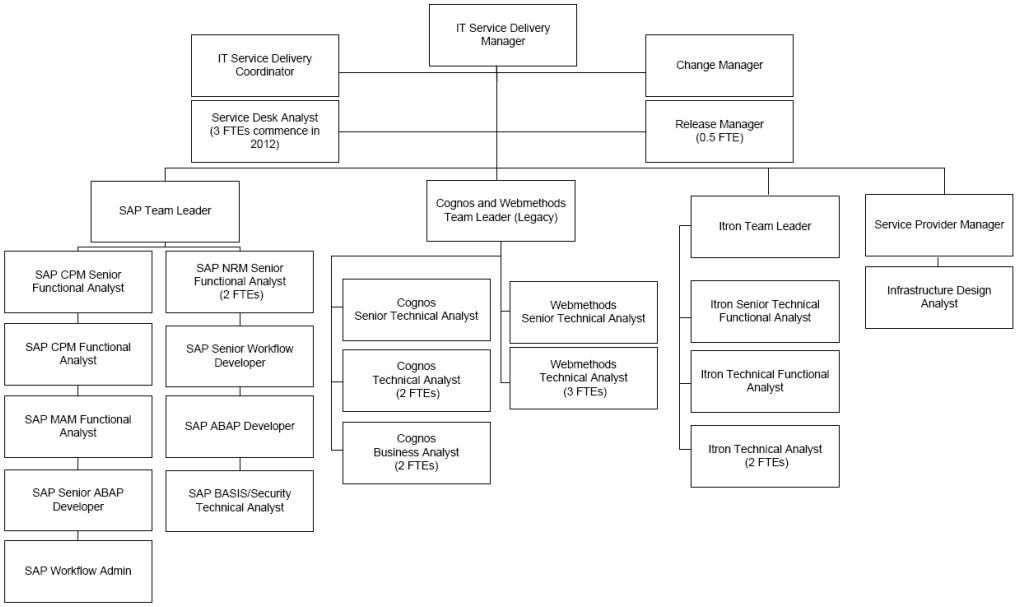
275 JEN, *Email: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, p. 3. The expenditure for OMS were for softare costs that were in scope of the revised Order.

276 Excluding OMS.

277 JEN, *Financial model*; JEN, *Email: JEN AMI budget and charges application 2012-15: AMI follow up questions*, 15 June 2011, p. 4.

after the third year of the roll-out JEN's IT systems should already have been bedded down and such tasks would occur less frequently

Figure 6.2 JEN's and UED's IT group structure



Source: JEN

- as there is no indication to suggest that JEN is not compliant with the revised Order's roll-out and service performance obligations, JEN's justification of systems compliance does not appear to be reasonable

- the revised Order only provides expenditure for initial systems integration and not ongoing systems upgrades and does not recognise expenditure to maintain the level of staffing to keep the expertise within a business.[278]

For these reasons the AER considers it appropriate that the commercial standard against which JEN's expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build. In conducting its bottom up build, Impaq has taken into account the activities for expenditure outlined by JEN.[279] This advice is set out in the table below.

[278] Ibid., pp. 2-6.
[279] Impaq Consulting: *Review of DNSPs AMI budget submission 2012-2015*, pp. 75-77.

Table D.43 Impaq's conclusion on metering IT opex ($,000 real 2011)

	2012	2013	2014	2015	Total
JEN's forecast*	11,231	10,304	9,247	9,301	40,083
Impaq view	1,130	1,156	1,193	1,218	4,697
Base IT allocation	[C-I-C]	[C-I-C]	-	-	[C-I-C]
Software licence maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Hardware maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Operating Software maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Infrastructure support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Metering IT Opex	[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]
Plus JAM Margin [C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Impaq view	**8,765**	**7,851**	**6,758**	**6,785**	**30,159**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 77.

Based on the above information, the AER considers that JEN's metering opex is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- JEN's forecast is 33 per cent above Impaq's bottom-up build
- the resourcing forecast is excessive given the nature of the tasks.

Accordingly, the AER has approved the costs set out in Table D.44. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to JEN's forecasts of metering IT opex for 2012-2015 which the AER considers reflect the commercial standard.

D.5.16 AER conclusion

For the reasons set out above, the AER has established that JEN's proposed AMI forecasts for:

- installation capex (mass roll out and truck support)
- new connections adds and alts capex
- AMI technology and communications
- IT infrastructure and systems capex
- asset strategy and planning opex

- asset operations opex
- customer contact and back office opex
- AMI backhaul communication opex
- finance and HR opex
- service delivery and contract management opex
- IT opex
- metering IT opex

involve a substantial departure from the commercial standard that a reasonable business in the circumstances would exercise.

Accordingly, the AER has rejected these proposed expenditure from JEN's budget applications and approved the following expenditure.

Table D.44 AER draft determination on Jmena Electricity Network's budget for 2012-2015 ($,000 real 2011)

	2012	2013	2014	2015
Capex				
Meters (Mass Roll-out)	14,800	5,961	0	0
Installation (Mass Roll-out)	6,762	2,797	0	0
New Connections, Adds and Alts	957	827	776	703
AMI Technology and Communications	936	698	366	444
IT Infrastructure & Systems	595	2,095	3,742	1,931
MRO Back Office	762	240	0	0
FX adjustment for AMI technology and Communications	-75	0	0	0
Total capex*	**24,736**	**12,617**	**4,884**	**3,079**
Opex				
Asset Strategy and Planning	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Asset Operations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Customer Contact & Back Office	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMI Network Operations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Collection	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMI Transitional Business Activities	[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]
Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Finance & HR	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Regulatory Audit	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Service Delivery & Contract Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Stakeholder Relations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Premises	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Base IT allocation	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Software licence maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Hardware maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Operating Software maintenance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Infrastructure support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Metering IT Opex	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
FX adjustment for IT hardware &infrastructure support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Related party margin adjustment	[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]
Total opex*	**12,608**	**10,847**	**9,493**	**9,551**

Source: AER analysis

*incorporates related party margins as discussed in section D.1.1 of this determination

** Debt raising costs are calculated consistent with section E.1.4 of this determination.

D.6 CitiPower and Powercor

Section B.3 identifies Citipower's and Powercor's contracts that the AER considers were not let in accordance with a competitive tendering process.

The AER has applied the commercial standard test to the following items that were not let in accordance with a competitive tendering process:

- meter supply capex - unit costs
- meter supply capex - 'other costs'
- meter installation capex - 'other costs'
- communications equipment supply capex - 'other costs'
- communications equipment installation capex - 'other costs'
- IT capex
- project and administrative costs (Powercor)
- meter data services opex
- meter maintenance opex
- customer service opex
- communication operations opex
- project management opex
- executive and corporate services opex
- IT opex

The AER's assessment of each of these items is set out below.

In accordance with clause 5.6 of the revised Order, the AER sought further information and/or documents from Citipower and Powercor in order to determine their application.

In relation to captial expenditure, the AER specifically sought the relevant models behind the expenditure, and business cases to justify the expenditure. The AER also requested the submission of any other type of information that CitiPower and Powercor could provide to support their proposed capital expenditure.

In relation to operating expenditure, the AER specifically sought:

- a forecasting model (i.e. internal opex forecast models) to calculate the opex forecasts within the AMI budget templates

- if there is no specific model behind the AMI opex forecasts, the calculations and assumptions behind the opex forecasts within the budget templates

- an explanation and quantification of how internal governance processes including risk management were factored into the opex forecast

- an explanation of whether any alternative opex options were considered when forecasting costs.[280]

The AER notes that Citipower and Powercor provided some but not all of the information requested. The AER therefore based its assessment on the information available to it including the Impaq report, the budget and charges applications, and where provided by CitiPower and Powercor, that additional information.

D.6.1 Meter supply – unit costs

As outlined in section B, the AER did not establish that CitiPower's and Powercor's existing metering supply contracts were not let in accordance with a competitive tendering process. However, CitiPower and Powercor have left 10 per cent of meter supply uncontracted.

CitiPower and Powercor have forecast expenditure for the remaining 10 per cent of meter supply based on the unit costs and a supply allocation which is consistent with the contracted 90 per cent of meter supply.

The AER did not establish that incurring the forecast expenditure would involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances (the commercial standard test).[281]

D.6.2 Meter supply – 'other costs'

CitiPower's and Powercor's budget application includes expenditure for meter supply classified as 'other costs', as opposed to 'contract costs'. For the 2012-15 period, CitiPower's expenditure for meter supply 'other costs' is around $5.2m and Powercor's is around $10.9m.[282] CitiPower's and Powercor's forecast expenditure is set out in Table D.45 and Table D.46

In order for the AER to assess this expenditure under the commercial standard test, the AER sought information from CitiPower and Powercor to explain the reasons behind the forecast expenditure. CitiPower and Powercor responded with some models which categorised the costs which make up the total meter supply 'other costs'.[283]

The information provided by CitiPower and Powercor has outlined that they have calculated their meter supply 'other costs' by subtracting the contract costs from the total costs. CitiPower and Powercor have told the AER that the total cost for meter

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[280] AER, *Email re: AMI - Questions from the AER to CitiPower and Powercor*, 13 April 2011; AER, *Email re: Questions for CitiPower & Powercor*, 16 June 2011.

[281] The commercial standard test is outlined in clause 5C.3(b)(iv) of the revised Order.

[282] CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

[283] CitiPower and Powercor, email Reponses of 20 April 2011, 2 May 2011, 12 May 2011, 21 June 2011, 24 June 2011, and 29 June 2011.

supply is derived from their internal financial system, details of which were not provided to the AER. The AER recognises that the amount of expenditure remaining after subtracting the contract costs from the total costs must therefore total the 'other costs'.[284]

The AER considers that the information provided by CitiPower and Powercor does not sufficiently explain the expenditure proposed for meter supply 'other costs'.

To further assist in its assessment, the AER sought advice from Impaq Consulting.

Impaq's assessment considered that the proposed expenditure related to the management of contracts and logistics for meter supply, and that the costs would be comprised mainly of staffing expenses. Using the assumption that one full time employee (FTE) would cost CitiPower and Powercor $150,000, Impaq calculated the number of FTEs the proposed expenditure could cover. Impaq's assessment is in Table D.45 and Table D.46 below:

Table D.45 CitiPower's FTE equivalent of "other" meter supply costs

	2012	2013	2014	2015	Total
"Other" cost ($,000, real 2011)	2,389	1,825	455	595	5,264
FTE equivalent	15.9	12.2	3.0	4.0	

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 17.

Table D.46 Powercor's FTE equivalent of "other" meter supply costs

	2012	2013	2014	2015	Total
"Other" cost ($,000, real 2011)	4,697	3,986	1,139	1,085	10,907
FTE equivalent	31.3	26.6	7.6	7.2	

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 84.

Impaq considered that the number of FTEs that the proposed expenditure could cover is in excess of the number required to perform the roles necessary in the 2012-15 period. When conducting its assessment, Impaq considered that CitiPower and Powercor require the expenditure for activities such as managing metering supply contracts, managing the logistics of returning meters removed from customers' premises for abolishments and meter changes, dealing with meters that have failed, checking that vendors are doing appropriate meter testing, and reviewing proposed changes to meter software and hardware. Impaq concluded that 1 FTE (2 FTEs) is reasonable for CitiPower (Powercor) to undertake these tasks.

Information provided to the AER by CitiPower and Powercor states that a significant proportion of the costs relate to operational support.[285] Operational support has been

[284] ibid.
[285] CitiPower and Powercor, Updated AMI Capex spreadsheet

described by CitiPower and Powercor as involving program management, field management, and technological management. The AER considers that this type of expenditure is of the same type considered by Impaq.

The AER accepts Impaq's assessment as the commercial standard.

Based on the above information including the analysis provided by Impaq, the AER considers that the meter supply 'other costs' proposed by CitiPower and Powercor are a substantial departure from the commercial standard and therfore do not meet the commercial standard test. Accordingly, the AER has determined that CitiPower's and Powercor's budget be amended to reflect the commercial standard as set out in Impaq's advice. The AER's draft determination regarding meter supply 'other costs' for CitiPower and Powercor is set out in Table D.47 and Table D.48 below.

Table D.47 AER draft determination for meter supply 'other costs' - CitiPower ($,000, real 2011)

	2012	2013	2014	2015	Total
Citipower proposal	2,389	1,825	455	595	5,263
Impaq Assessment	150	150	150	150	600

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 18.

Table D.48 AER draft determination for meter supply 'other costs' - Powercor ($,000, real 2011)

	2012	2013	2014	2015	Total
Powercor "Other" cost	4,697	3,986	1,140	1,085	10,908
Impaq Assessment	300	300	300	300	1,200

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 85.

D.6.3 Meter installation – 'other costs'

CitiPower's and Powercor's budget application includes expenditure for meter installation that is classified as 'other costs', as opposed to 'contract costs'. For the 2012-15 period, CitiPower's expenditure for meter installation 'other costs' is around $21.8m and Powercor's is around $43.3m.[286] CitiPower's and Powercor's forecast expenditure is set out in Table D.49 and Table D.50 below:

Table D.49 CitiPower - Proposed meter installation "other" costs ($,000, real 2011)

	2012	2013	2014	2015	Total
Citipower proposal	10,183	8,025	1,822	1,811	21,841

Source: CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

[286] CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

Table D.50 CitiPower - Proposed meter installation "other" costs ($,000, real 2011)

	2012	2013	2014	2015	Total
Powercor proposal	20,885	17,461	2,494	2,486	43,326

Source: CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

In order for the AER to assess this expenditure under the commercial standard test, the AER sought information from CitiPower and Powercor to explain the reasons behind the forecast expenditure. In response to the AER's requests for information, CitiPower and Powercor provided some models which categorised costs that made up the total meter installation 'other costs'.[287]

Information provided by CitiPower and Powercor has outlined that they have calculated their meter installation 'other costs' by subtracting the contract costs from the total costs. The total cost for meter installation is derived from CitiPower's and Powercor's internal financial system and was not provided to the AER.[288] The AER recognises that the amount of expenditure remaining after subtracting the contract costs from the total costs must therefore total the 'other costs'.

The AER considers that the information provided by CitiPower and Powercor does not sufficiently explain the expenditure proposed for meter installation 'other costs'. 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 sought advice from Impaq consulting.

Impaq considered that the costs proposed by CitiPower and Powercor are higher than what will be required for the 2012-15 period for the activities identified by Impaq. Impaq has given consideration to what it believes CitiPower and Powercor need the expenditure for, such as call centre support, the provision of information to customers regarding the roll-out, delivering meters to contractors, the provision of meter seals and fuse sticks, installation issues management, program management, administration of contractors, and metering logistics management. In regards to the proposed expenditure for 2014 and 2015, Impaq considers that the installation cost for BAU metering is already receovered under Alternative Control Services for new connections and meter changes. Impaq considers that as the roll-out is completed at the end of 2013, there should be no costs for 2014 and 2015. Impaq's assessment is set out in Table D.51 and Table D.52 below:

[287] CitiPower and Powercor, email responses of 20 April 2011, 2 May 2011, 12 May 2011, 21 June 2011, 24 June 2011, and 29 June 2011.

[288] ibid.

Table D.51 CitiPower - Summary of Impaq's assessed installation "other" costs ($,000, real 2011)

Item	2012	2013
Call Centre	206	146
Customer communications	224	158
Freight and storage of old meters	48	48
Meter seals	32	22
Installation management	450	450
Total	959	824

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 23.

Table D.52 Powercor - Summary of Impaq's assessed installation "other" costs ($,000, real 2011)

Item	2012	2013
Call Centre	467	305
Customer communications	507	331
Freight and storage of old meters	80	80
Meter seals	72	47
Installation management	750	750
Total	1,876	1,513

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 90.

Information provided to the AER by CitiPower and Powercor states that a significant proportion of the costs relate to operational support. Operational support has been described by CitiPower and Powercor as involving program management, field management, and technological management.[289] The AER considers that this type of expenditure is of the same type considered by Impaq.

The AER accepts Impaq's assessment as the commercial standard.

Based on the above information including the analysis provided by Impaq, the AER considers that the meter installation 'other costs' proposed by CitiPower and Powercor are a substantial departure from the commercial standard and therefore does not meet the commercial standard test. Accordingly, the AER has determined that CitiPower's and Powercor's budget be amended to reflect the commercial standard as set out in Impaq's advice. The AER's draft determination regarding meter installation

[289] CitiPower and Powercor, Updated AMI Capex spreadsheet

'other costs' for CitiPower and Powercor is set out in Table D.53 and Table D.54 below:

Table D.53 AER draft determination for Proposed meter installation "other" costs - Citipower ($,000, real 2011)

	2012	2013	2014	2015	Total
Citipower application	10,183	8,025	1,822	1,811	21,841
Impaq Assessment	959	824	0	0	1,783

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 23.

Table D.54 AER draft determination for Proposed meter installation "other" costs - Powercor ($,000, real 2011)

	2012	2013	2014	2015	Total
PAL forecast	20,885	17,461	2,494	2,486	43,326
Impaq Assessment	1,876	1,513	0	0	3,390

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 90.

D.6.4 Communications equipment supply - 'other costs'

CitiPower's and Powercor's budget application includes expenditure for communications equipment supply that is classified as 'other costs', as opposed to 'contract costs.' For the 2012-15 period, CitiPower's expenditure for communications equipment supply 'other costs' is around $11,730, and Powercor's is around $4.8m.[290]

In order for the AER to assess this expenditure under the commercial standard test, the AER sought information from CitiPower and Powercor to explain the reasons behind the forecast expenditure. In response to the AER's requests for information, CitiPower and Powercor provided some models which categorised various types of expenditure that made up the communications equipment supply 'other costs'.[291]

To assist in its assessment, the AER also sought advice from Impaq.

The AER considers that the expenditure proposed by CitiPower is of a commercial standard. This view is also supported by Impaq.

Impaq notes that Powercor's application states that CHED services charges 8 per cent on top of the communications equipment supply contract costs. Impaq further states that the amount proposed by Powercor is far in excess of 8 per cent. Impaq advises that an allowance for contract administration of 10 per cent is reasonable. Impaq's assessment is set out in Table D.55 below.

[290] CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

[291] CitiPower and Powercor, email responses of 20 April 2011, 2 May 2011, 12 May 2011, 21 June 2011, 24 June 2011, and 29 June 2011.

Table D.55 Powercor - Summary of Impaq assessed communications equipment supply "other" costs ($,000 real 2011)

	2012	2013	2014	2015	Total
Powercor application	2,725	1,891	108	105	4,829
Impaq Assessment	222	2	3	3	230

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 91.

The AER accepts Impaq's assessment as the commercial standard.

Based on the above information including the analysis provided by Impaq, the AER considers that the communications equipment supply 'other costs' proposed by Powercor are a substantial departure from the commercial standard and therefore do not meet the commercial standard test. Accordingly, the AER has determined that Powercor's budget be amended to reflect the commercial standard as set out in Impaq's advice.

D.6.5 Communications equipment installation – 'other costs'

CitiPower's and Powercor's budget application includes expenditure for communications equipment installation that is classified as 'other costs', as opposed to 'contract costs'. For the 2012-15 period, CitiPower's expenditure for communications equipment installation 'other costs' is around $2.5m and Powercor's is around $12.4m.[292] CitiPower's and Powercor's proposed expenditure is included in Table D.56 and Table D.57.

In order for the AER to assess this expenditure under the commercial standard test for the AER sought information from CitiPower and Powercor to explain the reasons behind the forecast expenditure. In response to the AER's requests for information, CitiPower and Powercor provided some models which categorised various types of expenditure that made up the communications equipment installation 'other costs'.[293]

The AER understands that CitiPower and Powercor have chosen to conduct the installation of communications equipment in-house.[294] Therefore, there is no contract expenditure associated with communications equipment installation. CitiPower and Powercor provided information to the AER outlining the costs and rationale behind the expenditure.

To assist in its assessment, the AER also sought advice from Impaq.

Impaq's assessment noted that the installation cost per communications device is significantly higher the costs incurred by the other Victorian DNSPs, and also higher than its understanding of the market rate for such services.

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[292] ibid.

[293] CitiPower and Powercor, email responses of 20 April 2011, 2 May 2011, 12 May 2011, 21 June 2011, 24 June 2011, and 29 June 2011.

[294] CitiPower and Powercor, Budget and Charges Application 2012-15

Impaq divided the proposed expenditure by the number of communications devices being installed in order to calculate the installation cost per device. While the installation cost per device fluctuated significantly between CitiPower and Powercor over the 2012-15 period, the average cost for CitiPower was $143,333 and for Powercor it was $11,340.

Impaq has advised that an installation cost of around $1000 per communication device is in line with the costs of the other Victorian DNSPs, and is a reasonable market rate for the work required. Noting that the installation cost is likely to be higher due to CitiPower and Powercor conducting the installation of communication devices in-house, Impaq considered that allowing an installation cost of $2,000 per unit is reasonable. Impaq also noted that, due to some design work, CitiPower and Powercor are likely to incur expenditure for additional FTEs. Impaq considered that 2 FTEs for 2012-13, and 0.5 FTEs for 2014-15 is a reasonable allowance for CitiPower. For Powercor, Impaq considered that 4 FTEs for 2012-13, and 1 FTE for 2014-15 is reasonable.

Impaq's assessment is set out in Table D.56 and Table D.57 below:

Table D.56 CitiPower - Impaq's assessment of Communications installation "other" ($,000, real 2011)

	2012	2013	2014	2015	Total
CitiPower application	1,119	1,034	399	27	2,579
Access points	2	2	3	3	10
Relays	0	0	3	5	8
Total Devices	2	2	6	8	18
Installation cost per device ($)	2,000	2,000	2,000	2,000	
FTEs	2	2	0.5	0.5	
FTE unit cost ($pa)	150,000	150,000	150,000	150,000	
Total Cost	304	304	87	91	786

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 26.

Table D.57 Powercor - Impaq's assessment of Communications installation "other"

($,000 real 2011)	2012	2013	2014	2015	Total
Powercor application	8,145	3,344	892	47	12,429
Access points	246	5	5	5	261
Relays	817	0	9	9	835
Total Devices	1,063	5	14	14	1,096
Installation cost per device ($)	2,000	2,000	2,000	2,000	
FTEs	4	4	1	1	
FTE unit cost ($pa)	150,000	150,000	150,000	150,000	
Total Cost	2,726	1,010	178	178	4,092

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 92.

Impaq gave consideration to the design work required to determine the location of access points and relays, and also monitoring of the performance of the MESH network and the 3G backhaul communications network. Impaq also noted that there will likely be additional work required to manage testing of new software from Silversprings. Impaq noted that its assessment provides a sufficient allowance for staff to perform these functions.

The AER accepts Impaq's assessment represents as the commercial standard.

The AER understands that the installation component of the expenditure proposed by CitiPower and Powercor makes up a small portion of the total expenditure. For example, for 2012, information provided by CitiPower outlines that $74,000 will be spent on communications installation, however over $1m is required for 'operational support'.[295] The AER notes that 'operational support' covers expenditure on program management, field management, technological management, and corporate services. The AER considers that this type of expenditure has been considered by Impaq when it conducted its own build up assessment.

Based on the above information including the analysis provided by Impaq, the AER considers that the communication installation 'other costs' proposed by CitiPower and Powercor are a substantial departure from the commercial standard and therefore do not meet the commercial standard test. Accordingly, the AER has determined that CitiPower's and Powercor's budget be amended to reflect the commercial standard as set out in Impaq's advice.

[295] CitiPower and Powercor, Updated AMI Capex spreadsheet

D.6.6 IT capital expenditure

For the 2012-15 period, CitiPower's budget has proposed $21.3m expenditure for IT capital expenditure (capex), and Powercor has proposed $35.2m.[296] The total proposed expenditure for CitiPower and Powercor is set out in Table D.58 and Table D.59 below:

Table D.58 CitiPower - Proposed IT Capex

	2012	2013	2014	2015
Asset management	60	-	-	-
Workforce scheduling and mobility	1,992	1,275	60	110
Connection point management	2,302	-	140	-
Outage management	126	36	-	-
Network management	710	1,960	409	410
Meter data management	1,947	922	527	527
Performance and regulatory	285	285	285	285
Revenue management	260	120	-	-
IT program management	300	300	300	300
Infrastructure	893	936	1,952	1,301
Total	8,875	5,834	3,674	2,934

Source: CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

Table D.59 Powercor - Proposed IT Capex

	2012	2013	2014	2015
Asset management	60	-	-	-
Workforce scheduling and mobility	2,035	1,317	60	110
Connection point management	2,302	-	140	-
Outage management	174	84	-	-
Network management	1,657	4,573	955	957
Meter data management	2,307	1,282	887	887
Performance and regulatory	505	505	505	505
Revenue management	260	120	-	-
IT program management	300	300	300	300
Infrastructure	2,083	2,185	4,555	3,036
Total	11,682	10,366	7,402	5,795

Source: CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

[296] CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

In order for the AER to assess this expenditure under the commercial standard test, the AER sought information from CitiPower and Powercor to explain the reasons behind the expenditure. In response to the AER's requests for information, CitiPower and Powercor provided further information regarding some of the individual cost categories outlined above.[297]

To assist in the assessment of CitiPower's and Powercor's IT capital expenditure, the AER sought advice from Impaq. In its assessment, Impaq noted concerns relating to a number of the above cost categories. The AER's application of the commercial standard test is set out below:

Workforce scheduling and mobility

CitiPower and Powercor have stated that in 2012 the costs for workforce scheduling and mobility are driven by refinements to the customer appointment booking portal and telecommunications costs for enhancements and device replacements. For 2013, CitiPower and Powercor claim that the costs are driven by an upgrade to a service suite and an AMI roll-out decommissioning project.

After considering all information provided by CitiPower and Powercor, Impaq has advised that there should be no need for CitiPower and Powercor to further invest in the system that is only required for another 2 years.

The AER notes that the AMI roll-out will be entering its fourth year in 2012. The AER understands that the roll-out for CitiPower and Powercor has been successful and has met all necessary requirements under the revised Order. The AER considers that incurring over $3m expenditure in 2012-for systems that will no longer be required after 2014 is a substantial departure from the commercial standard which would not require such further investment.

The AER has therefore concluded that incurring the expenditure does not meet the commercial standard test.

Connection point management

CitiPower and Powercor have stated that the costs in 2012 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. However, CitiPower and Powercor have not provided any further information regarding the $140,000 expenditure for 2014.

Based on the limited available information, which does not fully identify the nature of the expenditure, the AER considers that it does not meet the commercial standard test.

Outage management

CitiPower and Powercor have stated that outage management relates to field trouble ticket management and minor enhancements associated with field handheld devices to manage AMI related faults.

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[297] CitiPower and Powercor, email responses of 20 April 2011, 2 May 2011, 12 May 2011, 21 June 2011, 24 June 2011, and 29 June 2011.

Based on the information provided, the AER has not established that incurring the expenditure will involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Network management

CitiPower and Powercor have stated that the costs relating to network management are driven by technical upgrades every year as the system is relatively immature, and licence costs which increase in line with meter volumes. CitiPower and Powercor have also provided further information regarding the expenditure as part of its budget application.

The AER has assessed the information provided and has not established that incurring the expenditure will involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Meter data management

CitiPower and Powercor have stated that the costs relating to meter data management relate to a trial for 10,000 customers to access their interval meter data via a hosted service with Silversprings. CitiPower and Powercor have also provided other information explaining the expenditure.

Based on the information provided, the AER has not established that incurring the expenditure will involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Performance and regulatory reporting

CitiPower and Powercor have advised that:

- $210,000 each year for the 2012-15 period is related to reporting enhancements in support of service level agreements and other industry requests for CitiPower
- $330,000 each year for the 2012-15 period is related to reporting enhancements in support of service level agreements and other industry requests for Powercor
- $75,000 each year for the 2012-15 period is related to software, licences and hardware for CitiPower
- $175,000 each year for the 2012-15 period is related to software, licences and hardware for Powercor

After considering this information, Impaq has advised that as there has been no change to the regulatory reporting required of the Victorian DNSPs, that there are no requirements for enhancements or modifications to reporting systems. Impaq concluded that there is no requirement for expenditure during the 2012-15 period for performance and regulatory reporting.

The AER accepts Impaq's assessment as the commercial standard and has therefore concluded that incurring the expenditure will involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

IT program management

CitiPower and Powercor have stated that the costs are comprised of labour costs, and are based on a split of external and internal labour. However, CitiPower and Powercor have not provided any further information to explain the expenditure.

After considering all information provided by CitiPower and Powercor, Impaq has advised that the IT program management costs should cease at the end of 2013 given the AMI roll-out schedule.

The AER has assessed the above information and accepts Impaq's assessemnt as the commercial standard. The AER therefore considers that the costs proposed by Citipower and Powercor are a substantial departure from this standard as 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 co-ordinate a program which will finish at the end of 2013.

The AER has therefore concluded that incurring the expenditure will involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Infrastructure

CitiPower and Powercor have provided independent reports that endorse their infrastructure design and program. In their budget applications, CitiPower and Powercor have noted that much of the IT transformation caused by the AMI roll-out has occurred during the 2009-11 period. However, they state that for 2012-15, the need for greater storage and backup capacity due to meter and data volume growth will drive expenditure.

After considering this information, Impaq has advised that CitiPower's and Powercor's proposed expenditure for 2012 and 2013 appears reasonable. However, Impaq advised that the increase in expenditure for 2014 and 2015 was not justified. Impaq has advised that $2m for 2014 and 2015 is reasonable to enable Powercor to upgrade hardware and the human resource effort involved in migrating applications and data from new to old servers, and that $500,000 is reasonable for CitiPower.

The AER has considered CitiPower's and Powercor's budget applications, and their responses to further questions regarding their expenditure on IT related infrastructure. The AER is of the view that CitiPower and Powercor have not adequately explained the increase in expenditure for 2014 and 2015 and that the increase is well in excess of the expenditure considered reasonable by Impaq which the AER accepts is the commercial standard.

The AER has therefore concluded that incurring the expenditure will involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances.

Draft determination - CitiPower and Powercor IT capex

Based on the above information and the analysis provided by Impaq, the AER considers that the IT capex expenditure proposed by CitiPower and Powercor is a substantial departure from the commercial standard and therefore do not meet the

commercial standard test. The AER has determined that CitiPower's and Powercor's budget be amended to reflect the commercial standard as set out in Impaq's advice. The AER's draft determination regarding IT capex for CitiPower and Powercor is set out in Table D.60 and Table D.61 below:

Table D.60 AER draft determination - CitiPower IT Capex

	2012	2013	2014	2015	Total
Asset management	60	0	0	0	60
Workforce scheduling and	0	0	0	0	0
Connection point management	2,302	0	140	0	2442
Outage management	126	36	0	0	0
Network management	710	1,960	409	410	3489
Meter data management	1,947	922	527	527	3923
Performance and regulatory	0	0	0	0	0
Revenue management	260	120	0	0	380
IT program management	300	300	0	0	600
Infrastructure	893	936	500	500	2829
Total	6,598	4,274	1,576	1,437	13,885

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 28.

Table D.61 AER draft determination - Powercor IT Capex

	2012	2013	2014	2015	Total
Asset management	60	0	0	0	60
Workforce scheduling and	0	0	0	0	0
Connection point management	2,302	0	140	0	2,442
Outage management	174	84	0	0	0
Network management	1,657	4,573	955	957	8,142
Meter data management	2,307	1,282	887	887	5,363
Performance and regulatory	0	0	0	0	0
Revenue management	260	120	0	0	380
IT program management	300	300	0	0	600
Infrastructure	2,083	2,185	2,000	2,000	8,268
Total	9,143	8,544	3,982	3,844	25,513

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 94.

D.6.7 Project management costs

For the 2012-15 period, CitiPower's budget has proposed around $6.4m expenditure for project management, and Powercor has proposed $14.2m.[298]

The AER has concluded, on the basis of its own analysis of information provided by CitiPower and Powercor, and where appropriate advice provided from Impaq, that the proposed expenditure meets the commercial standard test.

D.6.8 Project and administrative costs - Powercor

In Powercor's budget templates, expenditure categorised as 'project and administrative costs' are outlined.[299] The expenditure is set out in Table D.62 below:

Table D.62 Powercor proposed expenditure for 'project and administrative costs'

	2012	2013	2014	2015	Total
Motor Vehicles	129	315	330	280	1,054
General Equipment and Test Lab	81	75	75	84	314
Total	210	390	405	364	1,369

Source: CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011

In order for the AER to assess this expenditure under the commercial standard test, the AER sought further information from Powercor to explain the reasons behind the forecast expenditure. Powercor has not provided any further detail beyond the information in Table D.62.

Without being provided an explanation by Powercor as to why the costs are proposed or a breakdown of the individual costs outlining how they were forecast, the AER sought advice from Impaq consulting.

Impaq assessed the proposed expenditure, and made the following assumptions:

- The motor vehicles are vans for field technicians servicing AMI field equipment
- A field technicians van costs about $40,000 fitted
- Powercor retains vehicles for 4 years
- The residual value of a vehicle is about 33 per cent of its new price
- Using these assumptions, Impaq considers that the expenditure proposed would cover about 30 vans. Impaq also considers that Powercor will need about 5 technicians to maintain the communications network, which is consistent with its

[298] CitiPower and Powercor, AMI 2012-15 budget templates spreadsheet, 28 February 2011
[299] ibid.

advice relating to Powercor's operational expenditure. Therefore, Impaq advises that 5 vehicles are a reasonable quantity.

- Impaq notes that the costs proposed by Powercor classified as 'general equipment and test lab' appear reasonable.

Based on the above information and the analysis provided by Impaq, which the AER accepts as the commercial standard, the AER considers that the project and administrative costs proposed by Powercor are a substantial departure from that standard. Therefore, those costs do not meet the commercial standard test. Accordingly, the AER has determined that Powercor's budget be amended to reflect the commercial standard as set out in Impaq's advice. The AER's draft determination regarding Powercor's proposed expenditure for project and administrative costs is set out in Table D.63 below.

Table D.63 AER draft determination - Project and administrative costs - Powercor

	2012	2013	2014	2015	Total
Motor Vehicles	42	42	42	42	170
General Equipment and Test Lab	81	75	75	84	314
Total	123	117	117	126	483

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 96.

D.6.9 Meter data services

The Meter data services category refers to activities related to the collection, validation and provision of data services to the market. CitiPower and Powercor have requested $5.9 million and $16.4 million respectively for this expenditure category.[300]

In assessing whether CitiPower's and Powercor's forecasts for meter data services meet 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 CitiPower and Powercor as being included in their meter data services costs
- the quantum of meter data costs forecast by CitiPower and Powercor and the number of staff this equates to

[300] CitiPower, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 76-78; Powercor, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 81-83.

- any other information provided by CitiPower and Powercor to develop their forecasts.

In a response to the AER's request for information, CitiPower and Powercor stated that the primary driver for this activity is for human intervention in the delivery of data for the AMI program.[301] The AER has considered this issue and does not accept this proposition as 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 service level specification requires 96 per cent data processed by 6 am. That is, any proposed AMI solutions are designed so that data processing is automated.

The AER sought further clarification from CitiPower and Powercor on how they have formulated their forecasts for this category. In response to the AER's requests for information, CitiPower and Powercor cited that their forecasts (in terms of staffing) were based on the fact that the businesses were expecting an increase in data loads as AMI meters were producing data at half hourly intervals.[302] However no information was given on:

- how these FTEs translated into CitiPower's and Powercor's forecasts
- how these FTEs are to be allocated into the different functions
- data to substantiate that tasks to be performed by these staffs are appropriate
- the roles and unit cost for these FTE's, for example whether the FTEs are for managerial positions or for call centre staff.

As CitiPower and Powercor did not provide an adequate explanation for the costs proposed, or a breakdown of the individual costs outlining how they were forecast, the AER has conducted an assessment of whether the expenditure meets the commercial standard test based on the information available to it.

In order to assist in its assessment, the AER sought advice from Impaq. In conducting its review of CitiPower and Powercor's opex, Impaq also noted the absence of information in their proposals. In the absence of the relevant information, Impaq undertook a bottom-up build of the likely costs of CitiPower's and Powercor's operations. In forming its alternative forecasts, Impaq took into account the information provided by CitiPower and Powercor as follows:

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[301] CitiPower and Powercor, Email: *Complete response to the AMI questions sent on the 11 April and Second set of responses to AER questions sent 11 April*, 2 May 2011, pp. 8-9.

[302] Ibid.

- *Collection and processing of data:* Impaq considered data processing should be minimal as 99.9 per cent of data delivered to CitiPower's and Powercor's network management systems will not require correction. On the remaining data (0.01 per cent) that needs to be corrected, Impaq advised that the vast majority of errors would be addressed via standard and automated algorithm. Therefore the need for human intervention will be limited.

- *Management of national metering identifiers:* Impaq considered that while this resourcing requirement may be justifiable at the start of the system implementation stage, once the systems are in place, the ongoing management of this system will be mostly automated. Furthermore, Impaq noted that CitiPower and Powercor have the contractual power to reduce errors in data at the time of meter changeover to 0.5 per cent. As such the maximum errors in NMI data for the roll-out should be 635 for 2012 (or about 3 to 4 per day) and 450 for 2013 (or about 2 per day).

- *Handling of market participants request for data:* Impaq considered that metering and metering installation data are available from Metering and Settlement Transfer Solution (MSAT). Furthermore, with the daily interval data for all meters, retailers will be receiving current information and any request for data will be limited.

- *Provision of data to AEMO:* The information provided by CitiPower and Powercor did not detail what this activity relates to or what data will be required by AEMO. Impaq concluded that the expenditure for this item should already be covered in one of the above-mentioned activities.[303]

The above information provided by Impaq consulting has led the AER to conclude the following:

- the minimal number of errors will warrant very limited human intervention

- given the minimum number of errors and CitiPower's and Powercor's discretion under their contracting arrangements, the AER does not accept CitiPower's and Powercor's assumptions that this activity will require considerable resourcing[304]

- CitiPower's and Powercor's assumptions about additional requests for new information from retailers are not valid

- as advised by Impaq, the expenditure for the provision of data to AEMO is likely to have been recovered in other activities in this cost category.

For these reasons the AER considers it appropriate that in this case the commercial standard against which CitiPower's and Powercor's proposed expenditures can be assessed to determine whether it involves a substantial departure from a commercial

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[303] Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015,* July 2011, pp. 61-32 and 97-99.

[304] Powercor, *Advanced Metering Infrastructure Field Force, Framework agreement with UXC Limited*, pp. 58-59; Powercor, *Advanced Metering Infrastructure Field Force, Framework agreement with Bilfinger Berger Services*, pp. 61-62.

standard is Impaq's advice based on its bottom-up build. This is set out in the tables below.

Table D.64 Impaq's conclusion on CitiPower's meter data services ($,000 real 2011)

		2012	2013	2014	2015	Total/Average
Citipower Forecast		1,909	1,701	1,321	982	5,913
Office Mgr FTE		1.0	1.0	1.0	1.0	1.0
Staff FTE		20.5	18.1	13.8	9.9	15.6
Impaq FTE	Office Manager	1.0	1.0	1.0	1.0	1.0
	Data management	1.0	1.0	0.5	0.5	0.8
	Manage NMI	2.0	1.0	0.5	0.5	1.0
	Data requests	1.0	1.0	0.5	0.5	0.8
	Data to AEMO	0.0	0.0	0.0	0.0	0.0
IMPAQ cost		**465**	**378**	**246**	**246**	**1,336**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, pp. 30-31.

Table D.65 Impaq's conclusion on Powercor's meter data services ($,000 real 2011)

		2012	2013	2014	2015	Total/Average
PAL Forecast		5,343	4,663	3,577	2,824	16,407
Office Mgr FTE		1.0	1.0	1.0	1.0	1.0
Staff FTE		59.6	51.9	39.5	30.9	45.5
Impaq FTE	Office Manager	1.0	1.0	1.0	1.0	1.0
	Data management	3.0	3.0	2.0	2.0	2.5
	Manage NMI	5.0	3.0	2.0	2.0	3.0
	Data requests	3.0	3.0	2.0	1.0	2.3
	Data to AEMO	0.0	0.0	0.0	0.0	0.0
IMPAQ cost		**1,079**	**904**	**641**	**553**	**3,177**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 98.

Based on the above information, the AER considers their forecasts are a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- CitiPower's and Powercor's forecasts are around 400 per cent above Impaq's bottom-up build

- the activities proposed do not meet the standard with respect to the level of automation of data processing required under the AMI Functionality Specification. The AER notes that the Victorian DNSPs are required to meet these obligations from 1 January 2012.

Accordingly, the AER has approved the costs set out in Table D.74. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to CitiPower and Powercor's forecasts of meter data services for 2012-2015 which the AER considers reflect the commercial standard.

D.6.10 Meter maintenance

Meter maintenance refers to activities related to the maintenance of meters and meter testing requirements. CitiPower and Powercor have requested $6 million and $8.0 million respectively for this expenditure category.[305]

CitiPower's and Powercor's applications were unclear on how this forecast expenditure was derived. Subsequently the AER sought further information from CitiPower and Powercor.[306] Furthermore, in order to assist in its assessment the AER sought advice from Impaq.

Impaq undertook a bottom-up build of the likely costs of CitiPower's and Powercor's operations based on:

- the activities outlined by the businesses and any regulatory requirements (revised Order and NER)

- Australian engineering standard AS1284 part 13.[307]

Table D.38 sets out Impaq bottom build for meter testing numbers and costs based on AS1284.

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[305] CitiPower and Powercor, *AMI budget and charges application 2012-2015*, February 2011, pp. 76-78 and pp. 81-83.

[306] CitiPower and Powercor, *Email: Set of responses to AER questions sent 13 April*, 2 May 2011, 5 May 2011 and 12 May 2011, p. 4 and Maintenance unit rates and volumes. CitiPower's and Powercor's responses were segmented and a complete response was sent on 12 May; *Email: Responses to 16 June questions*, 29 June 2011 p. 6.

[307] Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 32-37 and 100-104.

Table D.66 Meter testing and costs

Meter Types	CP meter Nos.	PAL meter Nos	Total Meter Nos	No of families	Meters per family	Sample Size	Meters to be tested	Unit cost to test meters ($)	Cost to test
1 Ph 1e	245,093	477,005	722,098	22	32,823	315	6,930	250	
1 Ph 1e+C	7,166	57,901	65,067	2	32,534	315	630	250	
1 Ph 2e+C	35,556	213,255	248,811	8	31,101	315	2,520	250	
3 Ph	72,344	125,189	197,533	6	32,922	315	1,890	412.5	
3 Ph+1 Ph int C	2,808	15,111	17,919	2	8,960	200	400	412.5	
3 Ph CT	3,763	5,628	9,391	2	4,696	200	400		
Total	**366,730**	**894,089**	**1,260,819**	**42**	**30,020**		**12,770**		

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, pp. 34-35 and 101-102.

Impaq noted that the expenditure outlined by CitiPower and Powercor were above the requirements of Australian engineering standard AS1284 and the businesses obligations as set out in the revised Oder.

As CitiPower's and Powercor's forecast for meter maintenance and meter testing were above the requirements of the revised Order (particularly in respect to the number of meters its needs to test), the AER considers it appropriate that the commercial standard against which CitiPower and Powercor's proposed expenditures can be assessed to determine whether it involves a substantial departure from a commercial standard is Impaq's advice based on its bottom-up build. This is set out in the tables below.

Table D.67 Impaq's conclusion on CitiPower's and Powercor meter maintenance forecasts ($,000 real 2011)

	2012	2013	2014	2015	Total
Citipower forecast*	1,420	1,451	1,668	1,535	6,073
Powercor forecast	1,274	2,004	2,429	2,299	8,006
Impaq's conclusions					
Meter testing	866	866	866	866	3,465
CT meter testing			610	610	1,221
Unmetered supply audits	165	45	45	45	300
Metering Engineer	150	150	150	150	600
Total	1,181	1,061	1,672	1,672	5,585
Citipower allocation	**394**	**354**	**557**	**557**	**1,862**
Powercor allocation	**787**	**707**	**1,114**	**1,114**	**3,724**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 37 and 104; As per CitiPower's email re: third response to AER questions sent 11 April 2011, dated 5 May 2011.

Based on the above information, the AER considers that Citipower's and Powercor's forecasts are a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- CitiPower's and Powercor's forecasts are 200 per cent above Impaq's bottom-up build
- the activities proposed are greater than that required to meet Australian Standard AS1284 and above the revised Order's requirements for meter testing.

Accordingly, the AER has approved the costs set out in Table D.74. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to CitiPower and Powercor's forecasts of meter maintenance for 2012-2015 which the AER considers reflect the commercial standard.

D.6.11 Customer service

The customer service category relates to expenditure for call centre costs, customer interaction and revenue management. CitiPower and Powercor have requested $5.9 million and $13.9 million respectively for this expenditure category in 2012-2015.[308]

CitiPower's and Powercor's applications were unclear on how expenditure under this category was derived. Subsequently the AER sought further information from CitiPower and Powercor. In its response CitiPower and Powercor briefly stated that the forecast for this activity was based solely on the volumes of AMI meters deployed and the resulting expected additional FTEs required to handle phone calls. However no information was given on:

- how these FTEs translated into CitiPower's and Powercor's forecasts
- how these FTEs are to be allocated into the different functions stated by CitiPower and Powercor i.e. call centre, customer interactions etc
- any data to substantiate that tasks to be performed by these staff are appropriate
- the roles and unit cost for these FTE's, for example whether the FTEs are for managerial positions or for call centre customer staff.[309]

As CitiPower and Powercor did not provide an adequate explanation for the costs proposed, or a breakdown of the individual costs outlining how they were forecast, the AER has conducted an assessment of whether the expenditure meets the commercial standard test based on the information available to it. In doing so the AER took into account information provided by CitiPower and Powercor on the following:

- Call centre cost: As stated in section C.2.5, the AER concluded this activity will not likely to be incurred as it appears to be a duplication of a corresponding activity in capex called "meter installation capex other call centre costs"
- Customer interactions: The AER accepts that customer interaction and engagement are required for AMI related issues. However, CitiPower and Powercor have not quantified the breadth and depth of these interactions, the associated costs of such tasks or how these forecasts were derived. As mentioned in section C.2.6 the AER considers that "resolving exceptions" and "post and courier costs, stationary and printing for mails outs" will not be incurred as it has already been included in the meter installation capex other forecast.
- Revenue management: The AER accepts that some final meter reads will give rise to errors.[310] The AER however does not agree with CitiPower and Powercor that the number of incidence is 12 per cent for the following reasons:

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[308] CitiPower and Powercor, *AMI budget and charges application 2012-2015*, February 2011, pp. 86-87 and pp. 80-81.

[309] CitiPower and Powercor, *Email: Set of responses to AER questions sent 13 April*, 12 May 2011, p. 4.

- CitiPower and Powercor have not supplied any data to substantiate this assumption
- CitiPower and Powercor have discretion under their contract with providers to alter key performance indicators and thereby allowing them to reduce the incidence of errors significantly[311]
- CitiPower's and Powercors assumptions concerning meter fraud percentages are substantially higher than known statistics as documented by the Revenue Protection Conferences[312]
- without any relevant models and forecasting methodology, the AER is unclear on how these rates were factored into CitiPower's and Powercor's forecasts.

For these reasons the AER considers it appropriate that the commercial standard against which CitiPower and Powercor's proposed expenditures can be assessed to determine whether it involves a substantial departure a commercial standard is that set out in Impaq's advice as set in the table below.[313]

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310 CitiPower, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 81; *Powercor, Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 86.

311 Powercor, *Advanced Metering Infrastructure Field Force, Framework agreement with UXC Limited*, pp. 58-59; Powercor, *Advanced Metering Infrastructure Field Force, Framework agreement with Bilfinger Berger Services*, pp. 61-62.

312 The Australasian Utilities Revenue Protection Association ran conferences periodically until its merger with UMA in 2007. Revenue loss has been reported in the order of $80M to $160M in 2001 http://www.highbeam.com/doc/1G1-77779280.html. Total of 216,316 GWh in 2001 (http://www.abs.gov.au/ausstats/abs@.nsf/productsbytopic/0C2AA58A90E887B3CA256E60007BAB57?OpenDocument) at average price of $0.12. Gives non-technical .losses of 0.25% to 0.5%. Further if non-technical losses were of the order of 1.5% then distribution loss factors would be higher than they are.

313 Impaq consulting, *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 37-39 and 104-106.

Table D.68 Impaq's conclusion on CitiPower's customer service forecast (real 2011)

		2012	2013	2014	2015	Total/Average
Citipower Forecast		2,722	2,221	507	523	5,973
Impaq FTE	Call Centre	0	0	0	0	0
	Customer Interaction	0	0	0	0	0
	Revenue Management – billing	0.1	0.1	0	0	0.08
	Revenue Management – revenue protection	0.8	0.6	0.1	0.1	0.65
Impaq view - Cost of focus groups etc		100	100	100	100	400
IMPAQ FTE		0.9	0.7	0.1	0.1	0.73
IMPAQ cost		**212**	**187**	**114**	**114**	**627**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 37.

Table D.69 Impaq's conclusion on Powercor's customer service forecast (real 2011)

		2012	2013	2014	2015	Total/Average
PAL Forecast		6,192	5,083	1,274	1,315	13,864
Impaq FTE	Call Centre	0	0	0	0	0
	Customer Interaction	0	0	0	0	0
	Revenue Management – billing	0.2	0.1	0	0	0.1
	Revenue Management – revenue protection	1.7	1.2	0.1	0.1	0.7
Impaq view - Cost of focus groups etc		100	100	100	100	400
IMPAQ FTE		1.9	1.3	0.1	0.1	13.2
IMPAQ cost		**336**	**264**	**114**	**114**	**828**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 104.

Based on the available information from CitiPower and Powercor to explain how their forecasts were derived, the AER considers that CitiPower's and Powercor's forecasts are a

substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- CitiPower's and Powercor's forecasts are 1000 per cent above Impaq's bottom-up build
- the resourcing sought therefore appears excessive for such activities
- there appears to be a duplication of expenditure from capex.

Accordingly, the AER has approved the costs set out in Table D.74. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to CitiPower and Powercor's forecasts of customer services for 2012-2015 which the AER considers reflect the commercial standard.

D.6.12 Communication operations

The communication operations category refers to activities related to expenditure for AMI technology, AMI communications control, technology acceptance and home area network support. CitiPower and Powercor have requested $5.3 million and $12.3 million respectively for this activity.[314]

CitiPower's and Powercor's applications were unclear on how expenditure under this category was derived. Subsequently the AER sought further information from CitiPower and Powercor. In its response CitiPower and Powercor briefly outlined the work stream for this activity as follows:

> - 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 Support, which is responsible for assessing and testing HAN technology and its compatibility with the AMI meters and Powercor Australia network.[315]

In order to assist in its assessment the AER sought advice from Impaq. In conducting its review of CitiPower and Powercor's opex, Impaq undertook a bottom-up build of the likely costs of CitiPower's and Powercor's operations. In forming its alternative forecasts, Impaq took into account the information provided by CitiPower and Powercor as follows:

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[314] CitiPower, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 79; Powercor, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 84.

[315] Ibid. CitiPower and Powercor, *Email: Second set of responses to AER questions sent 11 April*, 2 May 2011, pp. 12-13.

- *AMI Network operations and fault rectification*: Impaq considered the forecast outlined by CitiPower and Powercor to be excessive as it considers:
  - the businesses SSN network to be highly reliable, and
  - the number of expected faults within the network to be below 5 per cent.
- Therefore it would be expected that any resourcing requirement will reflect the network's reliability.
- *AMI data delivery*: Impaq considered that the expenditure for this activity has been included in CitiPower's and Powercor's meter data services and IT opex forecast.
- *Technology testing*: Impaq also considered that this activity has been recovered in CitiPower's and Powercor's capex communication equipment forecast.[316]

The above information provided by Impaq consulting has led the AER to conclude the following:

- given the access points failure rate, the corresponding resourcing requirements would be minimal
- as stated in section C.2.7 and C.2.8 the AER considers expenditure for AMI data delivery and technology testing is unlikely to be incurred.

For these reasons the AER considers it appropriate that the commercial standard against which CitiPower and Powercor's proposed expenditures be assessed to determine whether it involves a substantial departure from a commercial standard is that set out in Impaq's advice.[317] This is set out in the table below.

[316] Impaq Consulting: *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 40-45 and 104-109.
[317] Ibid.

Table D.70 Impaq's conclusion on CitiPower's and Powercor's communications operations forecast ($,000 real 2011)

	2012	2013	2014	2015	total
Technicians cost	1,350	1,350	1,350	1,350	5,400
Engineer cost	160	160	160	160	640
Section Manager	200	200	200	200	800
Vehicle operating costs	90	90	90	90	360
Consumables and equipment costs	100	100	100	100	400
Total	1,900	1,900	1,900	1,900	7,600
Citipower allocation	**633**	**633**	**633**	**633**	**2,533**
Powercor allocation	**1,267**	**1,267**	**1,267**	**1,267**	**5,067**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 41 and 108.

Given the above information, the AER considers this is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- CitiPower's and Powercor's forecasts are 80 per cent above Impaq's bottom-up build
- the resourcing sought therefore appears excessive such activities
- there appears to be a duplication of expenditure from capex and other opex activities (as per section C.2.5, C.2.6, C.2.7 and .

Accordingly, the AER has approved the costs set out in Table D.74. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to CitiPower and Powercor's forecasts of communications operations costs for 2012-2015 which the AER considers reflect the commercial standard.

D.6.13 Project management

Project management relates to expenditure to be incurred by CitiPower and Powercor for the management of the new AMI business unit and ensuring that the AMI business unit runs smoothly and is able to deliver to the regulatory standards. CitiPower and Powercor have requested $2.7 million and $6.0 million respectively for project management in the subsequent budget period.[318]

[318] CitiPower, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 76; Powercor, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, p. 81.

In a response to the AER's information request CitiPower and Powercor have provided detailed information on how the project management costs were derived.[319] The AER has reviewed this information and has concluded CitiPower's and Powercor's project management forecast meets the commercial standard test.

D.6.14 Executive and corporate services

The executive and corporate category relates to expenditure for financial management and EDPR preparation expenditure. CitiPower and Powercor have requested $1.4 million and $2.1 million respectively for the provision of these services.[320]

CitiPower's and Powercor's applications were unclear on how this expenditure category was derived. Subsequently the AER sought further information from CitiPower and Powercor. In its response CitiPower and Powercor briefly stated that the forecast for this activity was for professional and legal services fees.[321] However no other information was provided.

For this reason the AER considers it appropriate that the commercial standard against which CitiPower and Powercor's proposed expenditures can be assessed to determine whether it involves a substantial departure from a commercial standard is Impaq's advice based on its bottom-build of the likely costs to be incurred by the businesses.[322] This is set out in the tables below.

Table D.71 Impaq's conclusion on CitiPower's executive and corporate services costs ($,000 real 2011)

	2012	2013	2014	2015	Total/Average
Citipower Forecast	300	309	403	392	1,404
Equivalent FTE	2.9	3.0	4.0	3.8	3.4
IMPAQ FTE	1.0	1.0	2.0	2.0	1.5
IMPAQ cost	**102**	**102**	**382**	**382**	**968**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 44.

[319] CitiPower and Powercor, *Email: Set of responses to AER questions sent on 13 April*, 12 May 2011, pp. 2-4 and attachment: Management of AMI Program.

[320] CitiPower, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, pp. 76 and 83; Powercor, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, pp. 81 and 88.

[321] It appears from CitiPower's and Powercor proposals that the drivers for this activity would be for the 2016-2020 regulatory determination.

[322] Impaq Consulting,*Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 44 and 111-112.

D.6.14.2 Impaq's conclusion on Powercor's executive and corporate services costs ($,000 real 2011)

	2012	2013	2014	2015	Total/Average
PAL Forecast	424	436	638	609	2,107
Equivalent FTE	4.2	4.3	6.3	6.0	5.2
IMPAQ FTE	1.0	1.0	2.0	2.0	1.5
IMPAQ cost	**102**	**102**	**382**	**382**	**968**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 111.

Based on the above information, the AER considers CitiPower's and Powercor's forecast expenditure are a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as CitiPower's and Powercor's:

- forecasts are 50 per cent above Impaq's bottom-up build
- the resourcing sought therefore appears excessive for such activities

Accordingly, the AER has approved the costs set out in Table D.74. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to CitiPower and Powercor's forecasts of executive and corporate services costs for 2012-2015 which the AER considers reflect the commercial standard.

D.6.15 IT opex

The IT opex category relates to expenditure for workforce scheduling & mobility, connection point management, network management, meter data management, performance & regulatory reporting, logistics management and IT infrastructure. CitiPower and Powercor have requested $16.5 million and $38.4 million respectively for these activities.[323]

CitiPower's and Powercor's applications were unclear on how expenditure under this category was derived. Subsequently the AER sought further information from CitiPower and Powercor. In its 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 notably:

- how these activities translated into CitiPower's and Powercor's forecasts
- how the resourcing sought is to be allocated into the different functions they have outlined

[323] CitiPower, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, pp. 76-78; Powercor, *Advanced Metering Infrastructure budget and charges application 2012-15*, February 2011, pp. 81 and 83. Includes adjustments for CIS/FRC support as per CitiPower's and Powercor's email dated 29 June 2011.

- data to substantiate that the tasks to be performed are appropriate.[324]

In order to assist in its assessment the AER sought advice from Impaq. In conducting its review of CitiPower and Powercor's IT opex, Impaq undertook a bottom-up build of the likely costs of CitiPower's and Powercor's operations. In forming its alternative forecasts, Impaq took into account the information provided by CitiPower and Powercor as follows:

- Workforce scheduling and mobility: Impaq considered that there should be no need for CitiPower and Powercor to further invest in a system that is only required for another two years.

- Meter data management system: Impaq has advised that 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). Furthermore, Impaq expects the use of the gateway to be limited for AMI purposes.

- Utility Services Bus: Impaq considered that the cost of this should be borne across the whole Citipower business as it services all the major applications that operate on it. Furthermore the infrastructure cost of the USB is covered under IT infrastructure.

- As stated in section A.4 the hosting of a customer information portal is out of scope.[325]

The above information provided by Impaq has led the AER to conclude the following:

- there will limited use of CitiPower's and Powercor's MTS systems for AMI purposes and therefore any opex tied to this should reflect this limited use

- expenditure for workforce scheduling is not required as the roll-out concludes in 2013

- the customer information portal is out of scope.

For these reasons the AER considers it appropriate that the commercial standard against which CitiPower and Powercor's proposed expenditures can be assessed to determine whether it involves a substantial departure from that which a reasonable business would exercise in the circumstances is Impaq's advice based on its bottom-up build.[326] This is set out in the tables below.

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[324] CitiPower and Powercor, *Email: Second set of responses to AER questions sent 11 April*, 2 May 2011, pp. 7-8.

[325] Impaq Consulting: *Review of DNSPs AMI budget submission 2012-2015*, July 2011, pp. 45-47 and 112-114.

[326] Ibid.

Table D.72 Impaq's conclusion on CitiPower's IT opex forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
CitiPower's forecast	6,007	6,092	6,240	6,308	24,647
Impaq's conclusion					
Workforce Scheduling & Mobility	675	675			1,350
Connection Point Management	34	35	34	35	138
Network Management	562	606	615	626	2,409
Meter Data Management	1,439	1,450	1,338	1,345	5,571
Performance & Regulatory Reporting	54	54	54	54	216
Logistics Management	3	4	3	4	14
IT Infrastructure (incl middleware, B2B and B2M)	934	916	966	966	3,782
Impaq cost	**3,704**	**3,740**	**3,012**	**3,031**	**13,487**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 47.

Table D.73 Impaq's conclusion on Powercor's IT opex forecast ($,000 real 2011)

	2012	2013	2014	2015	Total
Powercor's forecast	9,365	9,485	9,710	9,803	38,364
Impaq's conclusion					
Workforce Scheduling & Mobility	1,275	1,275	0	0	2,550
Connection Point Management	34	34	34	34	138
Network Management	1,071	1,174	1,195	1,222	4,661
Meter Data Management	1,841	1,841	1,732	1,732	7,146
Performance & Regulatory Reporting	54	54	54	54	216
Logistics Management	8	8	8	8	32
IT Infrastructure (incl middleware, B2B and B2M)	2,180	2,137	2,254	2,254	8,824
Impaq cost	**6,463**	**6,523**	**5,277**	**5,304**	**23,567**

Source: Impaq Consulting: Review of DNSPs AMI budget submission 2012-2015, July 2011, p. 114.

Based on the above information, the AER considers this is a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances as:

- CitiPower's and Powercor's forecasts are 70 per cent above Impaq's bottom-up build

- the resourcing sought therefore appears excessive for such activities.

Accordingly, the AER has approved the costs set out in Table D.74. These costs are based on Impaq's recommended revision to expenditure and its recommended adjustment to CitiPower and Powercor's forecasts of IT opex for 2012-2015 which the AER considers reflect the commercial standard.

D.6.16 AER conclusion

For the reasons set out above, the AER has established that CitiPower's and Powercor's proposed capital expenditure for the following items involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances:

- meter supply 'other costs'
- meter installation 'other costs'
- communications equipment supply 'other costs' (for Powercor only)
- communications equipment installation 'other costs'
- IT capex (various categories of IT capex expenditure)
- project and administrative costs (for Powercor only)

For the reasons set out above, the AER has established that CitiPower's and Powercor's proposed operational expenditure for the following items involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances:

- Meter data services
- Meter maintenance
- Customer service
- Communications operations
- Executive and corporal support
- IT opex

Accordingly, the AER has rejected these proposed expenditure from CitPower's and Powercor's budget applications and approved the following operating expenditure.

Table D.74 AER approved budget for CitiPower for 2012–15 ($ real 2011)

	2012	2013	2014	2015
Capex				
Meter Supply - Contract*	19,398,952	12,994,270	697,873	1,011,948
Meter Supply other	150,000	150,000	150,000	150,000
Meter installation - contract*	5,786,290	3,799,620	0	0
Meter installation - other	959,000	824,000	0	0
Communications equipment supply - contract*	10,366	10,114	18,223	20,005
Communications equipment supply -other	6,000	1,000	2,000	2,000
Communications equipment installation – other	304,000	304,000	87,000	91,000
Project management*	2,182,570	1,623,280	0	0
Asset management	60,000	0	0	0
Workforce scheduling and mobility	0	0	0	0
Connection point management	2,302,000	0	140,000	0
Outage management	126,000	36,000	0	0
Network management	710,000	1,960,000	409,000	410,000
Meter data management	1,947,000	922,000	527,000	527,000
Performance and regulatory reporting	0	0	0	0
Revenue management	260,000	120,000	0	0
IT program management	300,000	300,000	0	0
Infrastructure	893,000	936,000	500,000	500,000
Total capex	**35,395,178**	**23,980,284**	**2,531,096**	**2,711,953**
Opex				
Meter Data Services	465,000	378,000	246,000	246,000
Meter Maintenance	394,000	354,000	557,000	557,000
Customer Service	212,000	187,000	114,000	114,000
Backhaul Communications	31,000	31,000	32,000	33,000

Communications operations	633,000	633,000	633,000	633,000
Project Management*	0	0	1,471,870	1,325,610
Executive & corporate services*	105,060	105,060	393,460	393,460
Debt raising cost**	0	0	73,055	64,590
Workforce Scheduling & Mobility	675,000	675,000	0	0
Connection Point Management	34,000	34,000	34,000	34,000
Network Management	562,000	606,000	615,000	626,000
Meter Data Management	1,439,000	1,450,000	1,338,000	1,345,000
Performance & Regulatory Reporting	54,000	54,000	54,000	54,000
Logistics Management	3,000	3,000	3,000	3,000
IT Infrastructure (incl middleware, B2B and B2M)	934,000	916,000	966,000	966,000
Total opex	**5,541,060**	**5,426,060**	**6,530,385**	**6,394,660**

Source: AER anlysis
*incorporates related party margins as discussed in section D.1.1 of this determination
** Debt raising costs are calculated consistent with section E.1.4 of this determination.

Table D.75 AER approved budget for Powercor for 2012–15 ($, real 2011)

	2012	2013	2014	2015
Capex				
Meter Supply - Contract*	43,053,592	28,132,112	2,085,690	1,964,166
Meter Supply other	300,000	300,000	300,000	300,000
Meter installation - contract*	16,009,718	9,246,723	0	0
Meter installation - other	1,877,000	1,513,000	0	0
Communications equipment supply - contract*	2,264,142	23,836	33,024	32,173
Communications equipment supply -other	222,000	2,000	3,000	3,000
Communications equipment installation – other	2,726,000	1,010,000	178,000	178,000
Project Administrative	123,000	117,000	117,000	126,000
Project Management*	4,857,480	3,614,270	0	0
Asset management	60,000	0	0	0
Workforce scheduling and mobility	0	0	0	0
Connection point management	2,302,000	0	140,000	0
Outage management	174,000	84,000	0	0
Network management	1,657,000	4,573,000	955,000	957,000
Meter data management	2,307,000	1,282,000	887,000	887,000
Performance and regulatory reporting	0	0	0	0
Revenue management	260,000	120,000	0	0
IT program management	300,000	300,000	0	0
Infrastructure	2,083,000	2,185,000	2,000,000	2,000,000
Total capex	**80,575,932**	**52,502,941**	**6,698,715**	**6,447,339**
Opex				
Meter Data Services	1,079,000	904,000	641,000	553,000
Meter Maintenance	787,000	707,000	1,114,000	1,114,000
Customer Service	336,000	264,000	114,000	114,000

Backhaul Communications	2,195,000	3,487,000	3,564,000	3,638,000
Communications operations	1,267,000	1,267,000	1,267,000	1,267,000
Project Management*	0	0	3,275,400	2,949,920
Executive & corporate services*	105,060	105,060	393,460	393,460
Debt raising costs**	0	0	175,218	156,809
Workforce Scheduling & Mobility	1,275,000	1,275,000	0	0
Connection Point Management	34,000	34,000	34,000	34,000
Network Management	1,071,000	1,174,000	1,195,000	1,222,000
Meter Data Management	1,841,000	1,841,000	1,732,000	1,732,000
Performance & Regulatory Reporting	54,000	54,000	54,000	54,000
Logistics Management	8,000	8,000	8,000	8,000
IT Infrastructure (incl middleware, B2B and B2M)	2,180,000	2,137,000	2,254,000	2,254,000
Total opex	**12,232,060**	**13,257,060**	**15,821,078**	**15,490,189**

Source: AER anlysis

* Incorporates related party margins as discussed in section D.1.1 of this determination

** Debt raising costs are calculated consistent with section E.1.4 of this determination.

E Revenue issues

E.1 Reconciliation with Regulatory Accounts

Clause 4.1(k)(i) of the revised Order require the AER to use the data in the DNSPs' audited 2006–08 regulatory accounting statements. Where data provided by the DNSPs are consistent with these accounts the AER has accepted them accordingly.

The AER identified variances and discrepancies between the data in the charges applications and the data in regulatory accounts for each DNSP. The AER requested clarification from the Victorian DNSPs concerning these discrepancies. In response:

- SP AusNet has stated that it will account for the differences between the regulatory accounts and will supply updated application templates that reconcile to the regulatory accounts following the draft determination.[327] Therefore the information as currently provided to the AER, the value of $644,076 for capex, $752,061 for opex and $289 for revenue, cannot be reconciled to the regulatory accounts. As such these amounts have not been approved in this draft determination.

- UED has stated that the capex amount and revenue amount stated in the regulatory accounts is correct. UED further advised that the regulatory accounts figure for opex included metering, services and time switches.[328] On this basis the AER has made an adjustment of $88,072 to capex and $364,304 to revenue to isolate these discrepancies. No further adjustment has been made to account for the greater opex figure in this draft determination.

- JEN has stated that its auditor KPMG has advised it to lower its AMI opex by $153,932. In addition JEN has noted a timing issue with the accrual of capex of $139,023. The AER considers that the regulatory accounts accounting treatment of capex and the budget and charges accounting treatment of capex should align. Therefore despite timing issues with the accrual of capex this should be moved into the 2011 regulatory period. The AER has made the necessary alterations in this draft determination.

- Powercor has stated that the difference between the regulatory accounts and actual opex expenditure of $86,195 was due to the allocation of shared corporate costs between regulatory segments not being finalised when the budget and charges applications were submitted.[329] The AER has reduced the budget and charges opex by this amount in this draft determination to isolate the amount to actual opex reported in the regulatory accounts.

- Citipower has stated that the difference between the regulatory accounts and actual opex expenditure of $5,332 for opex was due to the allocation of shared corporate costs between regulatory segments not being finalised when the budget and charges

[327] SP AusNet, email of 27 May 2011
[328] UED, email of 24 May 2011.
[329] Powercor, email of 25 May 2011

applications was submitted.[330] The AER has reduced the budget and charges opex by this amount for 2010.

The AER has reduced the budget and charges opex by this amount in this draft determination to isolate the amount to actual opex reported in the regulatory accounts.

E.1.1 Decision

The AER expects all DNSPs to resubmit a budget and charges application that will reconcile to the regulatory accounts. The AER has highlighted the discrepancies that exist between the regulatory accounts and the budget and charges template for each DNSP in this draft determination. These highlighted differences in actual values will be approved in the final determination on receipt of an audited reconciliation to the regulatory accounts.

E.2 Return on capital

Clauses 4.1(h) and 4.1(i) of the revised 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. Table 4.1 summarises the 2009-11 AMI budget and charges determination on WACC that will apply for the 2012 and 2013 period of the AER's the final determination.

Table E.1 AER final determination on WACC parameters for AMI period 1 January 2009 to 31 December 2013

WACC Parameter	2009-11 Determination
Gearing (debt to equity ratio)	60%
10 year risk free rate (nominal)	4.63%
Market risk premium	6.00%
Equity beta	1.00
Cost of equity	10.63%
Cost of debt (BBB+)	8.76%
Debt risk premium	4.00%
Debt raising cost	0.125
Nominal Vanilla WACC	9.51%

Source: AER, Victorian Advanced Metering Infrastructure Review: 2009-11AMI budget and charges applications Final Determination, pp 61

For the 2014-15 period the WACC will be set in accordance with clause 4.1(j) of the revised Order. The AER has written to each DNSP[331] outlining the AER's approach to setting the WACC for the 2014-15 period. This approach is as follows:

[330] Citipower, email of 25 May 2011

- 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 to apply for the 2014-2015 charges;

- 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.

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 (SORI)[332] 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 for changes to the WACC parameters established in the SORI based on persuasive evidence.

The AER notes that all DNSP's have nominated a WACC value of 9.51 per cent for the period 2012 to 2013 period which aligns to the revised Order requirements. The AER noted an error in the WACC parameters proposed by SP AusNet[333] and following consultation with SP AusNet has rectified the figures as set out in table E.2. The AER considers the application of a WACC value of 9.51 per cent to be consistent with the initial WACC determined in the initial 2009-2011 AMI Budget and Charges determination as required by the revised Order for 2012-2013.

The DNSPs, in their Budget and Charges Applications, have proposed the following placeholder WACC values for 2014-15 as set out in table E.2.

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[331] AER, Letter to Victorian DNSPs re: 2012-15 AMI Budget and Charges Information Templates, 15 February 2011

[332] AER, Electricity Transmission and Distribution Service Providers: Statement of Revise WACC Parameters (Transmission): Statement of Regulatory Intent on the Revised WACC Parameters (distribution), May 2009.

[333] SPI, SPI Electricity Pty Ltd Advanced Metering Infrastructure AMI subsequent Budget and Charges Application, February 2011, pp80

Table E.2 DNSPs proposed placeholder WACC parameters for AMI period 1 January 2014 to 31 December 2015

WACC Parameter	CitiPower	PowerCor	JEN	UED	SP AusNet
Gearing (debt to equity ratio)	60%	60%	60%	60%	60%
10 year risk free rate (nominal)	4.63%	4.63%	4.63%	4.63%	4.63%
Market risk premium	6.50%	6.50%	6.50%	6.50%	6.50%
Equity beta	0.80	0.80	0.80	0.80	0.80
Cost of equity	9.83%	9.83%	9.83%	9.83%	9.83%
Cost of debt (BBB+)	8.76%	8.76%	8.76%	8.76%	8.76%
Debt risk premium	4.00%	4.00%	4.00%	4.00%	4.00%
Debt raising cost	0.125	0.125	0.125	0.125	0.125
Nominal Vanilla WACC	9.19%	9.19%	9.19%	9.19%	9.19%

Source: Citipower, Advanced Metering Infrastructure Proposed Budget and Charges, February 2011, pp86; PowerCor, Advanced Metering Infrastructure Proposed Budget and Charges, February 2011, pp91; SP AusNet, email of 10/06/2011; JEN, Jemena Electricity Networks (VIC) Limited AMI Budget and Charges Application for 2012-2015, February 2011, pp.10;

The AER in assessing the placeholder WACC proposed by the DNSPs has considered its most recent WACC decision from the South Australian Gas Access Determination[334].

[334] AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, pp35-59

Table E.3 AER proposed placeholder WACC parameters for AMI period 1 January 2014 to 31 December 2015

WACC Parameter	AER placeholder WACC
Gearing (debt to equity ratio)	60%
10 year risk free rate (nominal)	5.40%
Market risk premium	6.00%
Equity beta	0.80
Cost of equity	10.20%
Cost of debt (BBB+)	9.04%
Debt risk premium	3.64%
Nominal Vanilla WACC	9.50%

Source: AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, pp59

The AER notes that the Victorian DNSPs have essentially proposed a placeholder WACC that used in the initial AMI budget and charges determination WACC (based on 2009 market rates) adjusted to reflect the AER's SORI. The AER notes that parameters, particularly bond rates, have moved since 2009 which has increased the value of WACC to 9.50 per cent. The AER proposed WACC placeholder is notably higher than the DNSPs proposed WACC placeholder of 9.19 per cent. This is primarily due to movements in market rates between 2009 and 2011.

Therefore the AER considers that instead of using figures determined in 2009 it is appropriate to use the most current WACC decision in this determination. The AER considers that the South Australian Gas Access Arrangement[335] and Queensland Gas Access Arrangement[336][337] represent the AER's current view of the value of WACC. The AER notes in those decisions the AER has set the value of the market risk premium (MRP) at 6.0 per cent. This is not in accord with the AER's SORI. However, the AER considers, when accounting for various persuasive evidence, as is consistent with clause 6.5(g) of the NER, an MRP of 6.0 per cent is appropriate.

[335] AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network: 1 July 2011 – 30 June 2016, June 2010

[336] AER, Final Decision: Envestra Ltd Access arrangement proposal for the QLD gas network: 1 July 2011 – 30 June 2016, June 2010

[337] AER, Final Decision: APT Allgas Access arrangement proposal for the QLD gas network: 1 July 2011 – 30 June 2016, June 2010

The AER considers the most appropriate WACC placeholder for the 2014-2015 period is the AER's most recent WACC decision of 9.50 per cent.

E.2.2 Decision

The AER accepts the WACC value of 9.51 per cent for the 2012 and 2013 period.

The AER notes the placeholder WACC value of 9.50 per cent is to be used for the 2014 and 2015 period until the AER makes its WACC decision for 2014-15 in 2013.

E.3 Depreciation

The asset lives for the period the 2012-15 budget period under this determination shall be determined in accordance with 4.1(g) of the revised Order which stipulates the asset life for remotely read meters and measurement transformers as 15 years, and telecommunications and information technology assets as 7 years. The AER's framework and approach, consistent with revised 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.

The AER included depreciation calculations in the 2012-15 budget and charges template 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 2012-15 budget and charges template.

The value of the depreciation building block has been calculated in accordance with the AER's budget and charges template for 2012-15.

The AER identified a minor error in the application of JEN's depreciation in regard to expenditure for and depreciation of current transformers being applied in the manually read meter asset class in the years 2014 and 2015. The AER advised JEN to transfer these costs to the AMI meter asset class and JEN has agreed to this alteration to its budget.[338] The AER has made this alteration to JEN's Budget model in this draft determination.

The AER has accepted the depreciation calculation method proposed by the DNSPs under the building block model.

E.4 Debt Raising Costs

Debt raising costs are incurred each time debt is rolled over, and may include underwriting fees, legal fees, company credit rating fees and other transaction costs. The AER has accepted that debt raising costs are a legitimate expense for which a DNSP should be provided an allowance.

The revised Order under clause 4.1 allows for debt raising costs during the initial WACC period (2009 to 2013) of 12.5 basis points per annum. The revised Order is silent reagarding the approach to debt raising costs for the period 2014-2015. The AER notes in its 2011-15 Victorian distribution determination that:

[338] Jemena, email of 22/06/2011

Debt raising costs are incurred each time debt is rolled over, and may include underwriting fees, legal fees, company credit rating fees and other transaction costs. The AER has accepted that debt raising costs are a legitimate expense for which a distribution network service provider (DNSP) should be provided an allowance

The AER also notes the Victorian DNSPs have proposed debt raising costs consistent with the initial WACC period.

The AER determined debt raising cost allowances for each of the Victorian DNSPs in its 2011-15 Victorian distribution determination based on the refined Allen Consulting Group (ACG) benchmark debt raising cost method for the period 2011-2015. This AMI budget and charges determination is for the period 2012-15.

E.4.1.1 Direct debt raising costs with a nominal WACC range between 9.40 and 9.95 per cent

	Explanation	1 issue	2 issues	4 issues	6 issues	10 issues
Amount raised ($'m, nominal)	Mulitples of median term notes ($250m)	250	500	1000	1500	2500
Gross underwriting fee	Median gross underwriting spread, upfront per issue	7.14-7.31	7.14-7.31	7.14-7.31	7.14-7.31	7.14-7.31
Legal and roadshow	$115k upfront per issue	0.73-0.75	0.73-0.75	0.73-0.75	0.73-0.75	0.73-0.75
Company credit rating	$50k per annum	2.00	1.00	0.50	0.33	0.20
Issue credit rating	4 basis point up front per issue	0.63-0.65	0.63-0.65	0.63-0.65	0.63-0.65	0.63-0.65
Registry fees	$3.5k up front per issue	0.14	0.14	0.14	0.14	0.14
Paying fees	$4/$1 million per annum	0.04	0.04	0.04	0.04	0.04
Total	Basis points per annum	10.7-10.9	9.7-9.9	9.2-9.4	9.0-9.2	8.9-9.1

Source: AER analysis
The AER notes when applying the 60 per cent debt/equity split assumed in the WACC that all DNSPs have less than $250 million metering RAB. Therefore only 1 issue will apply with a bond rate of 10.8 per cent.

For consistency with the AER's 2011-15 Victorian distribution determination the AER will allow the recovery of approved debt raising costs as an opex line item. The AER considers that as the 2014-15 period is BAU for metering services, given that the AMI roll-out will be completed in 2013, that the standard approach applied by the AER to debt raising costs for

BAU standard control services in the 2011-15 Victorian distribution determination should be applied.

In its 2011-15 Victorian distribution determination the AER has established a benchmark rate for determining debt raising costs based on the size of the 60 per cent of the metering RAB. For all DNSPs this is less than $250 million by 2015. Therefore under this benchmark the bond rate will be 10.8 basis points per annum. This benchmark debt raising cost of 10.8 basis points per annum was derived from the 2004 Allens Consulting Group report using updated inputs. The AER has applied this benchmark debt raising cost as the commercial standard for the purpose of the commercial standard test.

The AER notes that the DNSPs have proposed a debt raising cost of 12.5 basis points per annum but have not provided an explanation for this value.

The AER considers that the DNSPs' proposed debt raising cost of 12.5 basis point per annum is a substantial departure from the 10.8 basis points per annum benchmark which the AER accepts as the commercial standard. The AER therefore rejects the DNSPs proposed debt raising cost for the 2014-2015 period as being substantially different from the commercial standard. The AER therefore considers that the commercial standard of 10.8 basis points per annum should be applied for the reasons set out above.

The AER accepts the 12.5 basis point per annum debt raising cost proposed by the DNSP for the period 2012-13 as being consistent with the revised Order.

E.5 Equity Raising Costs – SP AusNet

Clause 4.1(h) of the revised Order states that equity raising costs shall be recovered as a maintenance and operating expense for the initial AMI WACC period.

The AER must assess whether equity raising costs are prudent under the:

- Competitive tender test;
- Expenditure incurred test; and
- Commercial standard test.

In undertaking its assessment the AER had regard to the Framework and Approach Paper which stated that the AER would:

> …for the initial AMI WACC Period the revised Order requires equity raising costs to be recovered as a maintenance and operating expense. Consistent with the nature of the revised Order, the AER considers that the equity raising costs recovered should be the actual costs incurred (and not benchmark costs). Thus, if a DNSP does not incur costs associated with raising equity to fund the AMI program, no cost recovery needs to occur.[339]

[339] 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.

Therefore the AER will allow for the cost pass through of actual equity raising costs made in the period 2009 to 2013 within that period if it meets the expenditure incurred test.

The AER considers it appropriate to assess equity raising costs for the 2014 and 2015 period under the tests in the revised Order.

The AER therefore first considered how equity raising costs would be assessed under the competitive tender test. The AER considers the only way for SP AusNet to competitively tender a funding solution is if it proceeded to market. However if the costs are bundled with the greater SP AusNet business costs, the AER recognises that the equity raising costs may not represent the best funding solution for the AMI roll-out as a separate business activity.

Having regard to the expenditure incurred test, the AER considers that debt and equity funding would ordinarily be incurred during a regulatory period to fund the business.

Turning to the commercial standard test, the AER's approach is to apply the equity raising cost benchmark it has established and applied in the recent Victorian distribution decision.[340] This benchmarking approach identifies a hierarchy of three methods for equity raising, with differing equity raising costs and availability for each method:

- First, firms use retained earnings as a source of equity. The amount of equity raised in this manner is capped at the amount of available internal funds, determined by benchmark cash flow calculations. It is noted that retained earnings are dependent upon the dividend policy of the benchmark firm, which should be consistent with the assumed value of imputation credits.

- Second, firms use dividend reinvestment plans. The amount of equity raised in this manner is capped at 30 per cent of the value of outgoing dividends. It is noted that this too is related to the dividend policy for the firm.

- Third, firms use seasoned equity offerings (SEOs), encompassing both rights issues and placements. Although the AER considers the benchmark firm primarily uses rights issues, previous decisions have recognised that DNSPs consider a different balance between rights issues and placements is appropriate. The benchmark firm obtains all the remaining equity required via this method.

The AER's analysis of the Victorian DNSPs equity raising costs covers:

- selection of equity raising method

- indirect equity raising costs

- direct equity raising costs

- early equity raising costs

- benchmark cash flow analysis—implementation of the equity raising cost allowance.

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[340] AER, Draft Decision: Victorian Electricity Distribution Service Providers Distribution Determination 2011-2015 Appendices, Appendix N, pp 265-298

The AER has traditionally applied a dividend calculated based on the tax payable by the business. Under clause 4.1(e) of the revised Order any corporate income tax loss must be set at zero for each year a tax loss occurs. Therefore tax payable becomes zero and the dividend payout under the traditional model becomes zero.

E.5.1 Application of assessment

The AER has made its assessment on the basis of the expenditure incurred test in the revised Order for the 2012 to 2013 period and the 2014 and 15 period.

The AER received an email from SP AusNet, following questions concerning its debt/equity funding solution that:

> [C-I-C].[341]

The AER considers that this email contradicts SP AusNet's proposal that it would be using equity from retained earnings and a dividend reinvestment scheme.[342] The AER was provided with this information after its response deadline. Therefore while the AER has taken this information into account the AER has not been able to further clarify SP AusNet's response. On the basis of this response the AER considers that no equity raising costs will be incurred by SP AusNet in the the 2012-15 budget period period.

The AER considers that equity raising costs, as stated in the Framework and Approach Paper, can only be passed through based on actual costs in the initial WACC period 2009 to 2013. The AER considered this appropriate in its Framework and Approach Paper as it was consistent with the revised Order that expected the AMI roll-out to be completed by 31 December 2013.

The AER has also undertaken an analysis of SP AusNet's proposed equity raising costs under the commercial standard test for 2014 and 2015 (SP AusNet having raised capital for its group of businesses to obtain scale efficiencies[343] and therefore failing the competitive tender test) so that the AER's application of the test is clear to SP AusNet should, on the basis of further information, the test be applied to equity raising costs by the AER in its final determination.

The AER has compared SP AusNet's proposed equity raising costs against the AER's equity raising cost benchmark. The AER has developed and applied the equity raising cost benchmark through recent determinations under the NER applied to network businesses. The AER applied this same benchmark in the Victorian distribution determination which applies to SP AusNet's network services for 2011-2015. [344] The AER considers that this is the appropriate benchmark to assess SP AusNet's equity raising costs for AMI and is the commercial standard for assessing equity raising costs. The outcome of this equity raising cost benchmark is detailed in table E1.1 below.

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[341] SP AusNet, email of 23/06/2011

[342] SP AusNet, SPI Electricity Pty Ltd: Advanced Metering Infrastructure: Subsequent AMI Budget and Charges Application, pp65

[343] SP AusNet, email of 10/06/2011

[344] AER, Draft Decision: Victorian Electricity Distribution Service Providers Distribution Determination 2011-2015 Appendices, Appendix N, pp 265-298

E.5.1.1 AER draft determination – Benchmark equity raising costs ($, nominal)

	2014	2015	Total	Notes
Dividends	0	0	0	Set to distribute imputation credits assumed in the PTRM
Dividends reinvested	0	0	0	30% of dividends paid
Cost of dividend reinvestment plans	0	0	0	Dividends reinvested multiplied by benchmark costs (1%)
Capex funding requirement	5,739	2,101	7,840	This is the forecast capex funding requirement (not the forecast capex requirement which includes a half year WACC adjustment)
Debt component	-18,842	-21,599	-40,441	Set to 60% of RAB increase (not capex)
Equity Component	24,581	23,700	48,281	Residual of capex funding requirement and debt component
Retained cash flow	63,139	74,896	138,036	Includes dividends reinvested
External equity requirement	-38,558	-51,196	-89,755	Equal to equity component less retained cash flow
External equity raising costs	-1,060	-1,408	-2,468	External equity requirement multiplied by benchmark direct costs (3%)
Total equity raising costs	-1,060	-1,408	-2,468	Sum of dividend reinvestment plan cost and external equity raising cost
Smoothed equity raising costs	0	0	0	To be added to the opex budget over the period

Source: AER analysis

E.5.1.2 SP AusNet's proposed equity raising costs ($, nominal)

	2012	2013	2014	2015	Total
Proposed equity raising costs	760,922	732,710	705,202	678,381	2,877,215

Source: AER analysis

To clarify how SP AusNet calculated its equity raising costs and thereby understand how that expenditure departs from the commercial standard, the AER requested SP AusNet to explain its equity raising cost calculation. SP AusNet stated that the value of equity raising costs assigned to AMI is on the basis of the proportion of forecast capex of this business unit against the capex of the entire organisation.[345] The AER considers that while this may be a relevant cost allocation method it does not substantiate that SP AusNet's proposed equity raising costs are of a commercial standard.

The AER considers that the equity raising costs proposed by SP AusNet, set out in the table above, represent a substantial departure from the commercial standard established by the AER through the equity raising cost benchmark as set out in table E.5.1.1.

E.5.2 Decision

The AER has not accepted SP AusNet's proposed equity raising costs as it considers the expenditure is likely to not be incurred. The AER considers that the expenditure is not likely to be incurred on the basis of SP AusNet's advice to the AER stating that the AMI project would be funded through debt finance.

While the AER is satisfied that SP AusNet's proposed equity raising costs are likely not be incurred, the AER considered it appropriate to also undertake an analysis of SP AusNet's proposed 2014 and 2015 equity raising costs under the commercial standard test so that the AER's application of the test is clear to SP AusNet should the test be applied to equity raising costs by the AER in its final determination. This can be reviewed in table E.1.5.2.

The AER concluded that under the commercial standard test of the AER's equity raising cost benchmark has indicated that SP AusNet's proposed equity raising costs are a substantial departure from the commercial standard.

E.6 Corporate income tax benchmark

The corporate income tax benchmark for 2012 and 2013 under this decision shall be determined in accordance with 4.1(e) and (f) of the revised Order.

The AER included tax calculations in the budget and charges template 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.

The value of the tax liability building block proposed by each DNSP was zero due to tax losses resulting in each year and remains unchanged for 2012 and 2015 as a result of the AER's 2012-15 AMI Budget and Charges determination.

The AER has accepted the tax liability as proposed by the DNSPs under the building block model.

[345] SP AusNet, email of 10/06/2011

E.7 Metering Asset Base

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

Clause 5D.2 of the revised Order provides that in determining the initial charges for 2010 and 2011 the opening value of the metering asset base at 1 January 2009 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 revised 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 revised Order) and capital expenditure for 2011 using asset lives in accordance with clause 4.1(g) of the revised Order; and

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

IABP – is the initial AMI budget period

SD – is the start date

Each of the Victorian DNSP has proposed to use outsourced consultants for installation of smart meters.

The AER has developed the budget and charges template to the specification required under the revised Order.

The budget and charges templates have been adopted and completed to the satisfaction of the AER. Therefore the DNSPs submissions meet the specifications of the revised Order.

The AER considers that the metering asset base has been correctly calculated by all DNSPs.

The metering asset base for each business is detailed in the tables below.

E.7.1.1 AER draft determination – Metering Asset Base – SP AusNet ($000, Real 2008)

Meter	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	35,559	62,525	127,663	211,527	295,333	285,420	251,656
Capital Expenditure	36,763	83,578	112,524	122,303	35,920	4,869	1,738
Depreciation	9,796	18,441	28,660	38,497	45,833	38,633	37,796
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	62,525	127,663	211,527	295,333	285,420	251,656	215,597

Source: Budget templates for each SP AusNet

E.7.1.2 AER draft determination – Metering Asset Base – UED ($000, Real 2008)

Meter	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	49,378	106,080	139,796	177,243	205,409	182,425	155,592
Capital Expenditure	70,128	55,532	65,413	61,174	13,037	4,968	3,574
Depreciation	13,426	21,816	27,967	33,007	36,021	31,801	29,551
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	106,080	139,796	177,243	205,409	182,425	155,592	129,614

Source: Budget templates for each UED

E.7.1.3 AER draft determination – Metering Asset Base – JEN ($000, Real 2008)

Meter	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	30,527	82,213	102,961	120,859	119,903	106,214	89,810
Capital Expenditure	61,378	37,294	38,744	22,638	11,547	4,469	2,817
Depreciation	9,692	16,546	20,847	23,593	25,236	20,874	19,978
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	82,213	102,961	120,859	119,903	106,214	89,810	72,649

Source: Budget templates for each Jemena Electricity Networks

E.7.1.4 AER draft determination – Metering Asset Base – Citipower ($000, Real 2008)

Meter	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	17,324	29,028	59,498	85,468	103,765	109,306	97,045
Capital Expenditure	15,992	37,934	37,048	32,393	21,946	2,316	2,482
Depreciation	4,288	7,464	11,078	14,095	16,405	14,577	14,130
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	29,028	59,498	85,468	103,765	109,306	97,045	85,398

Source: Budget templates for Citipower

E.7.1.5 AER draft determination – Metering Asset Base – Powercor ($000, Real 2008)

Meter	2009	2010	2011	2012	2013	2014	2015
Opening Metering Asset Base	33,371	59,246	136,712	209,978	250,721	260,526	234,396
Capital Expenditure	34,686	93,931	98,873	73,741	48,049	6,131	5,900
Depreciation	8,811	16,464	25,607	32,998	38,244	32,261	31,767
Disposals	0	0	0	0	0	0	0
Closing Metering Asset Base	59,246	136,712	209,978	250,721	260,526	234,396	208,529

Source: Budget templates for Powercor

Glossary

AER	Australian Energy Regulator
BAU	Business as usual
capex	capital expenditure
CDM	Consumption data management
CIS	Customer Information System
CP	CitiPower Ltd
DNSP	Distribution network service provider
DPI	Department of Primary Industries (Victoria)
DUOS	Distribution Use of System
ECM	Efficiency Carryover Mechanism
ESCV	Essential Services Commission - Victoria
FWG	AMI Functionality Working Group
IMRO	Interval meter roll-out
IT	Information technology
JAM	Jemena Asset Management
JEN	Jemena Energy Networks
MCE	Ministerial Council on Energy
MWh	mega-watt hour
NER	National Electricity Rules
NMI	National Meter Identifier
NPV	Net Present Value
opex	operational and maintenance expenditure
PAL	Power Australia Limitied
ToU	Time of use
UED	United Energy Distribution