SPI Electricity Pty Ltd

Advanced Metering Infrastructure

2012-15 Budget and Charges Application

Draft Determination Response

PUBLIC VERSION

26 August 2011

About SP AusNet

SP AusNet is a major energy network business that owns and operates key regulated electricity transmission and electricity and gas distribution assets located in Victoria, Australia. These assets include:

- A 6,574 kilometre electricity transmission network indirectly servicing all electricity consumers across Victoria;
- An electricity distribution network delivering electricity to approximately 620,000 customer connection points in an area of more than 80,000 square kilometres of eastern Victoria; and
- A gas distribution network delivering gas to approximately 572,000 customer supply points in an area of more than 60,000 square kilometres in central and western Victoria.

SP AusNet's purpose is 'to provide our customers with superior network and energy solutions.' The SP AusNet company values are:

- Safety: to work together safely. Protect and respect our community and our people.
- Passion: to bring energy and excitement to what we do. Be innovative by continually applying creative solutions to problems.
- Teamwork: to support, respect and trust each other. Continually learn and share ideas and knowledge.
- Integrity: to act with honesty and to practise the highest ethical standards.
- Excellence: to take pride and ownership in what we do. Deliver results and continually strive for the highest quality.

For more information visit: www.sp-ausnet.com.au

Contact

This document is the responsibility of the Networks Strategy and Development Division, SP AusNet. Please contact the officer below with any inquiries.

Julie Buckland
Director, Strategic Regulatory Programs
SP AusNet
Level 31, 2 Southbank Boulevard
Melbourne Victoria 3006
Ph: (03) 9695 6606

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Executive Summary

Points to make:

- Benchmarking not permitted under revised Order
- Not allowed because DNSP's have different activities within categories and DNSP's are at different stages in systems development and systems lifecycle, as well as rollout experience.
- Forecasts – based on Historical Costs – updated for known events.

SP AusNet welcomes the opportunity to respond to the AER's Draft Determination on the Victorian Advanced Metering Infrastructure Review of the 2012-15 Budget and Charges Applications of 28 July 2011.

The AER has assessed the proposed expenditure set out in the Budget Application against the relevant tests set out in the revised Order, namely whether expenditure included in the Budget Application is not within scope or is not prudent.

In summary, the AER has determined that:

All of SP AusNet's proposed expenditures are within scope for the purposes of the revised Order with the exception of meter volumes and the use of two element meters. The AER has determined that:

- the meter volumes proposed are in excess of the number required to fulfil SP AusNet's AMI roll-out obligations. The AER considers that SP AusNet has not accounted for the reuse of meters and that proposed meter purchases are in excess of business as usual (BAU) requirements; and
- despite approving the use of two element meters during the initial budget period, the continued use of such meters is not within scope due to the impacts of the roll-out of AMI communications technologies and removal of the State Government's Time of Use (ToU) tariff moratorium.

In respect of SP AusNet's adoption of WiMAX communication technology, the AER has determined that the contract for the communications network infrastructure satisfies competitive tendering requirements, while the contract for spectrum was not competitively tendered, it is consistent with the requirements of the commercial standard test.

The AER did not establish that SP AusNet's contract for the expenditure category for the items listed below was not let in accordance with a competitive tendering process:

- AMI tender management services
- Communications Network Infrastructure
- Meter installation
- AMI systems integration services
- WiMAX antennas (post 2010)
- Supply, installation and support of network security system

A number of contracts for expenditure entered into by SP AusNet were not let in accordance with a competitive tendering process. The AER has considered the information submitted in support of these expenditures in terms of the Expenditure Test and Commercial Standard Test. SP AusNet notes and welcomes that none of its proposed expenditure has been the subject of an expenditure incurred test determination.

While no revision to SP AusNet's proposed expenditure has been made under the Expenditure Test, revisions have been made under the Commercial Standard Test. Expenditure categories affected include:

- Meter supply capital costs;
- Information technology operational costs;
- Meter data management operational costs;
- Meter maintenance operational costs;
- Communications infrastructure maintenance operational costs;
- Project management operational costs.

While the contracts for the expenditure categories listed below were not let in accordance with a competitive tendering process, they do meet the requirements of the Commercial Standard Test:

- IT capital costs;
- Meter reading operational costs;
- AMIPO and AMI ISC operational costs;
- Audit and quality assurance operational costs;
- AMI budget and charges applications operational costs;
- Extra accommodation operational costs;
- Customer service operational costs; and
- Management fees and overheads operational costs.

The AER has also made a number of determinations in respect of a number of Revenue and Charges issues, in particular the Return on Capital to apply for the 2014-15 period. The AER has set out a process for determining the WACC value for that period and in the interim has nominated a placeholder value of 9.50% as calculated in its most recent WACC decisions.

SP AusNet notes and welcomes the AER's acceptance:

- Of SP AusNet's WiMAX communications technology based approach and that the related contracts are consistent with the requirements of the revised Order;
- That all expenditures, with the exception of Meter volumes in excess of Customer Numbers and two element meters, are within scope for the purposes of the revised Order;
- That all expenditures proposed are considered prudent to the extent that they are consistent with the requirements of the Expenditure Test; and
- That certain expenditure categories listed above, while considered not to have been competitively tendered, are deemed to be consistent with the Commercial Standard Test.

SP AusNet does not support the AER's determination that:

- Meter capital costs as proposed are excessive;
- The use of two element meters will no longer deliver a net benefit and are thus not within scope;
- The processes followed in tendering and entering contracts with various vendors were not appropriate processes and that the outcomes achieved were not commercial, fair and equitable.

SP AusNet contends that the AER's Draft Determination to aspects of SP AusNet's Budget Application based on 'expectation' and theoretical assumptions, particularly in the areas of meter capital costs and meter data management and project management operational costs are:

- Without power under the revised Order;
- Based on an invalid unsound comparison of SP AusNet's revealed costs against the metering and project costs of other Victorian DNSPs; and
- Based on unsupported assumptions by the AER's adviser on matters of pricing, meter volumes, meter data management and project resourcing.

In the first paragraph of the "Overview" of the Draft Determination the AER note that the:

> *"The regulatory arrangements relating to the roll-out of advanced metering infrastructure (AMI) are set out in an Order in Council (revised Order) which also sets out the AER's role in the determination of AMI budgets, revenues and charges."*[1]

The AER do not appear to have paid sufficient attention to the requirements stipulated by the regulatory instrument they are operating under while formulating the Draft Determination.

Under the revised Order, where the AER applies the "commercial standard" test to determine whether costs incurred were prudent, the AER must only look at the actual DNSP in all its circumstances. The AER should not use comparisons with other DNSPs or any other kind of benchmarking.

The AER also appear to have made an error in repeating its earlier mistake of determining whether *expenditure* is beyond scope, rather than determining whether the *activity* to which the expenditure relates is beyond scope.

SP AusNet has maintained its original place holder WACC for the subsequent AMI period rather than adopt the AER position taken in the Draft Determination. In particular:

- the original Market Risk Premium value of 6.5% is more appropriate in light of the ongoing disruption in financial markets; and
- little is to be gained by updating market observables from the original proposal in the face of current volatility when they are to be reset in 2013.

[1] AER, '**Draft Determination Victorian AMI Review 2012-15 budget and charges applications**', 28 July 2011, page 2.

SP AusNet also affirms its right to propose the method and value for the Debt Risk Premium in the submission due for lodgement by 31 August 2013.

SP AusNet confirms that while this submission reflects an increase in the 2012 to 2015 period since the February Submission, this increase is offset by a reduction in the forecast costs for 2011. SP AusNet further confirms that this reduction is the result of delays to the roll-out of the Program.

1 Introduction

The Order in Council[2] (the revised Order) published in November 2008, and subsequent amendments[3][4][5] regulate the setting and recovery of prices, fees and charges relating to the Advanced Metering Infrastructure (AMI) program to roll-out interval metering to electricity consumers across Victoria. As required under Clause 5A of the revised Order, SP AusNet lodged its Budget and Charges Application in respect of the subsequent AMI budget period (1 January 2012 to 31 December 2015) in February 2011.

1.1 Purpose

The Australian Energy Regulator (AER) has published its Draft Determination Victorian AMI Review 2012-2015 Budget and Charges Application (Draft Determination)[6] in response to SP AusNet's Budget Application. In the Draft Determination the AER has determined to vary aspects of the Budget Application as proposed. This submission sets out SP AusNet's response to the AER's Draft Determination in respect to budgets and charges for the 2012-15 AMI budget period.

1.2 Background

The mandated rollout of advanced metering infrastructure (AMI) to all Victorian electricity customers required the Regulator (then the Essential Services Commission of Victoria) to re-determine a distributors' metering services revenue requirement and establish a new price control to take effect from 1 January 2009. The framework for this determination, based on a 'forecasts and incentive regime' was set out in the Order in Council[7] gazetted in August 2007 ('the original Order').

An Amending Order, the revised Order, based on a 'cost pass through' arrangement was published in November 2008, again revising the approach to setting prices for regulated metering services.

In January 2009, the AER published its '**Final Decision – Framework and Approach paper – Advanced metering infrastructure review 2009-11**'[8], setting out the approach to be followed in making a determination on the prices distributors charged for the regulated metering services specified in the revised Order.

In accordance with the requirements of Clause 5A.1 of the revised Order, and the AER framework, SP AusNet lodged its 'Initial AMI budget period budget application'[9] (the Initial Budget

2 Victorian Government Gazette, ***'Order in Council No S 314'***, 25 November 2008.
3 Victorian Government Gazette G4, '**Notice pursuant to Clause 14B.1 of the AMI Cost recovery Order',** 22 January 2009, page 143.
4 Victorian Government Gazette G14, ***'Advanced Metering Infrastructure Order in Council 2009'***, 2 April 2009, page 856.
5 Victorian Government Gazette G42, ***'Advanced Metering Infrastructure Order in Council 2010'***, 21 October 2010, page 2570.
6 AER, '**Draft Determination Victorian AMI Review 2012-15 budget and charges applications**', 28 July 2011.
7 Victorian Government Gazette, '***Order in Council No S 200'*** 28 August 2007.
8 AER, ***'Final decision – Framework and approach paper – Advanced metering infrastructure review 2009-11'***, January 2009.
9 SPA, ***'Initial AMI budget period budget application'***, 27 February 2009.

Application) on 27 February, 2009 and its 'Advanced Metering Infrastructure Initial Charges Application'[10] (the Initial Charges Application) on 1 June 2009.

The AER Determination[11] of October 2009 established SP AusNet's Approved Budget for the initial AMI budget period of 1 January 2009 to 31 December 2011 and the initial charges to apply for regulated metering services for the years 2010 and 2011.

In October 2010, the AER approved[12] SP AusNet's Charges Revision Application[13] in regard to the charges to apply from 1 January 2011. These charges where identical to the approved charges from the AER final determination of October 2009.

In February 2011, in accordance with the provisions of Clause 5F of the Amending Order, SP AusNet lodged with the AER an application[14] (the Revised Budget Application) to vary the Approved Budget set as part of the AER's October 2009 Budget and Charges Determination. The AER's Final Determination on this Revised Budget Application was published in July 2011.

Also in February 2011, in accordance with the provision of Clause 5A of the revised Order, SP AusNet lodged its Budget and Charges Application in respect of the subsequent AMI budget period (1 January 2012 to 31 December 2015). The AER has now published its Draft Determination in respect to that Budget and Charges Application.

1.3 Documentation Relied Upon

- Various responses to AER questions in relation to SP AusNet's AMI Subsequent Budget and Charges Application;
- Various responses to AER questions in relation to SP AusNet's 2009-2011 Revised Budget Application and the AER's Draft and Final Determination thereon;
- Response to the Draft Determination on the 2009-2011 Revised Budget Application – SP AusNet, 18 April 2011;
- AMI Subsequent Budget and Charges Application – SP AusNet, 28 February 2011;
- 2009-2011 Revised Budget Application – SP AusNet, 28 February 2011;
- 2011 Charges Revision Application – SP AusNet, 31 August 2010;
- EDPR 2011-15, Related Party Arrangements – SP AusNet, November 2009;
- EDPR 2011-15, Revised Related Party Arrangements – SP AusNet, July 2010.
- Various SP AusNet responses to the AER and the ESC questions both pre and post the Draft Determination[15], July 2009;
- AMI Revised Budget Application – SP AusNet, 28 August 2009;
- AMI Initial Budget Application – SP AusNet, 27 February 2009 (initial) and 3 March 2009 (revision);

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10 SPA, ***'Advanced Metering Infrastructure Initial Charges Application'***, 1 June 2009.
11 AER, ***'Final Determination, Victorian AMI review, 2009-11 AMI budget and charges applications'***, October 2009.
12 AER, ***'Advanced Metering Infrastructure 2011 revised charges'***, October 2010.
13 SPA, ***'AMI 2011 Charges Revision Application'***, 31 August 2010.
14 SPA, ***'AMI Revised Budget Application'***, February 2011.
15 AER, **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011.

- AMI Consultation Paper: Revised Framework & Approach (December 2008) Response – SP AusNet, December 2008;
- AMI Revised Pricing Proposal – SP AusNet, September 2008;
- AMI Reference Documentation – SP AusNet, September 2008; and
- AMI Pricing Proposal – SP AusNet, December 2007.

2 AER Obligations under the revised Order

The revised Order places various obligations on a distribution business in relation to making an AMI budget and charges application in terms of timing and content and on the regulator in terms of the basis on which a determination is to be made and the timing for that determination.

2.1 Requirements of the revised Order

Clause 5A of the revised Order requires a distribution company to make an application in respect of the subsequent AMI budget and the setting of initial charges for each year of the 2012-15 period, period by 28 February, 2011 and for the regulator to make a Final Determination on that application by 31 October 2011.

Clause 5C provides that the Regulator:

- May approve or reject the Submitted Budget giving reasons;
- Must approve the Submitted Budget unless the Regulator establishes that the expenditure (or part thereof) that makes up the Total Operating Expenditure and Capital Expenditure for each year:
  - (a) is for activities outside scope at the time of commitment to that expenditure and at the time of the determination; or
  - (b) is not prudent.

2.2 Errors in the AER's Application of the revised Order

In the first paragraph of the "Overview"[16] the AER note that the "The regulatory arrangements relating to the roll-out of advanced metering infrastructure (AMI) are set out in an Order in Council (revised Order) which also sets out the AER's role in the determination of AMI budgets, revenues and charges."

The AER do not appear to have paid sufficient attention to the regulatory instrument they are operating under.

2.2.1 Inappropriate Benchmarking and Comparisons

Under the revised Order, where the AER applies the "commercial standard" test to determine whether costs incurred were prudent, the AER must only look at the actual DNSP in all its circumstances. The AER should not use comparisons with other DNSPs or any other kind of benchmarking.

In applying the 'commercial standard' test, there are several occasions where the AER compares SP AusNet's expenditure with that of other DNSPs, or from previous periods, in order to arrive at a conclusion that SP AusNet's expenditure was excessive. The AER has acted inappropriately and without power on each of those occasions.

[16] AER, '**Draft Determination Victorian AMI Review 2012-15 budget and charges applications**', 28 July 2011.

There are some legitimate tests in which the AER is permitted to use benchmarking, and these are:

(i) tax depreciation method;

(ii) tax depreciation rate;

(iii) value of debt as a proportion of the value of equity and debt;

(iv) return on debt; and

(v) value of imputation (franking credits)[17].

A general proposition by the AER about the use of benchmarking, which is not consistent with the revised Order, is found under the heading "Assessment approach and advice of Impaq" on page 8.[18] The AER cannot use "benchmark levels of expenditure from previous periods and from other providers". The AER goes on to say at page 9: "… in some circumstances it was possible for the AER to make comparisons between DNSP's AMI related costs."

This contrasts with conflicting statements elsewhere that indicate that the AER has avoided using benchmarking or comparisons when determining whether expenditure was within scope[19].

The question of scope is not that to which a case-by-case analysis is required. It is only in the application of the 'commercial standard' test that the AER must look at the individual circumstances of the DNSP in relation, specifically, to the expenditure under review.

However, in applying the 'commercial standard' test, there are several occasions where the AER appears to compare SP AusNet's expenditure with that of other DNSPs, or from previous periods, in order to arrive at a conclusion that SP AusNet's expenditure was excessive. In each case, an argument can be advanced that it was inappropriate to do so.

(a) Meter Abolishments

Paragraph A.1.2 – "the AER advised SP AusNet that it understood that abolishments and meter changes are *typically* around 20% to 40%..." (emphasis added)

SP AusNet submits that what is typical is irrelevant. The test is what will actually happen in the particular circumstances of SP AusNet. This is what the AER should take into consideration when assessing what is prudent.

(b) Meter Supply Chain

In relation to meter supply capital costs, the AER has compared SP AusNet's proposed expenditure with a "reasonable business in the circumstances"[20]. This is consistent with the test required by the revised Order. However, the AER then goes on to quote from the Impaq report, which states: "These meter prices are much higher than those of the other DNSPs." The AER compounds this error by stating: "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…"

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17 The revised Order cl 4.1(f).

18 AER, **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011.

19 AER, **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, paragraph 2.2, page 18.

20 AER, **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 106.

It is an error for the AER to base its analysis of a reasonable business in the circumstances of SP AusNet on the experiences and decisions of another DNSP. SP AusNet has chosen different technology than Powercor, has different customers, different terrain, and many other unique characteristics. It is inappropriate and irrelevant for the AER to compare SP AusNet with any other actual business, past or present.

The AER's Draft Determination on meter supply capital costs, therefore, requires revision.

(c) IT Operational Costs

In relation to IT operational costs, the AER has again erred in comparing SP AusNet's proposed expenditure with that of the other Victorian DNSPs, finding that "SP AusNet's forecast of IT opex is substantially greater than all other DNSPs"[21].

As with the previous point, it is an error for the AER to base its analysis of a reasonable business in the circumstances of SP AusNet on the experiences and decisions of another DNSP. In this example, however, the AER quotes from the Impaq report in an attempt to justify why it is reasonable for a comparison with Powercor to be made. However, this is not justified – the experience and outcomes applicable to Powercor or any other DNSP are irrelevant.

This also calls into question the Impaq Report and the AER's reliance on it. The Impaq Report cannot be used by the AER as a definitive guide as it, too, is based on erroneous applications of the required tests.

The AER's Draft Determination on IT operational costs also requires revision.

(d) Communications Infrastructure

In relation to communications infrastructure maintenance operational costs, the AER refers to other TNSPs in Australia with large microwave communications networks22, apparently attempting to find a basis on which to justify its decision that the number of FTEs proposed by SP AusNet is excessive. Not only is it inappropriate and irrelevant to compare SP AusNet with other businesses, but in this example, the comparator is a different type of business altogether, being a TNSP.

This aspect of the AER's Draft Determination requires revision.

(e) Equity Raising Costs

The AER has compared SP AusNet's "proposed equity raising costs against the AER's equity raising cost benchmark"[23]. This element is not one to which benchmarking may apply, and therefore, it is susceptible to challenge.

Also, the AER has noted that certain tests in the NEL and NER are not applicable under the revised Order. The revised Order prevails, thus refuting this argument.

In addition, the proposal of SP AusNet 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[24]" appears to be sound and reasonable.

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21 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 108.
22 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 115.
23 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 213.
24 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 215.

By contrast, the AER's statement that "The AER considers that the equity raising costs proposed by SP AusNet … 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."[25], reflects that the AER has inappropriately used a benchmark.

2.2.2 Scope

It appears that the AER has made an error in repeating its earlier mistake of determining whether *expenditure* is beyond scope, rather than determining whether the *activity* to which the expenditure relates is beyond scope.

In the ACT's decision on this issue, it was clear that the AER can only decide that an *activity* is beyond scope, not the associated expenditure[26]. If the activity is within scope, it is then appropriate to look at whether the expenditure was prudent and apply the appropriate tests.

For example, the AER states that it:

> *"…considers that [a range of expenditure items which are discussed in detail in the appendices] did not meet either the scope test or the prudence test. In conducting its assessment of such expenditure, the AER in many cases considered that Impaq's advice on expenditure, which recommended reductions in place of expenditure forecasts by the DNSPs, was consistent with the revised Order[27]."*

There also appears to be some decisions made about scope that seem to be an incorrect exercise of discretion. For example, it is clearly contemplated that single phase two-element meters with contactors would be part of the AMI roll-out[28], but the AER has decided that such meters are inappropriate over time[29]. The AER appears to rely in part on the role of ToU tariffs[30]. In the absence of such tariffs, this reasoning is not sound.

SP AusNet contends that the AER is in error in assuming the current moratorium on the implementation of time of use tariffs will cease in the near term. SP AusNet knows of no credible evidence that this will occur.

Therefore, SP AusNet contends that the continued installation of single phase two-element meters with contactors is essential to avoid unacceptable price shock for many of SP AusNet's existing customers.

SP AusNet contends that the AER is in error in exercising its discretion in this way and those meters can legitimately be utilised in the future.

This aspect of the Draft Determination also lacks sufficient reasoning.

2.2.3 Basis of Decision Lacking

On several occasions, the AER has arrived at a conclusion without giving any reasons for doing so. In some cases, the AER has rejected the submissions of SP AusNet and has preferred the reasoning of Impaq, but has not expressly explained why it has done so. In other cases, the AER

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25 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 215.
26 UED [2009] ACompT 10 at page 17.
27 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, pages 9-10.
28 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, Chapter 6, page 37.
29 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, Paragraph A.2, page 57.
30 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 58.

has rejected the submissions of SP AusNet and substituted its own conclusion without a sound basis for doing so. Examples follow:

(a) Paragraph A.1.2 – page 53: "Furthermore, the AER considers that SP AusNet has proposed meter purchases in excess of the number required to fulfil its BAU metering obligations."

(b) Paragraph D.3.4 – page 113: "The AER considered that the information provided by SP AusNet did not substantiate that the forecast expenditure is prudent because the need to 'usual maintenance' and 'visual inspections' was not supported by any evidence of the extent to which AMI meter tampering, alteration and malfunctioning will be issues for SP AusNet's meter fleet in 2012-12."

In all these cases, the AER should provide more detailed reasoning for its rejection of SP AusNet's submission and the substitution of the AER's own preferred view.

2.2.4 Application of Competitive Tender Test

There are a number of issues with the AER's application of the competitive tender test.

(a) The AER contends that "the tender process must be particular to a contract"[31]. It is strongly submitted that this is not the only interpretation of the test and its application.

Clause 5I.9 of the revised Order states that:

"In making a determination in which the Commission establishes that a contract was not let in accordance with a competitive tender process, the Commission shall have regard to:

(a) the tender process for that contract…"

(underlining added)

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

[31] **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, paragraph B.1, page 66.

3 AER Draft Determination

3.1 Summary of AER Draft Determination

The AER has assessed the proposed expenditure set out in the Budget Application against the relevant tests set out in the revised Order, namely whether expenditure included in the Budget Application is not within scope or is not prudent.

In summary, the AER has determined that:

All of SP AusNet's proposed expenditures are within scope for the purposes of the revised Order with the exception of meter volumes and the use of two element meters. The AER has determined that:

- the meter volumes proposed are in excess of the number required to fulfil SP AusNet's AMI roll-out obligations. The AER considers that SP AusNet has not accounted for the reuse of meters and that proposed meter purchases are in excess of business as usual (BAU) requirements; and
- despite approving the use of two element meters during the initial budget period, the continued use of such meters is not within scope due to the impacts of the roll-out of AMI communications technologies and removal of the State Government's Time of Use (ToU) tariff moratorium.

In respect of SP AusNet's adoption of WiMAX communication technology, the AER has determined that the contract for the communications network infrastructure satisfies competitive tendering requirements, while the contract for spectrum was not competitively tendered, it is consistent with the requirements of the commercial standard test.

The AER did not establish that SP AusNet's contract for the expenditure category for the items listed below was not let in accordance with a competitive tendering process:

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- Meter installation
- AMI systems integration services
- WiMAX antennas (post 2010)
- Supply, installation and support of network security system

A number of contracts for expenditure entered into by SP AusNet were not let in accordance with a competitive tendering process. The AER has considered the information submitted in support of these expenditures in terms of the Expenditure Test and Commercial Standard Test. SP AusNet notes and welcomes that none of its proposed expenditure has been the subject of an expenditure incurred test determination.

While no revision to SP AusNet's proposed expenditure has been made under the Expenditure Test, revisions have been made under the Commercial Standard Test. Expenditure categories affected include:

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- Information technology operational costs;

- Meter data management operational costs;
- Meter maintenance operational costs;
- Communications infrastructure maintenance operational costs;
- Project management operational costs.

While the contracts for the expenditure categories listed below were not let in accordance with a competitive tendering process, they do meet the requirements of the Commercial Standard Test:

- IT capital costs;
- Meter reading operational costs;
- AMIPO and AMI ISC operational costs;
- Audit and quality assurance operational costs;
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- Extra accommodation operational costs;
- Customer service operational costs; and
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The AER has also made a number of determinations in respect of a number of Revenue and Charges issues, in particular the Return on Capital to apply for the 2014-15 period. The AER has set out a process for determining the WACC value for that period and in the interim has nominated a placeholder value of 9.50% as calculated in its most recent WACC decisions.

3.2 Summary of SP AusNet Response to the AER's Draft Determination

SP AusNet notes and welcomes the AER's acceptance:

- Of SP AusNet's WiMAX communications technology based approach and that the related contracts are consistent with the requirements of the revised Order;
- That all expenditures, with the exception of Meter volumes in excess of Customer Numbers and two element meters, are within scope for the purposes of the revised Order;
- That all expenditures proposed are considered prudent to the extent that they are consistent with the requirements of the Expenditure Test; and
- That certain expenditure categories listed above, while considered not to have been competitively tendered, are deemed to be consistent with the Commercial Standard Test.

SP AusNet does not support the AER's determination that:

- Meter capital costs as proposed are excessive;
- The use of two element meters will no longer deliver a net benefit and are thus not within scope;
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SP AusNet contends that the AER's Draft Determination to aspects of SP AusNet's Budget Application based on 'expectation' and theoretical assumptions, particularly in the areas of meter capital costs and meter data management and project management operational costs are:

- Without power under the revised Order;
- Based on an invalid unsound comparison of SP AusNet's revealed costs against the metering and project costs of other Victorian DNSPs; and
- Based on unsupported assumptions by the AER's adviser on matters of pricing, meter volumes, meter data management and project resourcing.

SP AusNet has maintained its original place holder WACC for the subsequent AMI period rather than adopt the AER position taken in the Draft Determination. In particular:

- the original Market Risk Premium value of 6.5% is more appropriate in light of the ongoing disruption in financial markets; and
- little is to be gained by updating market observables from the original proposal in the face of current volatility when they are to be reset in 2013.

SP AusNet also affirms its right to propose the method and value for the Debt Risk Premium in the submission due for lodgement by 31 August 2013.

SP AusNet's expenditure proposals and the AER's Draft Determination

Table 3.1: Reduction applied to SP AusNet's budget

Capital Expenditure $'000 (2011)	**2012**	**2013**	**2014**	**2015**	**Total**
SP AusNet's proposal	171,025	49,081	7,367	3,999	231,473
AER's determination	133,639	39,249	5,320	1,899	180,107
Variance $	(37,386)	(9,832)	(2,047)	(2,100)	(51,365)
Variance %	(22%)	(20%)	(28%)	(53%)	(22%)
Operating Expenditure $'000 (2011)	**2012**	**2013**	**2014**	**2015**	**Total**
SP AusNet's proposal	48,549	40,149	26,441	24,352	139,492
AER's determination	18,659	14,290	10,362	9,286	52,598
Variance $	(29,890)	(25,859)	(16,079)	(15,066)	(86,894)
Variance %	(62%)	(64%)	(61%)	(62%)	(62%)

As noted above, SP AusNet contends that the AER's Draft Determination of SP AusNet's expenditure requirements are not compliant with critical aspects of the revised Order.

3.3 Summary of the AER's Draft Determination of DNSPs' expenditure requirement

The AER's Draft Determination of the reduction required to the DNSPs' combined Capital and Operating expenditure for 2012-15 ($M 2011) is as follows:

Table 3.2: Reduction recommended/applied to DNSP's budgets

Variance ($M 2011)	SP AusNet	United Energy	Jemena	Citipower	Powercor	Weighted average all DNSPs
Impaq	(50%)	(38%)	(34%)	(45%)	(41%)	(42%)
AER	(37%)	(38%)	(35%)	(44%)	(40%)	(39%)

These outcomes provide clear and compelling evidence that the AER has effectively applied a standard benchmark reduction to each of the DNSPs' expenditure proposals without regard to the circumstances of each DNSP.

In the first paragraph of the "Overview" of the Draft Determination the AER note that the:

> *"The regulatory arrangements relating to the roll-out of advanced metering infrastructure (AMI) are set out in an Order in Council (revised Order) which also sets out the AER's role in the determination of AMI budgets, revenues and charges."*[32]

The AER do not appear to have paid sufficient attention to the requirements stipulated by the regulatory instrument they are operating under while formulating the Draft Determination.

Under the revised Order, where the AER applies the "commercial standard" test to determine whether costs incurred were prudent, the AER must only look at the actual DNSP in all its circumstances. The AER should not use comparisons with other DNSPs or any other kind of benchmarking.

The AER also appear to have made an error in repeating its earlier mistake of determining whether *expenditure* is beyond scope, rather than determining whether the *activity* to which the expenditure relates is beyond scope.

In the ACT's decision on this issue, it was clear that the AER can only decide that an *activity* is beyond scope, not the associated expenditure[33]. If the activity is within scope, it is then appropriate to look at whether the expenditure was prudent and apply the appropriate tests.

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32 AER, '**Draft Determination Victorian AMI Review 2012-15 budget and charges applications**', 28 July 2011, page 2.
33 UED [2009] ACompT 10 at page 17.

For example, the AER states that it "… considers that [a range of expenditure items which are discussed in detail in the appendices] did not meet either the scope test or the prudence test. In conducting its assessment of such expenditure, the AER in many cases considered that Impaq's advice on expenditure, which recommended reductions in place of expenditure forecasts by the DNSPs, was consistent with the revised Order[34]."

As noted above, under the revised Order, where the AER applies the "commercial standard" test to determine whether costs incurred were prudent, the AER must only look at the actual DNSP in all its circumstances. The AER should not use comparisons with other DNSPs or any other kind of benchmarking.

However, in applying the 'commercial standard' test, there are several occasions where the AER compares SP AusNet's expenditure with that of other DNSPs, or from previous periods, in order to arrive at a conclusion that SP AusNet's expenditure was excessive. The AER has acted inappropriately and without power on each of those occasions.

[34] AER, **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, pages 9-10.

4 Scope Test

As part of the assessment framework the AER is required to establish whether activities proposed by the applicant are within scope, that is whether activities '…are reasonably required for the provision of Regulated Services and to comply with a metering regulatory obligation or requirement'.[35]

4.1 Introduction

Schedule 2 of the revised Order contains lists of activities that are deemed to be within scope and outside scope for the AMI roll-out. The lists in Schedule 2 are not considered to be 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.'[36] The AER's framework and approach paper described the approach to be taken in establishing whether expenditure is within the scope of the revised Order.

4.2 SP AusNet Mapping

SP AusNet considers that the question of scope is determined by the need to undertake an activity, listed or otherwise in Schedule 2, in order to provide the Regulated Service or comply with a regulated metering obligation. For each distribution business the scope will be different as each formulates its own approach to meeting the customer, business and environmental needs specific to its own situation. There will be different approaches in terms of technology choice, resourcing and work program approach as businesses tailor their programs to suit their individual needs.

In previous submissions, SP AusNet has provided mapping tables detailing the relationship between AER template categories, the scope activities under Schedule 2 of the revised Order and the scope activities it considers necessary, and therefore within scope, for it to deliver the required Regulated Services and meet its regulated metering obligations.

4.3 Previous AER Decisions

In previous decisions relating to SP AusNet's Initial AMI Budget Application and Revised Budget Application, the AER has determined that all activities proposed are within scope for the purposed of the revised Order, including the use of two-element meters and WiMAX technology for communications purposes.

While the AER considered that two-element meters exceeded the requirements of the Functionality Specification, in its Final Determination for the purposes of the initial budget period, the AER accepted the use of such meters as a cost effective solution to metering certain customers. At the time the AER indicated that it would review this decision for the subsequent AMI budget period.

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35 The Revised Order, schedule 2.1, 2.6 and 2.10.
36 The Revised Order, Clause 5C.2(a).

In regard to the use of WiMAX communications technology, the AER determined that SP AusNet's WiMAX communications network was within scope under the revised Order.

4.4 AER Draft Determination

In this Draft Determination, the AER has decided that all of SP AusNet's proposed expenditures are within scope for the purposes of the revised Order with the following exceptions:

- Meter volumes proposed are in excess of the number required to fulfil SP AusNet's AMI roll-out obligations as the AER considers that SP AusNet has not accounted for the reuse of meters and that proposed meter purchases are in excess of business as usual (BAU) requirements.
- The continued use of two-element meters is not within scope due to the impacts of the roll-out of AMI communications technologies and the removal of the State Government's ToU tariff moratorium.

In respect of SP AusNet's adoption of WiMAX communication technology the AER has reaffirmed its previous decision that the use of WiMAX communication technology is within scope under the revised Order.

SP AusNet's response to the AER determination on scope is set out in the sections following.

5 Capital Expenditure Budget

Capital expenditure comprises:

- Costs for meter supply, pre-inspection visits, installation and any site re-visit costs to rectify technology issues;
- Continuation of the deployment of the primary communications network;
- Design and installation of the secondary communications infrastructure and network; and
- IT Capital costs associated with providing meter data services, including meter reading, data transfer to an IT system, managing data and providing it to market participants and AEMO.

5.1 Meters

AMI electronic interval meters are required to meet the functionality and service level requirements set out in the relevant specifications as well as other National Electricity Market metrology requirements.

5.1.1 Meter Types – Two Element Meters

5.1.1.1 Introduction / Background

Clause 4.1(n) of the revised Order sets out the relevant metering service categories, namely:

'(i) single phase single element meter;

(ii) single phase single element meter with contactor;

(iii) single phase two element meter with contactor;

(iv) three phase direct connected meter;

(v) three phase direct connected meter with contactor;

(vi) three phase current transformer connected meter; and

(vii) any other customer or metering class proposed by the distributor and approved by the Commission.'

5.1.1.2 AER Draft Determination Position – Two Element Meters

While two-element meters were considered as within scope for the initial budget period, the AER has reconsidered the issue for this subsequent budget period and has determined that the use of two element meters is no longer within scope. The AER's position is based on the consideration 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.

The AER states that SP AusNet has not provided reasons for installing two-element meters nor has it provided a business case to support their continued use.

5.1.1.3 SP AusNet Response to Matters Raised in the Draft Determination

Benefits of Two Element Meters

In its Application, SP AusNet proposed the continued use of two-element meters in circumstances as allowed under the Final Determination[37] for the initial budget period.

SP AusNet commissioned a cost benefit analysis by PricewaterhouseCoopers of SP AusNet's decision to install two-element meters[38]. This highlights the net benefit of installing single phase two element meters, above the alternatives of installing a single phase single element meter, or two single phase single element meters.

It appears that the AER has made an error in repeating its earlier mistake of determining whether *expenditure* is beyond scope, rather than determining whether the *activity* to which the expenditure relates is beyond scope.

In the ACT's decision on this issue, it was clear that the AER can only decide that an *activity* is beyond scope, not the associated expenditure[39]. If the activity is within scope, it is then appropriate to look at whether the expenditure was prudent and apply the appropriate tests.

For example, the AER states that it:

> *"…considers that [a range of expenditure items which are discussed in detail in the appendices] did not meet either the scope test or the prudence test. In conducting its assessment of such expenditure, the AER in many cases considered that Impaq's advice on expenditure, which recommended reductions in place of expenditure forecasts by the DNSPs, was consistent with the revised Order[40]."*

There also appears to be some decisions made about scope that seem to be an incorrect exercise of discretion. For example, it is clearly contemplated that single phase two-element meters with contactors would be part of the AMI roll-out[41], but the AER has decided that such meters are inappropriate over time[42]. The AER appears to rely in part on the role of ToU tariffs[43]. In the absence of such tariffs, this reasoning is not sound.

As noted in the PwC report, "Importantly, we note that if customers are to have the option of remaining on their existing tariffs then the ability to read the second element is fundamental and therefore, the only solution available to SP AusNet is to install two-element meters (or two single-element meters – one with a contactor; which is a solution twice as expensive).

TOU Tariff Moratorium

Political indicators suggest that the moratorium on Time of Use (ToU) tariffs will be extended at 31 December 2011. SP AusNet has assumed, therefore, that this moratorium will remain in place for the 2012-15 period. SP AusNet contends that the AER is in error in assuming the current moratorium on the implementation of time of use tariffs will cease in the near term. SP AusNet knows of no credible evidence that this will occur.

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37 AER, ***'Final Determination, Victorian AMI review, 2009-11 AMI budget and charges applications'***, October 2009.
38 PWC Report, ***'Assessment of the justifiable need for investment in two-element meters'***, August 2011. – Attachment A.
39 UED [2009] ACompT 10 at page 17.
40 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, pages 9-10.
41 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, Chapter 6, page 37.
42 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, Paragraph A.2, page 57.
43 **'Draft Determination Victorian AMI Review 2012-15 budget and charges applications'**, 28 July 2011, page 58.

Customer Price Shock

If ToU tariffs are to be allowed for the 2012-15 period, however, some customers will still experience rate shock, and so additional costs to the customer, the retailer and to SP AusNet (as described in PwC's cost benefit analysis) will still be experienced. For example, SP AusNet currently provides a tariff structure whereby customers are charged differentially for their 'usual' (Light and Power) electricity use and their floor/slab heating. Customers receive a discounted tariff for their floor/slab heating as this is on a time switch. The specific tariff in question, however, allows an additional slab heating 'top up' during peak hours still at the discounted rate. As the single phase single element meter can only record one stream of usage data, (rather than the two provided by two meters or one single phase two element meter) this tariff is impossible to replicate. The customer will receive a sharply increased bill under the closest matching tariff, and is likely to query and/or challenge this with SP AusNet and their retailer.

Therefore, SP AusNet contends that the continued installation of single phase two-element meters with contactors is essential to avoid unacceptable price shock for many of SP AusNet's existing customers. The business case is detailed in the PwC report.

The tables below provide details of the value of the impact on a typical customers account for the distribution charges only, should SP AusNet not be permitted to install two element meters.

Table 5.1: Annual charge to customer under current tariff arrangements

Tariff Option	**NEE11**	**NEE13**	**NEE15**
Type of Meter Installation	**Single Phase Single Element**	**Single Phase Two Element (Hot Water)**	**Single Phase Two Element (Slab Heating)**
Standing Charge	$3.60	$10.80	$10.80
Peak Block 1	$304.29	$304.29	$304.29
Peak Block 2	$89.12	$89.12	$89.12
Off Peak	N/A	$53.66	$147.34
Total Network Charge	**$397.01**	**$457.87**	**$551.55**

If the AER does not allow two element meters and SP AusNet is not permitted to change the Customer's existing tariff style then the following table shows the resulting impact to the customer.

Table 5.2: Annual charge to customer with single phase single element meter with contactor (maintain tariff type)

Tariff Option	NEE11	NEE13	NEE15
Type of Meter Installation	**Single Phase Single Element**	**Single Phase Single Element with contactor (Hot Water)**	**Single Phase Single Element with contactor (Slab Heating)**
Standing Charge	$3.60	$10.80	$10.80
Peak Block 1	$304.29	$304.29	$304.29
Peak Block 2	$89.12	$89.12	$89.12
Off Peak Consumption now at peak rate	N/A	$162.09	$445.76
Total Network Charge	**$397.01**	**$559.10**	**$842.79**
Customer Price Shock	**NIL**	**$101.23**	**$291.24**

SP AusNet does not agree with the AER that single phase two element meters are out of scope because Clause 4.1(n)(iii) in the revised Order states that single phase two element meters are a relevant metering service. SP AusNet understands that the previous Government and its adviser did not allow two element meters in the cost benefit analysis as they intended customers to move to ToU tariffs.

Given the price shock that will impact customers, SP AusNet believes that the least cost solution to metering (taking into account costs borne by SP AusNet, retailers and customers) is to install single phase two element meters.

SP AusNet contends that the AER is in error in exercising its discretion to decide single phase two element meters with contactors are out of scope, further SP AusNet also contends those meters can legitimately be utilised in the future.

This aspect of the Draft Determination also lacks sufficient reasoning.

5.1.1.4 SP AusNet Budget Application

Table 5.3 provides summary of the meter configurations and types to be rolled out by SP AusNet in order to maintain current tariff configurations.

Table 5.3: Meter type and configuration to be installed

METER TYPE	WiMAX	3G
Meter Configuration		
Single phase single element	✔	✔
Single phase single element with contactor	✔	✔
Single phase two element with contactor	✔	✔
Multiphase	✔	✔
Multiphase with contactor	✔	✔
Multiphase CT connected	✔	✔

5.1.2 Meter Volumes

5.1.2.1 Introduction / Background

Schedule 1 of the revised Order sets out the number of remotely read interval meters that are to be installed by the end of each period within the AMI rollout program. Clause 5.5(b) of the revised Order requires SP AusNet to provide the number of metering installations that are proposed to be installed.

5.1.2.2 AER Draft Determination Position

The AER has determined that the provision and installation of remotely read interval meters 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. However, where proposed expenditure is related to meter numbers in excess of the number reasonably required to fulfil 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.

The AER has determined that SP AusNet's meter volumes do not account for the reuse of meters and that proposed meter purchases are in excess of the requirement to meet BAU metering obligations.

5.1.2.3 SP AusNet Response to Matters Raised in the Draft Determination

Details in Initial Application

In the initial Application, SP AusNet provided a forecast of the number of meters to be installed for each of the periods ending 31 December 2012 and 2013 together with details on the quantity of meters by meter type for each year within the subsequent budget period.

Subsequently SP AusNet has provided responses[44][45] to the AER on questions raised regarding the effect of abolishments and meter changes on the net number of new meters installed for new connections, the increase in customer numbers and meter purchases.

SP AusNet Response to Issues Raised

Abolishments:

SP AusNet's experience for the 2011 calendar year to date has been that abolishments are 12% of new connections. This is lower than historical abolishment percentages, due to the fact that it is no longer usual practice to erect a 'builders temporary supply' (BTS) pole when property is being constructed. In previous years, the BTS would be erected for the building period and then *abolished* once the property was ready for use. Usual practice currently, however, is to connect a metered supply for the building period and reconfigure this meter to account for the change of use once the building works have been completed. Hence the 20%-40% abolishment rate advised to the AER by Impaq Consulting is not an accurate forecast of future abolishments.

Further, while abolishments are approximately 12%, it is not AMI meters that are generally abolished (that is, abolishments are generally older meters on properties that are being demolished to create new dwellings/buildings). Therefore SP AusNet does not agree with the AER's assertion that these abolished meters can be refurbished and reused and SP AusNet has not reduced meter numbers for the 2012 and 2013 years of the rollout.

SP AusNet's revised budget application (see Section 5.1.2.4 below) takes abolishments of 12% of new connections into account for the 2014 and 2015 calendar years. That is, meter volumes for 2014 and 2015 are net of abolishments. SP AusNet has also included a cost for retesting and recertifying an abolished meter ready for reuse at $[C-I-C] per meter.

Meter v. Customer volumes:

SP AusNet recognises a customer (or National Meter Identifier (NMI), these terms being equivalent for SP AusNet) as a single 'metered supply'. Historically the actual number of meters is higher than the number of customers/metered supplies for a number of reasons. These include situations where differential tariffs have been charged; where more than one meter is needed for a metered supply (say where the supply has multiple sites); and where both single phase and multiphase meters are required to provide supply.

SP AusNet has forecast the number of AMI meter replacements required to replicate existing customer configuration and tariff structure. To complete this, meter volumes will be roughly 1.08 of customers. Considering future new connections, however, SP AusNet forecasts a 1:1 ratio of new customers to meters.

Timing:

SP AusNet's meter rollout schedule has changed from that used to calculate the forecast submitted in February. Namely, the roll out of a number of meters previously expected to be rolled out in 2011 has been delayed until early 2012 (whilst still meeting mandated replacement targets). The rollout of 3G meters has also been delayed until early 2013, rather than occurring in parallel with WiMAX meters. These changes in the timing of the rollout and the delay of the rollout of higher cost (3G) meters has shifted a sizable portion of the metering supply and metering installation capital expenditure from the 2011 calendar year to 2012 and 2013. In effect, then, whilst the real change in forecast metering supply expenditure for 2011 – 2015 has reduced

44 SP AusNet, Email response to AER questions of 15 June 2011.
45 SP AusNet, Email response to AER questions of 30 June 2011.

slightly (approx. $2.6m) and the real change in forecast metering installation capital expenditure for 2011-2015 has increased by less than $1m, the capital expenditure for 2012-2015 alone has risen.

5.1.2.4 SP AusNet Budget Application

In the Tables below SP AusNet has provided further details on NMI and meter numbers for each year within the subsequent budget period.

SP AusNet has confirmed the existing number of customers/NMIs and corresponding AMI meters as at 31 December 2010. SP AusNet has also updated the forecast of new customers (from the numbers provided in the 2011-15 EDPR). These numbers (as displayed in the Tables below) are used in calculating SP AusNet's metering capital expenditure for 2012-15.

SP AusNet forecasts that 85% of metering will be satisfied by the WiMAX solution, and 15% by SP AusNet's secondary solution, 3G.

Table 5.4: New and replacement customer / NMI numbers

Meter Configuration	Number of NMIs at end of 2010	Forecast New Connections					
		2011	2012	2013	2014*	2015*	Total
Single phase single element	366,261	10,320	10,630	10,949	11,278	11,616	**421,054**
Single phase single element with contactor	0	0	0	0	1,755	1,773	**3,528**
Single phase two element with contactor	145,015	1,704	1,721	1,738	0	0	**150,178**
Multiphase	80,214	1,522	1,533	1,584	1,616	1,648	**88,117**
Multiphase with contactor	41,978	36	35	35	36	36	**42,156**
Multiphase CT connected	3,711	56	56	57	58	59	**3,998**
Sub-Total	**637,179**	**13,638**	**13,976**	**14,364**	**14,743**	**15,132**	
Combined Total	**709,031**						

* Gross.

Table 5.5: New and replacement meter numbers

Meter Configuration	No. Required AMI Meters at end of 2010	Forecast New Connections					
		2011	2012	2013	2014*	2015*	Total
Single phase single element	402,327	10,320	10,630	10,949	9,924	10,222	**454,372**
Single phase single element with contactor	0	0	0	0	1,545	1,560	**3,105**
Single phase two element with contactor	145,015	1,704	1,721	1,738	0	0	**150,178**
Multiphase	80,304	1,522	1,533	1,584	1,422	1,450	**87,815**
Multiphase with contactor	49,130	36	35	35	31	31	**49,299**
Multiphase CT connected	3,711	56	56	57	51	52	**3,984**
Sub-Total	**680,487**	**13,638**	**13,976**	**14,364**	**12,974**	**13,316**	
Combined Total	**748,754**						

* Net of abolishments.

Table 5.6: New and replacement meter numbers: WiMAX-3G split

METER COMPONENT	Total Meters at 31 Dec 2015		
	METER TYPE		
	WiMAX	3G	Total
Single phase single element	C-I-C	C-I-C	C-I-C
Single phase single element with contactor	C-I-C	C-I-C	C-I-C
Single phase two element with contactor	C-I-C	C-I-C	C-I-C
Multiphase	C-I-C	C-I-C	C-I-C
Multiphase with contactor	C-I-C	C-I-C	C-I-C
Multiphase CT connected	C-I-C	C-I-C	C-I-C
Comms module (incl. zigbee card)	C-I-C	C-I-C	C-I-C
Antenna	C-I-C	C-I-C	C-I-C
Extended Antenna	C-I-C	C-I-C	C-I-C

5.1.3 Meter Prices

5.1.3.1 Introduction / Background

SP AusNet has entered contracts with two meter vendors for the supply of meters with WiMAX enabled meters to be used on the primary communications network and 3G enabled meters used on the secondary network. In its application for the initial budget period, antenna costs were included as part of the communications network costs, however in this Subsequent Period Application antenna costs have been included as part of the meter costs.

5.1.3.2 AER Draft Determination Position

The AER has determined that contracts for meter supply were not let in accordance with a competitive tendering process and that the expenditures proposed by SP AusNet compared to other distributors represent a difference that is commercially significant and involve a substantial departure from the commercial standard that a reasonable business in the circumstances would exercise.

The AER has substituted costs submitted by PowerCor in determining SP AusNet's budget requirement and has adjusted meter and meter installation volumes to align with the determinations made under the Scope test (see above).

5.1.3.3 SP AusNet Response to Matters Raised in the Draft Determination

Details in Initial Application

SP AusNet's proposed costs for the supply of WiMAX enabled meters were based on contract prices while supply costs for 3G enabled meters were based on quotations received.

SP AusNet Response to Issues Raised

In response to the AER's Final Determination on SP AusNet's 2009-11 Revised AMI Budget and Charges application[46], SP AusNet is currently conducting a Request for Tender to supply the organisation's AMI metering solution (incorporating 3G and WiMAX: meters, communications cards, zigbee cards and antennas). The outcome of this process will not be available until after the time of this submission. Detailed information on the RFT process, strategy and expectations is included in Appendix C - AMI RFT Meters, Communication Modules and MMS.

SP AusNet reminds the AER about the confidentiality of information surrounding this RFT as release of any information in relation to assumptions SP AusNet may have made will jeopardise the probity of the complete process.

In this submission SP AusNet has used the current WiMAX meter and communications module prices currently received from suppliers (see Table 5.7 below). These prices are net of any volume discount received by SP AusNet.[47] In regards to 3G meter and communications module prices, SP AusNet has used indicative quotes from the outcome of a RFI conducted in early 2011.[48]

Table 5.7: SP AusNet meter prices ($AUD)

METER COMPONENT	METER TYPE	
	WiMAX	3G
Single phase single element	[C-I-C]	[C-I-C]
Single phase single element with contactor	[C-I-C]	[C-I-C]
Single phase two element with contactor	[C-I-C]	[C-I-C]
Multiphase	[C-I-C]	[C-I-C]
Multiphase with contactor	[C-I-C]	[C-I-C]
Multiphase CT connected	[C-I-C]	[C-I-C]
Comms module (incl. zigbee card)	[C-I-C]	[C-I-C]
Antenna	[C-I-C]	[C-I-C]
Extended Antenna	[C-I-C]	[C-I-C]

46 AER, ***'Final Determination, SP AusNet Revised Budget Application 2009-11'***, 20 July 2011.
47 Refer Vendor Prices – Appendix B
48 Refer AMI 3G RFI – Appendix D

5.1.3.4 SP AusNet Budget Application

Using the prices set out in Table 5.7 above, SP AusNet's contracted foreign exchange rate (see Section 7), and meter volumes from Section 5.1.2.4, SP AusNet has calculated forecast meter supply capital expenditure for 2012-15.

As discussed in Section 5.1.2.3, meter supply capital expenditure for 2012-15 has increased from that forecast by SP AusNet in February, however this represents a shift in expenditure from 2011, rather than an increase in SP AusNet's forecast metering capital expenditure. Forecast meter supply expenditure for 2011 to 2015 has decreased $2.6 million in 2011 dollars from the February forecast.

Table 5.8: Forecast metering supply capital expenditure ($2011)

	2011	2012	2013	2014	2015
Number of meters *	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Metering capex **	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

* Includes new connections, net of abolishments in 2014 and 2015.
** Includes meters, comms cards, antennas and zigbee chips.

Table 5.9: SP AusNet forecast meter supply capital expenditure

($,000 real 2011)	2011	2012	2013	2014	2015	Total
Meters contracted	[C-I-C]	[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]	[C-I-C]
Total	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**

5.2 Meter Installation

As noted previously, Schedule 1 of the revised Order sets out the number of remotely read interval meters that are to be installed by the end of each period within the AMI rollout program.

SP AusNet has entered contracts for the installation of metering associated with the AMI rollout program.

5.2.1 Introduction / Background

SP AusNet's contracts with the meter installation companies include the following:

- Meter, Antenna and Communications module installations (exchanges)
- Management and storage of meter stock
- Associated stock control

- Organising and managing meter installation crews
- Pre-site inspection to ensure compliance
- Meter disposal

5.2.2 AER Draft Determination Position

The AER has determined that SP AusNet's meter installation volumes are in excess of the number required to meet its AMI roll-out obligations. The AER has deemed that installations related to new connections should be recovered through Alternative Control Services, with the new connection customer meeting the installation costs.

5.2.3 SP AusNet Response to Matters Raised in the Draft Determination

SP AusNet Response to Issues Raised

SP AusNet acknowledges the AER's approval of SP AusNet's meter installation costs, on the basis that these are the result of a competitive tender.

Included in SP AusNet's calculation of meter installation capital expenditure is the contracted installation unit costs (covering activities such as meter installation, antenna and communications card installation, difficult sites – at an incidence based on SP AusNet's experience, preliminary site inspections and others) multiplied by the number of *replacement meters* forecast to be rolled out each period.

The average installation unit price (averaging across the two contracted installation providers and incorporating assumptions around incidence of wasted visits, difficult sites, etc) is approximately $[C-I-C].

SP AusNet concurs with the AER's view in the Draft Determination that new connection installation costs are recovered from the customer. For this reason SP AusNet **did not** include new connection installation costs in the forecast of installation capital expenditure in the February 2011 application. The AER has erred in deducting this expenditure from SP AusNet's Budget.

The installation cost of the antenna and communications module, however, is not recoverable from the customer, so this contracted cost was included in forecast installation Capital Expenditure in 2014 and 2015. The contracted unit cost for antenna and communications module installation is $[C-I-C].

5.2.4 SP AusNet Budget Application

SP AusNet's revised budget application for meter installation capital expenditure (including difficult sites, and communications card and antenna installation) is presented in Table 5.10.

Meter installation capital expenditure for 2012-15 has increased from that forecast in February, however this represents a shift in expenditure from 2011, rather than an increase in SP AusNet's forecast metering capital expenditure. Forecast meter installation expenditure for 2011 to 2015 has increased $0.5 million in 2011 dollars from the February forecast.

Table 5.10: Forecast metering installation capital expenditure ($2011)

	2011	2012	2013	2014	2015
Meter installation*	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
New Customer – antenna and comms module installation	[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]**

* Including difficult sites.

5.3 Communications Infrastructure (Including Installation)

The implementation of AMI services requires the development, implementation, management and ongoing operation and support of a communication facility between individual customer installations and the utility's network infrastructure and information and control systems. Key areas of the communications approach include the underlying coverage and capacity parameters and communications infrastructure.

SP AusNet has adopted WiMAX communication technology for its primary network solution and 3G communications technology for its secondary or infill solution.

5.3.1 WiMAX Primary Communications Technology

5.3.1.1 Introduction / Background

The WiMAX solution selected as the primary network continues to be the most suitable communications solution . The specific breakdown of WiMAX infill technologies include: micro sites and repeater stations in coverage black spots (exclusive 1.16%), localised LAN based solutions to cover group metered sites (inclusive 6.84%), alternative antenna arrangements to provide for meters in fringe areas (inclusive 2.93%).

SP AusNet has selected to deploy a Multi-Protocol Label Switching (MPLS) as its preferred WAN backhaul technology. The initial network deployment of MPLS concluded in December 2010 and that included the implementation of the main core routers and migration of some of the key WiMAX hubs to MPLS. The WAN is being built over 4 phases, to align with the WiMAX rollout.

SP AusNet's February application (Section 5.3) provided detailed information on SP AusNet's communications design), SP AusNet's primary communications network (WiMAX) capital expenditure for 2012-15 is made up of infrastructure, installation services, and backhaul costs. Infrastructure includes WiMAX basestations, complex solution costs, the Core Network and the radio area network (RAN). Installation services include the costs of site acquisition, and designing, building and deploying the primary network; and backhaul costs are made up of microwave hardware and multiprotocol label switching (MPLS) equipment.

These components combine to create SP AusNet's end-to-end communications network for WiMAX, and SP AusNet's contract with Motorola is applicable to all three components.

5.3.2 3G Secondary Communications Technology

5.3.2.1 Introduction / Background

A secondary network solution provided by a 3G network is currently under assessment and is planned to provide coverage outside the primary network (approximately 10%). Work with product vendors to develop meter communication capabilities and integration into the primary network continues.

SP AusNet will install a secondary communications network (3G) as an infill for areas not cost efficiently covered by the primary communications network. The 3G network capital expenditure for 2012-15 is split into infrastructure (SIM cards – costed as per indicative pricing provided July 2011) and backhaul costs (VPN establishment – costed as per indicative pricing provided July 2011).

5.3.3 AER Draft Determination Position

For the purposes of this subsequent AMI budget period, the AER has determined that it has not established that SP AusNet is using its WiMAX network for non-AMI purposes. The AER also determined that it did not establish that SP AusNet's contract for the Communications Technology design, build and deployment was not let in accordance with a competitive Tender.

5.3.4 SP AusNet Response to Matters Raised in the Draft Determination

SP AusNet acknowledges the AER's Draft Determination that forecast Communications Technology expenditure was let in accordance with a competitive tender. SP AusNet has provided initial forecast estimates for the secondary network within this budget application however these will be revised once detailed quotes are provided by product vendors.

5.3.5 SP AusNet Budget Application

SP AusNet has revised its forecast of Communications capital expenditure for 2012-15, taking into account the most recently available information. Incorporating this additional information has led to an overall decrease in communications capital expenditure for the 2012-2015 period (as compared to SP AusNet's February submission).

Table 5.11: Forecast communications capital expenditure ($2011)

	2011	2012	2013	2014	2015
WiMAX TOTAL	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**
Infrastructure	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Installation/Services	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IP Backhaul	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
3G TOTAL	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**
Infrastructure	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Installation/Services	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IP Backhaul	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Complex Solution	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total	**$7,080,645**	**$27,992,818**	**$13,461,477**	**$3,214,629**	**$3,775**

5.4 Information Technology

5.4.1 Introduction / Background

Implementation of the AMI program has required new and augmented information technology in terms of Network Management Systems (NMS) and Business Systems.

SP AusNet has based its overall NMS design on two systems – a Meter Management System (MMS) and a Communications Network Management System (CNMS).

Core business systems that have been impacted include:

- Meter Data Management System
- Customer Information System
- Enterprise Application Integration
- Data Warehousing

The IT systems required to support the transfer of Meter Data from the communications network to the Meter Management System and then to other IT operational platforms for publishing to market participants are both complex and numerous. In addition there are IT systems used for monitoring and management of these core IT platforms to ensure the Department of Primary Industries (DPI) mandated services levels are met.

5.4.2 AER Draft Determination Position

While the AER determined that SP AusNet's IT capital expenditure was not let in accordance with a competitive tendering process, it concluded that the proposed expenditure did meet the commercial standard test and therefore prudent and was accepted.

5.4.3 SP AusNet Response to Matters Raised in the Draft Determination

5.4.3.1 SP AusNet Response to Issues Raised

SP AusNet acknowledges the AER's Draft Determination that forecast IT capital expenditure meets the commercial standard test, and is therefore approved.

As detailed in SP AusNet's February submission, forecast IT capital expenditure costs consist of the Meter Management System and the Communications Network Management System which combined are referred to as the Network Management System (NMS) and Business Systems required to provide an interface between different environments which constitute the overall information system and deliver the required functionality and service level performance to meet regulatory and business needs.

AMI is a Technology Project

The smart grid, which is part enabled by the deployment of Smart Meters[49] is primarily a technological program enabled by IT, communication, operational technology. Other than the deployment of a new electronic meter, the two main aspects and cost of the program are:

- Communications Network; Building of a private network to enable communication between the meter and the back office environment.
- IT Application and Infrastructure; Multiple applications and infrastructure to manage large scale interval meter reads, from meter to market.

Due to a number of factors, there is a large cost to deploy this technology:

- Early Adopter / Immature Market; The technology and experience resources/organisations within the Market Place, ultimately result in a 'first adopter' increase implementation costs, as there are various unknowns and unproven to semi proven technology.

[49] Smart meters or, more correctly, advanced metering infrastructure (AMI) is a composite technology composed of several elements: consumption meters, a two-way communication channel and a data repository (meter data management). Jointly, they support all phases of the meter data life cycle — from data acquisition to final provisioning of energy consumption information to end customers (for example, for load profile presentment) or an IT application (such as revenue protection, demand response or outage management). GARTNER

- Scale: For an organisation to absorb and include a program of this size, on top of their other regulatory commitments is a large undertaking, which results in a high cost per project employee, due to the external sourced resource pool and time risks the company needs to manage.
- Availability of Technology People; By far the biggest challenge for this AMI Roll Out will be the availability of technologies and knowledgeable staff, both for deployment and retention in support roles, as the shortage creates demand and high cost.

SP AusNet's Program structure and cost is aimed at two main elements:

- Managing Program Risk; (see Section below on *Managing Risk and the Project Team Design*).
- Flexibility and Agility; Ensuring the structure is not flat across the life of the program, but flexes according to the demands of the cycle the program is in.

Managing Risk and the Project Team Design

Managing the risk profile of SP AusNet's AMI Program is fundamental to its success and therefore both the project delivery model and timing profile has changed in accordance in delivering a successful outcome. By fully understanding this profile, a number of changes have been made to the delivery model to more appropriately manage the overall risk to SP AusNet, our cutomers and the market as a whole.

- Restructure the IT Delivery team from a staff augmentation approach, to a pre-defined outcome which will be executed through a commercial contract with a Software Integrator. An outcome-driven delivery model (vs. historic contractor-based model) is fundamental to delivering on timelines and optimising future costs. The quality of planning, control and reporting to management was not at a level to manage the significant program risks of such a complex development and immature technology landscape. A new approach to outcomes driven with robust controls has been adopted.
- Deeper focus on data accuracy and testing, to ensure 'dirty' data does not enter the market.
- Risk managed approach of logical conversion, to ensure system stability and reliability for both SP AusNet and market participants before conversion.
- Infancy of software vendors requires tighter and more robust governance to ensure the required quality outcomes.

The Meter Management System (MMS) is a critical platform which not only manages the configuration of every meter, but also acts as a store and forward repository for the daily meter data. This platform is being designed for high scalability and high availability to meet the DPI service levels. Consistent with general technology operational practices an annual support and maintenance contract is in place with the MMS vendor GridNet. This contract also provides for on-site technical support resources which augment the SP AusNet application support teams.

The Communications Network Management System (CNMS) is a suite of applications which form an essential toolset used by the support teams to monitor and manage the myriad of network and IT platforms required for the AMI program. Specifically the CNMS provides:

- Event capture and correlation to provide real-time monitoring and alarm management for the following key platforms (via Element Management Systems):
    - WiMAX Radio Access Network

- Ceragon Microwave Network
- Cisco Network elements
- Brocade Network elements
- Juniper Network elements
- Security (Firewall and IPS) network elements
- MMS platform
- Sun Server platforms (IT Systems)
- Network Infrastructure Services (Authentication, DNS, DHCP, etc)

- Platform performance and availability reporting, including end to end network performance and utilisation monitoring
- Fault and incident management including automatic generation of incident tickets
- Network topology management
- Service Level reporting
- Storage of data for two years to enable trend reporting and seven years for statutory obligations.

As can be seen from the capabilities provided by the CNMS above, this is an essential toolset to provide assurance in achieving the DPI service levels.

5.4.4 SP AusNet Budget Application

SP AusNet has revised its forecast of IT capital expenditure for 2012-15, taking into account more recently available information.

[C-I-C]

SP AusNet is currently conducting a Request for Tender for an IT Systems Integrator. The outcome of this process will not be available until after the time of this submission. SP AusNet reminds the AER about the confidentiality of information surrounding the RFT as release of any information in relation to assumptions SP AusNet may have made will jeopardise the probity of the complete process.[50]

Table 5.12: Forecast IT capital expenditure ($2011)

	2012	2013	2014	2015
MMS	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
CNMS	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total NMS	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**
Master Integrator	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Infrastructure	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Releases 2 & 3	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total Business Systems	[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]**

[50] Systems Integrator RFT – Appendix E

6 Operating and Maintenance Expenditure Budget

Operating and maintenance expenditure comprises:

- Periodic meter testing based on meter family samples in accordance with relevant standards and asset management programs;
- Fault response and maintenance of the meter stock, metering data services and communications platforms;
- Customer service costs associated with queries, complaints and claims handling as a result of meter replacements;
- Costs associated with providing meter data services, including meter reading, data transfer to an IT system, managing data and providing it to market participants and AEMO;
- Costs associated with:
    - Hardware licensing, service level agreements and consumables for systems backup;
    - Software licensing, service level agreements, vendor support and maintenance; and
    - Labour for maintenance and support activities, systems and data backups for meter data services, storage systems, networks and support for service level agreements for hardware and software.
- Costs incurred and forecast to be incurred in conducting technology trials of the secondary communications network and infill strategies;
- SP AusNet Management Costs;
- Information, Communications and Technology (ICT):
    - Communications Backhaul;
    - Communications Network Maintenance; and
    - IT service provider support.
- Project management, training and other preparation costs; and
- Indirect costs.

6.1 Meter Reading

6.1.1 Introduction / Background

Meter reading comprises back-office processes to add, delete or amend a customer installation to the reading route, route management, scheduling, uploading and downloading of reading information to reading devices and the task of reading meters.

Type 5 (manually read interval) and type 6 (accumulation) metering installations are read on site using Portable Data Entry (PDE) units to collect readings. Type 5 (AMI) metering installations are interval meters, read remotely.

Where communications infrastructure is not available, or the remote connection cannot be effected at the time of AMI meter installation, SP AusNet initially configures the installation based on the current meter installation type (Type 5 MIRM or Type 6 Basic). SP AusNet also undertakes check readings of installations for comparative purposes during early meter reading cycles.

6.1.2 AER Draft Determination Position

The AER determined that meter reading operational expenditure was not let in accordance with a competitive tendering process. Having applied the Commercial Standard test to the expenditure proposed, the AER has concluded that the proposed expenditure meets the Commercial Standard test.

6.1.3 SP AusNet Response to Matters Raised in the Draft Determination

SP AusNet welcomes the AER's positive determination with respect to the proposed meter reading operational expenditure.

SP AusNet will continue to undertake manual reads in the 2012-15 period, however the number of reads will rapidly decline from June 2012 onwards, as AMI meters are logically converted and remote reading commences. Manual meter reads will end after two cycles from the installation of the interval meter. This will achieve cost reductions in reducing the number of meter reading routes and meter readers required. SP AusNet will, however, incur costs relating to redundancies.

For the small number of interval meters that cannot be read remotely, SP AusNet will manually read these meters.

6.1.4 SP AusNet Budget Application

SP AusNet's meter reading forecast has not altered from that submitted in February.

Table 6.1: Meter reading forecast ($2011, $'000)

	2011	2012	2013	2014	2015
	Actual	Forecast	Forecast	Forecast	Forecast
Meter reading cost	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

6.2 Meter Data Management

6.2.1 Introduction / Background

Meter data management services comprise meter data processing and management and the transfer of processed meter data to retailers and market systems.

6.2.2 AER Draft Determination Position

The AER considers that the level of resourcing for these functions appears inconsistent with the objective of the AMI program to automate these processes, and the nature of the obligations under the AMI Functionality Specification and Service Level Specification that SP AusNet is required to meet. While SP AusNet provided a detailed breakdown of costs, Full Time Equivalent (FTEs) and exception rates, the AER considered that it had not substantiated the forecast level of manual data processing and the number of FTEs required in terms of the AMI Functionality Specification obligations for data automation.

The AER has concluded that SP AusNet's forecast of meter data management operational cost does not meet the commercial standard test.

6.2.3 SP AusNet Response to Matters Raised in the Draft Determination

6.2.3.1 Details in Initial Application

In its Application, SP AusNet outlined the key tasks associated with the Meter Data Management function and provided detailed information in respect of costs, FTEs and exception rates in the accompanying templates. A further breakdown of the detailed information in support of the application was provided in a response to queries from the AER[51].

6.2.3.2 SP AusNet Response to Issues Raised

Under the revised Order, where the AER applies the "commercial standard" test to determine whether costs incurred are prudent, the AER must only look at SP AusNet's actual circumstances. The AER should not use comparisons with other DNSPs or any other kind of benchmarking.

SP AusNet believes the AER has erred in the calculation of meter data management costs by not allowing for the management of the existing but declining fleet of accumulation data at the same costs currently incurred. SP AusNet also believes Impaq consulting, on whom the AER rely, have failed to allow for data storage of accumulation data storage and management to required levels. Recently SP AusNet was required to provide the DPI with 12 months of customer consumption data from 2009 to 2010.[52]

51 SP AusNet response to AER questions of 15 June 2011.
52 Impaq Consulting, ***'Review of DNSPs AMI Budget Submissions for 2012 to 2015'***, pages 131-132.

6.2.4 SP AusNet Budget Application

SP AusNet has reviewed the forecast for Meter Data Management for the 2012-2015 period and the following tables provide the details of both the historical and forecast costs.

Table 6.2: Meter Data Management forecast ($2011)

	2011	2012	2013	2014	2015
	Actual	Forecast	Forecast	Forecast	Forecast
Special Meter Reading Costs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Faults	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Data Exceptions	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Team leading and support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**

Table 6.3: Meter Data Management cost per NMI ($2011)

	2010	2011	2012	2013	2014	2015
	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
Number of NMIs	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Cost per NMI ($2011)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

6.3 Meter Maintenance

6.3.1 Introduction / Background

Meter maintenance services include periodic meter testing based on meter family samples in accordance with relevant standards and asset management programs and fault response to, and maintenance of the meter stock.

6.3.2 AER Draft Determination Position

The AER considers that SP AusNet did not substantiate that forecast expenditure is prudent as the need for 'usual maintenance' and 'visual inspections' was not supported by any evidence as to the extent to which AMI meter tampering, alteration and malfunction will be issues for

SP AusNet's meter fleet in 2012-15. Further, the level of resourcing proposed by SP AusNet to meet meter maintenance and testing obligations was in excess of the level considered prudent as determined by the AER's advisers.

The AER concluded that SP AusNet's forecast of meter maintenance operational costs 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.

6.3.3 SP AusNet Response to Matters Raised in the Draft Determination

6.3.3.1 Details in Initial Application

In its Application, and in a subsequent response to queries from the AER[53], SP AusNet outlined the key tasks it considered necessary to meet its business and regulatory obligations in respect to the meter maintenance function and provided detailed information in respect of costs and FTEs required to complete those activities.

6.3.3.2 SP AusNet Response to Issues Raised

Under the revised Order, where the AER applies the "commercial standard" test to determine whether costs incurred are prudent, the AER must only look at SP AusNet's actual circumstances. The AER should not use comparisons with other DNSPs or any other kind of benchmarking.

6.3.4 SP AusNet Budget Application

SP AusNet has reviewed the forecast meter maintenance costs for the 2012-2015 period and confirms that its original calculations are the best possible data available at the present.

Table 6.4: Meter maintenance forecast ($2011)

	2011	2012	2013	2014	2015
Usual maintenance (BAU meter) *	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Usual maintenance (AMI meter) *	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Annual compliance audit/inspection	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Batch testing **	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**

* C-I-C per meter.

** This is a mandated regulatory obligation, to ensure that the installed new meter fleet population is accurate and operating in accordance to the metrology performance of that meter type. The Australian Standard for in-service compliance testing states that 75 meters per 10,000 is the minimum depending on the testing method adopted. It would be expected that this function be conducted by a third party service provider and based on minimum quantities, not ad-hoc one off tests.

53 SP AusNet Response to AER questions of 15 June 2011.

6.4 Customer Service

6.4.1 Introduction / Background

The Customer Service expenditure category includes the development and implementation of a Customer Communications and Service Strategy and the provision of customer service and call centre functions to deal with customer queries, complaints and claims.

6.4.2 AER Draft Determination Position

The AER determined that customer service operational expenditure was not let in accordance with a competitive tendering process. Having applied the Commercial Standard test to the expenditure proposed, the AER has concluded that the proposed expenditure meets the Commercial Standard test.

6.4.3 SP AusNet Response to Matters Raised in the Draft Determination

SP AusNet welcomes the AER's positive determination with respect to the proposed Customer Service operational expenditure.

6.4.4 SP AusNet Budget Application

SP AusNet acknowledges the AER's approval in the Draft Determination of forecast customer service costs and SP AusNet's forecasting methodology.

The increasing public interest in, and anxiety about, the AMI roll out has led to a large number of customer enquiries and complaints. SP AusNet's experience of query, complaint and claim volumes in 2011 is even above that forecasted in the February submission. This interest in the AMI program – and associated elevated volume of queries, complaints and claims – is expected to continue into 2012, tapering off in 2013.

Figure 6.1: Customer enquiries

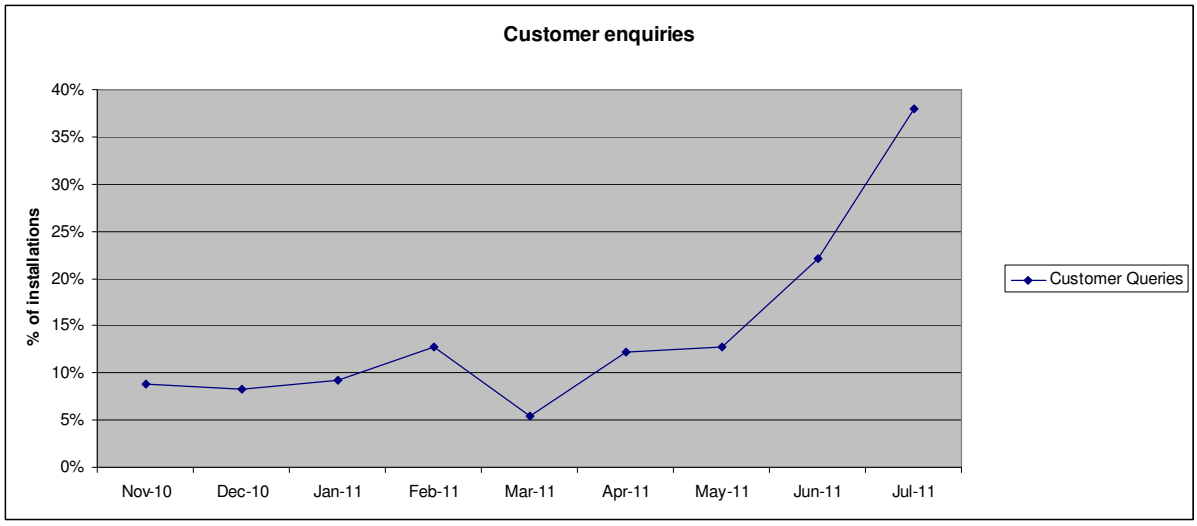
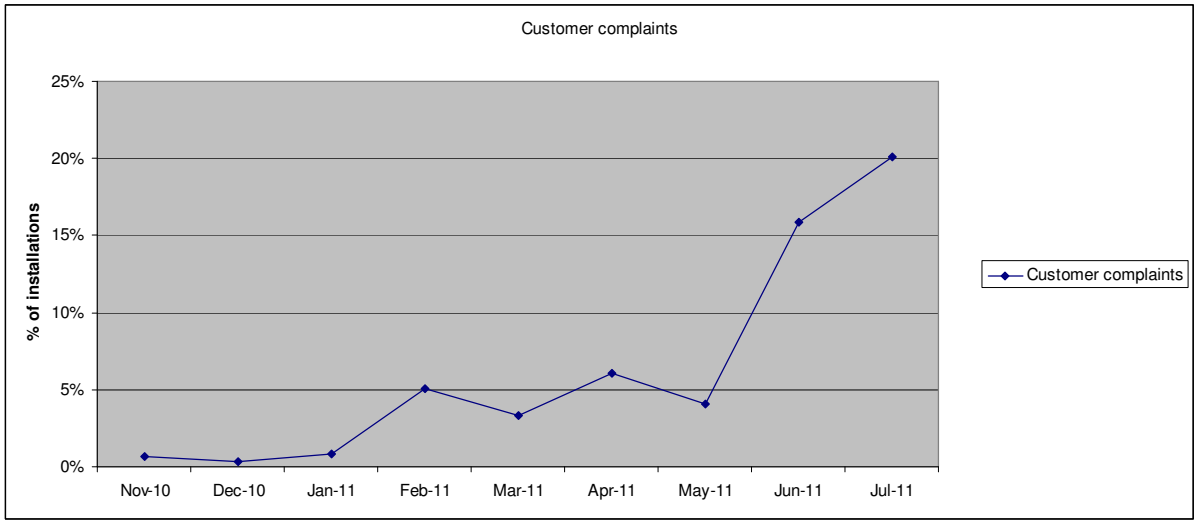


Figure 6.2: Customer complaints



The complexity of complaints and claims received has also increased. Where an average claim in early 2011 was relatively straightforward (for example; breakages during installation requiring reimbursement), claims currently being experienced are on average far more time consuming to address (for example, claims regarding the health impacts of RF radiation). At present, it takes a SP AusNet FTE one day, on average, to deal with a customer claim.

In line with SP AusNet's actual experiences, the assumed incidences for customer questions, complaints and claims used to forecast 2012-15 customer service operating expenditure have been increased. A summary of the underlying assumptions is presented in Appendix F - Customer Service Costs.

Table 6.5 presents SP AusNet's revised forecast customer service operating expenditure.

Table 6.5: Customer service costs ($2011)

	2012	2013	2014	2015
	Forecast Cost $	Forecast Cost $	Forecast Cost $	Forecast Cost $
Customer Queries Handling	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Customer Complaints Handling	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Customer Claims Handling	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Training & Telephone Hand Sets	[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]**

6.5 Communications Network Maintenance

The implementation of AMI services requires the development, implementation, management and ongoing operation and support of a communication facility between individual customer installations and the SP AusNet's network infrastructure and information and control systems.

The Communications Network Maintenance is defined as the cost to run and maintain the communications networks. These costs are operational in nature and are required to ensure the network can operate within performance and availability requirements to meet the DPI mandated service levels.

SP AusNet provided details of its WiMAX Communications Network and its 3G Network in sections 5.3.1 and 5.3.2 respectively.

6.5.1.1 Introduction / Background

SP AusNet's AMI solution is based on WiMAX technology, a standards-based wireless broadband technology, supported by 3G technology in areas where WiMAX proves not to be a practical, cost-effective solution. Spectrum usage agreements have been established and base stations are being deployed across the service area. A Communications Infrastructure Security project has been implemented to develop capability in relation to firewalls and Intrusion Detection Prevention Systems.

6.5.1.2 AER Draft Determination Position

The AER analysis of SP AusNet's application was based on 37 WiMAX base stations and the assumption that as new infrastructure there would be little hardware maintenance in the budget period.

Although 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 tender.

6.5.1.3 SP AusNet Response to Matters Raised in the Draft Determination

SP AusNet believes the draft determination did not take into account the following considerations:

- To achieve the mandated 99% availability for all hardware and software a support and maintenance contract is required with each equipment vendor. These contracts provide assurance that any faults, bugs or service incidents should be resolved within an agreed period, subject to the priority of the incident. It is generally accepted that vendors will not respond in any timely manner to support incidents without an annual support contract.
- Given the 99% availability requirement an operational support team is required 24x7. This requires resources be scheduled across 3 shifts with appropriate back-up resources in the case of major incidents or unavailability of staff.
- Given the geographical distribution of WiMAX sites, a number of depots throughout the SP AusNet region is required for field engineering resources with access to critical spares.
- SP AusNet has invested in Network Management systems to provide monitoring and alerting capabilities. Whilst these toolsets automate some maintenance and management tasks, skilled resources are still required to interpret and respond to alerts to ensure the network has 99% availability. SP AusNet believes the support organisation is of an appropriate size given access to essential support tools.

- To maximise WiMAX coverage the towers typically need to be in high density locations which generally have limited availability of land. Where possible SP AusNet is leveraging its power distribution assets to provide locations for WiMAX towers or entering into commercial agreements to install WiMAX towers on third party property (e.g. local councils for statutory authorities). In both situations site lease costs must be incurred at market rates. SP AusNet has forecast the costs for 106 sites based on the weighted average of existing lease costs across 11 sites.

6.5.1.4 SP AusNet Budget Application

To ensure the DPI service levels are met SP AusNet must run and maintain the network. There are many costs associated with operating a WiMAX network as follows:

Communications Charges:

These relate to the lease of radio frequency spectrum to enable the WiMAX towers to transmit at a specific frequency. All radio frequency communications is regulated in Australia by the federal statutory authority, the Australian Communications and Media Authority (ACMA).

SP AusNet does not hold spectrum licences directly from ACMA for the use of the WiMAX network. Instead SP AusNet has a commercial agreement with two organisations to lease a sub-band of their spectrum license. This agreement lasts until 2015 with an option to renew.

Network Maintenance charges:

These are support and maintenance contracts with the vendors who supply the communications network equipment. The contracts are in place to ensure than any faults, defects and upgrades can be delivered to maintain reliable communications.

SP AusNet has support contracts with the following vendors or solution providers to ensure that any fault or service incidents can be resolved in a timely manner to meet the 99% availability requirements:

- Motorola for the WiMAX and Microwave communications network equipment
- Netstar for the MPLS network equipment
- Netsolutions for the network security equipment

Site Lease:

These relate to the costs to lease land and/or sites where the communications equipment is located. These relate to the 89 WiMAX sites and 17 repeater sites. Site leases are required as it is not financially feasible to acquire land in high density locations to erect a WiMAX tower. Where possible SP AusNet is leveraging existing SP AusNet assets or facilities to deploy towers. The forecast budget of 89 WiMAX sites and 17 repeater sites has been estimated based on an assumed distribution of the following site types:

Table 6.6: Site Types

Site Types	Proportion	Estimated Annual Least Cost
Third Party Co-Location Sites	11%	[C-I-C]
SP AusNet Radio Towers, Zone Stations & Terminal Stations	30%	[C-I-C]
SP AusNet High Voltage Towers (Transmission Network)	16%	$[C-I-C] for land lease (depending on land owner)
Greenfields Site	42%	$[C-I-C] depending on owner & location

Labour Resources:

These relate to the costs of labour resources to operate, monitor and maintain the communications network equipment. Given the size and duration of the AMI deployment the resource requirements will change through the lifecycle of the program. During the design and build stages of the program the Communications Solutions and Delivery teams, together with the program management team will be the largest teams in terms of resources. As the sites get built and the WiMAX and Backhaul networks become operational a new set of resources is required to take over the day to day running of the networks.

When the 89 WiMAX sites and 17 repeater sites (Total 106) are fully deployed the resources required to deliver the mandated 99% availability service levels for hardware and software and 99% of Meter read data within 24 hours are substantial. Details of SP AusNet's service operational model are attached at Appendix G – Service Operational Support Model.

3G Secondary Communications:

The 3G Secondary Communications Network will deliver connectivity to approximately 10% of meters. Maintenance costs in the context of the 3G secondary network have two components as follows:

3G Monthly M2M Data Plan:

C-I-C

Secondary MMS Maintenance Contract:

Annual maintenance contract for the secondary MMS vendor. The support and maintenance costs for a secondary MMS platform has also been estimated, based on circa $0.60 per meter per annum which was an average of responses during a Request for Information process undertaken earlier this year. The secondary MMS platform assumes it is a completely separate platform from the primary MMS solution and requires the appropriate physical infrastructure to operate the solution.

6.5.1.5 SP AusNet Budget Application

The table below details SP AusNet's revised communications network maintenance costs for the 2012-2015 period. In the February Budget and Charges submission these costs were captured within IT operating expenditure. SP AusNet has captured these communications network maintenance costs separately in this revised forecast as this better reflects the nature of the expenditure.

Table 6.7: Communications network maintenance forecast ($nominal)

	2012	2013	2014	2015
Comms Charges	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Security	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Network Maintenance	[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]
Site Leases	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Communications Labour	[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]**

6.6 Backhaul Communications

Backhaul communications is defined as the communications network which transmits the Meter Data and associated Meter Management messages from the communications networks (e.g. WiMAX) to the SP AusNet data centres.

6.6.1.1 Introduction / Background

The WiMAX Primary Communications Network is an access network which provides connectivity between the Radio towers or poles and the meters. The backhaul element of this network transmits the meter data from the WiMAX towers to the SP AusNet data centres.

Given the 3G Secondary Communications Network will be a service provided by a commercial 3G operator, backhaul is limited to redundant data connections between the 3G Operators network and SP AusNet data centres. Typically these data links are connections into an operators backbone network and will be encrypted using a Virtual Private Network (VPN) circuit.

The cost of these VPN connections relate to an establishment cost and a monthly (fixed) data management fee.

6.6.1.2 AER Draft Determination Position

The AER has concluded that SP AusNet's cost forecast for maintenance of new communications infrastructure is substantially greater than the prudent level of resourcing established with reference to its adviser's analysis. AER has adjusted the expenditure to a level that it considers reflects the commercial standard.

6.6.1.3 Matters Raised in the Draft Determination

There are two transmission methods to backhaul the data depending on the location of the WiMAX towers as follows:

- MPLS Fibre backhaul network – this is a network designed to provide resilience and high availability to ensure the DPI Service Levels are delivered. This network has been designed to provide dual paths in the event of network outages and is built using Fibre Optic cables. The MPLS components of the core backbone network is part of this backhaul network and provides high capacity network connectivity where the majority of the traffic is concentrated (e.g. within one hop of the data centres).
- Microwave backhaul – this is a point to point radio access network between WiMAX towers. This type of backhaul is used where it is either not cost effective to lay fibre optic cables to connect via MPLS, or the size of the meter population being served is relatively small (in comparison to the overall meter population). In some instances due to geographically remote towns, a number of Microwave links are daisy chained to provide backhaul connectivity.

To ensure daily meter data is transmitted within the DPI mandated service levels, the backhaul networks have been designed for high availability and operational teams monitor these networks for incidents and faults. SP AusNet has invested in a Core Network Management System (CNMS) to automate the monitoring and alerting of the backhaul (and WiMAX) networks. The maintenance and support costs of the CNMS are detailed in the Communications Maintenance section of this document.

6.6.1.4 SP AusNet Budget Application

The costs associated with the backhaul communications network are as follows:

- Cisco, Brocade and Juniper capital costs for the MPLS equipment
- Motorola capital costs for the Ceragon Microwave equipment

All the services relating to the design and installation of the backhaul networks are included in the communication infrastructure section. This includes professional services from Motorola for the design and deployment of the Microwave network and professional services from Netstar Logicalis who designed and installed the Cisco/Brocade MPLS equipment.

The 3G VPN costs have been estimated based on indicative pricing from C-I-C. Details of why C-I-C has been used to source indicative pricing is described in Appendix D – AMI 3G RFI.

Table 6.8: Backhaul communications forecast ($nominal)

	2012	2013	2014	2015
Netstar (MPLS)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Radio Licences	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
3G VPN	[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]**

6.7 Technology trial

6.7.1.1 SP AusNet Budget Application

In developing the 3G MMS solution, SP AusNet expects to incur operating costs for technology trialling in 2012. This expectation has arisen since the February submission was made, and so these costs have not previously been submitted.

Table 6.9: Technology trial forecast ($2011)

	2012	2013	2014	2015
3G technology trial	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

6.8 Program Management and Metering Services

6.8.1 Introduction / Background

Program Management and Training covers a wide range of activities required to implement the AMI Program. The areas within the AMI Program include finance, change management, customer service oversight, supplier management, sourcing, regulatory and industry support, solution design, service operations (building and deploying the communications infrastructure), and meter deployment, management and services.

6.8.2 AER Draft Determination Position

The AER considers that there is insufficient detail in the information provided in the application to substantiate the level of resources forecast against the objectives and activities envisaged.

The AER has concluded that SP AusNet's cost forecast for project management operational costs is substantially greater than the prudent level of resourcing established with reference to its adviser's analysis. The AER has adjusted the expenditure to a level that it considers reflects the commercial standard.

6.8.3 SP AusNet Response to Matters Raised in the Draft Determination

6.8.3.1 Details in Initial Application

In its Application, SP AusNet provided an outline of the objectives and functions of the Project Management office and its forecasts for resourcing for the budget period.

6.8.3.2 SP AusNet Response to Issues Raised

To achieve the AMI program milestones and requirements SP AusNet requires a robust Program Management and Governance framework. A number of different functions are included within project management costs by SP AusNet, which differs from those included by other DNSPs. SP AusNet notes that some other DNSPs have capitalised the cost of resources used to design, build, deploy and support the program. If the forecast expenditure included in SP AusNet's forecast under section 6.8.4 is not allowed as operating expenditure these costs must be included in SP AusNet's capital forecast as they will be incurred at a commercial standard in fulfilling SP AusNet's regulatory obligations.

Under the revised Order, where the AER applies the "commercial standard" test to determine whether costs incurred are prudent, the AER must only look at SP AusNet's actual circumstances. The AER should not use comparisons with other DNSPs or any other kind of benchmarking.

SP AusNet's forecast project management resources reflect the number of resources a prudent business requires to:

- control and drive accountability for the program progress and outcomes
- ensure business engagement and
- embed sound Program Management practices to manage costs, risks and issues.

The activities undertaken by SP AusNet's Project Management Office in order to successfully operate the AMI program are detailed in the table below:

Table 6.10: Project Management Office roles and responsibilities

Stream	Roles and responsibilities
PMO – General	▪ Overall program management ▪ Program governance ▪ Program Monitoring & Controls ▪ Integration of program components ▪ Business process and requirements definition and management ▪ Project Management as required ▪ OH&S management ▪ Manage program progress against timelines and cost ▪ Dependency Management ▪ Risk and Issue Management ▪ Change Control / Variation Management ▪ Stakeholder Management ▪ Quality Control
PMO – Finance	▪ Day to day accounting and financial management of the program ▪ Cost and KPI reporting ▪ Financial analysis of the AMI program
Change Management	▪ Organisational change management activities relating to integrating the AMI program with the wider organisation ▪ Oversee the change and communication elements of the AMI program ▪ Transition the AMI Operations team into the Information, Communications and Technology (ICT) business unit ▪ Develop business processes, work instructions and training for new functionality, services and systems ▪ Continue to provide support for the processes that were under "warranty" from earlier releases ▪ Develop and execute the plan to deliver the AMI Minimum Service Levels

Stream	Roles and responsibilities
Customer Services	▪ Support the customer service function, including: ○ Management and team leading for the customer service function ○ Forecasting and analysis of future customer service needs ○ Rostering and staff support services ▪ Internal and external communications strategy oversight ▪ Internal and external communications implementation
Supplier Management and Sourcing	▪ Develop a sourcing strategy ▪ Implement and oversee sourcing strategy ▪ Ongoing management of vendors and contracts ▪ Commercial Management
Regulatory Info Support	▪ Manage the relationships with Government and regulatory representatives ▪ Participate in industry AMI forums
Solution	▪ Operate Technical Architecture Group and Change Control Board ▪ Requirements Management ▪ Integration of the Secondary Network Communications and Infill solution into the overall AMI solution ▪ Change Request assessment and solution definition (as required) ▪ Provide solution governance framework for the end to end AMI solution

Stream	Roles and responsibilities
Service Operations[54]	Build: ▪ Design and deploy communications infrastructure ▪ Design and deploy backhaul solution ▪ Ensure end-to-end security of AMI systems ▪ Manage the documentation of work instructions on maintenance of all current hardware and software configuration, disaster recovery plans, FT and Network Optimising initiatives and various operational processes. ▪ Conduct RF and Network Optimising initiatives to meet urban growth or new infrastructure. ▪ Design and expand WAN network ▪ Introduce additional "infill" solutions – WiMAX, Microcells, Repeaters etc ▪ UAT testing of new systems and releases Ongoing support: ▪ Monitor and report on WAN/LAN capacity and performance ▪ Maintain asset lifecycle management plans for WAN, WiMAX, and AMI NMS ▪ WiMAX network deployment ▪ Ensure end to end security of the AMI system ▪ 24/7 support for network (to ensure support in the critical 12midnight to 2am timeframe and weekends) ▪ Support Capability of 60+ basestations, microcells, repeaters and 2nd tier (infill) solution for 800,000 end-point devices to the DPI,AEMO, et.al Service Level Requirements ▪ 24/7 technical escalation of faults ▪ Remote alarming of Critical alarms ▪ Support evolving HAN services ▪ Implement Availability Management processes ▪ Implement Capacity Management processes ▪ Implement Demand Management processes ▪ Maintain Disaster Recovery Plans and provide scheduled tests and training. ▪ Maintain and document work instructions on maintenance of all hardware and software configurations

[54] The AMI Operations team will be transitioned into the business once the build is completed. Cost estimates associated with ongoing operations support have been included in Communications Network Maintenance.

Stream	Roles and responsibilities
Meter Deployment	▪ Develop meter procurement strategy for 2012 - 2015. ▪ Develop and implement meter deployment strategy ▪ Provide and maintain geospatial AMI data records compiled from AMI systems ▪ Provide static and multimedia visualisation and mapping data sets for Meter Mass Rollout ▪ Engineering analysis of AMI solution
Meter Data Management Support	▪ Oversee the operation and maintenance of AMI business systems whilst minimising running costs ▪ Develop archiving strategy to cope with increased volumes of data ▪ Build data warehouse capability to manage interval data ▪ Manage meter data management function ▪ Oversee Special Reader staff
Meter Services	▪ Develop and manage the strategy for maintenance and security of metering assets ▪ Ensure regulatory compliance of electrical measurement technology ▪ Manage the end-to-end testing of all metering assets

6.8.4 SP AusNet Budget Application

SP AusNet's revised forecast project management resources and costs are provided in the below tables.

Table 6.11: PMO Resource Numbers forecast

	2012	2013	2014	2015
AMIPMO General	8	7	0	0
AMIPMO Finance	2	3	0	0
AMIPMO Change Management	2	1	0	0
AMIPMO Customer Services	4	5	0	0
AMIPMO Supplier Management	3	3	0	0
AMIPMO Sourcing	1	0	0	0
AMIPMO Solution	2	0	0	0
Service Operations	21	21	4	0
Meter Deployment	8	6	0	0
Meter Data Management	2	2	2	2
Sub Total PMO	**53**	**49**	**6**	**2**
Meter Services	7	7	7	7
Total	**60**	**56**	**13**	**9**

Table 6.12: Average PMO FTE cost

	2012	2013	2014	2015
AMIPMO General	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Finance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Change Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Customer Services	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Supplier Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Sourcing	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Regulatory Info Support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Solution	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Service Operations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Deployment	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Management support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Sub Total PMO	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**
Meter Services	[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]**

Table 6.13: Total PMO forecast costs ($2011)

	2012	2013	2014	2015
AMIPMO General	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Finance	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Change Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Customer Services	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Supplier Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Sourcing	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Regulatory Info Support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
AMIPMO Solution	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Service Operations	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Deployment	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Meter Data Management support	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Additional costs (training, recruitment, communication etc)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Sub Total PMO	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**
Meter Services	[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]**

6.9 Sundry Operating Expenditure Costs

6.9.1 Introduction / Background

Included in this group of costs are forecasts for Industry Program Management, Program Audits, Regulatory submissions, Overhead and Accommodation operational expenditure.

6.9.2 AER Draft Determination Position

The AER determined that Industry Program Management, Program Audits, Regulatory submissions, Overhead and Accommodation operational expenditure was not let in accordance with a competitive tendering process. Having applied the Commercial Standard test to the expenditure proposed, the AER has concluded that the proposed expenditure meets the Commercial Standard test.

6.9.3 SP AusNet Response to Matters Raised in the Draft Determination

SP AusNet welcomes the AER's positive determination with respect to operational expenditure catgories.

6.9.4 SP AusNet Budget Application

Revised forecast Industry PMO costs are identical to those approved in the Draft Determination.

Table 6.14: Industry PMO forecast costs ($2011)

	2012	2013	2014	2015
Industry Program Management	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

Forecast audit costs are as per those approved the Draft Determination.

Table 6.15: Program audit forecast ($2011)

	2012	2013	2014	2015
Program Audit	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

The forecast cost of Regulatory Submissions has not changed from that approved in the Draft Determination.

Table 6.16: Regulatory submission forecast ($2011)

	2012	2013	2014	2015
Regulatory submission	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]

SP AusNet's total forecast overhead and accommodation costs are the same as those approved the Draft Determination.

Table 6.17: Overhead and Accommodation forecasts ($2011)

Category	2012	2013	2014	2015
	Forecast	Forecast	Forecast	Forecast
Accommodation	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Management Costs (SPIMS)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Indirect Overhead Costs (SP AusNet)	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
Total Overheads & Accommodation	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**	**[C-I-C]**

6.10 Equity and Debt Raising

6.10.1 Introduction / Background

Clause 4.1(h) of the revised Order requires that:

- Debt raising cost for the initial AMI WACC period shall be taken to be 12.5 basis points, and
- Equity raising costs for the initial AMI WACC period shall be recovered as a maintenance and operating expense.

The initial AMI WACC period means the period commencing on the Start Date and ending 31 December 2013.

6.10.2 AER Draft Determination Position

The AER has not accepted SP AusNet's proposed equity raising costs as it considers the expenditure is unlikely to be incurred. The AER understands that SP AusNet will fund the AMI program through debt finance.

The AER has also concluded that under the Commercial Standard Test of the AER's equity raising cost benchmark, SP AusNet's proposed equity raising costs are a substantial departure from the commercial standard.

6.10.3 SP AusNet Response to Matters Raised in the Draft Determination

6.10.3.1 Details in Initial Application

Section 5.7.2 of SP AusNet's budget and charges application stated the following:

> *"In the subsequent budget period and consistent with business requirements SP AusNet will need to raise additional equity or **renegotiate debt** to fund the AMI program.*
>
> *SP AusNet anticipates that it will fund its capital expenditure program via a combination of operating cash flows, debt and equity. SP AusNet introduced a Distribution Reinvestment Scheme (DRP) in October 2008, and the scheme has operated at each distribution to date. SP AusNet may continue to raise additional equity via its DRP for the period 2012-15.*
>
> *SP AusNet's debt portfolio currently consists of US Rule 144A bonds, Eurobonds issued under the Group's US$ Medium Term Note (MTN) Program, A$MTN's, bank debt and A$ Commercial Paper. SP AusNet anticipates that it will continue to access these markets to **raise additional debt for the period 2012-15**. In addition, SP AusNet has A$2.1b **debt maturing in the period 2012-15** based on calendar years.*
>
> *SP AusNet aims to raise the bulk of its debt finance via the domestic and international bond markets, rather than the bank debt markets. The rationale for this is that bond markets provide longer terms and accessing these markets preserves spare capacity in the bank debt markets, that can be used in the event that bond markets are effectively closed or prohibitively expensive."*[55]

6.10.3.2 SP AusNet Response to Issues Raised

SP AusNet would like to clarify that it is not applying for any Equity Raising Costs only Debt Raising Costs in the 2012-2015 period and sincerely apologise for any confusion in our application and or responses.

SP AusNet's forecast is for Debt Raising Costs only and therefore ask the AER to reconsider our application on the basis of the following:

- Under the revised order Part 2, Section 2.6(b)(2)(XII), our Debt Raising Costs are a within scope cost.

In addition to this, the Draft Determination accepts that debt raising costs are a legitimate expense for which a DNSP should be provided an allowance. SP AusNet has forecast the gross debt raising costs for the 2012-2015 period as $4.4m and deducted the 12.5 basis points allowance in the WACC which results in $3.2m to be recovered in the 2012-2015 budget.

55 SPA, ***'AMI Subsequent Budget and Charges application'***, 28 February 2011. – ***emphasis added***

6.10.4 SP AusNet Budget Application

SP AusNet has reforecast debt raising costs in light of the tighter global debt market, particularly in the US. Revised debt raising costs for AMI are $365,000 above those in the February application.

Table 6.18: Debt raising forecast ($2011 $'000)

	2012	2013	2014	2015
SP AusNet forecast debt raising costs	C-I-C	C-I-C	C-I-C	C-I-C
AMI allocation of debt raising costs	982	1,460	1,091	902
Less: Debt raising margin	275	339	317	261
Debt raising cost application	**707**	**1,121**	**773**	**641**

6.11 Information Technology

6.11.1 Introduction / Background

Information Technology operating costs include hardware and software licencing and support costs associated with the technology platforms delivering the Network Management and Meter Data Management functions and other IT infrastructure such as middleware, business-to-business and business-to-market communications and data transfer interfaces.

6.11.2 AER Draft Determination Position

The AER has determined that SP AusNet's IT operational costs are substantially greater than the costs forecast by the other Victorian DSNPs and that SP AusNet has failed to provide any evidence to substantiate the costs. Thus, AER has concluded that SP AusNet's forecast of IT operational cost does not meet the commercial standard test.

6.11.3 SP AusNet Response to Matters Raised in the Draft Determination

AMI Build versus Operational Costs

There are many metrics and assumption that can be used in assessing the ongoing ICT operational cost. SP AusNet has taken the view that it will not be in true operational state for quite some years, due to the maturity of the software and the potential changes and modifications required to stabilise the end-to-end environment. Therefore the level of support required is that to support a 24 x 7 environment, as well as having enough resources to apply the necessary changes required to ensure operational stability.

Secondly, due to the nature of the scope, the majority of both communications and application technology is new to the architecture of a utility. This means that ongoing support will increase more so than other deployments, but investment will need to be made in software, hardware and labour.

There are a couple of benchmarks that are worth considering, when discussing operating costs.

- Application Support Costs are typically broken up into two areas:
    - Run / Maintain
    - Development / New

  Gartner suggest that the typical % spent on this support is 38% of an IT Budget, which is shared roughly 50/50 between Run and Development, with the major element of this cost being people or labour.
- The % Operational Cost to maintain an IT Build Asset is a very subjective element, but does typically fall in the range of 5-15%, but heavily depends on the maturity/speciality of the software/hardware being installed. This figure will usually start at the high end of this range from years 1-3, then, as the life cycle and market maturity increases, will start to drop towards the low end of this range.

6.11.4 SP AusNet Budget Application

SP AusNet's IT operating expenditure forecast for 2012-15 has changed significantly from the forecast included in the February submission. This change is due to a remapping of communications network costs from IT operating expenditure (included as NMS in Feb submission) to Communications Network Maintenance (see section 6.5). On a 'like-for-like' basis, forecast IT operating expenditure costs have not significantly changed from the February submission.

Table 6.19: Information Technology Operating Expenditure ($nominal)

	2012	2013	2014	2015
Field Mobility	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
RTS MMS and CNMS	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Support – Application Services, Managed Services, End User Services	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
IT Support – Other (licences and overheads)	[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]**

7 Foreign Currency

7.1.1 Introduction / Background

There is a large Foreign Exchange exposure arising from the AMI program in relation to the meters and the communications equipment.

SP AusNet's Foreign Exchange risk management policy in relation to foreign currency payments for goods and services is to fully hedge the exposure once it is recognised. This would usually be when a signed purchase order has been placed with a supplier, however, under some circumstances, such as the AMI program, the exposure may be recognised at an earlier stage provided that a high degree of certainty exists as to the nature of the exposure (e.g. currency, amount and delivery date). The objective is to hedge the foreign exchange exposure in order to eliminate material foreign exchange risk. The Foreign Exchange risk management policy is a component of the Treasury Risk Policy, which is approved by both the Audit and Risk Management Committee and the SP AusNet Board. Under the Board approved Treasury Risk Policy, any foreign currency exposure greater than $100,000 is to be hedged. SP AusNet is forbidden to speculate on foreign currency risk or other financial risks.

Given the material size of the Foreign Exchange exposures arising from the AMI program, SP AusNet Treasury sought specific approval to hedge these exposures from the SP AusNet Board at its September 2009 meeting. The Board approved hedging of the Foreign Exchange exposures via forward contracts. The objective of the Board was to eliminate exposure arising from Foreign Exchange volatility, and to lock in the exchange rate at a level which was significantly more favourable than the AMI Regulatory Budget Submission for 2009-11, which was based on an exchange rate of AUD/USD 0.66. By locking in the exchange rate at the levels above 0.66 this would ensure that the cost of the hedged items (meters and communication environment) would be within the Regulatory Budget Submission.

SP AusNet transacted the Foreign Exchange forward contracts shown in Table 7.1 below in late 2009, to hedge the bulk of the forecast Foreign Exchange exposure arising from the AMI program. The Foreign Exchange forward contracts due in 2010 and 2011 have been used to pay $US denominated invoices to date, other than the remaining portion of the contract due in October 2011, which will be used to pay forthcoming invoices.

Table 7.1: SP AusNet's Foreign Exchange forward contracts

Bank	Date Hedged	Maturity Date	Volume $US m	Closing Spot Rate	Hedged Rate
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]	[C-I-C]
			166.6	**0.8747**	**0.8038**

Table 7.1 also shows the Closing Spot Foreign Exchange rate on the day the contracts were transacted. The spot rate is the exchange rate that applies for settlement in two days time. The hedged rate reflects the forward rate that applied for settlement on the specified maturity date in the Table. Forward exchange rates are calculated based on the interest rate differential between the two currencies. Since US interest rates are significantly lower than Australian interest rates, the forward exchange rate to hedge a long term USD exposure will be significantly lower than the spot rate. For example, the forward rates on Bloomberg page 'FRD' as at 23 August 2011 were as follows:

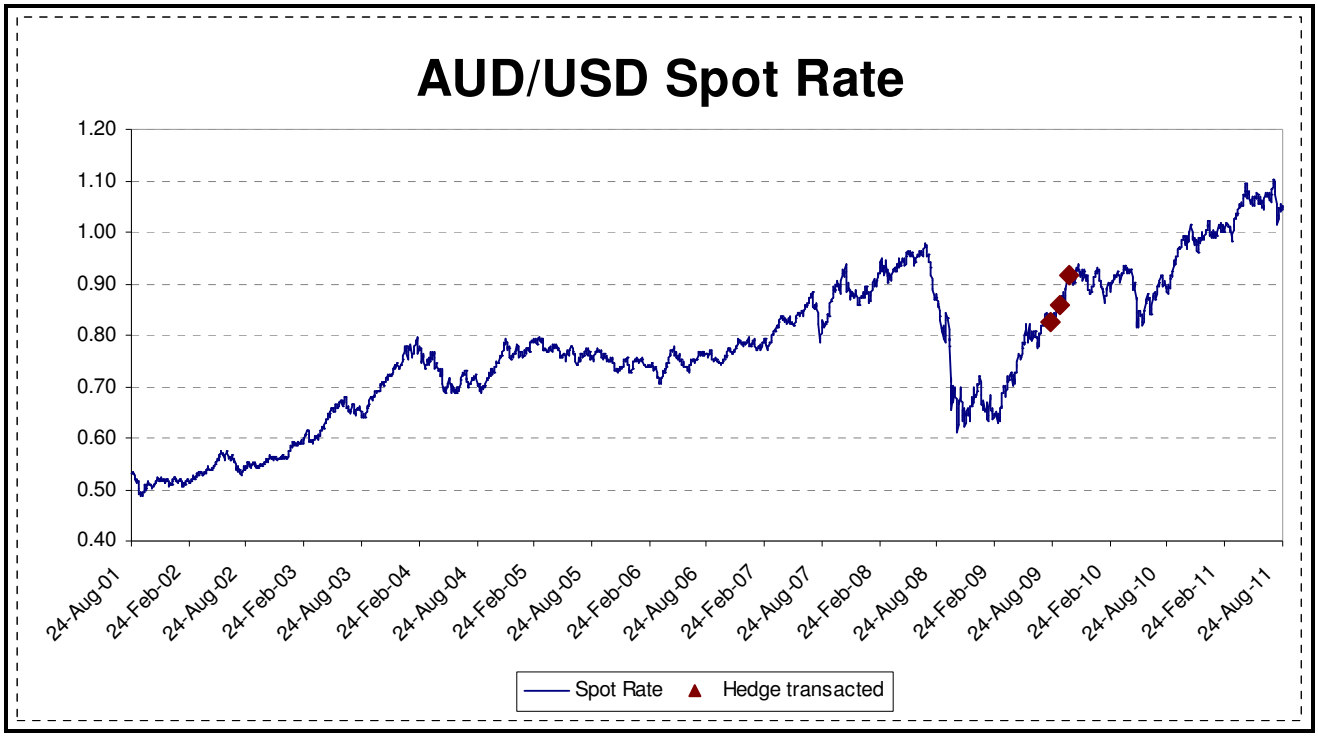
Table 7.2: Bloomfield Forward Rates

Rate	Settlement	Exchange Rate
Spot Rate	Two Days	1.04
Forward Rate	One Month	1.03
Forward Rate	One Year	1.00
Forward Rate	Two Years	0.96

The forward exchange rates are equivalent to buying the US dollars today at the spot rate and placing the funds on deposit for the term of the contract.

The following Figure shows the Closing Spot Foreign Exchange rate over the past ten years and the dates on which SP AusNet's hedge contracts were transacted. As can be seen from the chart, for the majority of that time, the rate has been below US$0.80.

Figure 7.1: Bloomberg Closing Spot Foreign Exchange Rate



Source: *Bloomberg*

7.1.2 AER Draft Determination Position

The AER considers that the commercial standard would reflect the current Foreign Exchange rate, specifically:

- The recent appreciation in the Australian dollar[56]
- 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.

[56] The 1 month average for AUD to USD foreign exchange rate was 1.05 for the month of May 2011.

7.1.3 SP AusNet Response to Matters Raised in the Draft Determination

AMI Revised Budget Application 2009-11

In the AMI Revised Budget Application 2009-11, the AER accepted SP AusNet's approach as consistent with a reasonable commercial standard and that the costs associated with SP AusNet's Foreign Exchange hedge contracts did not involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances. The following is an extract from Section 3.4.3.2 – "Foreign exchange hedging contracts. " [57]

> *"Part of SP AusNet's proposed expenditure variances to metering capex is related to changes in its foreign currency hedging arrangements. In 2009, SP AusNet forecast its metering capex costs in $AUD using an assumed $US foreign exchange rate of 0.66. When SP AusNet eventually sourced its foreign exchange hedge contracts, the relevant exchange rate was 0.80. Accordingly, this had the net effect of reducing SP AusNet's total metering capex budget (putting aside increases in metering unit costs, discussed below).*
>
> *The AER established that SP AusNet's foreign exchange hedging contract costs had not been let in accordance with a competitively tendering process, as discussed in section 3.4.2.*
>
> *In assessing whether the foreign exchange costs identified by the AER are more likely than not to be incurred (under the expenditure incurred test), the AER considered that given the costs are the subject of signed contracts, it is likely they will be incurred by SP AusNet.*
>
> *In applying the commercial standard test, the AER noted that as Foreign Exchange markets are highly competitive, the rates obtained by SP AusNet are likely to be fair and reasonable, despite no tendering process being followed. SP AusNet has engaged in Foreign Exchange arrangements with a number of financial institutions, which demonstrates a willingness to evaluate different offers.*
>
> *The AER considers that the 'cost' to customers associated with the hedged exchange rate is derived by both SP AusNet's contracts with its metering providers supplying meters priced in US dollars, and its exchange rate hedge contracts.*
>
> *The AER notes that while the exchange rate agreed to by SP AusNet is significantly lower than rates at present (fixed at 0.80 as compared to current rates of around parity), at the time SP AusNet entered into the hedging contracts, 0.80 was a reasonable forward rate available in the market.*
>
> *Given the circumstances at the time of the contract signing, SP AusNet's engagement of several financial institutions for hedging arrangements, and the fact that hedging foreign currency risk forms part of a reasonable business strategy (and indeed part of a risk management strategy required by Section 14A.1 of the revised Order), the AER considers SP AusNet's approach is consistent with a reasonable commercial standard.*
>
> *The AER did not establish that the costs associated with SP AusNet's Foreign Exchange hedge contracts involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances."*

[57] AER, **'Draft determination SP AusNet AMI Revised budget application 2009-11'**, April 2011, pages 16-17.

7.1.4 SP AusNet Budget Application

SP AusNet proposes that the hedge rate of US$0.80 is also the appropriate Foreign Exchange rate for the 2012-2015 period based on the following:

- SP AusNet adopted a prudent approach to managing its Foreign Exchange risk by eliminating material exposures via forward Foreign Exchange contracts. This approach is consistent with SP AusNet's Treasury Risk Policy and was approved by the SP AusNet Board at its September 2009 meeting. The chart above shows the movement in the AUD/USD spot rate over the last ten years. The spot exchange rate has ranged from US$0.61 in October 2008 to US$1.10 in July 2011. The average spot rate (excluding the forward point adjustment) when SP AusNet transacted its hedges was US$0.87. This is a reasonable rate when viewed in the context of the recent volatility in the exchange rate. In addition, the hedged rate is significantly higher than the budget rate approved by the AER of US$0.66;
- Terminating the existing hedge contracts and entering into new hedge contracts at current market forward rates, would achieve the same overall result as allowing the existing hedges to mature and using the US Dollars to settle USD denominated invoices. This is because SP AusNet would be liable to pay the hedge bank the difference between the hedged rate and the prevailing forward exchange rate. If SP AusNet closed out its Foreign Exchange hedges now, it would be required to settle the mark to market loss. This amounted to approximately A$31.6m as at 31 July 2011. SP AusNet would only close out its Foreign Exchange hedges in the event that the hedges were no longer required, for example, if the AMI program did not proceed;
- SP AusNet's approach is consistent with the AMI Revised Budget Application 2009-11, which the AER accepted as being consistent with a reasonable commercial standard and that the costs associated with SP AusNet's foreign exchange hedge contracts did not involve a substantial departure from the commercial standard that a reasonable business would exercise in the circumstances;
- Consistent with the Group's Treasury Operations Manual, SP AusNet Treasury sought competitive quotes from its banks when transacting the hedging contracts. In addition, the Group subscribes to Bloomberg's financial markets system, which means it has access to up to the minute pricing, and the analytical tools for calculating fair value forward exchange rates; and,
- SP AusNet does not consider using alternatives such as the prevailing Foreign Exchange rate or a forecast rate to be appropriate. It is notoriously difficult to correctly forecast exchange rates. As shown in the chart above, the Australian dollar has ranged from a low of US$0.48 to a high of US$1.10 over the last ten years. SP AusNet is not in the business of predicting or speculating on Foreign Exchange rates. SP AusNet took the prudent approach to managing its Foreign Exchange exposure by hedging its exposure well within the budget rate of US$0.66. The appropriate rates to use are the forward exchange rates that applied at the time the exposures were hedged in accordance with Board approved risk management policies.

8 Budget Application

The Amending Order requires that a budget application sets out the Total Operating and Capital Expenditure for each year of a budget period to deliver the Regulated Services required. SP AusNet's forecast expenditure requirements for the subsequent budget period are summarised below. Details of the forecast expenditure requirements are set out in the templates provided with this Application.

The budget set out in this section has been defined by following a robust process and in close collaboration with relevant subject matter experts from the AMI Program team and business personnel.

Since the initial budget application SP AusNet has entered into formal contract arrangements for the deployment of its AMI Solution and expenditure is based on either current contracted estimates or forecasts based on historical data.

8.1 Total Capital Expenditure

Capital expenditure comprises:

- Costs for meter supply, installation and site re-visit costs;
- Continuation of the deployment of the primary communications network;
- Design and installation of the secondary communications infrastructure and network; and
- Capital costs associated with providing meter data services, including meter reading, data transfer to an IT system, managing data and providing it to market participants and AEMO.

8.1.1 Capital Expenditure (Excluding IT)

SP AusNet's forecast AMI Capital Expenditure (excl. IT) is summarised in Table 8.1 below.

Table 8.1: Regulated Services Capital Expenditure (excl. IT)

($'000)

AMI Capital Expenditure (excl IT)	2009 (Actual) $nom	2010 (Actual) $nom	2011 (Forecast) $2011	**2012 (Forecast) $2011**	**2013 (Forecast) $2011**	**2014 (Forecast) $2011**	**2015 (Forecast) $2011**
Metering & Communications Equipment Purchase	11,715	40,109	46,631	98,404	60,896	4,192	3,507
AMI Installation Services	423	9,912	21,430	48,283	24,291	2,826	233
Other Metering & Communications Costs	0	0	0	0	0	0	0
Project & Administrative Costs	0	0	0	0	0	0	0
Total Regulated Services Capital Expenditure (excl IT)	**12,137**	**50,021**	**68,060**	**146,687**	**85,188**	**7,018**	**3,740**

8.1.2 IT Capital Expenditure

SP AusNet's forecast AMI IT Capital Expenditure is summarised in Table 8.2 below.

Table 8.2: IT Capital Expenditure

($'000)

AMI IT Capital Expenditure	2009 (Actual) $nom	2010 (Actual) $nom	2011 (Forecast) $2011	**2012 (Forecast) $2011**	**2013 (Forecast) $2011**	**2014 (Forecast) $2011**	**2015 (Forecast) $2011**
Functional Technology Response	17,243	33,383	7,238	9,135	466	0	0
IT Infrastructure (incl middleware, B2B & B2M)	9,214	5,444	19,377	13,834	4,873	0	0
Total IT Capital Expenditure	**26,457**	**38,827**	**26,615**	**22,969**	**5,339**	**0**	**0**

8.2 Total Operating and Maintenance Expenditure

Operating and maintenance expenditure comprises:

- Periodic meter testing based on meter family samples in accordance with relevant standards and asset management programs;
- Fault response and maintenance of the meter stock, metering data services and communications platforms;
- Customer service costs associated with queries, complaints and claims handling as a result of meter replacements;
- Costs associated with providing meter data services, including meter reading, data transfer to an IT system, managing data and providing it to market participants and AEMO;
- Costs associated with:
    - Hardware licensing, service level agreements and consumables for systems backup;
    - Software licensing, service level agreements, vendor support and maintenance; and
    - Labour for maintenance and support activities, systems and data backups for meter data services, storage systems, networks and support for service level agreements for hardware and software.
- Costs incurred and forecast to be incurred in conducting technology trials of the secondary communications network and infill strategies
- SP AusNet Management Costs;
- Information, Communications and Technology (ICT):
    - Communications Backhaul;
    - Communications Network Maintenance; and
    - IT service provider support.
- Project management, training and other preparation costs; and
- Indirect costs.

8.2.1 Operating and Maintenance Expenditure (Excluding IT)

SP AusNet's forecast AMI Operating and Maintenance Expenditure (excl. IT) is summarised in Table 8.3 below.

Table 8.3: Operating & Maintenance Expenditure (excl. IT)

($'000)

AMI Operating & Maintenance Expenditure (excl IT)	2009 (Actual) $nom	2010 (Actual) $nom	2011 (Forecast) $2011	**2012 (Forecast) $2011**	**2013 (Forecast) $2011**	**2014 (Forecast) $2011**	**2015 (Forecast) $2011**
Metering & Communications Equipment Purchase	0	0	1,099	1,099	1,098	1,097	1,097
AMI Installation Services	0	0	0	0	0	0	0
Other Metering & Communications Costs	10,224	14,291	18,028	17,502	20,383	14,172	14,306
Project & Administrative Costs	15,520	21,756	24,457	17,232	12,376	3,069	2,365
Total Operating & Maintenance Expenditure (excl IT)	**25,744**	**36,047**	**43,584**	**35,832**	**33,857**	**18,338**	**17,768**

8.2.2 IT Operating and Maintenance Expenditure

SP AusNet's forecast AMI IT Operating and Maintenance Expenditure is summarised in Table 8.4 below.

Table 8.4: Regulated Services IT Operating & Maintenance Expenditure

($'000)

AMI IT Operating & Maintenance Expenditure	2009 (Actual) $nom	2010 (Actual) $nom	2011 (Forecast) $2011	**2012 (Forecast) $2011**	**2013 (Forecast) $2011**	**2014 (Forecast) $2011**	**2015 (Forecast) $2011**
Functional Technology Response	888	2,550	706	2,680	2,814	2,447	2,426
IT Infrastructure (incl middleware, B2B & B2M)	502	1,212	5,110	5,869	5,860	5,893	6,005
Total IT Operating & Maintenance Expenditure	**1,390**	**3,763**	**5,817**	**8,549**	**8,674**	**8,340**	**8,432**

8.3 Total Capital and Operating Expenditure

SP AusNet's forecast Total AMI Expenditure is summarised in Table 8.5 below.

Table 8.5: Total Regulated Services Expenditure

($'000)

Total AMI Expenditure	2009 (Actual) $nom	2010 (Actual) $nom	2011 (Forecast) $2011	**2012 (Forecast) $2011**	**2013 (Forecast) $2011**	**2014 (Forecast) $2011**	**2015 (Forecast) $2011**
Total AMI Operating Expenditure (incl IT)	27,133	39,809	49,401	44,381	42,531	26,678	26,200
Total AMI Capital Expenditure (incl IT)	38,594	88,848	94,675	169,655	90,527	7,018	3,740
Total Regulated Services Expenditure (incl IT)	**65,727**	**128,658**	**144,076**	**214,036**	**133,058**	**33,696**	**29,940**

9 Charges Determination

9.1 Recoverable Expenditure

9.1.1 Introduction

As noted previously, the Amended Order provides for a building block methodology to be used in establishing the charges for regulated metering services, where the building blocks comprise:

- a return on capital;
- depreciation;
- maintenance and operating expenditure;
- a benchmark allowance for corporate income tax; and
- any other building block required by Clauses 5D, 5E and 5I.

For this 2012-2015 initial charges application, the building blocks under Clause 5E require that the AER must:

> *'(a) provide for the maintenance and operating expenditure in the Approved Budget for the subsequent AMI budget period (the balance of the Approved Budget being the capital expenditure for that year);*
>
> *(b) provide a return on capital for 2012 and 2013 using a WACC calculated in accordance with Clauses 4.1(h) and (i);*
>
> *(c) provide a return on capital for 2014 and 2015 using a WACC calculated in accordance with Clause 4.1(j);*
>
> *(d) for the purposes of calculating depreciation apply Clause 4.1(g); and*
>
> *(e) for the purposes of a benchmark allowance for corporate income tax, apply Clauses 4.1(e) and (f).'*

9.2 Capital Expenditure

9.2.1 Introduction

Capital expenditure is considered to comprise the costs of activities reasonably required for the provision of regulated metering services under the Amending Order and to comply with a metering regulatory obligation or requirement. This application details the capital expenditure activities considered within scope for the delivery of regulated metering services and compliance with metering regulatory obligations or requirements.

9.2.2 Total Capital Expenditure (2012 – 2015)

SP AusNet's forecast AMI capital expenditure for the subsequent AMI budget period 2012-2015 is summarised in Table 9.1 below.

Table 9.1: Capital Expenditure (2012 – 2015)

($m, Real 2011)

	2012 (Forecast)	2013 (Forecast)	2014 (Forecast)	2015 (Forecast)	Total
AMI Capital Expenditure	169.66	90.53	7.02	3.74	270.94

9.3 Operating and Maintenance Expenditure

9.3.1 Introduction

Operating and maintenance expenditure is considered to comprise the costs of activities reasonably required for the provision of regulated metering services under the Amending Order and to comply with a metering regulatory obligation or requirement. This application details the operating and maintenance activities considered within scope for the delivery of regulated metering services and compliance with metering regulatory obligations or requirements.

9.3.2 Total Operating and Maintenance Expenditure (2012 – 2015)

SP AusNet's forecast AMI operating and maintenance expenditure for the subsequent AMI budget period 2012-2015 is summarised in Table 9.2 below.

Table 9.2: Operating and Maintenance Expenditure (2012 – 2015)

($m, Real 2011)

	2012 (Forecast)	2013 (Forecast)	2014 (Forecast)	2015 (Forecast)	Total
AMI Operating & Maintenance Expenditure	44.38	42.53	26.68	26.20	139.79

9.4 2010 Audited Expenditure

SP AusNet engaged KPMG to conduct an audit of 2010 actual AMI expenditure to provide assurance that it was actually incurred and within scope. The audited AMI expenditure agrees with SP AusNet's audited regulatory electricity distribution accounts, also audited by KPMG. KPMG's opinion is that 2010 actual expenditure incurred by SP AusNet as shown in the budget and charges application has complied, in all material respects, with Schedule 2 Part 2 and section 5H.2b of the Order in Council. A copy of this audit opinion can be found in Attachment H – KPMG– Audit Opinion. All 2010 numbers presented in this document and associated templates agree with the audited results.

9.5 Cost of Capital Financing

The cost of capital financing comprises a return on capital (weighted average cost of capital or WACC) to be applied to the Regulatory Asset Base and a return of capital allowance (depreciation).

9.5.1 Opening Metering Regulatory Asset Base (1 January 2012)

Clause 5E.2 requires that the opening value for the metering RAB at the Start Date of 1 January 2012 is to calculated as follows, adjusting for inflation:

$$\text{Opening Metering Asset Base}_{2012} = \text{Opening Metering Asset Base}_{2006} + \text{Capital Expenditure}_{SD} - \text{Depreciation}_{1ABP} - \text{Disposals}_{1ABP}$$

Where:

Opening Metering Asset Base$_{2012}$ is the opening metering asset base at the start of 2012;

Opening Metering Asset Base$_{SD}$ is the opening metering asset base for 2009 as calculated under Clause 5D;

Capital Expenditure$_{1ABP}$ is actual capital expenditure in 2009 and 2010 (determined in accordance with Clauses 5I.2 to 5I.10) and capital expenditure for 2011;

Depreciation$_{1ABP}$ is to be calculated on the Opening Metering Asset Base$_{SD}$ and the actual capital expenditure in 2009 and 2010 (determined in accordance with Clauses 5I.2 to 5I.10) and capital expenditure for 2011using asset lives in accordance with Clause 4.1(g); and

Disposals$_{1ABP}$ is actual disposals in 2009 and 2010 and forecast disposals in 2011.

SP AusNet's calculation of the Metering Asset Base value is shown in Table 9.3.

Table 9.3: Calculation of Metering Asset Base Value (2009 – 2011)

($'000, Real 2011)

	Metering Asset Base		
	2009 (Actual)	**2010 (Actual)**	**2011 (Forecast)**
Opening (1 Jan)	38,854	68,325	139,530
Capital Expenditure	40,170	91,325	94,675
Depreciation	10,699	20,121	30,435
Disposals	0	0	0
Closing (31 Dec)	**68,325**	**139,530**	**203,769**

9.5.2 Forecast Metering Asset Base (2012 – 2015)

SP AusNet's calculation of the metering asset base opening values for each year for the period 2012-2015 is set out in Table 9.4 below.

Table 9.4: Metering Asset Base Value Forecast (2012 – 2015)

($m, Real 2011)

	Metering Asset Base			
	2012 (Forecast)	**2013 (Forecast)**	**2014 (Forecast)**	**2015 (Forecast)**
Opening (1 Jan)	203,769	331,340	368,572	328,656
Capital Expenditure	169,655	90,527	7,018	3,740
Depreciation	42,084	53,295	46,934	46,123
Disposals	0	0	0	0
Closing (31 Dec)	**331,340**	**368,572**	**328,656**	**286,274**

9.5.3 Cost of Capital and Estimated Cost of Corporate Taxation

The cost of capital represents the financial return that an investor seeks when making an investment decision and is determined by the market based on the availability of finance and the risk of the investment proposed.

Clause 4.1(d) of the Amending Order requires that the return on capital is to be calculated using the Weighted Average Cost of Capital (WACC) as defined by Clause 6.5.2 (b) of the NER.

Clause 5E.3 requires that the AER in determining its building block costs:

> *(b) provide a return on capital for 2012 and 2013 using a WACC calculated in accordance with Clauses 4.1(h) and (i);*
>
> *(c) provide a return on capital for 2014 and 2015 using a WACC calculated in accordance with Clause 4.1(j);*

Clauses 4.1(h) and (i) state:

> *'(h) The debt raising cost for the initial AMI WACC period shall be taken to be 12.5 basis points. Equity raising costs for the initial AMI WACC period shall be recovered as a maintenance and operating expense.*
>
> *Note: Equity raising costs incurred before the Start Date are covered by Clause 4.1(h).*

(i) The input parameters used to calculate the WACC for the initial AMI WACC period must be calculated:

(i) with measurement of the market observables to occur on:

(A) the last 10 business days of November 2008; and

(B) the first 5 business days of December 2008,

with the market observables to be determined on the basis of that measurement and otherwise in accordance with the Statement of Regulatory Intent issued by the AER pursuant to Clause 6.5.4 of the National Electricity Rules; and

(ii) using the non-market observables from the Current Price Determination.'

The initial AMI WACC Period is defined as the period commencing on the Start Date and ending 31 December 2013, while 'market observables' are defined as the nominal risk free rate and debt risk premium.

Clause 4.1(j) states:

'(j) The input parameters used to calculate the WACC for the subsequent AMI WACC period must be calculated with:

(i) measurement of the market observables to occur in a period in 2013 proposed by the distributor and agreed by the Commission (such agreement not to be unreasonably withheld); and

(ii) market observables and non-market observables determined in accordance with the Statement of Regulatory Intent issued by the AER pursuant to Clause 6.5.4 of the National Electricity Rules and as if Clause 6.5.4(g) of the National Electricity Rules applied.'

The subsequent AMI WACC Period is defined as the period commencing 1 January 2014 and ending on the End Date.

The WACC for the initial AMI WACC period was determined as part of the AER's October 2009 Budget and Charges Determination and parameters set are shown in Table 9.5 below.

As the criteria required for setting the input parameters for the calculation of the WACC for the subsequent AMI WACC period have yet to be finalised, for the purposes of this Application SP AusNet has assumed as a place holder:

- market observables consistent with the initial WACC Period; and
- non-market observables consistent with the initial Statement of Regulatory Intent issued by the AER in May 2009.

This approach is consistent with that outlined by the AER in February 2011[58] but differs from that subsequently adopted by the AER's Draft Determination.

[58] Letter from AER to Ms Buckland, section titled, ***AMI WACC for 2014-15***, dated 15 February 2011.

9.5.3.1 Market Risk Premium

With regards to the placeholder WACC SP AusNet notes that in the Draft Determination the AER has stated:

> *"… 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 and Queensland Gas Access Arrangement 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."* [59]

South Australian and Queensland Gas Access Arrangements Decision (SA Decision)

In these Decisions the AER's key contention in justifying the move in the MRP from 6.5% to 6.0% was:

> *"The significant uncertainty that characterised markets at the time of the WACC review has substantially diminished. The prevailing conditions in the market for funds have eased."* [60]

This was supported with a range of evidence included:

- Historical excess return estimates for three time periods, 1883–2010, 1937–2010 and 1958–2010. These estimates provided a range of 5.9–6.4 per cent if calculated on an arithmetic mean basis and a range of 3.8–4.8 per cent if calculated on a geometric mean basis.
- DGM based estimates of the MRP incorporating reasonable assumptions providing an estimated range for the MRP of approximately 4.5–5.6 per cent.
- Implied volatility from the prices of options on the ASX 200 index having returned to pre-GFC levels.
- Surveys of market practitioners that supported 6 per cent as the most commonly adopted value for the MRP.
- Statements by the Reserve Bank of Australia (RBA), the International Monetary Fund (IMF) and the Organisation for Economic Co-operation and Development (OECD) that the economic and financial markets outlook for Australia was robust.

SP AusNet Response

The contentions contained in the above Decision are unsustainable in the face of the latest quantitative and qualitative evidence now available. In particular, the Reserve Bank has changed its position with regards to the risks facing the Australian economy and market evidence has shifted markedly since that Decision.

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59 AER, Draft Determination, *Victorian Advanced Metering Infrastructure Review, 2012-15 budget and charges applications*, July 2011; page 208.

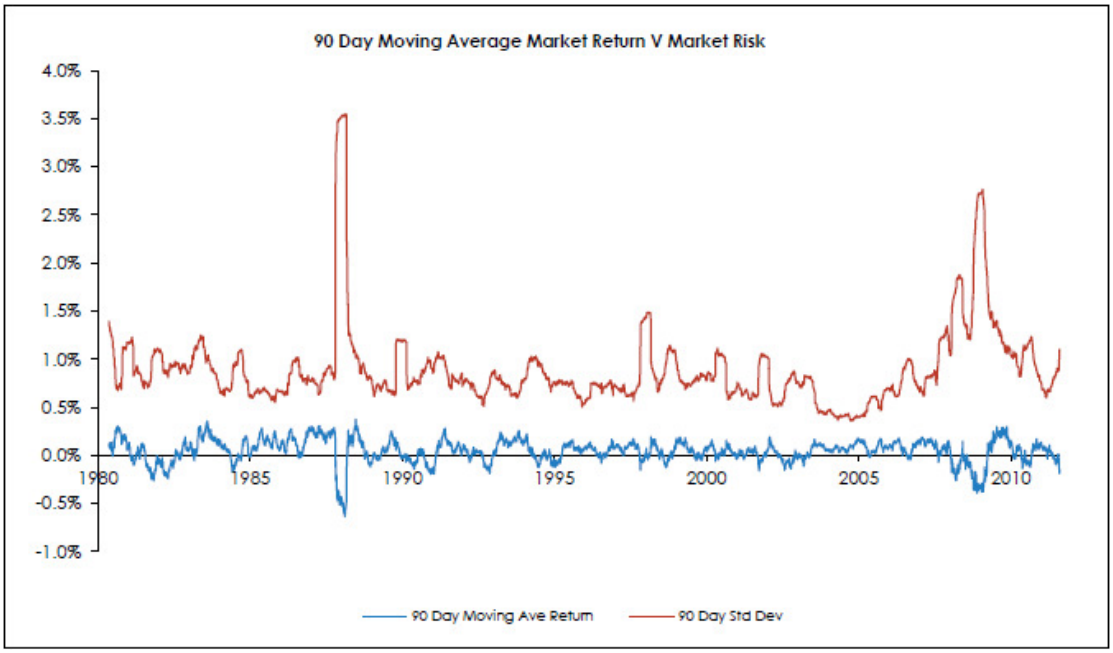
60 AER, Final Decision, *Envestra Limited, Access arrangement proposal for the SA gas network, 1st July 2011 to 30th June 2016, June 2011*; page 50.

As recently as the 23rd of August, two of Australia's most senior economic officials described the current market conditions as "extreme". The Reserve Bank's Deputy Governor, Ric Battellino stated "market volatility had made the economy's prospects more uncertain" while Secretary to the Treasury, Martin Parkinson predicted:

> *"Unfortunately, recurrent episodes of volatility are likely to be a feature of global financial markets over the next few years. Such is the sense of concern over the lack of credible policy responses, repeat episodes may be triggered by apparently innocuous events or pieces of information ... this risks adding a dimension of macro-economic instability into the Australian economy of a sort that we have not experienced for many years."*

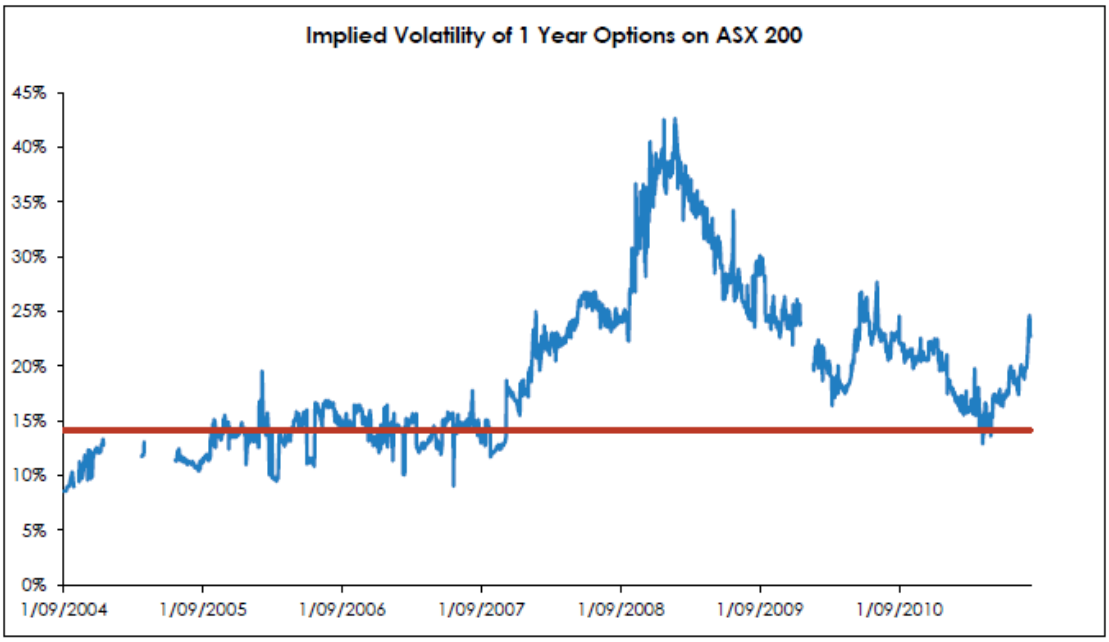
The quantitative evidence supports the above observations. Figure 9.1 below shows the historical 90 day moving average market return plotted against the historical 90 day moving average standard deviation of market return. It is clearly evident that capital markets are experiencing higher than average volatility currently, despite a very short period of respite in early 2011.

Figure 9.1: Historical Actual Market Return Versus Market Risk



Likewise, implied volatility measures relied upon to support the SA Decision have again moved well away from the long term average (see Figure 9.2 below). Indeed, it is apparent that the implied volatility has returned only fleetingly to the long term average over the last four years before constant market disruptions send it soaring again. It would be hard to argue that volatility has returned to pre GFC levels based on this evidence or to have any confidence that it would in the future.

Figure 9.2: Forward View of Volatility



SP AusNet has also submitted three reports responding directly to evidence advanced in the most recent Decisions. They are:

- A report from NERA Economic Consulting entitled *The Market Risk Premium. A report for Citipower, Jemena Electricity Networks, Powercor, SP AusNet, and United Energy*, prepared by Simon Wheatley (attached in Appendix I);
- A report from Value Adviser Associates entitled *Market Risk Premium, An update prepared in response to the draft determination by the AER on the Victorian Advanced Metering Infrastructure Review: 2012 – 15 budget and charges applications,* authored by Dr Steven Bishop & Professor Bob Officer (attached in Appendix I); and
- A report from Capital Research entitled *Response to the Draft Determination by the Australian Energy Regulator Victorian Advanced Metering Infrastructure Review, 2012-15 budget and charges applications*, authored by Neville Hathaway (attached in Appendix I).

The key conclusions from those reports are:

- the historical evidence indicates that the Australian market portfolio was substantially less risky in the later part of the 19th century and the earlier part of the 20th century than in the later part of the 20th century and the start of the 21st century. This empirical result casts considerable doubt on the wisdom of the AER's decision to combine, without any adjustment for differences in risk, data from the earlier period with data from the later period in order to estimate the MRP. Adjusting the earlier data for the lower risk in that period will likely lead to an MRP adjusted for the value of imputation credits of well above 6.5 per cent per annum. Throwing out the earlier data will lead to an MRP adjusted for the value of credits of 6.4 per cent – that is, a figure closer to 6.5 per cent than to 6 per cent;

- a WACC that is in part based on an estimate of the MRP that places a positive weight on the geometric mean of a sample of annual excess returns to the market portfolio will – so long as the other components of the WACC have been correctly computed – produce a downwardly biased estimate of the revenue that the market requires in any one year on the regulated asset base;
- if the excess return to the market portfolio is serially independent – and the evidence against the hypothesis is weak – then an unbiased estimate of one of the discount factors used to smooth prices whilst leaving the NPV of post-tax revenue unchanged will require one use an estimate of the MRP that exceeds the arithmetic mean of a sample of annual excess returns to the market portfolio and that places a negative weight on the geometric mean;
- an examination of the five survey papers that the AER reviews indicates that the AER's summary of the results of these surveys is not unreasonable. However, adjusting the results of the surveys for the value that the AER assumes that the market places on imputation credits yields an imputation-adjusted MRP of precisely 6.5 per cent;
- current conditions and indicators suggest that the MRP is above its long-term average including:
    - the spread between BBB bond yields and AAA bond yields; and
    - the volatility of the return to the Australian market portfolio implied by option prices.
- an examination of the five survey papers that the AER reviews indicates that the AER's summary of the results of these surveys is not unreasonable. However, adjusting the results of the surveys for the value that the AER assumes that the market places on imputation credits yields an imputation-adjusted MRP of precisely 6.5 per cent; and
- AER criticism in the SA Decision of previous DGM analysis from Capital Research submitted by the businesses in support of the contention the current ex-ante MRP is above the long term historical average is misplaced. In particular, it is observed that the AER makes the following incorrect assumptions about the inputs into the forward estimate of the MRP:
    - They make very restrictive assumptions of corporate growth having to match GDP growth plus inflation.
    - They ignore the requirement to be consistent in using forecast data.
    - They assume the GFC is a one-off risk event which is now behind us and propose using a forward estimate of the MRP which is the same as used in periods prior to the GFC.

  Therefore, the original conclusions from the Capital Research DGM analysis stand.

Therefore, SP AusNet considers expert opinion and market evidence show that the appropriate placeholder WACC should incorporate the existing SORI value of the MRP of 6.5%. However, SP AusNet acknowledges as the 2014 year approaches, the MRP will need to be re-assessed in light of the conditions that are prevailing at the time.

9.5.3.2 Debt Risk Premium

SP AusNet notes that in the Draft Determination the AER has indirectly implied it has used the South Australian and Queensland Gas Access Arrangements Decision DRP as a placeholder. SP AusNet notes, however, that the incorrect value has been used (3.64% as opposed to 3.81%).

SP AusNet Response

Regardless, SP AusNet does not accept the placeholder market observable WACC parameters that the AER included in its Draft Determination because:

- The placeholder debt risk premium is based on a methodology that is now under appeal. The appropriate methodology for the measurement of the debt risk premium in the 2013 period will depend on the circumstances and data availability at that time; and
- Market observables are currently highly volatile and there is little to be gained from applying a placeholder based on more recent market data. For instance, the AER has proposed a more recent placeholder nominal risk free rate of 5.4 per cent whereas the rate is currently about 4.5 per cent.

For these reasons, SP AusNet has maintained the values originally proposed while affirming our right to propose a suitable method and value for the DRP in the submission which is due for lodgement by 31st August 2013.

9.5.3.3 Gamma

With regards to the estimated cost of corporate tax, SP AusNet has assumed a gamma of 0.25 consistent with the findings of the Australian Competition Tribunal. The gamma is not an input into the WACC and, therefore, the proposed gamma is not applicable to the subsequent AMI WACC period but rather the entire 2012-15 subsequent AMI budget period.

Table 9.5 below shows the input parameters for both WACC and the estimated cost of corporate tax for the initial and subsequent AMI WACC periods.

Table 9.5: WACC – Capital Asset Pricing Model Parameters

Parameter	Initial	Subsequent	
	2009 – 2011	2012 – 2013	2014 – 2015
Real Risk Free Rate	2.02%	2.02%	2.02%
Inflation	2.56%	2.56%	2.56%
Debt Margin	4.13%	4.13%	4.13%
Gearing	60.0%	60.0%	60.0%
Equity Beta	1.0	1.0	0.8
Market Risk Premium	6.0%	6.0%	6.5%
Gamma	-	-	0.25
Real Cost of Debt	6.04%	6.04%	6.04%
After Tax Real Cost of Equity	7.87%	7.87%	7.09%
Real post-tax WACC	**6.77%**	**6.77%**	**6.46%**

Note: Debt margin includes debt raising costs of 12.5 basis points.

9.5.4 Return on Capital Expenditure

Table 9.6 below shows the return on capital expenditure for the 2012 to 2015 period.

Table 9.6: Return on Capital Expenditure

($'000, Real 2011)

	2012 (Forecast)	2013 (Forecast)	2014 (Forecast)	2015 (Forecast)	Total
Return on Capital Expenditure	18,118	23,698	22,519	19,861	**84,196**

9.6 Regulatory Depreciation

Regulatory depreciation enables the recovery of the capital invested and is a function of the assets forming the asset base and the period over which the investment in those assets is to be recovered.

Clause 5E.3(d) requires that Clause 4.1(g) be applied for the purposes of calculating depreciation.

Clause 4.1(g) stipulates that asset lives of 15 years for metering assets and 7 years for telecommunications and IT systems are to be used in the calculation of regulatory depreciation, while Clause 4.1(g)(v) requires that in respect of accumulation meters and manually read interval meters, the asset lives must end no later than 31 December 2013.

SP AusNet has extended the regulatory and taxation life of the physical tower component of the WiMAX basestations to better reflect the longer expected life of these assets and minimise the cost to consumers. Communications tower costs have been split out of the communications infrastructure costs and depreciated over 25 rather than 7 years.

Table 9.7 sets out SP AusNet's total depreciation attributable to Regulated Services for the subsequent budget period.

Table 9.7: Depreciation (2012 – 2015)

($m, Real 2011)

	2012 (Forecast)	2013 (Forecast)	2014 (Forecast)	2015 (Forecast)	Total
Depreciation	42,084	53,295	46,934	46,123	**188,436**

9.7 Revenue Requirement

9.7.1 Introduction

In part, the purpose of the Amending Order is to:

> *"provide for the setting and regulation of the prices, fees and charges that a relevant licensee who is a distribution company may charge for or in connection with the costs of, or in relation to, the provision, installation, maintenance and operation of advanced metering infrastructure and associated services and systems".*[61]

While the Amending Order is focussed on the setting of prices, fees and charges for the period post the Start date of 1 January 2009, prices, fees and charges, together with expenditure requirements for the period 1 January 2006 to the Start Date are also relevant in determining prices, fees and charges for 2010 and beyond.

[61] Government Gazette No S314, ***'AMI Order in Council, 2008'***, Part A, Clause 1A.(a).

9.7.2 Revenue Requirement (2012 – 2015)

Clause 4.1(o) requires that for the period from 1 January 2012 to the End Date, charges are to be determined such that the net present value of total Regulated Services costs is equal to the net present value of revenue earned, where:

'(i) costs in any year are the building block costs determined in accordance with Clauses 4.1(b) to (j); and

(ii) revenue in any year is determined in accordance with Clauses 4.1(k) to (m).'

Clause 4.1(k) of the Amending Order requires that:

"For the purposes of Clauses 4.1(o) and 5H.1, revenue must be determined as follows:

(i) Where actual revenue is available, by using the revenue figures in the distributor's Regulatory Accounting Statements."

(ii) Where actual revenue is not available, by multiplying (as the case may be):

(A) in the case of the year commencing 1 January 2009, the charges of a distributor determined pursuant to Clause 5J;

(B) in the case of every subsequent year,

(1) if there has been a determination of revised charges pursuant to Clause 5I, the revised charges of the distributor for that year;

(2) if there has been no such determination, the initial charges of a distributor for that year determined in accordance with Clauses 5D and 5E; or

(3) if there has been neither of the preceding determinations, the charges designed in accordance with Clause 4.1(o), by the forecast quantities of the service category to which the charges relate for that year.

9.7.3 Total Revenue Requirement

Table 9.8 summarises the Total Revenue Requirement for the period 2012 – 2015 as derived from the 'building block' approach.

Table 9.8: Total Revenue Requirement

($m, Real 2011)

	2012	2013	2014	2015	Total
Return on Assets	18.12	23.70	22.52	19.86	**84.20**
Regulatory Depreciation	42.08	53.30	46.93	46.12	**188.44**
Operating & Maintenance	44.38	42.53	26.68	26.20	**139.79**
Net 2009 – 11 Under Recovery	21.05	0.00	0.00	0.00	**21.05**
Total Revenue	**125.63**	**119.52**	**96.13**	**92.18**	**433.47**

Note: Amounts may not add due to rounding.

9.8 Price Controls

9.8.1 Introduction

At the time of lodging the initial AMI budget period applications, the Amending Order was silent on the matter of price controls other than the requirement of Clause 4.1(o) that:

> *'charges…shall be designed so that, for the period from the Start Date up to and including the year for which charges are being determined, the net present value of the total costs incurred by the distributor for Regulated Services is equal to the net present value of the total revenue earned by the distributor from Regulated Services in that same period …'*

which was qualified by Clause 4.1(p) to the extent that a distributor could propose 'Reduced Charges' for a year with the effect that a distributor may not recover the NPV of total costs incurred in that year. In its Draft Determination on the 2009-2011 Budget and Initial Charges Applications, the AER states on page 143 that:

> *'The AER would only adjust charges where the NPV of revenue was found to exceed the NPV of costs.'*

An amendment[62] to the Amending Order introduced Clause 11B. 'Side Constraints" which has the effect of requiring Clause 6.18.6 of the NERs to be applied to AMI tariffs subject to modification to the rule as set out in Clause 11B of the Amending Order.

9.8.2 Pricing Principles

The Commission in December 2007 proposed the application of a set of pricing principles for cost of service provision, cost allocation, cost differentials and simplicity.

In the Framework and Approach Final Decision, the AER confirmed its view that:

> *'…the pricing principles…are consistent with the revised Order. Distributors are required to consider them when setting charges, and charges may be reviewed for compliance with these principles.'*[63]

SP AusNet notes the Regulator's view and considers that the charges proposed for Regulated Services under this Application are consistent with the principles.

9.8.3 Rebalancing Constraints

As noted above, Clause 11B of the Amending Order now sets out the requirements for the application of side constraints to AMI tariffs. In part, Clause 11B requires:

> *"(b) The expected weighted average revenue to be raised from a tariff class for a particular regulatory year must not exceed the corresponding expected weighted average revenue for the preceding regulatory year by more than the permissible percentage.";*

where the permissible percentage is defined under Clause 6.18.6 of the NERs as:

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62 Victorian Government Gazette G42, ***'Advanced Metering Infrastructure Order in Council 2010'***, 21 October 2010, page 2570.

63 AER, ***'Final decision – Framework and approach paper – Advanced metering infrastructure review 2009-11'***, January 2009, page 68.

"(c) The permissible percentage is the greater of the following:

(1) the CPI-X limitation on any increase in the Distribution Network Service Provider's expected weighted average revenue between the two regulatory years plus 2%;

Note:

The calculation is of the form (1 + CPI)(1 – X)(1 + 2%)

(2) CPI plus 2%.

Note:

The calculation is of the form (1 + CPI)(1 + 2%)"

Clause 11B of the Amending Order further provides:

(c) "corresponding expected weighted average revenue" as used in paragraph (b) (as substituted by this Clause) of the rule is taken to include the expected weighted average revenue from the class or classes of customers who are at the start of a particular regulatory year, or during that regulatory year become, subject to a particular AMI tariff or particular AMI tariffs but who were, before the installation of advanced metering infrastructure, subject to a particular tariff that was not an AMI tariff or particular tariffs that were not AMI tariffs;

(d) the preceding regulatory year referred to in paragraph (b) (as substituted by this Clause) of the rule may be a regulatory year in a preceding regulatory control period; and

(e) tariff class as used in paragraph (b) (as substituted by this Clause) of the rule is taken to include the class or classes of customers who are at the start of a particular regulatory year, or during that regulatory year become, subject to a particular AMI tariff or particular AMI tariffs."

SP AusNet notes the requirements of Clause 11B and considers that the charges proposed for Regulated Services under this Application are consistent with the requirements.

9.8.4 Tariff Reassignment

The 2006-10 EDPR provides, where a distributor installs an interval meter at a customer's premises, the distributor is entitled to reassign customers who consume less than 20MWh of electricity per annum to a time of use (TOU) network tariff, but only where the distributor has provided the customer with the notification as required by the AER. In March 2009, the AER published its Draft Determination on interval meter reassignment[64]. The Victorian distributors, including SP AusNet, have provided a response[65] generally supporting this Draft Determination.

From 22 March 2010, the Victorian Government requested a moratorium on the mandatory assignment of time of use tariffs. The moratorium was issued to 'protect' vulnerable Victorians and ensure all impacted consumers fully understood the pricing structure prior to introducing new tariffs.

The Moratorium and the AMI Program in general has received a large amount of media focus which has led to adverse reactions from consumer groups. For SP AusNet, this consumer reaction has led to additional costs to the AMI Program in the form of effort associated with the management of customer queries, liaisons with industry/government groups and has impacted its ability to efficiently install AMI meters and hence eliminate whole meter reading routes.

64 AER, ***'Interval Meter Reassignment Requirements Draft Decision'***, 13 March 2009.
65 Letter on behalf of Victorian Distributors dated 9 April, 2009.

Political indicators suggest that the moratorium on Time of Use (ToU) tariffs will be extended at 31 December 2011. SP AusNet has assumed, therefore, that this moratorium will remain in place for the 2012-15 period. SP AusNet contends that the AER is in error in assuming the current moratorium on the implementation of time of use tariffs will cease in the near term. SP AusNet knows of no credible evidence that this will occur.

9.8.5 Price Drivers

As detailed in SP AusNet's response to AER questions – AMI Initial Budget Application 2009-2011 (June 2009), SP AusNet believes that the two element meter is an appropriate tool to be used to deliver Regulated Metering Services in accordance with the metrology and minimum functionality requirements. This response detailed numerous benefits to customers, retailers and distributors of two element meters as well as the cost implications of not installing two element meters. SP AusNet still believes these benefits justify the rollout of two element meters.

In particular, we draw attention to SP AusNet's stated belief that our approach to two element time of use tariffs will avoid 'price shock' to both the customer and the retailer and avoid additional costs associated with managing customer queries in relation to the timing of meter exchange communications and an increased number of billing enquiries.

In light of the recent media attention and negative publicity regarding increases in the cost of electricity for customers, SP AusNet believes this further ratifies our decision to install two element meters.

9.8.6 Basis of Customer Charges

Customer charges are calculated on a per NMI basis. As discussed in section 5.1.2.3, SP AusNet recognises a customer and NMI as the same entity. Both a customer and a NMI are identified as a single metered supply. Given the equivalence of customer and NMI numbers, SP AusNet has not changed the basis on which it calculates customer charges but will refer to the charge as a per NMI.

9.9 Regulated Services Charges

Clause 5E.1 of the Amending Order requires that initial charges for Regulated Services for the period 2012-2015 must be determined in accordance with Clause 4 and Clause 5E.

9.9.1 2011 Charges

SP AusNet's Regulated Services charges for 2011 are set out in Table 9.9 below.

Table 9.9: Current Metering Charges

($2011, GST exclusive)

Annual Metering Charge	2011
Single phase, single element *	$93.83
Single phase, two element with contactor	$107.81
Multi phase	$130.25
Multi phase, with contactor	$144.49
Multi phase current transformer connected	$186.05

* This same charge will apply to NMI's where a single phase, single element with contactor meter is installed.

9.9.2 Explanation of Change in Charges

As stated in Section 9.7.2 Clause 4.1(o) requires that the Net Present Value of the Regulated services costs be equal to the Net Present Value of the revenue earned. If SP AusNet was to apply this Clause customers would experience large year on year price increases and decreases. In order to provide a smooth transition for customers SP AusNet is proposing in this submission the following price changes or x-factor.

SP AusNet's proposed price movements for the period 2012 – 2015 are set out in Table 9.10 and Table 9.11 below.

Table 9.10: Real Price Movements 2012 – 2015

	2012	2013	2014	2015
Price Movement / X-factor	-17.61%	-17.61%	-17.61%	-17.61%

Note: Under the CPI-X pricing regime a negative X- factor equates to a price increase.

Table 9.11: Nominal Price Movements 2012 – 2015

	2012	2013	2014	2015
Price Movement / X-factor	-20.62%	-20.62%	-20.62%	-20.62%

Note: Under the CPI-X pricing regime a negative X- factor equates to a price increase.

9.9.3 Charges (2012 – 2015)

The note to Clause 4.1 of the Amending Order summarises the approach to setting charges to apply to the years 2012-2015 as being based on actual expenditures and revenues known to 2010, revised forecasts for 2011 and an Approved Budget for 2012-2015.

SP AusNet's proposed subsequent Regulated Services charges for the period 2012-2015 are set out in Tables 9.12 and 9.13 below.

Table 9.12: Regulated Services Charges

($Nominal, GST exclusive)

Annual Metering Charge	Forecast NMI's at end of 2011	2012 (Forecast)	2013 (Forecast)	2014 (Forecast)	2015 (Forecast)
Single phase, single element *	376,581	$113.18	$136.52	$164.67	$198.63
Single phase, two element with contactor	145,015	$130.04	$156.86	$189.20	$228.22
Multi phase	81,918	$157.11	$189.51	$228.59	$275.72
Multi phase, with contactor	43,500	$174.29	$210.23	$253.58	$305.87
Multi phase current transformer connected	3,747	$224.42	$270.69	$326.51	$393.85

* This same charge will apply to NMI's where a single phase, single element with contactor meter is installed.

Table 9.13: Regulated Services Charges

($2011, GST exclusive)

Annual Metering Charge	Forecast NMI's at end of 2011	2012 (Forecast)	2013 (Forecast)	2014 (Forecast)	2015 (Forecast)
Single phase, single element *	376,581	$110.35	$129.79	$152.64	$179.53
Single phase, two element with contactor	145,015	$126.80	$149.13	$175.39	$206.27
Multi phase	81,918	$153.19	$180.16	$211.89	$249.21
Multi phase, with contactor	43,500	$169.94	$199.86	$235.06	$276.45
Multi phase current transformer connected	3,747	$218.81	$257.35	$302.67	$355.97

- This same charge will apply to NMI's where a single phase, single element with contactor meter is installed.

APPENDIX A – PwC Two Element Meters Final Report

APPENDIX B – Vendor Prices

APPENDIX C – RFT Meters, Communications Modules and MMS

APPENDIX D – 3G RFI

APPENDIX E – RFT Systems Integrator

APPENDIX F – Customer Service Costs

APPENDIX G – Service Operational Support Model

APPENDIX H – KPMG – Audit Opinion

APPENDIX I – Expert WACC – Opinion

1. NERA Economic Consulting

2. Value Advisor Associates

3. Capital Research

APPENDIX J – List of Documents