

SPI Electricity Pty Ltd

Electricity Distribution Price Review

2011-2015

Revised Regulatory Proposal

July 2010

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Executive Summary

Introduction

This is the Revised Regulatory Proposal (Revised Proposal) of SPI Electricity Pty Ltd (SP AusNet) for the regulatory period from 1 January 2011 to 31 December 2015.¹

It is provided in accordance with Clause 6.10.3 of the National Electricity Rules (NER), the Australian Energy Regulator's (AER's) Regulatory Information Notice (RIN) of the 4th June 2010 and in light of the AER's Draft Determination (Draft Determination).²

SP AusNet contends that the AER has failed to comply with decision-making principles that are applicable to the AER under the National Electricity Law (NEL) and the NER. More specifically, the AER's Draft Determination is, on its face:

- unreasonable;
- contains one or more errors of fact, which have caused the AER to incorrectly exercise its discretion in respect of SP AusNet; and
- does not allow SP AusNet to recover its efficient costs of providing safe and secure network services, given the commercial and regulatory risks faced by SP AusNet.

This Revised Proposal sets out reasons to support these contentions and demonstrates that many elements of the Draft Determination cannot be supported or justified under applicable regulations.

Among other things, the Draft Determination:

- relies unduly on a flawed sector-level 'revealed costs' approach to set aside detailed, rigorous forecasts;
- substitutes unrealistic forecasts based on top-down analysis that, if accepted, would lead to a material deterioration in reliability, safety and security of supply;
- fails to allocate expenditure to the appropriate party in line with the approach taken by the AER in other National Electricity Market (NEM) jurisdictions;
- fails to provide the reasoning behind the discretion exercised in relation to the materiality threshold in light of the criteria that must be applied under the NEL;
- incorrectly references historical trends that do not apply to SP AusNet; and
- fails to account for SP AusNet's particular circumstances, its track record and many factors addressed more properly in previous, precedent decisions made by the AER.

In accordance with Rule 6.10.2 (b), in this Revised Proposal, SP AusNet responds to the matters raised by the AER in its Draft Determination. The Draft Determination acknowledges the detailed, rigorous analysis provided in SP AusNet's Original Proposal dated 30 November 2009 (Original

¹ SP AusNet's subsidiary SPI Electricity Pty Ltd owns and operates the electricity distribution infrastructure that provides network services. Day to day, most people and documents refer to SP AusNet, rather than the particular subsidiary. The remainder of this Executive Summary follows that convention.

² Australian Energy Regulator, Victorian Distribution Network Service Providers 2011-2015, Draft Decision, June 2010.

Proposal). However, it appears to have failed to adequately rely on, or take into adequate consideration, this analysis or to appropriately distinguish the Original Proposal from those made by other businesses. The Draft Determination makes a number of broad assertions about the industry as a whole and fails to consider SP AusNet's specific circumstances.

Notwithstanding this, SP AusNet has again provided detailed, rigorous analysis in support of this Revised Proposal. This analysis demonstrates that it remains necessary for SP AusNet to increase expenditure in the forthcoming regulatory period in order to maintain an appropriate standard of safety, security and efficient operation of SP AusNet's distribution network and compliance with the regulatory framework. Further, the long term interests of electricity customers will be damaged without sustainable investment to provide efficient, safe and reliable services.

The major changes to this Revised Proposal from the Original Proposal are as follows:

- The net capital expenditure forecast for the five year period has increased from \$1372M (\$2010) to \$1534M (\$2010). This is due to the inclusion of the Enhanced Safety Program at \$90M in light of new analysis and statutory obligations, lower customer contributions as a result aligning calculations with the requirements of Guideline 14 at \$41M and increased customer number forecasts from NIEIR leading to an increase of \$18M for net customer connections.
- The operating expenditure forecast (excluding the S Factor payout) has increased by \$75M (\$2010), which reflects vegetation management changes (\$70M) as a result of the new Electricity Safety (Electric Lines Clearance) Regulations, increased insurance provisions for bushfire liability (\$12M) and decreased debt raising costs (\$13M).

Capital expenditure

SP AusNet does not accept the constituent Draft Decision on forecast capital expenditure (capex).

SP AusNet contends that the AER made a fundamental error of fact in the Draft Determination in relation to the forecast capital expenditure for SP AusNet and as such the AER did not exercise its discretion under the NEL in an appropriate manner, having regard to all the relevant circumstances as more specifically outlined below.

The Draft Determination would reduce SP AusNet's forecast capex to 4% less than the current regulatory period capex levels. This is against an acknowledged background of sustained growth and increasing numbers of assets requiring replacement as part of the reasonable and expected, natural cycle of asset replacement. If the AER's position is sustained, this would be in contravention of the NER capital expenditure objectives as SP AusNet would be unable to maintain the reliability, safety and security of its distribution system.

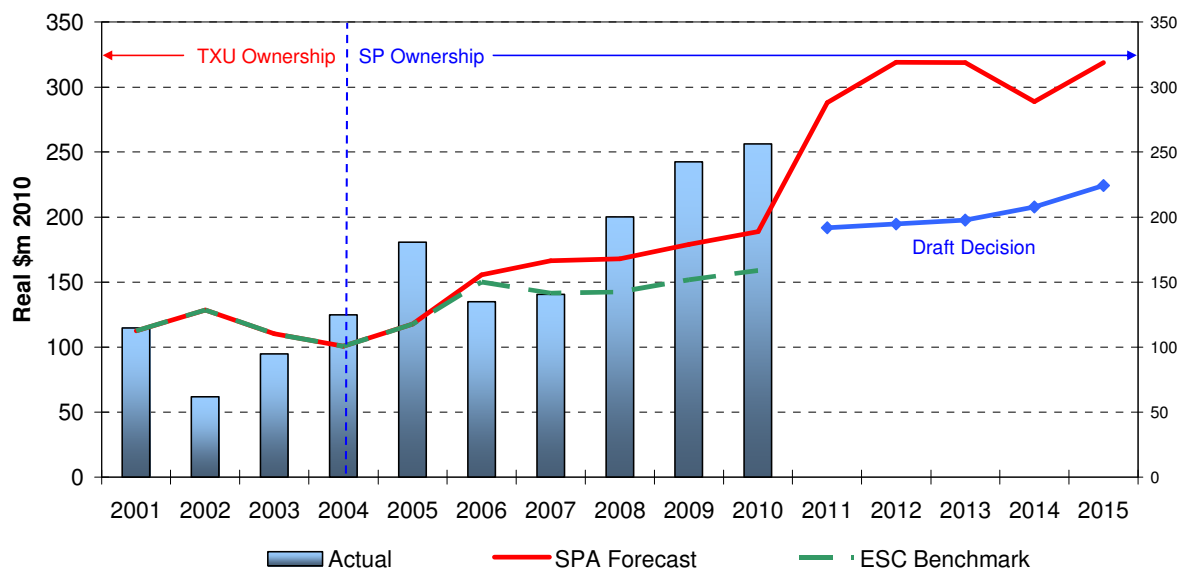
In setting aside SP AusNet's forecasts, the Draft Determination relies principally on trend analysis that disregards 2009 actual capex and latest estimates for 2010:

*"The AER's trend analysis suggests that the DNSPs' capital expenditure forecasts tend to systematically over estimate capital expenditure. DNSPs appear to spend significantly less than forecast, and previously allowed, and DNSPs' actual capital expenditure tends to follow a fairly gradually increasing trend."*³

³ AER, Draft Determination, p. 292.

This is simply incorrect for SP AusNet and it is therefore unreasonable for the AER to have reached its conclusion. For the current regulatory period, SP AusNet’s capex is \$176 million, or 23%, more than the allowance set in the 2006 Electricity Distribution Price Review (2006 EDPR) Determination, excluding S-Factor capex. Including S-Factor expenditure, the business is expected to spend \$247 million, or 33%, more over the same period. This is illustrated in the figure below.

Figure 1: SP AusNet’s Capital Expenditure Compared to ESCV Benchmark



In this light, SP AusNet contends that the Draft Determination does not comply with Rule 6.5.2(c)(2) in that it does not properly account for:

“the circumstances of the relevant Distribution Network Service Provider”

In place of SP AusNet’s forecasts, the Draft Determination substitutes the AER’s own capital expenditure forecasts, relying on a report from Nuttall Consulting.⁴ Among other things, the Nuttall Report sets out its approach to forecasting reliability and quality maintained (RQM), reinforcement and non-system IT capex.

The Nuttall Report estimates RQM capital expenditure using a replacement expenditure (repex) model that extrapolates imputed technical lives to forecast expenditure. The repex model first produces a ‘raw’ forecast replacement need based on replacement volume data provided by SP AusNet and the other DNSPs. It is then, in the term used in the Nuttall Report, ‘calibrated’ against actual capital expenditure.

The Draft Determination in part justifies its reliance on this model by citing The Office of Gas and Electricity Market’s (Ofgem’s) reliance on a similar model in the UK. SP AusNet commissioned Graham Shuttleworth, the UK Director of NERA and an international authority on economic regulation, to review the AER’s and Ofgem’s approach. The report notes that, in Ofgem’s most recent review of distribution which came into effect on 1st April 2010, Ofgem did not rely solely on

⁴ Nuttall Consulting, Report – Capital Expenditure Victorian Electricity Distribution Revenue (sic) Review, June 2010.

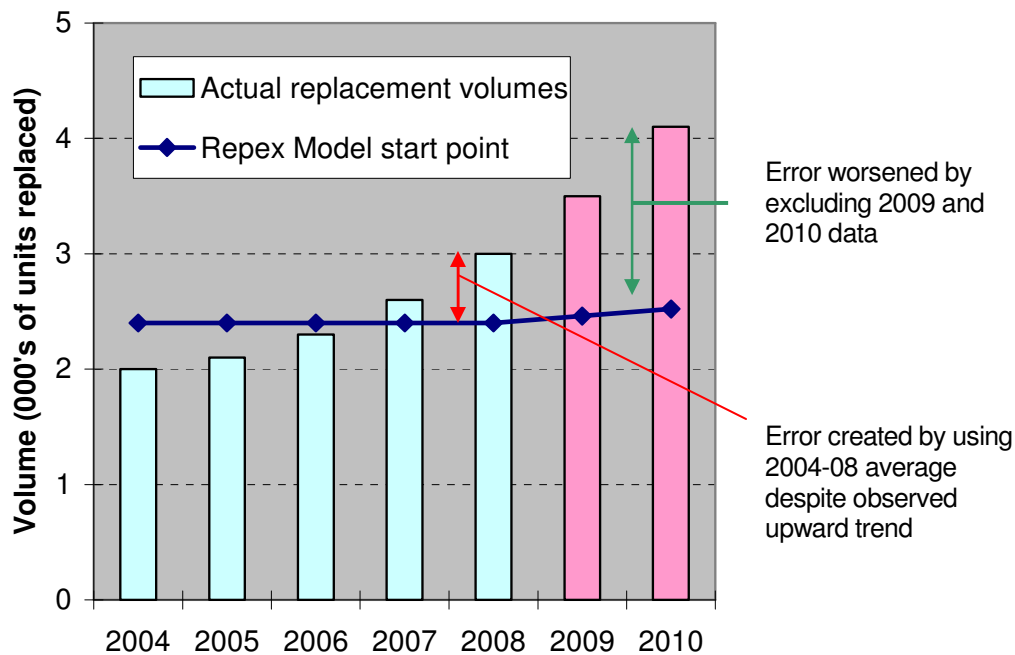
the repex model. Ofgem instead approved additional necessary expenditure not justified by the model but explained by detailed analysis of investment policies and replacement causes. Shuttleworth finds that:

“The AER therefore seems to have misunderstood the basis and purpose of Ofgem’s model and to have misapplied its own version by calibrating it to past expenditures instead of current investment policies (and asset lives).”⁵

In other words, there are two basic errors - the model is calibrated to the wrong data and there are substantial matters it does not explain.

The ‘calibration’ is further based on *out-of-date average* actual replacement capex rather than *up-to-date trends*. The figure below illustrates the significant downward bias introduced by this approach.

Figure 2: Errors from the averaging approach to calibration

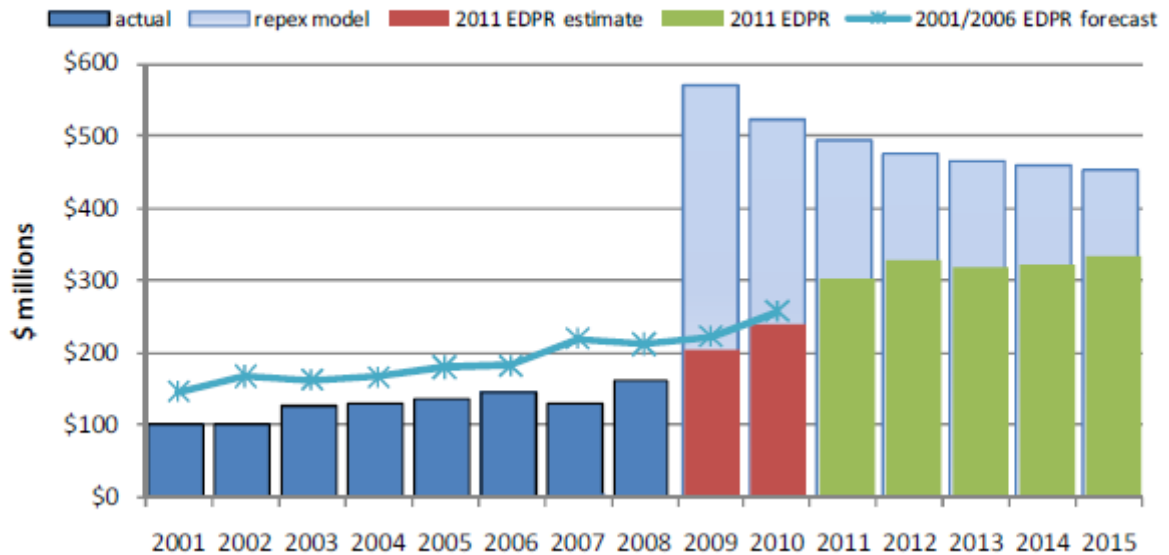


Further, the effects of the ‘calibration’ are so substantial as to undermine the repex model’s reliability as a forecasting tool. The figure below, from the Nuttall Report, shows the repex model outputs before ‘calibration’. The light blue shows the repex models forecasts; the red and green, overall DNSP current period estimates and forthcoming period forecasts respectively. On the face of it, this would indicate that the forecasts provided by the DNSPs are substantially too low, as there is a substantial amount of additional replacement according to the model.

⁵ NERA, AER Draft Decision on Opex and Capex Allowances, p. 14.

Figure 3: Extract from Nuttall Report – Figure 11

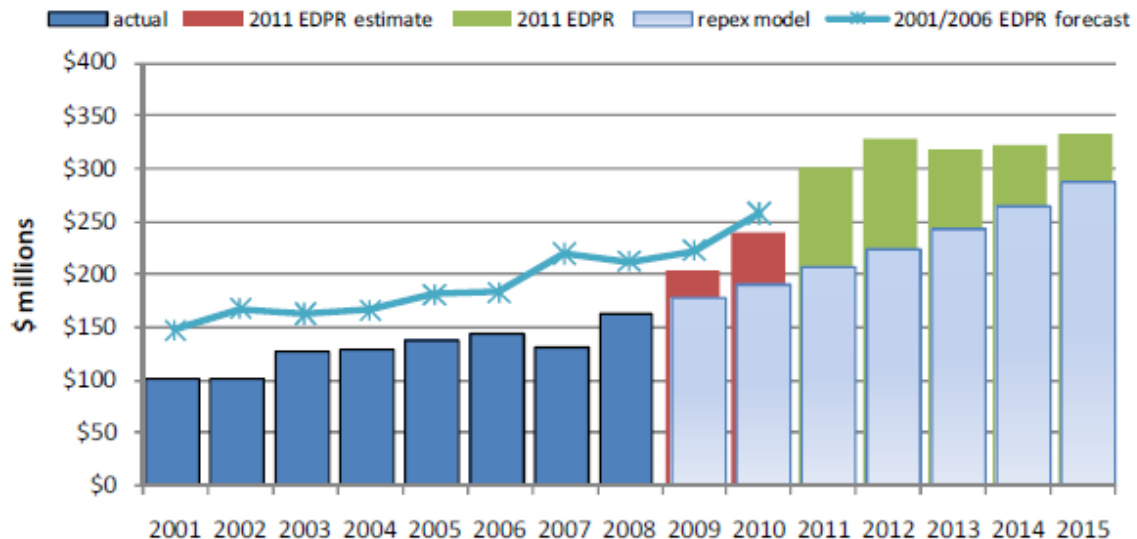
Figure 11 Base case repex model forecast – aggregate



The repex model outputs following ‘calibration’ are illustrated below. On the face of it, the model now finds that the forecasts provided by the DNSPs are materially too high. Significantly, the model’s 2009 estimate collapses. It is approximately \$25M less than the actual expenditure for that year, information that was available at the time of the modelling, albeit in unaudited form, and set aside. In other words, the repex model’s ‘estimate’ for 2009 has a 12.5% error, which more than doubles in 2010. It is unreasonable for the AER to rely on any model that is prone to such a material error.

Figure 4: Extract from Nuttall Report – Figure 13

Figure 13 - Calibrated repex model forecast – aggregate



There are substantial matters that the repex model cannot explain. It does not take into account changing risks and consequences, and so adopts imprudent service lives for critical assets. For example, the repex model concludes that SP AusNet’s power transformers should on average have an expected life of 82 years. This flies in the face of international and Australian experience with transformer condition, which suggests lives of up to 65 years. It is also 80% longer than the technical lives used by the AER in other recent decisions. The expected lives of circuit breakers are similarly ambitious without adequate foundation.

In contrast, SP AusNet’s cost-benefit evaluations use discounted cash flow analysis techniques. Such techniques have a track record of being reliable, accepted and accurate, and they have been relied on and commended by the AER previously. SP AusNet had formed a reasonable expectation that these techniques would be relied upon again, and had formed its November 2009 Original Proposal and forecasts on this basis. SP AusNet’s assessments include quantitative estimates of the value of reliability and safety, the risks and consequences of asset failure and SP AusNet’s wider safety obligations. As the repex model relies on an imputed technical life alone, it cannot establish a forecast that meets the NER capital expenditure criteria and objectives as it does not account for these wider obligations.

Accordingly, in light of these substantial failings, by relying on this model, the AER is not taking into consideration and cannot hope to achieve the capital expenditure objectives, nor can it achieve the National Electricity Objective (NEO).

Specifically, it fails to ensure that SP AusNet can comply with all its applicable regulatory obligations or requirements, as asset maintenance and replacement will be reduced from current standards and levels of performance, reliability and safety across the network will drop as a result.

A similar lack of rigour arises in the reinforcement forecast. The Nuttall Report estimates reinforcement capital expenditure by applying a 53% probability to SP AusNet’s proposed program. This probability was derived by taking an average of the probabilities arising from five ‘sample’ project reviews, weighted by forecast capex. Four of the five sample programs are

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towards the end of the period where it would be expected that probabilities would be below average. Individual project probabilities were classified as low (33%), moderate (50%), moderate/high (70%) or high (90%). However, no further explanation is provided as to the systematic factors that determine the application of these probabilities to the projects – this appears to be based only on the subjective judgement of the Nuttall Report’s authors.

While the Nuttall Report concedes that the costs and scope may increase as projects move to completion (this has been SP AusNet’s predominant recent experience) and some projects may advance, the approach at most allows 90% of the project forecast and ignores any projects outside the period. This introduces a significant downward bias to the forecast.

Further, the Nuttall Report appears to constrain the probabilities to ensure the overall result aligns with 2004-2008 historic expenditure.⁶

“Given the findings of our high-level expenditure analysis, the methodology review and the detailed project reviews, we consider that it is reasonable to consider that the actual expenditure will be far more in line with the historical trend.”

This introduces a further and substantial downward bias.

This approach cannot provide a realistic expectation of the demand forecast and cost inputs required to achieve the capital expenditure objectives, as it is impossible to disaggregate the demand forecast and cost inputs embedded in the judgemental probabilities. Further, as is demonstrated in the main body of this Revised Proposal, the forecasts, if adopted, would materially degrade the reliability and security of supply provided by SP AusNet’s distribution network by reducing SP AusNet’s capex by 40% from the forecasted amount required. The impacts on security of supply will include that:

- energy at risk at zone substations would climb from current levels of around 30,000 MWh to nearly 80,000 MWh;
- utilisation would climb to 83% at zone substations, a level previously unseen in Australia, even in Queensland in the immediate lead-up to the Somerville Inquiry; and
- reliability performance would deteriorate by an average of 6 minutes per annum.

Not only would this impact on safety and security of supply but would also, by implication, yield a material deterioration in service delivered to customers.

SP AusNet has reviewed its reinforcement program in light of matters raised by the AER. Among other things, SP AusNet has:

- reconciled its spatial forecast to forecasting consultant NIEIR’s top-down demand forecast;
- carried out detailed sensitivity analysis; and
- developed a rigorous Monte-Carlo analysis of its overall program.

On IT capital expenditure, neither the Draft Determination nor the Nuttall Report have addressed SP AusNet’s detailed program. Instead, the Draft Determination applies a high-level method to determine its forecast. Surprisingly, a different method is used to determine SP AusNet’s expenditure compared to the other DNSPs, without any substantive reasons for this different approach and consequential results having been provided. For the four other Victorian DNSPs,

⁶ Nuttall Report, p. 49

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the AER has allowed the first three years of their proposals spread across the five year period, whereas it has used an annual historical average for SP AusNet. If a consistent approach had been applied to SP AusNet, the resulting forecast would be \$96.1 million. This means that applying this different forecasting method to SP AusNet has reduced its forecast by \$24.1 million, a significant difference.

In some cases, there are justifiable grounds on which the AER must reasonably treat DNSPs differently such as geographic location and risks to the network that result due to factors such as urban versus rural. However, in this instance, such grounds do not exist. There appears to be no reasonable basis for the imposition of a different methodology for any one DNSP and it is unreasonable for the AER to have discriminated against SP AusNet by adopting a different approach.

Even if this different treatment were corrected, the resulting expenditure profile would have no rigorous basis, as it is a simple truncation of the proposed program without a detailed review of its costs, benefits and implementation risks. One of many consequences of this approach by the AER is that SP AusNet will be unable to develop a smarter and so more efficient network. This will impose a long term penalty on customers.

In light of these considerations and others detailed in the main body of this document, SP AusNet's revised capital expenditure forecasts are as set out in the table below. The forecasts largely retain the capital expenditure from the Original Proposal. They now include additional expenditure to comply with the new *Electricity Safety (Electric Line Clearance) Regulations* and enhanced replacement programs addressing bushfire ignition risk.

Table 1: Revised Capital Expenditure Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Reinforcement	79.8	88.1	110.6	74.3	97.8	450.6
New customer connections (gross)	95.0	93.8	89.8	85.9	89.1	453.5
Reliability & quality maintained	85.2	102.8	93.0	95.6	116.8	493.4
Environmental, safety & legal	1.3	1.3	1.3	1.3	1.3	6.5
SCADA & network control	0.6	0.8	1.2	4.3	1.0	7.9
Non-system – IT	32.8	38.6	28.6	32.4	18.1	150.4
Non-system – Other	3.7	3.8	3.8	3.9	4.0	19.2
Total (gross)	298.3	329.1	328.2	297.8	328.1	1581.5
Customer contributions	10.2	10.0	9.4	8.9	9.2	47.7
Total (net)	288.1	319.1	318.8	288.9	318.9	1,533.8

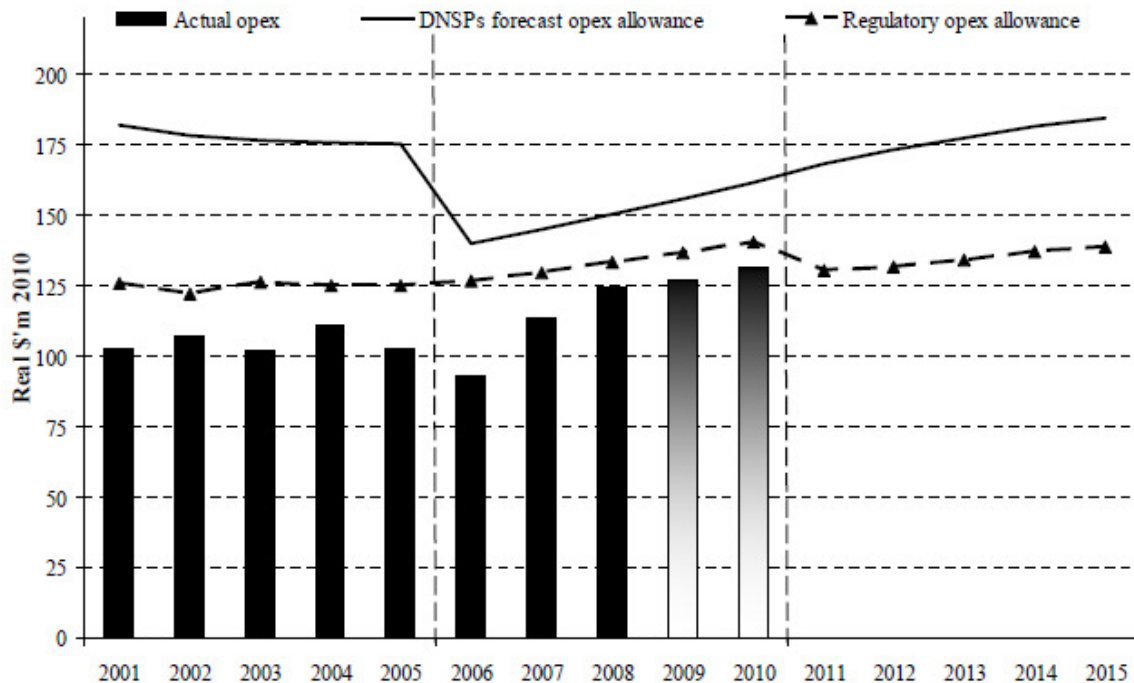
Operating expenditure

SP AusNet does not accept the constituent Draft Decision on forecast operating expenditure.

SP AusNet contends that the AER made a fundamental error of fact in the Draft Determination in relation to the forecast operating expenditure for SP AusNet and as such, the AER did not exercise its discretion in the appropriate manner having regard to all the circumstances as more specifically outlined below.

The Draft Determination sets aside SP AusNet's reasonable forecast operating expenditure, which was based on rigorous analysis, and imposes a significant reduction, as shown in the following figure from the Draft Determination.

Figure 7.8 SP AusNet draft decision opex allowance



The key differences from SP AusNet’s Original Proposal are that the AER, in its Draft Determination:

- makes a number of adjustments, which are based on a mistaken assumption that SP AusNet’s base year opex does not reflect efficient costs;
- includes a deduction for the Singapore Power Management Fee;
- adopts an unreasonably low estimate of labour escalation rates; and
- allows costs for step changes only to reflect new obligations in relation to electrical safety, customer communications and compliance with the national framework for distribution network planning and expansion, and not also for other matters, such as Hazardous Trees and PSAIDI improvements.

In fact, the adjustment to SP AusNet base year costs in relation to the Singapore Power Management Fee is in error. No such expenditure was included in SP AusNet’s regulatory expenditure in the base year, and therefore, no such expenditure should be removed. This is why:⁷

“SP AusNet has not provided any substantive further information in its regulatory proposal justifying the payment of this fee against the requirements of the NER.”

Instead, SP AusNet has previously provided explanations to the AER that while these costs are incurred by SP AusNet, they have not been allocated to the regulated business and, as such, were not in the Original Proposal. This deduction should therefore be reinstated as the AER has

⁷ AER, Draft Determination, p. 200.

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made an error of fact, or in the alternative, has failed to take account of relevant factual information.

SP AusNet also contends that the AER has exercised its discretion incorrectly, having regard to all the circumstances, in relation to wage escalation.

The Draft Determination is based on an approach to wage escalation that will systematically underestimate the actual increases in costs faced by SP AusNet. By favouring the Labour Price Index (LPI) rather than full-time adult ordinary time earnings (AWOTE), the AER is unable to develop labour escalators that allow it to determine the labour costs that a prudent and efficient DNSP will incur over the forthcoming regulatory control period. This is because the LPT disregards one of the two components of the 'efficient labour cost' function for a business – namely, the composition of the labour force that is required to meet the operating expenditure objectives, which in turn impacts on the labour costs that a prudent and efficient DNSP will incur. SP AusNet has included an updated report from BIS-Shrapnel that establishes a reasonable approach to wage escalation. SP AusNet recommends that this report is updated by BIS-Shrapnel prior to the Final Determination.

Furthermore, the AER states that, consistent with previous AER determinations in South Australia, New South Wales and Queensland, the LPI reflects labour costs that the Victorian DNSPs will most likely incur. The LPI Index was not used in New South Wales. The forecast provided by SP AusNet was provided on the basis of its approved historical practice, not the practice utilised by other jurisdictions. This new application of the LPI index in this way results in a material reduction against efficient costs.

The Draft Determination appears to apply criteria to assessing operating step changes that, among other things:

- do not reflect the AER's National Electricity Law (NEL) obligation to "*perform or exercise that function or power in a manner that will or is likely to contribute to the achievement of the national electricity objective*";
- differ from the operating expenditure criteria outlined in the NER; and
- reflect a lack of understanding of the incentives placed upon a business to make efficient investments under the regulatory model.

In summary, the Draft Determination's narrow criteria result in the rejection of step changes that would otherwise:

- enhance the level of service to customers, and for which SP AusNet has presented evidence that supports customers' willingness to pay for those programs;
- reduce the long term costs of providing electricity services to customers; and
- allow SP AusNet to "comply with all applicable regulatory obligations or requirements associated with the provision of standard control services", as required by the NER Clause 6.5.6 (a) (2);

In response to the Draft Determination, and to address the inappropriate approach taken to SP AusNet's step changes, the main body of this Revised Proposal provides new information on SP AusNet's step changes that demonstrates both their compliance with these requirements and their positive benefits for customers.

In light of these considerations and others detailed in the main body of this document, SP AusNet's revised operating expenditure forecasts are as set out in the table below.

Table 2: Revised Operating Expenditure Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	TOTAL
Operating	92.1	94.1	98.0	101.3	102.6	488.1
Maintenance	80.4	86.1	89.3	92.3	95.7	443.7
Other Costs	24.9	7.8	0.8	6.5	-35.3	4.7
Total opex	197.4	187.9	188.2	200.1	163.0	936.6

WACC

SP AusNet does not accept the constituent draft decision on rate of return.

SP AusNet's November 2009 Original Proposal commented on the recent turmoil in financial markets. We explained that individuals and businesses across the world were deleveraging their balance sheets in response to a reappraisal of financial risk. Funding new capex cannot occur unless the required financing is available. Bankers and lenders no longer consider infrastructure stocks as low risk businesses operating in a relatively benign environment. Rather, the sector and its operating environment are now considered to be considerably more risky and this must be reflected in a higher cost of capital.

Ratings agencies are already understood to be considering re-rating the sector's regulatory risk in light of the Draft Determination.

SP AusNet's November 2009 Original Proposal provided detailed substantiation for easing the cost of capital and corporate tax parameters previously established by the AER. In particular, SP AusNet provided:

- new evidence that supports a move to a gamma of 0.5 from the value of 0.65 that is set out in the Statement of Regulatory Intent (SORI); and
- a test of the Debt Risk Premium proxy to ensure that the data source currently favoured by the AER reflects the actual issuing costs of BBB+ 10-year corporate debt.

Recent events in global financial markets add further weight to the matters put by SP AusNet in its November 2009 Original Proposal.

In relation to gamma, further evidence is provided in this Revised Proposal, which demonstrates that it is reasonable and appropriate to adopt a value of 0.5.

SP AusNet does accept, however, the Draft Determination in relation to the estimation of the Market Risk Premium (MRP).

Demand forecasts and time of use tariffs

SP AusNet does not accept the constituent draft decision on energy and demand forecasts.

The Draft Determination notes:

“Specifically, the AER expects the following amendments will be made to the Victorian DNSPs’ /NIEIR’s forecasts:

- *update gross state product forecast inputs to reflect more recent economic conditions*
- *replace population growth forecast inputs with ABS Series B for Victoria, disaggregated by DNSP according to current proposal assumptions about each DNSP’s regional contribution to Victorian population growth*
- *amend the CPRS policy assumption to delay the commencement of the CPRS by 6 months, to 1 January 2012.*⁸

This Revised Proposal contains forecasts that include these amendments.

With regard to the impact that Time of Use (ToU) tariffs have on energy forecasts, the Draft Determination states that:

‘the proper functioning of the PTRM requires the assumption that customers face the same tariff structures as per the particular base year (in this case, 2010) such that the approved X factors are assumed to be appropriately passed onto all customers.’⁹

SP AusNet has complied with this intent by excluding the impact of any tariff reassignment, including ToU tariffs, from its energy forecasts.

SP AusNet has also proposed a change to the Price Control Mechanism to allow the introduction of cost reflective ToU tariffs. Without such an adjustment, there would be an incentive to:

- adjust the structure of ToU tariffs to minimise the overall reduction in revenue associated with introducing ToU tariffs, which is likely to conflict with Clause 6.18.5(b) (1) of the NER; and
- move to short run marginal cost pricing, which again, is likely to conflict with Clause 6.18.5 (b) (1) of the NER.

Further, SP AusNet contends that the adjustment is necessary to allow it to ‘recover at least the efficient costs’ of providing distribution services, as required by Section 7A(2) of the NEL.

Building blocks and revenue requirement

SP AusNet’s Revised Proposal sets out a comprehensive case for a significant increase in the company’s expenditure plans and revenue requirements. The building block elements and the proposed price increases are set out below.

⁸ AER, Draft Determination, p.156.

⁹ AER, Draft Determination, p.756.

Table 3: Building blocks

\$ million (nominal)	2011	2012	2013	2014	2015
Return on capital	214.1	236.0	266.5	296.7	324.8
Return of capital	91.9	51.2	62.2	58.2	55.9
Operating expenditure	187.6	200.5	213.5	226.1	237.4
Carry-over amount	35.0	-21.9	-9.8	5.0	-46.7
Taxation allowance	6.0	0.0	0.0	0.0	0.0
Revenue Requirement	534.5	465.8	532.4	586.0	571.4
Smoothed Revenue Requirement	488.4	514.0	537.2	563.0	594.5
P₀	-25.08%				
X-Factor		-1.9%	-1.9%	-1.9%	-1.9%

The demands of financial markets are such that SP AusNet will not be able to finance capital or operating expenditure beyond the amount allowed in the AER's building blocks indefinitely. Nor is it consistent with the NEL that the company be expected to do so. The commercial reality is that SP AusNet will not be able to deliver capex in excess of the regulatory benchmarks, despite doing so from 2008 to 2010. It is, therefore, not reasonable for the AER to maintain the position that capex or opex can be regarded as 'self financing'.

The AER should also be wary of 'back-loading' the smoothed revenue requirement in setting P₀ as, aside from the negative impact this would have on compliance with the NER obligations, SP AusNet's credit metrics are highly sensitive to the timing of revenue. As Standard and Poors noted in 2009:

"Nevertheless, the SP AusNet rating is exposed to potential deterioration in the group's underlying performance. If SP AusNet's financial profile fails to improve as forecast, it will lead to a weaker stand-alone credit profile."¹⁰

There is a clear nexus between the revenue profile approved by the AER and SP AusNet's ability to deliver necessary capital expenditure early in the period.

Bushfire mitigation programs and the Victorian Royal Bushfires Commission

SP AusNet accepts the AER's proposed approach to the outcomes from the Victorian Royal Bushfires Commission.

¹⁰ Standard & Poors, Summary: SP AusNet Group, 22nd December 2009.

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However, this Revised Proposal includes further bushfire mitigation programs, in the interests of continuous improvement and as a result of new information learned from the Royal Commission's investigations. The AER now has the information required by the NER to make a decision on proposed Bushfire programs, including vegetation management and other new programs, such as the replacement of Expulsion Drop Out fuses. This information includes detailed costings, detailed cost-benefit analysis and the wider statutory obligations on SP AusNet.

These decisions, justified by cost-benefit analysis, do not need to wait, nor should they, for implementation of the anticipated Royal Commission findings.

These programs are highly unlikely to be inconsistent with the Royal Commission findings. In respect of these programs, Counsel Assisting the Commission, Mr Jack Rush QC, informed the Royal Commission that:

“as an interim measure to get these matters under way, we would support the propositions [...] raised.”¹¹

Conclusion

It is SP AusNet's contention that the Draft Determination does not comply with the NEL.

In summary, the Draft Determination is replete with approaches and decisions that, among other things:

- are not reasonable;
- rely on facts which are incorrect;
- fail to allow the attainment of critical elements of the NEO;
- improperly and unreasonably apply the revenue and pricing principles, and in particular that SP AusNet should be given the reasonable opportunity to recover at least its efficient costs;
- fail properly to distinguish SP AusNet's circumstances where there is clear obligation to do so under NER clause 6.5.6 (c) (2) or, in the case of IT capital expenditure distinguish between DNSPs where there are no grounds on which this treatment could be justified; and
- distinguish between Victorian DNSPs and those in other States, contrary to or inconsistent with precedent decisions of the AER, without reasonable justification or explanation.

SP AusNet's Revised Proposal outlines in detail, with thorough supporting analysis and evidence, why the AER should reconsider these approaches and decisions, so that the AER's decision complies with the requirements of the NEL and NER and allows SP AusNet's distribution network to deliver safe, secure, reliable supply of electricity in a manner which promotes the long term interests of SP AusNet's customers. In contrast, if the Draft Decision were upheld, the negative consequences for customers and community would likely manifest early in the forthcoming regulatory control period.

¹¹ Victorian Bushfires Royal Commission, Transcript, P.17013.

1 Introduction

1.1 Purpose and structure of this document

This document is the Revised Regulatory Proposal (Revised Proposal) for the regulatory control period from 1st January 2011 to 31st December 2015 for SPI Electricity Pty Ltd, ABN 91 064 651 118 (SPI Electricity). This Revised Proposal is submitted in accordance with Rule 6.10.3 of the NER. It follows the submission of SPI Electricity's Original Proposal on 30 November 2009 and the AER's Draft Determination, dated June 2010.

SPI Electricity owns and operates an electricity distribution system in eastern Victoria. The system distributes electricity to 610,000 customer supply points, across a mix of alpine, rural, urban and coastal areas across the eastern half of Victoria. This area includes some of Australia's fastest growing communities.

SPI Electricity is a part of the SP AusNet group. The group includes Victoria's electricity transmission system, a gas distribution system and a specialist services business, Select Solutions. Listed on the Australian and Singapore Stock Exchanges as a stapled security, SP AusNet's majority security-holder is Singapore Power International Pte Limited. Day to day, most people and documents refer generically to SP AusNet, rather than the particular subsidiary. The remainder of this Revised Proposal follows that convention.

In accordance with Rule 6.10.3(b), this Revised Proposal incorporates the changes required to address matters raised by AER's Draft Determination. To assist the AER and stakeholders in reviewing SP AusNet's response to the Draft Determination, this Revised Proposal does not revisit information or analysis previously provided by SP AusNet in relation to matters that are now settled. Instead, the focus of this document is to respond to the outstanding issues set out in the Draft Determination. In light of this approach, the following table is intended to assist readers by providing a cross-reference to information provided in SP AusNet's Original Proposal in November 2009 that is not repeated in this Revised Proposal.

Table 1.1: Cross-reference to information provided in SP AusNet's Original Proposal, dated 30 November 2009

Chapter 1	This chapter provided background information on SP AusNet's electricity distribution network, including a map of the service area, a description of SP AusNet's operating environment and its business structure.
Chapter 2	This chapter explained the relevant Rules requirements and SP AusNet's proposed distribution service classifications in accordance with Clause 6.8.2(c)(1) of the NER.
Chapter 3	This chapter provided an overview of SP AusNet's asset management processes; the key drivers of asset management expenditure; and SP AusNet's asset management strategies and documentation. The chapter included information on the relevant regulatory requirements and SP AusNet's economic analysis and consideration of trade-offs and between opex, capex and service levels.

Chapter 4	This chapter described SP AusNet's proposed approach to the Service Target Performance Incentive Scheme, including the regulatory requirements and the proposed targets for each service measure. The chapter also explained SP AusNet's approach to address a number of transitional matters, including the proposed payout of the existing S-Factor scheme.
Chapter 5	This chapter outlined SP AusNet's proposed demand, energy and customer number forecasts for the forthcoming regulatory control period. It includes a detailed explanation of SP AusNet's forecasting methodology, and also discussed the impact of time of use tariffs.
Chapter 6	This chapter included important background information on the aims and objectives of SP AusNet's proposed capex and the regulatory requirements that must be satisfied. It also explained the forecasting methodology for each category of capital expenditure; an analysis of the historical and forecast expenditure for each category of capital expenditure.
Chapter 7	This chapter provided important background information on the aims and objectives of the proposed opex and the regulatory requirements that must be satisfied. The chapter also explained the operating expenditure forecasting methodology; provided details on the efficiency of the base year expenditure; explained the proposed cost escalators; and discussed the trade off between capex and opex.
Chapter 8	This chapter described SP AusNet's demand management and distributed generation initiatives for the forthcoming regulatory control period.
Chapter 9	This chapter outlined SP AusNet's calculations of the revenue increments / decrements for each year of the forthcoming regulatory control period arising from the application of the ESCV's efficiency carryover mechanism during the current regulatory control period. The chapter also described SP AusNet proposal for the Efficiency Benefit Sharing Scheme (EBSS) that will apply for the forthcoming regulatory control period.
Chapter 10	This chapter explained the regulatory requirements and key assumptions in relation to the calculation of the opening RAB and its roll forward for the forthcoming regulatory period.
Chapter 11	This chapter explained the regulatory requirements relating to depreciation; and the different approach to existing and new assets.
Chapter 12	This chapter described the Rules provisions relating to the return on capital and the estimated cost of corporate tax.
Chapter 13	This chapter outlined SP AusNet's proposed cost pass through events; the materiality thresholds that are to be applied to those events; and the categories of services to which the cost pass through provisions are to apply.
Chapter 14	This chapter presented summary information on SP AusNet's revenue requirements, including the proposed X factor in accordance with the Rules requirements.
Chapter 15	This chapter explained SP AusNet's tariff arrangements for Standard Control Services and the proposed form of price control.

Chapter 16	This chapter explained the regulatory arrangements with respect to negotiated and alternative control services; the mechanism that will be utilised to control individual prices / unit rates for Alternative Control Services; and the proposed prices and unit rates for Alternative Control Services in 2011.
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In responding to the Draft Determination, this Revised Proposal adopts the same structure as the Original Proposal submitted in November 2009. For each chapter, SP AusNet provides a brief summary of the key points in its Original Proposal; the issues raised by the AER in its Draft Determination; and SP AusNet's response to the Draft Determination. Each chapter concludes with a summary of SP AusNet's Revised Proposal in relation to the matters addressed in that particular chapter.

1.2 Principal changes adopted in this Revised Proposal

The table below lists and describes briefly the principal changes made in this Revised Proposal compared to the Original Proposal. The table also provides a cross reference to chapters in this Revised Proposal that provide detailed information to explain and substantiate each principal change.

Table 1.2: Summary of principal changes adopted in this Revised Proposal

Principal change from Original Proposal adopted in this Revised Proposal	Cross reference to relevant chapters in this Revised Proposal
Updated macro economic forecasts to take account of latest data on economic growth. The latest macro economic forecasts affect labour and material escalation rates; and energy and demand forecast.	Chapters 5, 6 & 7
Revised energy and demand forecasts to address matters raised in the Draft Determination, and to reflect latest data.	Chapter 5
Updated service performance targets and expenditure forecast (where appropriate) to reflect 2009 actual data.	Chapters 4, 5 & 6.
Revised operating and capital expenditure forecasts to reflect SP AusNet's latest understanding of the Energy Safety Victoria's requirements in order to approve the safety case and to comply with mandatory regulations.	Chapter 6 & 7
An amended market risk premium to reflect the requirements of the AER's Draft Determination, and further evidence to support a gamma of 0.5.	Chapter 12
Updated pass-through proposals and self insurance to address matters raised by the AER's Draft Determination.	Chapter 13
Updated building block calculations and X factors to reflect the amended elements in the Revised Proposal.	Chapter 14

2 Distribution Service Classification

This chapter sets out SP AusNet’s response to the Draft Determination in relation to the classification of distribution service classifications. The service classification determines the form of control and the cost recovery mechanism, in particular:

- whether the service should be subject to price or revenue control; a ‘negotiate arbitrate’ framework; or should not be regulated; and
- whether the costs of providing the service should be recovered from the generality of customers through network tariffs or recovered directly from the individual customer requesting the service.

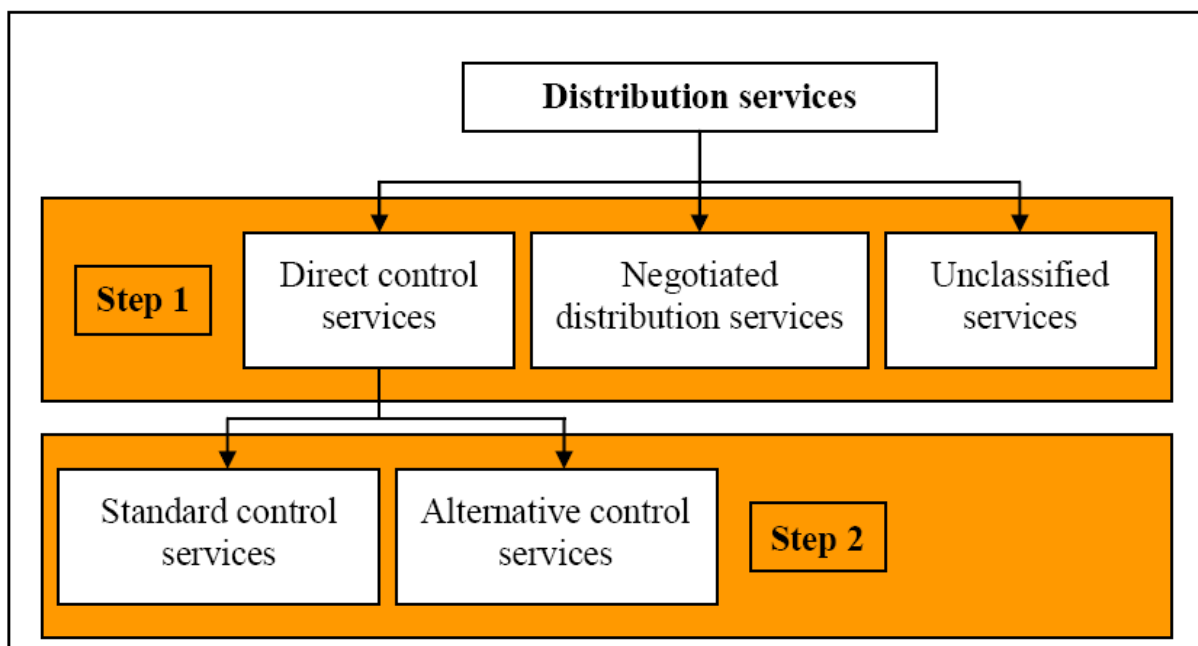
The chapter is structured as follows:

- Section 2.1 provides an overview of SP AusNet’s distribution service classification submission in its Original Proposal in November 2009;
- Section 2.2 summarises the key points raised by the AER in its Draft Determination;
- Section 2.3 sets out SP AusNet’s response to the Draft Determination; and
- Section 2.4 concludes by presenting SP AusNet’s revised distribution service classification proposal.

2.1 Overview of SP AusNet’s Original Proposal

Figure 2.1 below outlines the steps in the distribution service classification process.

Figure 2.1: Distribution Classification Process



Source: AER, *Framework and Approach Paper*, p. 18.

EDPR 2011-2015 – Distribution Service Classification

The AER's Framework and Approach Paper (May 2009) set out the AER's likely approach to the classification of the Victorian DNSPs' distribution services for the next regulatory control period. SP AusNet's Original Proposal adopted the classifications set out in the Framework and Approach Paper, except for:

- above standard connection services and augmentation works, which SP AusNet proposed to classify as standard control services, rather than negotiated services;
- standard connection services for new connections, which SP AusNet proposed to classify as alternative control services, rather than negotiated services;
- elective undergrounding servicing, which SP AusNet proposed to classify as an alternative control quoted service, rather than an alternative control fee based service;
- covering of low voltage mains, which SP AusNet proposed to classify as an alternative control quoted service, rather than an alternative control fee based service; and
- damage to overhead service cables caused by high load vehicles, which SP AusNet proposed to classify as an alternative control quoted service, rather than an alternative control fee based service.

In accordance with Clause 6.8.2(c)(1)(ii) of the NER and Clause 2.1(a) of the RIN, Chapter 2 of SP AusNet's Original Proposal explained the reasons for the proposed differences in the service classifications. In the interests of brevity, the reasoning presented in the Original Proposal is not repeated in this submission. In general terms, however, SP AusNet's proposed classifications sought to:

- avoid unintended consequences for SP AusNet's recovery of capital expenditure that could result from the AER's proposed classification;
- preserve the current charging arrangements in Victoria; and
- enable SP AusNet to set cost-reflective charges, and avoid unnecessary and uneconomic averaging of charges in circumstances where different charges are warranted.

2.2 AER's Draft Determination

In relation to SP AusNet's proposed service classification, pages 36 and 37 of the Draft Determination state that:

"the AER accepts SP AusNet's classification of new connections requiring augmentation works as standard control services

the AER accepts SP AusNet's classification of routine connections as alternative control services (fee based services for customers below 100 amps, and quoted services for customers above 100 amps)

the AER accepts SP AusNet's classification of covering of low voltage mains as an alternative control service (quoted service)

the AER accepts SP AusNet's classification of elective undergrounding where an above ground services exists as an alternative control service (quoted service)

the AER accepts SP AusNet's classification of repair damage to overhead service cables caused by high load vehicles as alternative control services (quoted services)

the AER accepts SP AusNet's classification of high load escorts – lifting overhead lines as alternative control services (quoted services)."

EDPR 2011-2015 – Distribution Service Classification

2.3 SP AusNet's Revised Service Classification

In light of the AER's acceptance of SP AusNet's proposed service classification, SP AusNet will adopt the distribution service classification as set out in the company's Original Proposal. For convenience, this classification is summarised in Table 2.1 below.

Table 2.1: SP AusNet's Service Groups and Classifications

Service Group	Classification	Service Activity
Network services	Standard control service	Constructing the distribution network
		Maintaining the distribution network and connection assets
		Operating the distribution network and connection assets for DNSP purposes
		Planning the distribution network
		Designing the distribution network
		Emergency response
		Administrative support (e.g. call centre, network billing)
Connection services	Alternative control service	Energisation of new connections
	Alternative control service	Standard connection
	Standard control service	Above standard connection and augmentation works for new connections
Metering services	Alternative control service	Metering data provider services for unmetered supplies with Type 7 metering installations
Public lighting services – operation, repair, replacement and maintenance	Alternative control service	Operation, repair, replacement and maintenance of DNSP public lighting assets

EDPR 2011-2015 – Distribution Service Classification

Service Group	Classification	Service Activity
Public lighting services – alteration and relocation	Negotiated distribution service	Alteration and relocation of DNSP public lighting assets
Public lighting services – new public lighting	Negotiated distribution service	New public lighting
Quoted services	Alternative control service	Rearrangement of network assets at customer request, excluding alteration and relocation of existing public lighting assets
		Supply enhancement at customer request
		Emergency recoverable works (i.e. emergency works where customer is at fault)
		Auditing of design and construction
		Specification and design enquiry fees
		Elective underground service where an existing overhead service exists
		Covering of low voltage mains for safety reasons
Fee based services	Alternative control service	Damage to overhead service cables caused by high load vehicles
		De-energisation of existing premises
		Re-energisation of existing premises
		Temporary disconnect / reconnect services
		Temporary supply services
		Wasted attendance - not DNSP fault

EDPR 2011-2015 – Distribution Service Classification

Service Group	Classification	Service Activity
		Service truck visits
		Location of underground cables
		Moved to quoted services
		Moved to quoted services
		Re-test of types 5 and 6 metering installations for first tier customers with annual consumption greater than 160 MWh
		Fault response — not DNSP fault
		Moved to quoted services
		High load escorts — lifting overhead lines
Unregulated services	Not classified	All “metering provider services” other than as detailed above
	Not classified	The installation and maintenance of watchman (security) lights

3 Asset Management Overview

SP AusNet's Original Proposal provided a detailed description of SP AusNet's asset management processes, the key drivers of asset management expenditure, and the resulting asset management strategies. This chapter presents a brief overview of these important elements of SP AusNet's Revised Proposal. The chapter is structured as follows:

- Section 3.1 provides a summary of the information that was detailed in the Original Proposal on SP AusNet's asset management objectives and asset management processes;
- Section 3.2 summarises the key points raised in relation to asset management by the AER in its Draft Determination; and
- Section 3.3 sets out SP AusNet's response to the Draft Determination, and explains how that response is reflected in SP AusNet's Revised Proposal.

3.1 Overview of SP AusNet's Original Proposal

The Original Proposal explained that SP AusNet's approach to asset management is designed to comply efficiently with all regulatory and legislative requirements, including licence and Code obligations, and would allow it to achieve efficient investment and operation of its networks for the long-term benefits of consumers, in accordance with the NEO.

3.1.1 SP AusNet's Asset Management Vision

The Original Proposal explained that SP AusNet's asset management vision is to be a "leader in the asset management of energy networks". This statement should not be confused: to be a leader in the provision of asset management of energy networks is to be capable of providing efficient electricity network services to customers for the long-term, allowing the following key considerations, amongst others, to be provided:

- the safety of the public and employees;
- the demand for network services;
- the performance, age and condition of network assets;
- the objective of maintaining quality, reliability and security of supply;
- technological advancements;
- substitution possibilities between operating and capital expenditure; and between network and non-network solutions; and
- the impacts of climate change, which include the increased risks associated with storm activity, drought, bushfires and the changing nature of generation and demand.

None of these considerations incorporates excess. These are considerations that will deliver to customers the services they will come to expect, as network technology advances and external influences such as climate change exert additional pressures on a DNSP's capability to deliver a reasonable standard of efficient network services. It is reasonable for the AER to take these

EDPR 2011-2015 – Asset Management Overview

considerations into account, to allow for and acknowledge not only that a basic level of network service can be guaranteed but that progress also needs to occur, against a backdrop of technological advances, in order to attain the NEO for the next five-year regulatory period.

The Original Proposal also noted that the above considerations are closely aligned with the requirements of Chapter 6 of the NER, which are intended to result in SP AusNet establishing economically efficient operating and capital expenditure plans. In this regard, SP AusNet's asset management strategy (AMS) provides useful background information, explaining the basis of SP AusNet's expenditure plans, and demonstrating that those plans are consistent with the expenditure objectives and the expenditure criteria set out in Clauses 6.5.6 and 6.5.7 of the NER. The AMS was attached as an Appendix to SP AusNet's Original Proposal.

3.1.2 Asset Management Objectives

SP AusNet's Original Proposal explained that the AMS is focused on achieving this vision through optimal distribution network performance at minimum efficient costs, in accordance with the operating and capital expenditure objectives and criteria set out in Chapter 6 of the NER.

To realise the asset management vision, the AMS objectives are to:

- enhance network safety in accordance with statutory obligations and industry best practice;
- increase network capacity to satisfy future projections for energy supply and peak demand;
- achieve supply reliability targets taking account of risk, costs and customer expectations;
- enhance supply quality; and
- manage network risk in an efficient manner.

In achieving these objectives, the AMS ensures that all decisions to augment, replace or maintain network assets are justified on economic grounds.

3.1.3 Network Expenditure Pressures

The Original Proposal noted that the main pressures on network expenditure over the forthcoming regulatory period are:

- compliance with increased safety obligations and environmental and security obligations – including SP AusNet's new safety case submitted to Energy Safe Victoria;
- future expected demand for network services – including a growing and increasingly peaky load, rising asset utilisation and load at risk;
- maintenance of supply reliability and quality – including mitigating the natural deterioration of asset condition due to asset aging;
- impacts of climate change and associated Government policy – including effects on SP AusNet's operating environment as well as increases in the connection of embedded generation; and
- technological change – including opportunities provided by the roll out of interval meters in Victoria, and the development of smart networks.

EDPR 2011-2015 – Asset Management Overview

Detailed information regarding each of these factors was provided in the Original Proposal.¹²

3.1.4 Asset Management Documentation and Process

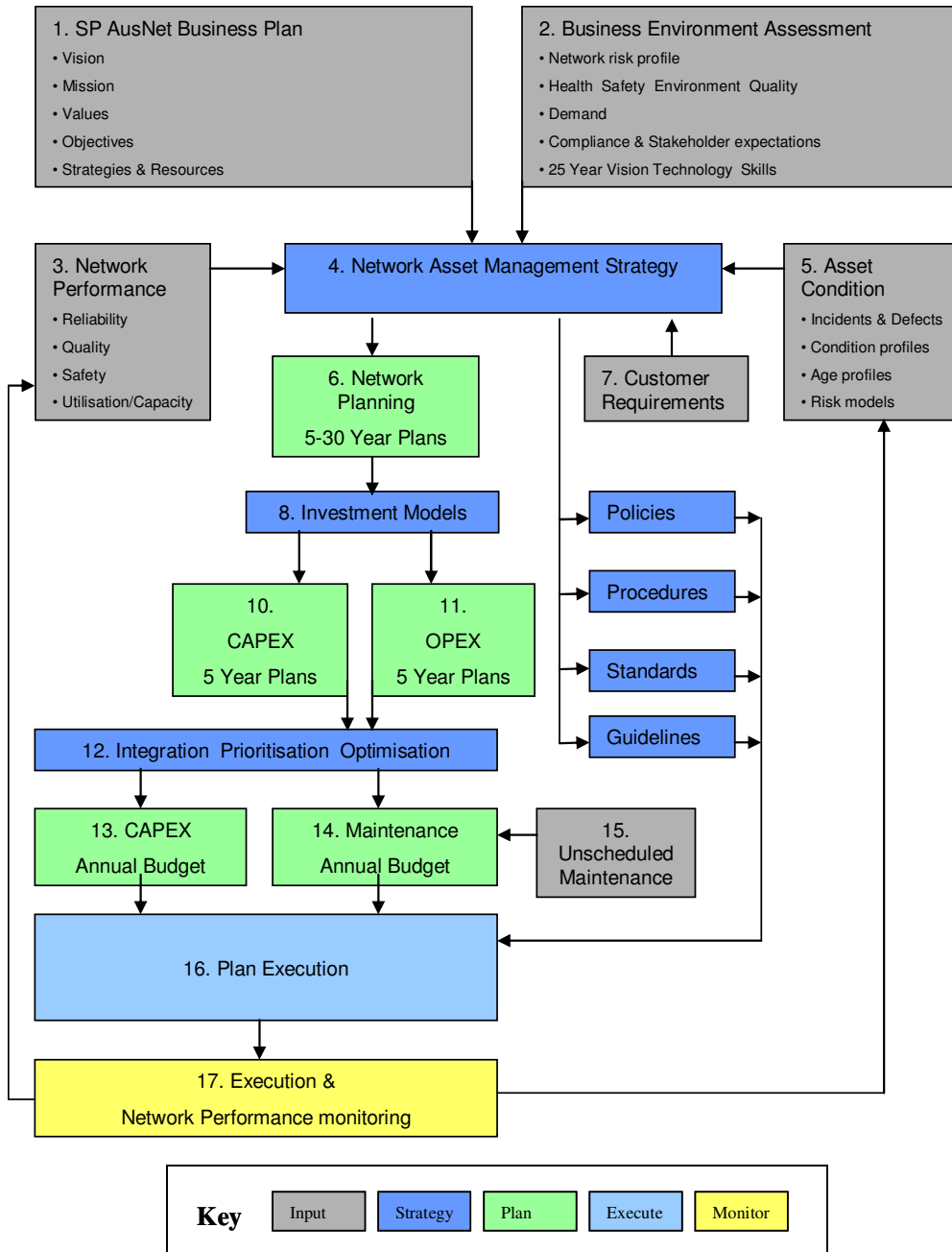
SP AusNet's Original Proposal explained that the AMS outlines strategic actions for the purpose of achieving efficient regulatory and business performance targets over the next five years, through the efficient management of SP AusNet's electricity distribution network assets.

The asset management process ensures that the strategy and its supporting documentation is informed by inputs from the SP AusNet business plan, assessments of the external environment, asset condition assessments, information on network performance and the future augmentation requirements of customers. The asset management process also ensures that the strategy feeds into the implementation plans and internal budgeting process.

The asset management process is an iterative one, it involves updating the AMS and associated documents and actions when conditions and information change. The asset management process showing the inter-relationships between inputs, strategy, planning and implementation is illustrated in the figure below.

¹² In particular, Chapters 4 -7 detailing the service standards, demand forecasts, capital and operating expenditures respectively.

Figure 3.1: Asset Management Process



3.1.5 Relevance of the AMS to the AER’s assessment under the NER

The Original Proposal explained that the AMS is underpinned by the regulatory and commercial imperatives of delivering efficient cost and service performance. The AMS recognizes that cost and service efficiency does not mean lowest possible cost nor does it mean guaranteed supply. Instead, efficiency requires the costs and benefits of all expenditure decisions to be weighed against one another. A key element in this cost benefit analysis is the consideration of risk management in relation to asset performance and network reliability.

EDPR 2011-2015 – Asset Management Overview

The Original Proposal noted that the efficiency concepts underpinning the NER are embedded in SP AusNet's AMS. It also noted that the expenditure objectives, criteria and factors set out in chapter 6 of the NER are integral to the AMS. In this respect, SP AusNet expects the AMS to provide useful information in support of the company's expenditure plans, and to demonstrate the compliance of those expenditure plans with the requirements of the NER, in conjunction with the supporting documentation.

A list of all asset management support documentation was referenced in SP AusNet's Support Document Register supplied in support of the Original Proposal.

3.1.6 Rigorous Economic Analysis

The Original Proposal explained that SP AusNet's cost-benefit evaluations use discounted cash flow analysis techniques, for all major projects where costs can reasonably be estimated. It was noted that estimation accuracy declines towards the end of the forecast regulatory period. The assessment includes a quantitative estimate of the value of reliability, taking the risk of plant failure and the consequences of unserved load (namely, the cost to consumers of involuntary supply interruption), and reduced network performance into account as part of each asset management decision.

In addition, to developing least-cost options for addressing specific equipment issues, careful attention was paid to ensure that overall program costs are minimised when specific solutions are consolidated into overall opex and capex forecasts. As well as co-ordinating the various SP AusNet-initiated replacement projects, the AMS also integrates replacement plans with the augmentation plans of Australian Energy Market Operator (AEMO), other distributors and the generators.

3.1.7 Trade Offs between Opex, Capex and Service Levels

The Original Proposal explained that SP AusNet's expenditure forecasts reflect explicit decisions on trade-offs in the following areas:

- climate change effects on reliability are addressed through adjustments to reliability targets rather than through (upward) adjustments to opex and capex;
- the planned demand management opex defers certain capex projects (in some cases, beyond the forthcoming regulatory period);
- proposed tariffs defer certain capex projects (in some cases, beyond the forthcoming regulatory period);
- IT capex is expected to lead to opex efficiencies over the forthcoming regulatory period; and
- SP AusNet's decision to lease fleet assets lowers capex in the forthcoming regulatory period.

SP AusNet's capex and opex forecasts constitute an integrated and internally consistent set of expenditure forecasts, based on the trade-offs between the various factors noted above. The resulting expenditure forecasts meet the over-arching objective of SP AusNet's asset management strategy, which is to achieve optimal distribution network performance at minimum efficient costs, in accordance with the operating and capital expenditure objectives and criteria set out in Chapter 6 of the NER.

EDPR 2011-2015 – Asset Management Overview

The Original Proposal noted that any material change to any component of SP AusNet's expenditure forecasts will necessitate a re-assessment of the trade-offs noted above, and a corresponding re-assessment of expenditure requirements in all areas.

3.2 AER's Draft Determination

The AER concurred with Nuttall Consulting's finding that¹³:

"Nuttall Consulting considers that the documentation provided by each of the five Victorian DNSPs incorporate well evolved, fit for purpose capital governance processes and practices. They are based on asset management frameworks that have been developed with varying degrees of reference to the PAS 55:2008 standard."

For SP AusNet, Nuttall Consulting commented on the presentation of its asset management framework¹⁴:

"In some cases, the relevant material has been found to be distributed across a wide range of documents – this was found to be the case for SP AusNet in particular. While we have no significant concerns over their processes and practices, SP AusNet may benefit from adopting the generally well structured, PAS 55 based capital asset management frameworks similar to those in use by the other DNSPs."

The AER also concurred with Nuttall Consulting's view that the forecast capex plans did not reflect the full application of these governance processes^{15, 16}:

"It is important to note that while this review has not attempted to audit the application of these processes, the findings of this review support our position that the DNSPs historical expenditure can be considered reasonably reflective of prudent and efficient levels. It is also important to stress however that it is clear from our review of the DNSPs plans, discussed further in the section below, that the full extent of these process have not been applied to these plans. This particularly concerns the level of evaluation and justification that may be expected prior to the approval of specific proposed projects and programs."

The AER comments that¹⁷:

- The DNSPs have not adequately demonstrated that the model inputs and assumptions were "fit for purpose" in terms of enabling a 'bottom-up' build that was a reasonable estimator of overall prudent and efficient expenditure.
- There was insufficient detail on how the DNSPs have managed the risk over the current regulatory control period and why it was justified that these risks must be removed, and how risks will change moving into the forthcoming regulatory control period.
- There was a lack of economic analysis provided for some projects to demonstrate that the project/s scope and timing are required.

¹³ Nuttall Consulting, *Victorian Electricity Distribution Revenue Review*, 22 May 2010, p. 41.

¹⁴ *Ibid*, p. 42.

¹⁵ *Ibid*, p. 42.

¹⁶ AER, *Draft Determination*, p. 342.

¹⁷ *Ibid*, p. 342.

3.3 SP AusNet's Response to the Issues Raised by the AER

SP AusNet contends that the AER has not placed sufficient weight on the asset management strategies presented by SP AusNet. In particular, SP AusNet maintains its view that sound asset management processes and governance arrangements provide a firm foundation for its capex forecasts. The AER appears to accept Nuttall Consulting's contention that the full application of these governance processes will lead to lower capex than currently forecast. However, there is no reason to suppose that completion of these governance processes, in respect of proposed programs of expenditure, will systematically lead to lower capex – SP AusNet's analysis indicates that it is more likely that initial capex forecasts could be revised upwards.

Chapter 6 of this Revised Proposal provides a detailed response to the AER's assessment of SP AusNet's capex forecasts.

4 Service Targets

This chapter sets out SP AusNet's response to the AER's Draft Determination in relation to the Service Target Performance Incentive Scheme. The chapter is structured as follows:

- Section 4.1 provides an overview of SP AusNet's service target proposals and Guaranteed Service Level (GSL) proposals as set out in its Original Proposal of November 2009;
- Section 4.2 summarises the key points raised by the AER in its Draft Determination;
- Section 4.3 sets out SP AusNet's response to the AER's Draft Determination; and
- Section 4.4 concludes by presenting SP AusNet's Revised Proposal for service targets and GSLs.

4.1 Overview of SP AusNet's Original Proposal

SP AusNet's Original Proposal explained that its submission on service standards assumed that the AER would accept SP AusNet's expenditure forecasts and the 3.2 β method for the exemption regime. SP AusNet noted that if these assumptions prove incorrect, adjustments to the service standards proposal would be required.

SP AusNet's Original Proposal on service standards included the following key elements:

- Removal of the cap from the reliability component of the STPIS. SP AusNet explained that the cap discourages efficient investment as it limits the benefits that a company can earn from reliability improvements.
- The addition of an exclusion event to cover load shedding or load interruption due to the failure of a contracted non-network solution. In the absence of such an exclusion event, SP AusNet explained that the incentives to adopt non-network solutions would be significantly undermined. This, in turn, will result in a failure to promote efficient investment in electricity services, which will undermine the attainment of an important element of the NEO.
- Subject to the comments below, SP AusNet's proposed targets were based on average performance over the past five regulatory years. SP AusNet noted that audited data for the 2009 year will become available early in the review process. During the AER's review of SP AusNet's Original Proposal, SP AusNet updated the proposed targets to reflect audited 2009 data.
- The adoption of a threshold of 3.2 β (rather than 2.5 β) so that only extreme events are caught by the threshold. This approach would ensure that SP AusNet has appropriate incentives to improve reliability, consistent with the national electricity objective and the objectives of the STPIS outlined in Section 1.5 of the STPIS Guidelines. SP AusNet proposed a consistent exclusion regime to establish GSL targets.
- Based on advice from AECOM, adjustments to reliability and GSL targets were proposed to reflect the impacts of climate change.

In addition to the implementation of the AER's STPIS regime, SP AusNet's Original Proposal also explained its approach to closing out the ESCV's S-Factor Scheme. SP AusNet explained that its modelling approach steps through the price control formula to enable a component by component assessment of the value of the S-Factor and revenue movements during the current period and into the forthcoming period had the S-Factor regime continued to apply.

SP AusNet calculated the final payout to have a present value of \$7.01 million (real 2010 \$), which SP AusNet converted into an annual payout of \$2.17 million from 2012 to 2015. The final amount was included as a line item in the opex proposal.

SP AusNet's Original Proposal also set out details of the company's historical and expected future GSL performance. It was noted that clause 3.2.1(a)(2) of the STPIS Guidelines allows targets to be modified by any relevant factors that materially affect network reliability performance. As noted above, SP AusNet modified its reliability targets to account for the effects of climate change, and for the adoption of a threshold of 3.2β. The effects of these modifications were reflected in SP AusNet's proposed GSL targets, that were detailed in the Original Proposal in accordance with Clause S6.1.3(4) of the NER. SP AusNet contends that it is perfectly reasonable for a DNSP to take these expected impacts into consideration and that the AER should accept this approach. Failure to take these factors into account will erode SP AusNet's capability to deliver efficient network services for the long-term benefits of customers.

4.2 AER's Draft Determination on service targets

Apart from minor definitional issues the Draft Determination largely accepted the historical averages underlying SP AusNet's service standards proposal. With regards to the major changes from the STPIS default scheme proposed by SP AusNet, the Draft Determination:

- rejected an uncapped scheme but increased the revenue cap from the default 5% to 7%;
- rejected the MED threshold of 3.2β but increased the threshold from the default 2.5 to 2.8β;
- rejected the climate change adjustment to historical targets; and
- rejected the proposed exclusion for the failure of demand management; and
- has assumed the ESCV GSL scheme will apply to the forthcoming regulatory control period.

4.3 SP AusNet's Response on service targets

4.3.1 Historic performance data

SP AusNet accepts the Draft Determination to use historic data from 2005-09 calendar years.

4.3.2 Applicable components and parameters

SP AusNet accepts the Draft Determination.

4.3.3 Revenue at risk

The AER has not accepted SP AusNet’s proposal for an uncapped scheme. Nonetheless, it has increased the revenue cap under the STPIS from the default 5% to 7% on the basis that SP AusNet should be provided with stronger incentives to increase reliability while retaining some protection for customers and the company from revenue and tariff volatility¹⁸:

“While recognising that increases to the revenue at risk above the default 5 per cent will provide an incentive for SP AusNet to improve supply reliability by a greater amount, the AER has also considered the level of risk for SP AusNet and its customers from higher revenue and tariff volatility.”

SP AusNet reluctantly accepts the Draft Determination to cap the scheme at 7% of revenue, particularly as the expenditure allowances provided by the Draft Determination expose SP AusNet to considerable risks of reliability decline.

It is noted that the Draft Determination seeks to strike a balance between increased incentives for performance improvement and protection of the business and its customers from revenue and tariff volatility. SP AusNet has identified two issues that appear to compromise the effectiveness of the current STPIS guidelines in regard to this consideration. These are:

- the interaction of the revenue cap and s-bank in the current STPIS Guidelines actually increases volatility rather than mitigating it; and
- the setting of targets for future periods should explicitly use historical performance after capping.

These issues are discussed in detail below. SP AusNet considers that they should be addressed at the next review of the STPIS Guidelines.

The revenue capping mechanism interaction with banking

The AER has stated that it views high volatility as being undesirable for consumers¹⁹:

“the AER recognises that a cap on the revenue at risk has the benefit of protecting end users against large swings in tariffs that are possible under an uncapped scheme.”

The existing STPIS provides for two mechanisms that smooth revenue outcomes for both the DNSP and consumers:

- the banking mechanism provides for a voluntary smoothing of revenue by a DNSP and is particularly suited to smoothing revenue outcomes that are the result of exogenous effects (such as weather variability);
- the revenue cap itself, being a compulsory smoothing of revenue at a particular positive or negative threshold.

SP AusNet considers it is in the best interests of both DNSPs and consumers that the first voluntary mechanism (banking) is allowed to operate before the second compulsory smoothing mechanism is allowed to bind.

¹⁸ AER, *Draft Determination*, p. 638.

¹⁹ AER, *Draft Determination*, p. 638.

However, the current formula operates in such a way as to consider banking only after the operation of the revenue cap. This can have the perverse outcome of banking actually increasing rather than decreasing volatility.

$$S^t = (S''^t - Sbt) + SBt-1$$

Where:

S^t = Sum of the s-factor for all parameters for the regulatory years t.

S''^t = Sum of the s-factor for all parameters for the regulatory years t before banking

SBt = Is the s-bank for the current regulatory year t

SBt-1 = Is the s-bank for the pervious regulatory year t-1

Note: It is the S^t term that determines the revenue changes actually born by end users.

The following example assuming the default revenue cap of 5% applies illustrates the problem. A DNSP has a positive year right on the revenue cap threshold (5% revenue bonus) and chooses to bank. The revenue adjustment becomes zero.

Now assume the following year is also a positive year at the revenue cap threshold. The cap does not bind in the formula but under the banking formula the 5% bonus banked from the previous year is now payed out in addition to the current 5% bonus. The total revenue adjustment borne by end users is now over 10%. If these two years were then followed by a reversal the swing in revenue in the following year could be three times the 5% revenue cap.

These arrangements have the effect of increasing volatility, as the banking mechanism actually facilitates very material swings outside of the caps constraints. In SP AusNet's view, this is likely to be an unintended consequence of the current banking formula.

The better option would be to cap S^t which takes into account banking before assessing whether the cap has been breached. This would also allow a DNSP the option to bank so as to avoid the cap binding. This in turn would protect the integrity of the scheme as all reliability penalties or bonuses would be less likely to be capped out without having to allow increased volatility.

An example formula to achieve this change could be as follows:

$$S^t = \min(\max(S''^t, S_{lower}) S^{upper})$$

Where:

S_{lower} = the lower limit of the overall revenue at risk

S^{upper} = the upper limit of the overall revenue at risk

Deferral of performance when capped

The current STPIS Guidelines does not address the issue of how to calculate targets for the subsequent regulatory control period in the event of the revenue cap binding in the preceding regulatory control period.

SP AusNet considers the guidelines should formally state the targets for the next period would be set based on the capped performance rather than actual performance and should outline the process for how this will occur.

This ensures that the benefits or penalties from performance outside the cap are eventually paid out to the DNSP or end users. This mechanism would provide the correct incentives for a DNSP to continuously improve its delivery of efficient network services.

4.3.4 MED Threshold

As noted above, SP AusNet proposed the adoption of a threshold of 3.2β (rather than 2.5β) so that only extreme events are caught by the threshold. By excluding only extreme events and providing a broader incentive to manage reliability, SP AusNet's Original Proposal argued that the STPIS will further promote the achievement of the National Electricity Objective.

SP AusNet welcomes the AER's decision to relax the MED threshold from 2.5β, but it is disappointing that the AER has adopted a threshold of 2.8β rather than the 3.2β proposed by SP AusNet. In this Revised Proposal, SP AusNet explains why it remains convinced that the 3.2β threshold would deliver a better overall outcome compared with the AER's 2.8β in its Draft Determination.

SP AusNet accepts that this is a complex area that requires the careful exercise of judgment by both the AER and SP AusNet on behalf of customers and shareholders, in order to provide the appropriate mix of incentives for efficient investment against efficient operation and long-term customer benefits. To explain and examine the outstanding issues in further detail the remainder of this section is structured as follows:

- Summary of the AER's concerns;
- Summary of SP AusNet's response;
- Providing incentives to manage high impact events;
- Protecting customers and shareholders from volatility and windfall losses; and
- Concluding comments.

Summary of the AER's concerns

The Draft Determination has identified the following concern with regards to the transition from ESCV target to the new STPIS targets²⁰:

"The AER has analysed the effect of altering the MED threshold on the SAIDI and SAIFI targets and the actual performance of DNSPs against these targets. A DNSP's SAIDI target performance is based on the average of its average historical performance adjusted for exclusions permitted under the STPIS including the relevant MED threshold. As such, the application of a higher MED threshold results in a higher SAIDI target for the DNSP. The application of a higher MED threshold also includes a greater number of large outage events in the measurement of reliability performance which ensures that DNSPs have the incentive to mitigate the effects of these relatively large outage events.

The AER has identified the following two concerns with increasing the MED:

- *the SAIDI and SAIFI targets are influenced by a small number of data points at higher MED thresholds*
- *the increased volatility in the measurement of DNSPs' reliability performance at higher MED thresholds."*

The AER explains that setting the MED threshold at higher levels than 2.8β introduces inaccuracy into the target setting process²¹:

²⁰ AER, *Draft Determination*, p. 648.

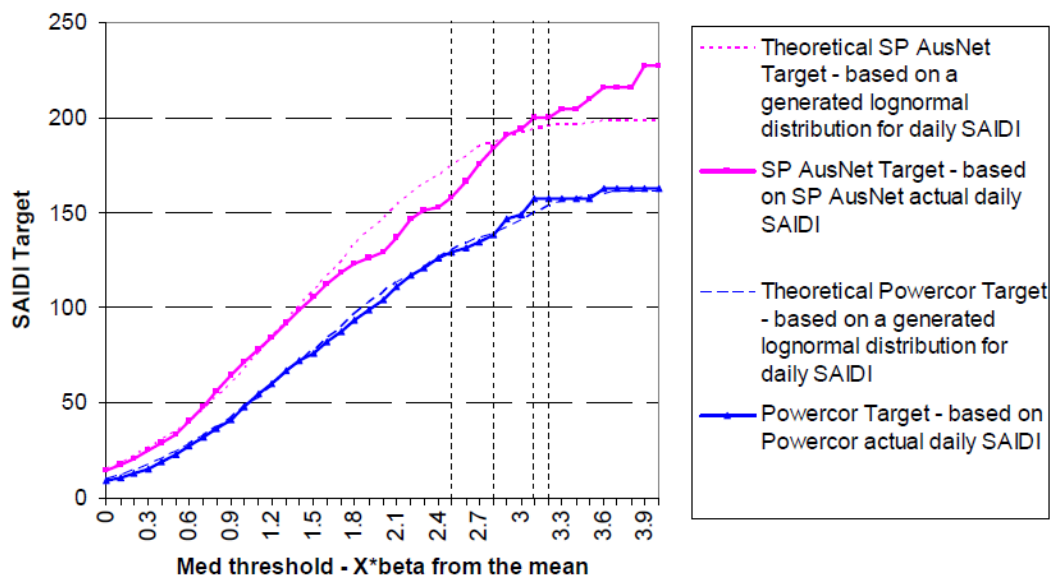
²¹ AER, *Draft Determination*, p. 649.

“At higher MED thresholds, the accuracy of the performance targets is negatively impacted by the limited number of data points for major outage events.”

The AER further illustrates its concerns by examining the impact on the SAIDI target as the exclusion regime is further relaxed by increasing the beta. The AER explains its analysis in the following terms (and the AER’s Figure 15.3 is reproduced below for ease of reference)²²:

“Figure 15.3 shows the SAIDI targets for SP AusNet and Powercor, as well as a theoretical target based on a log-normal distribution generated using the average and standard deviation of SP AusNet’s and Powercor’s respective daily SAIDI data. The AER recognises that the theoretical target is not necessarily representative of the underlying statistical distribution of SP AusNet’s and Powercor’s network. However, it demonstrates that with enough data points, a smooth relationship should hold between the SAIDI target and the MED threshold. Whilst at all MED thresholds there is a probability that the target calculated on historical data is either higher or lower than the underlying reliability of the network, the potential size of such differences increases as the MED threshold increases. This is particularly problematic once the target starts increasing in discrete steps.”

Figure 15.3 SP AusNet and Powercor—Relationship between SAIDI target and the MED threshold



Source: AER analysis.

²² AER, *Draft Determination*, p. 649.

The AER draws the following conclusions from its analysis of Figure 15.3²³:

“As seen in figure 15.3, at high MED thresholds, the calculated SAIDI target stays constant between some MED thresholds and increases in large discrete steps at others, instead of the expected smooth increasing target resulting from the higher MED threshold. The step nature of changes in the SAIDI target indicates that there are no longer sufficient data points to accurately set the SAIDI targets at these higher MED thresholds. The AER’s analysis of both SP AusNet’s and Powercor’s historical performance data indicates that, with a MED threshold greater than 2.8 beta from the mean, there is a risk that the benefit which consumers receive from the scheme would no longer correspond with the DNSPs’ rewards or penalties under the scheme. This is because the AER can no longer be confident that the performance data calculated from the limited data points accurately represents the underlying reliability of the DNSPs’ network.”

The AER also explains that relaxing the beta threshold highlights a tension between increasing the incentives on DNSPs to improve reliability and the potential size of the rewards and penalties provided by the scheme. The AER explains this trade-off in the following terms²⁴:

“The AER considers that increasing the MED threshold increases the incentives on DNSPs to improve reliability of supply because it increases the potential size of the rewards and penalties offered under the STPIS. However, increasing the MED threshold also increases the volatility of the DNSPs’ revenue and customer tariffs. The AER is concerned that not all customers are willing to accept large variations in tariffs.”

Summary of SP AusNet’s position

SP AusNet accepts the AER’s view that a tension exists between providing incentives to improve reliability of supply and the size of the potential rewards and penalties offered under the STPIS. In addition, SP AusNet acknowledges the AER’s concern that increasing the beta threshold may have the following adverse outcomes for the STPIS:

- payouts may be more volatile; and
- the target performance may be incorrectly set.

SP AusNet’s response to the AER’s Draft Determination on the MED threshold is summarised below.

- SP AusNet has analysed its historic performance data to understand which types of events are within the company’s control. The analysis, whilst imperfect, indicates that very similar events can be observed at thresholds of 2.5 and 3.2 β . Consequently, SP AusNet considers that a beta threshold lower than 3.2 will make inappropriate distinctions between outage events that are essentially very similar. Such an outcome is contrary to a well designed threshold which should distinguish between events that are within the company’s control and those that are not.
- Setting thresholds creates the potential for perverse outcomes at or near the boundary. In SP AusNet’s case, a 2.8 β threshold will cause some events that are potentially within the company’s control to be excluded from the STPIS. Any action by SP AusNet to reduce the impact of excluded events can only have a negative financial impact on SP AusNet. This perverse incentive arises because an improvement in performance may

²³ AER, *Draft Determination*, p. 649.

²⁴ AER, *Draft Determination*, p. 650.

cause an excluded event to cross the threshold with the effect of worsening SP AusNet's actual performance under the STPIS. This outcome would be contrary to the purpose of the STPIS objectives and attainment of the National Electricity Objective, and not in the interests of customers.

- Customers will be concerned about both STPIS payments and network performance, including the impact of events that fall outside the threshold. Excluding events from the STPIS does not remove the impact of these events on customers. The AER is correct that increasing the beta will increase the volatility of bonuses and penalties under the scheme, subject to the overall cap of 7%. However, the AER should also recognise that a higher beta will encourage reduced volatility in network performance as action is taken to reduce the impact of infrequent, large impact events.
- SP AusNet accepts that a judgment is necessary to ensure that the beta threshold is appropriate for each DNSP. In SP AusNet's case, the data indicates that a 3.2β is appropriate.

Providing incentives to manage high impact events

As the AER notes in its Decision establishing the STPIS²⁵:

"The AER notes that the intention of allowing exclusions in the STPIS is to remove outlier performance (i.e. due to extreme weather or other events) that may distort the incentive properties of the scheme."

A key feature of an appropriately designed exclusion regime is that it should exclude events that are beyond the company's control. For example, exclusions are granted for actions imposed on the DNSP network from external parties (eg, directions from Police, AEMO, the system operator, or emergency services personnel) or the failure of parts of network not owned and controlled by the DNSP (transmission or customer installation failures).

The STPIS employs a statistical measure – being a multiple of the beta – to exclude network outages that are beyond the company's control. Setting the threshold too high will expose the DNSP to risks that it is unable to control. On the other hand, setting the threshold too low will remove the incentive on the DNSP to manage events that are within its control. Perversely, thresholds have the effect of incentivising the DNSP to not respond to events just below the threshold to ensure that these events remain excluded. A DNSP would be penalised by improving its response if this brings previously excluded events into the calculation of its performance.

It is important, therefore, to provide evidence to support the setting of the threshold. One approach is to identify break points in the data to indicate where the DNSP has limited or no control over the event. In this regard, SP AusNet has examined its response to outage events to identify the point at which there is a step change in SP AusNet's control.

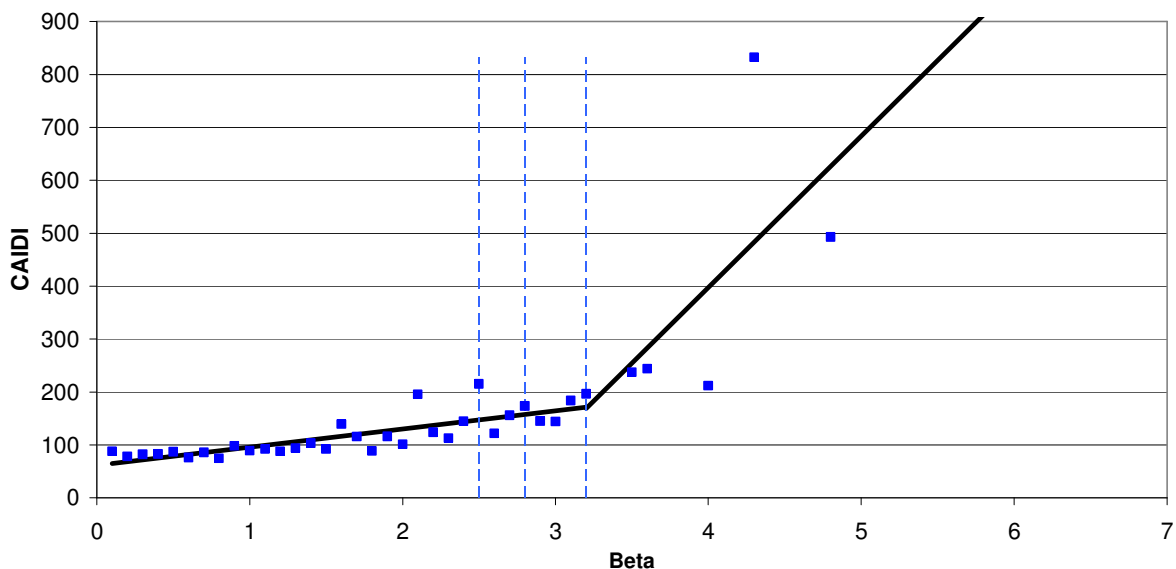
The customer average interruption duration index (CAIDI) is the most appropriate measure of the response of the DNSP to an event (CAIDI = USAIDI / USAIFI).

The figure below shows SP AusNet's average network CAIDI at varying beta thresholds. It can be seen that at low betas or low network activity days the CAIDI follows a linear trend increasing with the number of events. When the beta reaches 3.2 the CAIDI outcome of the SP AusNet response to the event is no longer linear. The figure illustrates the following key points:

²⁵ AER, *Final Decision Electricity DNSP STPIS*, June 2008, p. 20.

- SP AusNet can respond to and influence events up to a 3.2β threshold, and possibly up to a 4β threshold;
- beyond a 4β threshold, there is a step reduction in SP AusNet’s ability to respond to the event. Events outside the 4β threshold could be regarded as beyond SP AusNet’s control; and
- a beta threshold of 2.8, as proposed in the Draft Determination, is not consistent with a breakpoint in SP AusNet’s data. This indicates that the 2.8β threshold will not distinguish between events that are beyond SP AusNet’s control and those that would still benefit from active management.

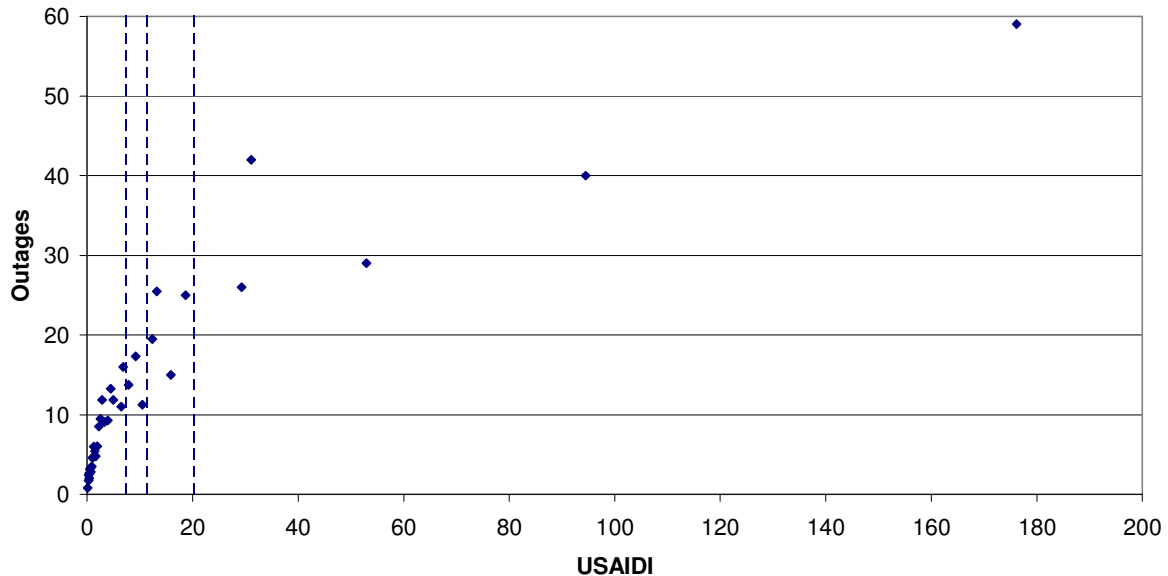
Figure 4.1: CAIDI relationship with beta



As noted above, the Draft Determination threshold of 2.8β does not provide SP AusNet with the incentive to improve performance on high activity days. In fact, perversely as it will penalise SP AusNet for improving its response to many high activity days if it brings its performance to under the threshold. Furthermore, it denies customers the reliability benefits from SP AusNet’s resources and systems that could improve reliability on these days.

For example, SP AusNet has invested in the creation of a storm forecasting tool which forecasts high activity days across the network. High Activity is defined as days of greater than 10 minutes USAIDI and corresponds to the 2.8β threshold. Therefore, under the Draft Determination threshold, the use of a system to improve reliability to customers from improving responses to days in the range of 10 to 20 minutes USAIDI (20 minutes corresponds to SP AusNet’s proposed 3.2β threshold) is likely to result in increased penalty payments. Figure 4.2 provides a further illustration of the breakpoint in SP AusNet’s data.

Figure 4.3: SP AusNet major network outages versus USAIDI (2.5, 2.8 and 3.2 beta)



The above figure shows that:

- the number of outages trends upwards in a consistent manner until a beta of around 3.5 is reached demonstrating control by the DNSP up until that point;
- once the number of major faults exceeds 25 the response by SP AusNet is no longer influencing USAIDI markedly and the USAIDI per event increases rapidly; and
- at thresholds below 3.2β (around 10 minutes of USAIDI) there is no effective discrimination between events that are likely to be within SP AusNet's control and those events that are likely to be outside SP AusNet's control.

SP AusNet accepts that for some DNSPs a beta of 2.5 or 2.8 may be appropriate. However, for SP AusNet the data indicates that setting a beta at these levels is not appropriate because it does not provide a reasonable distinction between events that are within SP AusNet's control and those that are not. The consequence of setting a threshold that provides a poor level of discrimination is that it introduces perverse incentives at the boundary. Specifically, it means that very similar events can fall either side of the boundary – providing SP AusNet with a strong incentive to address those that fall within the boundary and no incentive to address those that fall outside the boundary.

The introduction of a workable STPIS that does not deliver inappropriate incentives would be consistent with the attainment of the NEO – it will incentivise DNSPs appropriately to invest efficiently in their networks to avoid deteriorations in quality, reliability and security of supply, and will therefore provide long-term benefits for customers. It is essential to resolve these issues at the design phase because once the scheme is set SP AusNet will be bound to respond to the incentive properties of the scheme.

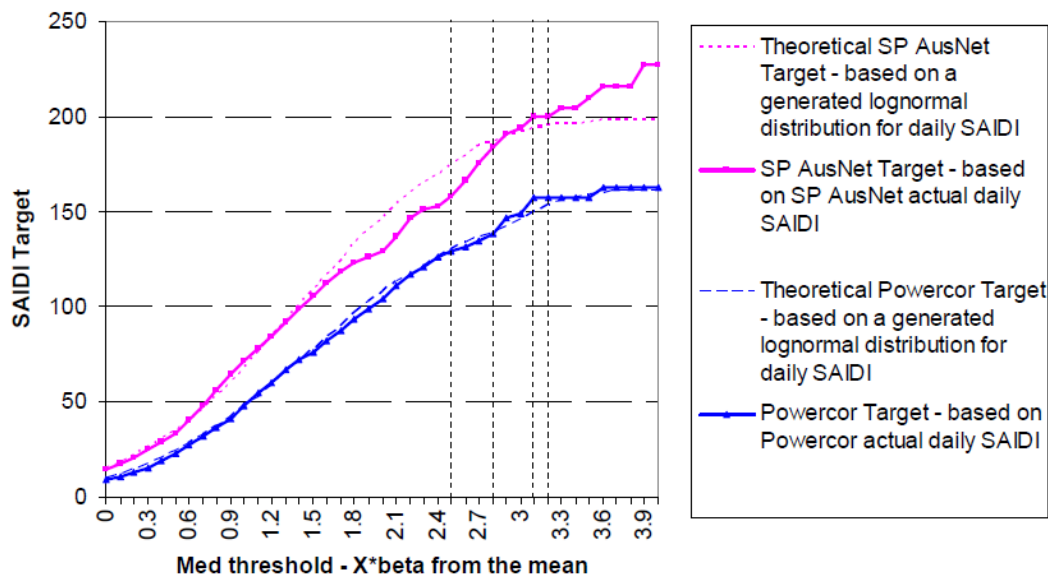
Protecting customers and shareholders from volatility and windfall losses

In the previous section SP AusNet demonstrated that a 3.2β provides the most appropriate method for distinguishing between events that are within SP AusNet’s control and those that are not. The AER, however, raised two further concerns that relate broadly to the protection of customers from the faulty operation of the scheme. In particular, the AER argues that increasing the beta to 3.2 may lead to:

- the inappropriate setting of the target performance; and
- more volatile payouts.

Before addressing each of these matters in turn, it is important to note that SP AusNet is also concerned that the STPIS should be set in a manner that does not lead to inappropriate outcomes for shareholders or customers. SP AusNet also considers that the STPIS should deliver outcomes consistent with its original design intent. As explained in the previous section, SP AusNet is particularly concerned that the scheme does not deliver perverse incentives. However, it is equally important that it does not provide windfall gains or losses, or volatile outcomes that do not reflect network performance outcomes.

Figure 15.3 SP AusNet and Powercor—Relationship between SAIDI target and the MED threshold



Source: AER analysis.

With regard to Figure 15.3 the Draft Determination observes that:²⁶

“The AER’s analysis of both SP AusNet’s and Powercor’s historical performance data indicates that, with a MED threshold greater than 2.8 beta from the mean, there is a risk that the benefit which consumers receive from the scheme would no longer correspond with the DNSPs’ rewards or penalties under the scheme. This is because the AER can no

²⁶ AER, Draft Determination, p.649.

longer be confident that the performance data calculated from the limited data points accurately represents the underlying reliability of the DNSPs' network."

SP AusNet's observations regarding Figure 15.3 are as follows:

- the target does not start increasing in steps at a 2.8 β as the Draft Determination implies, rather it starts increasing in steps above the 3.2 β proposed by SP AusNet (that is the smooth relationship between USAIDI and beta has not broken down). This again confirms the analysis presented in the previous section which demonstrated control did not breakdown until events exceeded the 3.2 β threshold.
- the 2.8 β appears to be the point where the target based on actual data rises above the theoretical target based on a log normal distribution. SP AusNet notes that at a 3.2 β there is only a very small difference between the log normal distribution and the actual SP AusNet data. SP AusNet therefore considers that the 3.2 β threshold reasonably reflects the underlying performance of the network.
- Increasing the beta threshold to 3.2 does not adversely affect customers, as suggested by the AER. On the contrary, customers will benefit because events previously excluded from the incentive arrangements will now be subject to it. As a result, the costs currently incurred by customers through lower levels of reliability are more likely to be reduced. SP AusNet accepts that the performance target will also be increased, but the increase only reflects the inclusion of more outage events within the scheme. As noted above, the extent of the increase in the target is reasonable when compared against the theoretical log normal distribution.

This suggests the concerns raised in Draft Determination are unfounded. More importantly, SP AusNet's proposal to increase the beta to 3.2 is consistent with the STPIS objectives and the attainment the NEO.

The AER has expressed concern about potential price volatility arising from a higher MED threshold, stating²⁷:

"The AER considers that increasing the MED threshold increases the incentives on DNSPs to improve reliability of supply because it increases the potential size of the rewards and penalties offered under the STPIS. However, increasing the MED threshold also increases the volatility of the DNSPs' revenue and customer tariffs. The AER is concerned that not all customers are willing to accept large variations in tariffs."

SP AusNet considers that the revenue cap and the banking arrangements provide the most appropriate mechanism to manage volatility under the scheme. SP AusNet accepts the AER's Draft Determination that a revenue cap of 7% should be adopted. Consequently, SP AusNet believes that the AER's concerns regarding volatility have already been addressed by the imposition of the revenue cap. Further smoothing of the volatility would be obtained if the AER accepted SP AusNet's proposal in relation to the s-bank. Furthermore, SP AusNet does not accept concerns regarding volatility should lead the AER to adopt a 2.8 β , given the poor incentive properties of such an approach.

Conclusion

Given the evidence presented above, SP AusNet has demonstrated that the proposed MED threshold beta of 3.2 is to be preferred to the AER's Draft Determination that adopted a 2.8 β . In

²⁷ AER, *Draft Determination*, p. 650.

particular, SP AusNet’s approach can be demonstrated to be more consistent with the elements of the NEO in the NEL and the objectives of the STPIS outlined in Section 1.5 of the STPIS Guidelines issued by the AER.

With regard to the STPIS objectives, a 2.8β threshold does not properly distinguish between events that are within SP AusNet’s control and those that are not. As a result, it creates perverse incentives at the boundary which are contrary to the interests of customers and the intended design of the scheme. Most notably, such an outcome would be inconsistent with objective 1.5(b)(5) of the STPIS, which requires that the AER must take into account:

“the need to ensure that the incentives are sufficient to offset any financial incentives the service provider may have to reduce costs at the expense of service levels”

With regard to the NEO, an inappropriate threshold or exclusion regime discourages efficient operation and investment in reliability of supply of electricity for the reasons outlined above. Therefore, some flexibility in setting the exclusion regime would better meet the objective. Without this, the AER cannot have certainty that the regime will be consistent with the NEL

SP AusNet has addressed the AER’s concerns regarding the setting of the targets and the potential volatility of the scheme. SP AusNet concludes that in its case a beta of 3.2 is appropriate, given its particular network performance data. SP AusNet acknowledges that different outcomes may be appropriate for other DNSP and also possibly for SP AusNet in subsequent regulatory periods.

4.3.5 Proposed exclusion for demand management

SP AusNet does not accept the Draft Determination and is again proposing a variation to Clause 3.3 Exclusions of the STPIS Guidelines to include an additional exclusion event as permitted under Clause 2.2 of the STPIS Guidelines. The proposed inclusion would involve the addition of a new clause 3.3(a)(8) that reads:

(8) load shedding or load interruption due to the failure of a contracted non-network solution.

SP AusNet does not consider that the Draft Determination has demonstrated an appropriate regard for Clause 1.5(b)(7) which directs the AER to consider “the possible effects of the scheme on incentives for the implementation of non-network alternatives”.

The Draft Determination references a statement in a previous STPIS Guidelines Decision as indicative of considerations on this matter²⁸:

“The AER considers that the risks associated with the reliability of a non-network alternative should be managed by a DNSP as it is the party best able to manage that risk through the commercial arrangements it establishes in relation to non-network alternatives.”

However, the AER has not considered the early stage of development of the demand management industry. This results in:

- counterparties that are unable to take on the appropriate reliability risk on to their own balance sheet either due to size (venture capital start ups) or nature (for example government bodies such as the CSIRO), leaving it with the DNSP; and
- the R&D nature of many demand management programs.

²⁸ AER, *Final Decision on Service Target Performance Incentive Scheme*, June 2008, p. 19.

This last point is particularly pertinent given the R&D nature of many of the proposed trials in SP AusNet's Revised Proposal.

These sorts of trials are the best way for data on the reliability trade offs of various possible demand management solutions to be assessed before they could be considered more broadly by the industry as a non-network solution.

Given the above discussion, SP AusNet considers the exemption could be transitory in nature applying only to the forthcoming regulatory control period before being removed at the next price review.

In conclusion, SP AusNet does not consider placing insurmountable barriers in the way of such trials, is to the long term benefit of electricity consumers and is, therefore, not consistent with the NEO.

4.3.6 Customer service parameters

SP AusNet accepts the Draft Determination as calculated by the AER using previously supplied monthly data.

4.3.7 MAIFI definition

SP AusNet accepts the Draft Determination to keep the current definition used by the Victorian DNSP's for the calculation of MAIFI.

4.3.8 Adjustments to performance targets

Climate change adjustment

The Draft Determination has rejected any adjustment to targets to account for the effects of climate change. The Draft Determination states²⁹:

“ ... the AER reviewed the reports compiled by AECOM for SP AusNet and United Energy and considers that the predictions contained in the reports are not relevant to the performance targets set under the STPIS because AECOM's predictions relate to changes from the 1981–2000 long term averages, rather than the averages of 2005–09, on which the STPIS targets are based.

While the AER does not disagree that the climatic conditions in Victoria may be changing as predicted in the reports, it has the following concerns with respect to the application of the report in predicting short term changes and the application of the AECOM report to the data used in the proposed STPIS reliability targets:

- the annual maximum temperature anomaly in Victoria shown in the AECOM reports shows that the actual maximum temperature for the 2004–08 period (the last five years on figure 15.6) was significantly above the long term trend*
- in 2008, the actual number of extreme heat days was higher than the projected number for 2015*
- no specific analysis was provided by the DNSPs for the actual extreme heat days for 2005–09.*

²⁹ AER, *Draft Determination.*, pp. 670-1.

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- AECOM's studies found that three of the four models used by AECOM did not predict significant change in extreme wind gusts compared to the long term average —as such, the AER is not confident that AECOM's prediction is accurate.

- No specific analysis was provided by the DNSPs for the actual extreme wind days for 2005–09.

Based on the above considerations, the AER concludes that insufficient evidence was presented to justify adjustments to the performance target.”

SP AusNet considers that on the existing evidence the above observations are incorrect. Specifically, the SP AusNet model submitted in support of the adjustment calculation explicitly addressed:

- the annual maximum temperature anomaly in Victoria and the fact that in 2008, the actual number of extreme heat days was less than the projected number for 2015;
- specific analysis by SP AusNet for the actual extreme heat days for 2004–08; and
- specific analysis by SP AusNet for the actual extreme wind days for 2004–08.

This appears to indicate the AER has misunderstood the analysis presented to them and has made a consequential error of fact. Therefore, SP AusNet has resubmitted its climate change adjustment model³⁰ and organise a face to face meeting to explain the analysis and calculation set out in the model. This should demonstrate that many of the AER concerns with respect to climate change analysis and the use of AECOM predictions have been addressed. An update for actual 2009 data is also provided as it was not available at the time of submission of the Original Proposal. However, it does not materially change SP AusNet's forecast of the effects of climate change.

Table 4.1: High Temperature Weather Events 2005 – 2009

Temperature	2005	2006	2007	2008	2009	Average
35+	6	9	8	10	14	9.4

Table 4.2: High Wind Speed Weather Events 2005 – 2009

Wind (km/h)	2005	2006	2007	2008	2009	Average
77 – 90	18	12	16	9	8	12.6
90+	7	5	4	4	2	4.4

³⁰ SPA – Target Adjustments for Effects of Climate Change (Revised).xls

Table 4.3: Weather Event Comparison: 2005–2009 and 2011–2015

Variable	Average 2005 – 2010	AECOM Forecast 2011 – 2015	Difference
Temperature 35+	9.4	11.8	2.4
Wind 77 – 90 km/h	12.6	19.5	6.9
Wind 90+ km/h	4.4	6.6	2.4

Methodology

SP AusNet’s approach to estimating the effects of climate change are as follows.

- Step 1: identify the number of days in the current period that sit within the defined ranges;
- Step 2: identify the network performance that relates to these days;
- Step 3: undertake a regression analysis to estimate the network response to these days;
- Step 4: randomly generate network performance for the increased number of days in the defined ranges using the regression analysis;
- Step 5: generate randomly the day for the network performance to be substituted into;
- Step 6: substitute the days into the network performance to create an adjusted network performance;
- Step 7: recalculate MED thresholds;
- Step 8: recalculate network performance; and
- Step 9: undertake a Monte Carlo Analysis repeating steps 4 to 8 (30,000 iterations).

A Monte Carlo analysis has been run to average out potential network performance using randomly generated network performance and days. This ensures that neither a high nor low estimate of network performance is used in setting targets. SP AusNet’s impacts of Climate Change are as follows.

Table 4.4: Revised proposed STPIS Targets

Measure	Average Past Performance (3.2β)	Adjusted Target (3.2β)
USAIDI (Network)	201.69	212.71
Urban	122.15	128.82
Short Rural	229.25	241.78
Long Rural	291.99	307.94
USAIFI (Network)	2.48	2.65
Urban	1.66	1.77
Short Rural	2.78	2.96
Long Rural	3.41	3.64
MAIFI (Network)	5.13	5.48
Urban	2.65	2.83
Short Rural	5.57	5.94
Long Rural	9.25	9.86

Reliability and safety expenditure

SP AusNet also notes the Draft Determination draws the following conclusion on expenditure resulting from amendments to the Electricity Safety Act³¹:

“The AER sought specific information from ESV regarding the expected impact on reliability of electricity supply as result of the proposed regulatory changes. ESV advised that given the time delay in improvements, in particular around insulated powerlines where the proposed changes have significant impact, it does not consider the proposed changes in line clearing regulations would have a material impact on network reliability in the short term.”

SP AusNet would confirm that expenditure related to bushfire mitigation is poorly correlated to reliability as areas of high bushfire risk do not constitute a significant customer base relative to the total customer base of the DNSP. This means the impact of reliability on these customers has little impact on overall reliability performance except in the most exceptional circumstances.

³¹ AER, *Draft Determination*, p. 675.

4.3.9 Bushfire related exemptions

SP AusNet is proposing a variation to Clause 3.3 Exclusions of the STPIS Guidelines to include an additional exclusion event as permitted under Clause 2.2 of the STPIS Guidelines. The proposed inclusion would involve the addition of a new clause 3.3(a)(9) that reads:

(9) load shedding or load interruption due to the suppression of the auto reclose function in high bushfire risk areas.

It has been recommended by Counsel Assisting the Victorian Bushfires Royal Commission that the auto reclose function on lines be suppressed, or the number of auto recloses reduced, in high bushfire risk areas for the entire fire season. SP AusNet has proposed an alternative option to automate circuit reclosers in high bushfire risk areas to allow protection and reclose settings to be remotely adjustable in accordance with the forecast Fire Danger Index. That means total fire ban days can be targeted rather than the entire fire season, dramatically reducing the value of unserved energy resulting from such a policy.

Regardless of the approach eventually recommended, there will be a measurable decrease in the reliability of supply in these areas of SP AusNet's network as transient faults will not be cleared (turning MAIFI events into SAIFI and SAIDI events). An approximate indication of the potential materiality of this change to reliability is set out in the following calculations.

Currently, 50% of all network faults for the year are experienced during the fire season and, of these, one quarter of faults on SP AusNet's network in these areas are sustained faults. Suppressing the auto reclose function turns all faults into sustained faults. Assuming all the additional sustained faults are of average duration and effect, for the average amount of customers per outage, reliability would decline by 108 minutes of USAIDI and 0.74 USAIFI.

SP AusNet considers that where the DNSP is obligated to manage the network in such a way as to decrease its reliability, the resultant events from such a change should be exempted from the reliability regime outcomes. This is entirely consistent with existing exemptions where the DNSP is directed to decrease reliability for public safety reasons such as direction from emergency services or AEMO. This also allows the AER to attain the NEO of promoting safety of supply, and to balance this with the attainment of reliability of supply.

Such an exemption needs to exist for the forthcoming regulatory control period because cost pass throughs arising from Royal Commission recommendations cannot deal with non cost related issues such as exemptions to the STPIS.

Furthermore, such an exemption is likely to be required on a temporary basis as eventually there will be sufficient data available (noting a DNSP is required to retain such data) on the reliability effects on the network to incorporate them into normal target setting under the STPIS and removing the exemption.

For these reasons, SP AusNet contends that the proposed exemption enhances the achievement of the NEO. In particular, it enhances efficient investment in and operation and use of electricity services with regards to the right balance between long term reliability and safety for consumers.

4.4 SP AusNet's Revised Service Targets

In accordance with Clause S6.1.3(4) of the NER, SP AusNet's Revised Proposal STPIS targets and incentive rates are shown in table below. The incentive rates are calculated as per Clause 3.2 of the STPIS.

Table 4.5: Revised proposed STPIS Targets

Measure	Average Past Performance (3.2β)	Adjusted Target (3.2β)	Incentive Rates
USAIDI (Network)	201.69	212.71	(%/minute)
Urban	122.15	128.82	0.03
Short Rural	229.25	241.78	0.027
Long Rural	291.99	307.94	0.012
USAIFI (Network)	2.48	2.65	(%/0.01 Interruptions)
Urban	1.66	1.77	2.354
Short Rural	2.78	2.96	2.318
Long Rural	3.41	3.64	1.03
MAIFI (Network)	5.13	5.48	(%/0.01 Interruptions)
Urban	2.65	2.83	0.1883
Short Rural	5.57	5.94	0.1854
Long Rural	9.25	9.86	0.0824

Source: SPA - Calculation of Performance Targets 2011-2015 (Revised).xls
 Source: SPA – Target Adjustments for Effects of Climate Change (Revised).xls
 Source: SPA - Calculation of Incentive Rates 2011-2015 (Revised).xls

In accordance with Clause S6.1.3(4) of the NER, SP AusNet’s revised proposed targets and incentive rates for the customer service measure (of % of calls answered within 30 seconds) are shown in the table below. The incentive rates are as stated in Clause 5.3.2 (a)(1) of the STPIS Guidelines.

Table 4.6: Revised proposed customer service targets

Measure	Annual Target	Incentive Rate
% of Total Calls Answered within 30 Seconds	76.62%	-0.04% per unit

Source: SPA – Telephone Answering Targets..xls.

In accordance with Clause S6.1.3(4) of the NER, SP AusNet’s revised proposed GSL targets are shown in the table below.

Table 4.7: Revised expected GSL Performance and payments

(Number incurred)	2011	2012	2013	2014	2015
Customers experiencing more than 10 interruptions	8,237	8,237	8,237	8,237	8,237
Customers experiencing more than 15 interruptions	1,966	1,966	1,966	1,966	1,966
Customers experiencing more than 30 interruptions	0	0	0	0	0
Customers experiencing more than 20 hours of interruptions	13,229	13,229	13,229	13,229	13,229
Customers experiencing more than 30 hours of interruptions	6,731	6,731	6,731	6,731	6,731
Customers experiencing more than 60 hours of interruptions	1,763	1,763	1,763	1,763	1,763
Customers experiencing more than 24 momentary interruptions	9,367	9,367	9,367	9,367	9,367
Customers experiencing more than 36 momentary interruptions	2,786	2,786	2,786	2,786	2,786
Distributor being more than 15 minutes late for an appointment	2	2	2	2	2
Connections not made on agreed date (total)	262	262	262	262	262
Connections not made – 1-4 day delay	229	229	229	229	229
Connections not made 5+ day delay	34	34	34	34	34
Not repairing streetlights within two days	4	4	4	4	4
Total Payments (Real 2010 \$)	4,339,295	4,339,295	4,339,295	4,339,295	4,339,295

Source: SPA – Forecast GSL Payments (Revised ESC).xls

4.5 AER's Draft Determination on close out of the ESCV's S-Factor scheme

Section 3.3.3 of the AER's Draft Determination for SP AusNet states that the AER will close out the ESCV's S-Factor scheme by applying the following methodology:

1. The DNSP's reliability performance for 2010 is estimated as the actual performance will not be known until part way through 2011. The AER has included actual 2009 figures provided by the Victorian DNSPs, but has not assessed the results. The AER will undertake this assessment prior to publishing its Final Decision. The AER considers that an appropriate estimation methodology to use is the average performance over the past five years (2005–2009).
2. S^t is calculated for 2009 and 2010 in accordance with the ESCV's S-Factor scheme.
3. S^t for 2011 and 2012 is calculated by banking S^t in accordance with the DNSP's stated intentions. Consistent with the current operation of the ESCV's S-Factor scheme, the Victorian DNSPs will be able to make a final decision whether or not to use the s-bank mechanism when setting tariffs for 2012. The WACC to apply in the banking calculation is the 2006 EDPR WACC.
4. S^t for 2013–2018 is held constant at 0.
5. S^t is calculated for 2010–2018 in accordance with the ESCV's S-Factor scheme. The AER notes that S^t and S^{t-6} become zero after 2018 and at this time the effects of the ESCV's S-Factor scheme have been fully accounted for.
6. The estimates of forecast revenue are to be the approved 2010 tariff prices multiplied by the demand forecast. For the years 2016–18, forecast revenues are to be held constant at 2015 levels.
7. The S-Factor is applied to the forecast revenues for 2011–18. For 2011–15, the difference between the estimates of tariff revenues, excluding and including the S-Factor is then factored into the building blocks.
8. The difference between the estimates of tariff revenues, excluding and including the S-Factor, for 2016–18 are converted to 2015 values in net present value terms and applied to the building blocks in 2015. The WACC to apply to this NPV calculation is the 2011 EDPR WACC.

Applying this approach the AER proposes that the following amounts (\$ million, 2010) be added to SP AusNet's revenue building blocks as a result of the close-out of the ESCV S-Factor.

Table 4.8: Draft Determination revenue to close out of the ESCV S-Factor Scheme

2011	2012	2013	2014	2015	Total
19.97	2.33	-5.11	0.83	-46.80	-28.78

4.6 SP AusNet response on close out of the ESCV's S-Factor scheme

SP AusNet accepts the Draft Determination methodology and modelling of the close out of the ESCV's S-Factor scheme.

SP AusNet also accepts the payout profile generated by the modelling and the true up mechanism proposed for the 2016-18 period adjusted for the updated WACC, demand and customer number forecasts in the Revised Proposal. The Draft Determination states³²:

“The AER notes that it will need to update these values, for the final decision, to incorporate actual 2009 performance, updated estimates of 2010 performance and any changes to the DNSPs' demand forecasts.”

For the purposes of the Revised Proposal, SP AusNet has also accepted the 2010 outcome assumed in the Draft Determination which consists of the 2005-09 average outcome excluding the effects of 2009 bushfires.

Applying this approach, the Revised Proposal has included the following amounts (\$ million, 2010) in SP AusNet's revenue building blocks as a result of the close-out of the ESCV S-Factor.

Table 4.9: Revised Proposal revenue to close out of the ESCV S-Factor Scheme

2011	2012	2013	2014	2015	Total
19.49	2.24	-4.79	0.75	-41.15	-23.46

SP AusNet notes that it would constitute good regulatory practice to minimise the true up required to close out the existing scheme in the 2016-20 regulatory control period. Therefore, SP AusNet will examine the year to date S-Factor performance closer to the Final Decision date and provide a more accurate forecast for the 2010 outcome as necessary.

³² AER, Draft Determination, p. 682.

5 Demand and Energy Forecasts

This chapter sets out SP AusNet's response to the AER's Draft Determination in relation to the demand, energy and customer number forecasts for the forthcoming regulatory control period. The remainder of this chapter is structured as follows:

- Section 5.1 provides an overview of SP AusNet's energy, demand and customer number forecasts as presented in its Original Proposal;
- Section 5.2 summarises the key points raised by the AER in its Draft Determination;
- Section 5.3 sets out SP AusNet's response to the AER's Draft Determination; and
- Section 5.4 concludes by presenting SP AusNet's revised forecasts for maximum demand, energy and customer number forecasts.

5.1 Original Proposal Maximum Demand, Energy and Customer Forecasts

SP AusNet's Original Proposal noted the following points in relation to its maximum demand, energy and customer forecasts:

- SP AusNet engaged NIEIR to undertake a top down approach to prepare demand forecasts for SP AusNet's electricity distribution network. SP AusNet used these forecasts and then considered the diversity of load at substation level to derive a non-coincident load growth at substation level.
- The Australian Bureau of Statistics (ABS) data indicates that the penetration rate of air conditioners in Victoria has increased from 36.9% in 1994 to 69.5% in 2008. Trends in air conditioner penetration in other jurisdictions indicate that penetration rates in Victorian have significant scope to increase before reaching saturation.
- SP AusNet forecasts demand growth of 4.4% per annum at zone substation level, which equates to NIEIR's forecast growth of 4.2% per annum at terminal station level for the next period. As a result, SP AusNet's forecast maximum demand with a 50% probability of exceedence (POE) will increase from an estimated 2,005 MVA in 2011 to 2,380 MVA in 2015.
- SP AusNet's average customer numbers are forecast to grow from 634,191 in 2011 to 672,912 in 2015, which is a growth rate of 1.49% per annum. These forecasts are primarily a function of the macro economic forecasts developed and verified independently by NIEIR.
- SP AusNet incorporated the expected impact of SP AusNet's new Time of Use tariff into these energy forecasts.

The following table outlines SP AusNet's Original Proposal forecasts of maximum demand, energy consumption, average customer numbers and customer connections.

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Table 5.1: Original Proposal MVA Forecasts

Parameter	2011	2012	2013	2014	2015
Maximum Summer or Winter (MVA)	2005.3	2092.5	2184.5	2280.6	2380.9

Table 5.2: Original Proposal Forecast Energy Consumption

Parameter	2011	2012	2013	2014	2015
Energy Consumption (MWh)	7,821,431	7,756,120	7,621,548	7,563,299	7,638,345

Table 5.3: Original Proposal Forecast Average Customer Numbers

Parameter	2011	2012	2013	2014	2015
Customer Numbers	634,190	644,899	654,309	663,159	672,912

Table 5.4: Original Proposal Gross Customer Connections

Parameter	2011	2012	2013	2014	2015	TOTAL
Gross Customer Connections	14,880	13,544	12,350	12,782	14,424	67,980

5.2 AER's Draft Determination

The Draft Determination has rejected SP AusNet's forecast maximum demand and energy consumption forecasts and accepted the forecast customer numbers and customer connection. In place of SP AusNet's proposed forecasts, the Draft Determination adopts the maximum demand, energy consumption and customer number forecasts for SP AusNet as set out in Table 13 (reproduced from the Draft Determination) below.

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Table 13 AER conclusion on growth forecasts—SP AusNet

	2011	2012	2013	2014	2015
Sum of non-coincident zone substations (MW)	1 858	1 928	2 032	2 125	2 212
Energy consumption (GWh)	8 187	8 345	8 543	8 796	9 039
Customer numbers	634 191	644 900	654 309	663 159	672 912

The AER considers that the maximum demand forecasts proposed by SP AusNet are not a realistic expectation of the demand forecast required to achieve the capex and opex objectives and hence are not appropriate to form amounts, values or inputs to the AER's determination. The AER also considers that SP AusNet's proposed energy consumption and customer number forecasts are not appropriate to form amounts, values or inputs to the AER's determination under clause 6.12.1(10) of the NER.

The AER has amended SP AusNet's demand and energy forecasts to remove assumed policy impacts for standby power, insulation subsidy and time of use (TOU) tariffs. The AER has also replaced SP AusNet's proposed population growth forecasts, which affect the company's energy and customer number forecasts.

The Draft Determination requests that SP AusNet provide revised maximum demand, energy and customer number forecasts as part of its Revised Proposal, making the following amendments:

- update gross state product forecast inputs to reflect more recent economic conditions;
- replace population growth forecast inputs with ABS Series B for Victoria, disaggregated by DNSP according to current proposal assumptions about each DNSP's regional contribution to Victorian population growth; and
- amend the carbon pollution reduction scheme (CPRS) policy assumption to delay the commencement of the CPRS by 6 months, to 1 January 2012.

5.3 SP AusNet's Response to the Issues Raised by the AER

SP AusNet does not accept the Draft Determination on forecast energy, demand and customer numbers. In its place, SP AusNet is proposing an alternative set of forecasts, based on, amongst other things, the inclusion of updated population forecasts, updated macro-economic forecasts, and revised calculations associated with a number of policy impacts.

More specifically, SP AusNet has re-engaged NIEIR to update their forecasts, having regard to the AER's Draft Determination and the comments provided by ACIL Tasman with regards to those forecasts. In short, SP AusNet considers that NIEIR has addressed all of the substantive comments provided by the AER in their Draft Determination.

In summary, this has led to:

- Higher forecast customer number growth, relative to in the Original Proposal;
- Higher demand forecasts, relative to NIEIR's October 2009 forecasts; and
- Higher energy forecasts, relative to those included in the Original Proposal.

NIEIR's reports^{33,34} – which accompany this Revised Proposal - provide a detailed outline of their modelling approach; changes to that approach in response to the AER's Draft Determination; and the results of that modelling. Therefore, those reports should be read in conjunction with this Chapter to assess SP AusNet's proposed demand, energy and customer number forecasts.

Notwithstanding this, SP AusNet has addressed three key issues in this Revised Proposal:

- Population modelling;
- Time of Use tariff modelling; and
- Demand forecasting methodology.

These are discussed in the sections below.

5.3.1 Population Modelling

SP AusNet notes that the AER rejected NIEIR's population growth forecasts, and instead made adjustments as calculated by ACIL Tasman using an average energy consumption per person, and applying this to the ABS population forecasts. This was then apportioned to each DNSP in relation to its population share.

In short, SP AusNet considers that the adjustments recommended by ACIL Tasman and adopted by the AER in the Draft Determination significantly overstate the impact of changes in population forecasts. In particular, there appears to have been an incorrect conversion from MWh to GWh, which has a material impact on the total energy forecasts and therefore the P0 adjustment contained within the Draft Determination. SP AusNet contends that this post model reduction should be removed for the purposes of developing the Final Decision, particularly as NIEIR has included this population adjustment in their core model.

5.3.2 Time of Use Tariffs

With regards to the impact that Time of Use (ToU) tariffs have on energy forecasts, SP AusNet has complied with the intent of the AER's statement on page 756 of the Draft Determination that *"the proper functioning of the PTRM requires the assumption that customers face the same tariff structures as per the particular base year (in this case, 2010) such that the approved X factors are assumed to be appropriately passed onto all customers"* by excluding the impact of any tariff reassignment, including ToU tariffs, from its energy forecasts.

For the avoidance of doubt, as SP AusNet has not included the impacts of its proposed ToU tariff structure in its energy forecasts it contends that to counter the significant commercial and regulatory implications associated with the AER's decision to exclude these energy reductions from the P0 adjustment, a fundamental change is required to the Price Control Mechanism. Without this change, SP AusNet considers that businesses:

- Must, in fact, be compensated for the energy reduction impacts of introducing ToU tariffs as part of the Final Decision (ie: the AER will need to reverse their decision to exclude tariff reassignments from the P0 adjustment); or

³³ Appendix B – NIEIR: *Electricity sales and customer number forecasts for the SP AusNet distribution region to 2019.*

³⁴ Appendix C - NIEIR - *Maximum demand forecasts for SP AusNet terminal stations to 2020.*

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- Will adjust the structure of their ToU tariffs to minimise the overall reduction in revenue associated with introducing ToU tariffs, which is likely to conflict with Clause 6.18.5 (b) (1) of the NER.

SP AusNet's proposed adjustment to the Price Control Mechanism is outlined in Chapter 15 of this Revised Proposal.

Given the above, SP AusNet considers it important for the AER, in conjunction with businesses, to establish a consistent and robust methodology for estimating the impacts that ToU tariffs will have on energy forecasts, such that those impacts can be included in the Weighted Average Price Cap adjustment.

To this end, SP AusNet notes a number of the comments made by the AER in relation to SP AusNet's detailed, bottom up, approach to modelling the impact that ToU tariffs are expected to have on energy consumption. More specifically, the AER stated that³⁵:

"Consistent with the AER's position in previous decisions, the AER considers it is more appropriate to have price elasticities phasing in over time (for example, NIEIR's price elasticity study examined elasticities over a 15 year period). Therefore, the AER considers the approach taken by SP AusNet is likely to overstate the extent to which customers will respond to TOU for the forthcoming regulatory control period"

Furthermore, the AER stated that it was unclear to the AER whether SP AusNet³⁶:

"considered the potential impacts of other policies (for example, CPRS, VEET, MEPs, etc) on the inputs in the model—this creates scope for double counting as customers' electricity consumption is likely to be affected by such policies (dampening their response to price signals)

was correct in assuming a perfectly inelastic own-price demand (0) for off peak electricity consumption (for example, the AER considers there would some response to a price increase to off peak prices, however, it is uncertain what the response would be)

correctly calculated the transfer of load between peak, shoulder and off peak periods, as it:

- *appeared to confuse cross-price elasticities and substitution elasticities—which are two different concepts (although this may have been an inadvertent error)*
- *estimated the amount of load shifting between periods multiplying the substitution elasticity (cross-price elasticity) by the proposed relative price rather than by the change in relative prices (from current to proposed prices)— this has resulted in the amount of electricity transferred from one period to be overestimated to a magnitude of five to nine times (depending on the customer class)."*

These are addressed in more detail in the following sections.

Phasing in of Elasticity Impacts

SP AusNet considers that the results of previous empirical studies into the 'lag' period (eg: 15 years) are virtually meaningless, as those studies reflect the impact of small, incremental, changes to existing tariff levels, as opposed to a large scale change to tariffs such as that proposed under the ToU tariff.

³⁵ Victorian Draft Distribution Determination — Draft Decision – p. 153.

³⁶ Ibid, p. 154.

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In particular, the potential scale and scope of changes being proposed would result in customers instantaneously having greater regard for how they use their energy consuming appliances, and the impact that that consumption behaviour has on their overall bill.

To assume that it would take customers 15 years (or some other extended period) to realise the extent to which their electricity bill in one quarter has changed relative to the status quo is unrealistic. Moreover, the AER effectively acknowledges this issue when they state that *“the price changes in SP AusNet’s regulatory proposal are substantial when compared to the studies quoted (which assume a constant price elasticity of demand) and a number studies indicate that the elasticity of demand for electricity is non-linear—this is likely to lead to a larger amount of inaccuracy than if smaller price changes were proposed”*. In particular, SP AusNet agrees that this may impact the elasticity of demand – this is one of the reasons why it adopted a ‘discounted’ (reduced) elasticity of demand estimate, relative to empirical data (which is noted by both the AER and ACIL Tasman) – however, this fact (‘the substantial price change’) also results in customers being much more likely to have regard for the impacts of these price changes, relative to the small “incremental” price rises that underpin most empirical studies on this issue. SP AusNet considers this to be a key reason why extended lag periods – as proposed by the AER – are unrealistic and unreasonable, when it comes to determining the impact of AMI tariffs.

In practical terms, the adoption of an extended lag period would in effect require SP AusNet to backsolve a suite of ToU tariffs that it considers would in fact, reasonably be assumed to lead to such an outcome, in order to minimise the commercial risks associated with the introduction of its ToU tariffs. SP AusNet notes that this may in turn conflict with Clause 6.18.5 (b) (1) of the NER.

Potential impacts of other policies

SP AusNet’s modelling approach used the NIEIR energy forecasts by tariff code as the baseline per customer forecast, upon which it then determined the impact of its ToU tariffs. Therefore, SP AusNet’s energy consumption forecasts retained the impact of all policies assumed to be implemented by NIEIR in their underlying forecasts (eg: CPRS, MEPs).

Notwithstanding this, SP AusNet’s did not explicitly have regard for the impact that those policies may have on the elasticity of demand estimates used in its modelling, rather, as stated previously, SP AusNet has implicitly recognised these factors by selecting a long run elasticity at the absolute bottom of the range of point estimates.

Assuming perfectly inelastic own-price

The AER stated that *“there would some response to a price increase to off peak prices, however, it is uncertain what the response would be”*. In particular, SP AusNet notes the AER’s comment that *‘the response would be uncertain’*, not as a criticism per se, rather, to illustrate the point that this uncertainty is not asymmetric. In particular, businesses face significant uncertainty too, if the AER were to move away from a zero elasticity of demand assumption – which in turn impacts on the commercial risks that they face with the introduction of any ToU tariffs. Moreover, the AER infers that this may be an upside risk for businesses, yet they fail to mention other aspects of the tariff regime that could lead to downside risks for businesses, for example, the impact of Retailers reflecting their own cost drivers in the final Retail ToU tariff, which in turn may lead to a larger reduction in peak/shoulder energy consumption relative to what has been forecast.

In summary, SP AusNet, whilst acknowledging the inherent uncertainty in developing this input parameter, considers its assumption that customer’s will not increase energy consumption as a result of lower prices in off peak periods to be reasonable.

Correctly calculated the transfer of load between peak, shoulder and off peak periods

SP AusNet has considered the AER's statement, and does not agree. SP AusNet modelled the cross price elasticity of demand, by assessing the percentage change in demand for one product (eg: off peak) as a result of the change in the price of another good. Notwithstanding this, SP AusNet acknowledges a slight error in its formula, namely, that its calculation should have been split into two separate calculations. This makes only a marginal difference to the outcomes.

ToU Moratorium

More broadly, SP AusNet acknowledges the moratorium that has been placed on the roll out of ToU tariffs and the uncertainty this creates about:

- The timing of the roll out of Time of Use tariffs; and
- The nature of that roll out (mandatory versus elective take up).

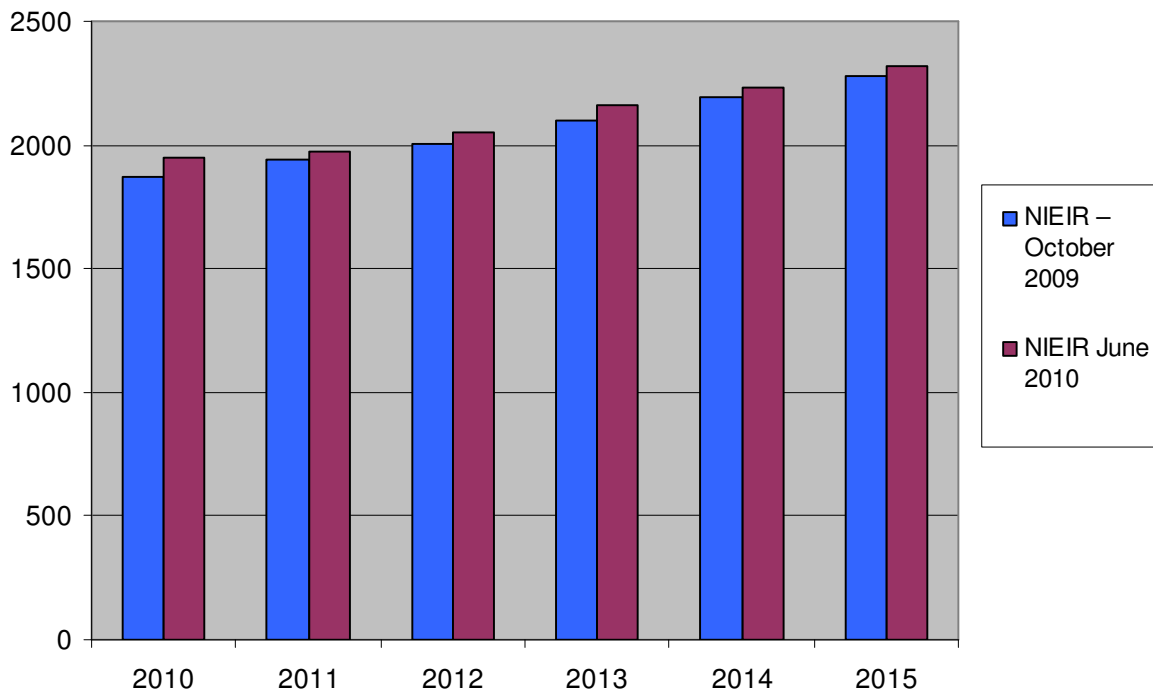
This uncertainty, and the AER's policy that no tariff reassignments should be included in the P0 adjustments, reinforces the need for the AER to make adjustments to the price control formula, such that businesses are still *"provided with regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs that they incur in providing direct control network services"*, as required under the Section 7A (2) of the NEL. If the former is achieved, then businesses will not face a disincentive to adopt tariffs that are consistent with Clause 6.18.5 (b) (1) of the NER.

5.3.3 Demand Forecasts

The updated demand forecasts provided by NIEIR show that forecasts have increased significantly based on revised population forecasts, economic data and air conditioner sales. Demand is appearing much earlier in the next regulatory period than previously forecast.

The difference between the October 2009 NIEIR forecasts and June 2010 forecasts is outlined in the figure below.

Figure 5.1: NIEIR’s October 2009 Forecasts versus June 2010 Forecasts



Source: NIEIR

In translating this into zone substation forecasts, SP AusNet has had regard for the AER’s Draft Determination, namely the following statement:

In agreeing to ACIL Tasman’s recommended adjustments, the AER has sought to reconcile the Victorian DNSPs’ ZSS forecasts to NIEIR’s top down forecasts, noting the average historical diversity between the two. The AER considers that the increasing diversity reflected in the Victorian DNSPs’ forecasts reflects their overstating demand at particular ZSSs for the forthcoming regulatory control period.

In the absence of an alternative method, the AER has translated the required reductions to the aggregated ZSS forecasts by targeting specific ZSS which exhibit a significant divergence from the average forecast rate of growth for all ZSSs combined, or where the forecast rate of growth diverges from the historic rate at that ZSS. The AER has also been mindful of taking into account of the life cycle of specific ZSS, as recommended by ACIL Tasman, whereby certain network regions may legitimately be growing faster than average as they are only recently established.

For this reason the AER has only selected ZSSs which also have been operational from at least 2001. The AER allocated the total required reduction to each ZSS in proportion to their maximum demand.

In particular, SP AusNet has:

- Revised its zone substation forecasts so that they do not exceed the maximum permissible forecast determined by taking a figure 4.4% below the new NIEIR system level forecast. This ensures that SP AusNet’s zone substation forecasts align to the NIEIR forecasts and do not exceed NIEIR forecasts in any year; however

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- Rejected the AER’s targeting of “*specific ZSS which exhibit a significant divergence from the average forecast rate of growth for all ZSSs combined*”, and instead, utilised the spatial terminal station forecasts to adjust zone substation forecasts.

These two issues are discussed in more detail below.

Reconciliation between NIEIR and Zone Substation Forecasts

SP AusNet notes that the 4.4% reduction reflects the average deviation between NIEIR system level summer actual maximum demands and SP AusNet’s zone substation non-coincident maximum demands for summer or winter. Whilst SP AusNet has adopted this reduction, it does not accept the methodology utilised by ACIL to determine this 4.4% reduction.

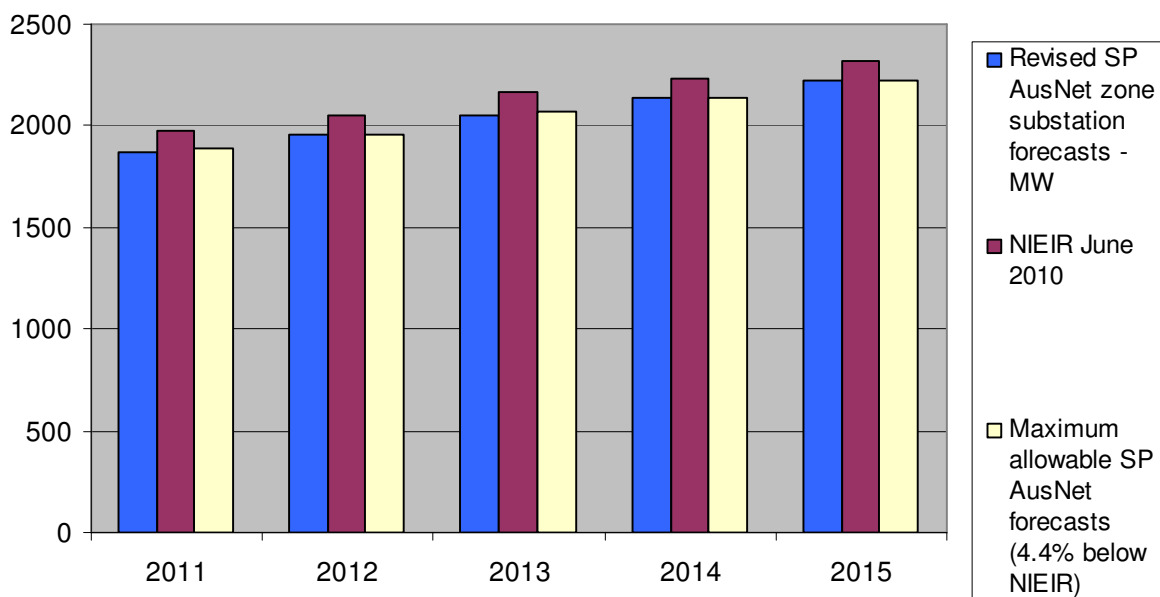
In particular SP AusNet notes that this downward adjustment is in fact likely to significantly overstate the diversity factor:

- As it is skewed upwards as a result of the inclusion of the 8.6% deviation in 2009, which was affected by extreme temperatures causing a POE of 10%, which would significantly boost sub-transmission network losses, which skews this deviation to abnormally high levels. Excluding the 2009 outlier leads to an average deviation of 3.4%, instead of the 4.4% calculated by ACIL Tasman; and
- As it compares demands at system level to zone substation level and for summer only to summer and winter combined.

Therefore, there is a considerable asymmetric risk associated with this demand adjustment, which in turn flows through to demand forecasts, which SP AusNet has not factored into its capacity program. Any proposed reduction in SP AusNet’s reinforcement program magnifies this issue.

The Figure below illustrates SP AusNet’ zone sub station forecasts, NIEIR forecasts, and the NIEIR forecasts less the 4.4% adjustment.

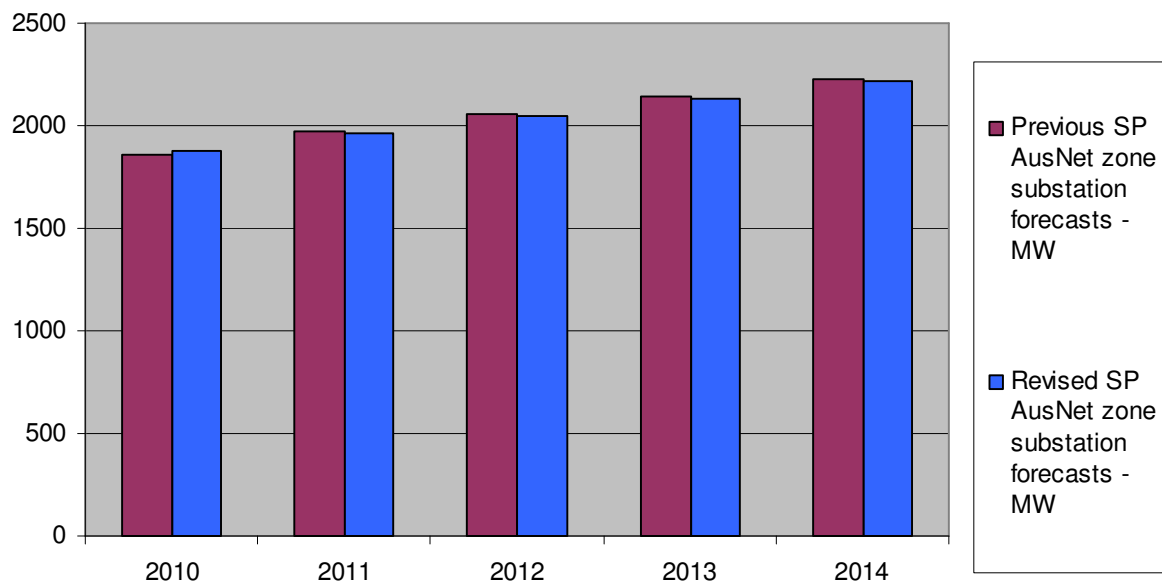
Figure 5.2: NIEIR versus SP AusNet ZSS versus Maximum allowable forecast



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The following figure demonstrates the overall difference between SP AusNet’s previous zone sub station forecasts, and its revised zone sub station forecasts.

Figure 5.3: ZSS forecast – November (2009) versus July (2010)



As illustrated in the figure above, the adjustments required were relatively small as SP AusNet’s original forecast did not exceed the revised NIEIR forecasts by greater than 10 MW in any year.

The methodology used to allocate these reductions is discussed below.

Allocating Reductions in Demand Across Zone Substations

In relation to the second component of the Draft Determination, SP AusNet rejects the AER’s proposal to target “*specific ZSS which exhibit a significant divergence from the average*”. Firstly, SP AusNet notes that the AER has provided no substantive evidence in support of why or how this decision, relative to other options, would facilitate the development of capex programs that are consistent with the capex objective outlined in Clause 6.5.6 (a) (1) of the NERs to “*meet or manage the expected demand for standard control services over that period*”; or, how it better promotes the achievement of the NEO.

Moreover, it is clear from the following statement that this represents an ‘arbitrary’ adjustment³⁷:

The AER acknowledges that the method of arriving at these adjustments may not accurately reflect the specific shortcomings in the Victorian DNSPs’ forecasting methods which have given rise to discrepancies with NIEIR’s forecasts. However, the AER considers this to be a reasonable approach in the absence of better alternatives to ensure the Victorian DNSPs’ spatial forecasts reconcile to NIEIR’s system forecasts

Although it is open to the AER to “*accept or approve, or to refuse to accept or approve, any element of a regulatory proposal*” and to “*substitute*” an amount under Rule 6.12.3, the AER cannot do so without providing adequate and proper reasons for doing so, and cannot do so if to

³⁷ Victorian Draft Distribution Determination — Draft Decision, p. 133.

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do so would undermine or diminish the attainment of the NEO. As stated previously, the AER has not provided adequate reasons why this proposed adjustment promotes the achievement of the NEO.

Moreover, whilst the AER has the power to exercise discretion when making regulatory decisions, the AER is required to use its decision-making discretions only in accordance with the NEL, which prevails over the NER. Again, the substitution that is proposed by the AER must be capable of delivering the NEO, and the revenue and pricing principles outlined in the NEL.

In summary, SP AusNet contends that:

- There is a ‘better alternative’ than the Draft Determination’s arbitrary adjustment, and that is to use the demand forecasts produced by NIEIR at the terminal station level to guide the breakdown of this adjustment. More specifically, these forecasts represent an independent view of the spatial demand forecasts at a terminal station level, which in turn can be ‘mapped’ to zone substations. This approach is more likely (than the AER’s proposed approach) to allow businesses to develop capex forecasts that are consistent with Clause 6.5.6 (a) (1) of the NERs, and to promote the achievement of the NEO; and
- If the former method is rejected, then any arbitrary reduction imposed on demand forecasts at zone sub station level must have regard “*to the economic costs and risks of the potential for under and over utilisation of a distribution system or transmission system with which a regulated network service provider provides direct control network services*”, as required by the NEL (Section 7A (7)).

In relation to the later, SP AusNet notes that any arbitrary reduction in the demand forecasts in high growth areas, would, ceteris paribus, lead to increased utilisation in these areas as a result of the lower approved capex forecast. This is not to say that higher utilisation doesn’t occur in low growth areas if the adjustments were reversed, however, the economic costs and risks associated with higher utilisation in high growth areas exceeds the economic costs and risks of higher utilisation in low growth areas. This stems from the fact that generally, there is greater spare capacity in low growth areas, therefore, any increased growth above that which was expected has a smaller impact on the economic costs and risks borne by the business and therefore its consumers, relative to high growth areas. Therefore, any arbitrary allocation should in fact be focused on lower growth areas, where the economic costs and risks of ‘getting it wrong’ is lower.

As stated previously, SP AusNet considers that utilising NIEIR’s terminal station forecasts to make the required adjustments at the zone substation level is the most appropriate method. As outlined above, SP AusNet used the non coincident terminal station demand forecasts and compared them with the zone substation forecasts to make the adjustments in the appropriate area.

SP AusNet also constrained every zone substation forecast such that the zone substations supplied from each terminal station did not exceed the terminal station forecast.

The following table shows the individual terminal station non-coincident summer demand increase from 2011 to 2015 and the corresponding zone substation increases.

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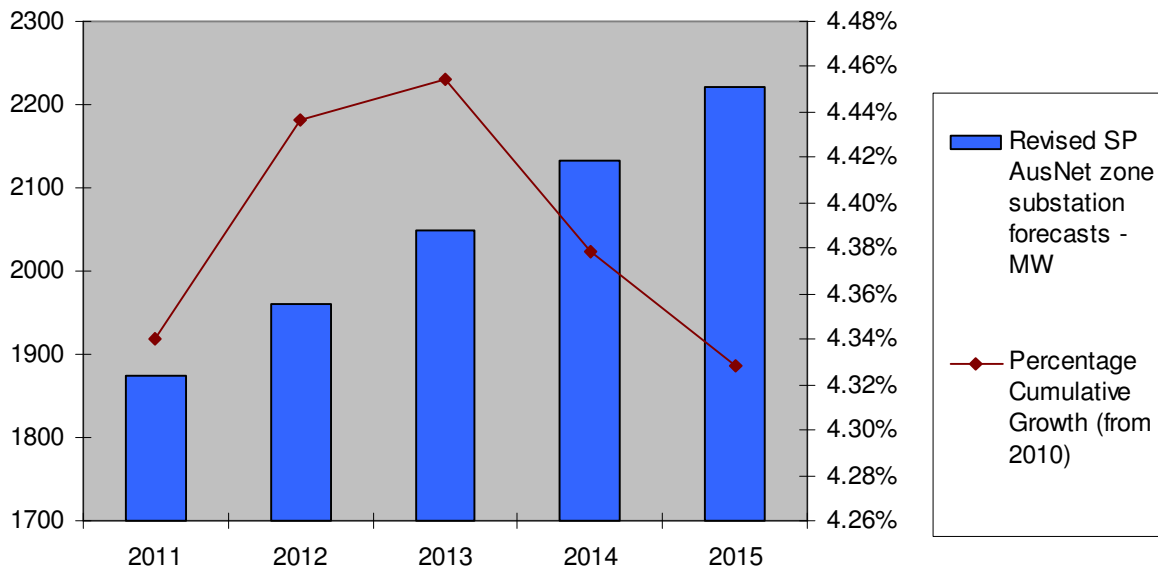
Table 5.5: NIEIR terminal stations compared with SP AusNet zone substations 2011 to 2015

Terminal Station	NIEIR Extra MW for period 2011 to 2015 (Non coincident 50% POE)	SP AusNet connected zone substations extra MW for 2011 to 2015	Difference (SP AusNet lower by)
CBTS	81.4	78.5	2.9
ERTS	30.0	30.0	0
GNTS	5.2	5.2	0
MBTS	0.6	0.6	0
MWTS	61.0	58.7	2.3
RWTS66	69.2	62.5	6.7
SMTS	88.7	80.1	8.6
TSTS	6.1	6.1	0
TTS	10.6	10.6	0
WOTS66	7.0	5.3	1.3
Total	359.8	337.6	21.8

5.4 SP AusNet's Revised Forecasts of Maximum Demand, Energy and Customer

The following figures and the accompanying tables outline SP AusNet's revised forecasts of maximum demand; energy consumption; and average customer numbers and customer connections.

Figure 5.4: Revised Forecast Maximum Demand (MW)



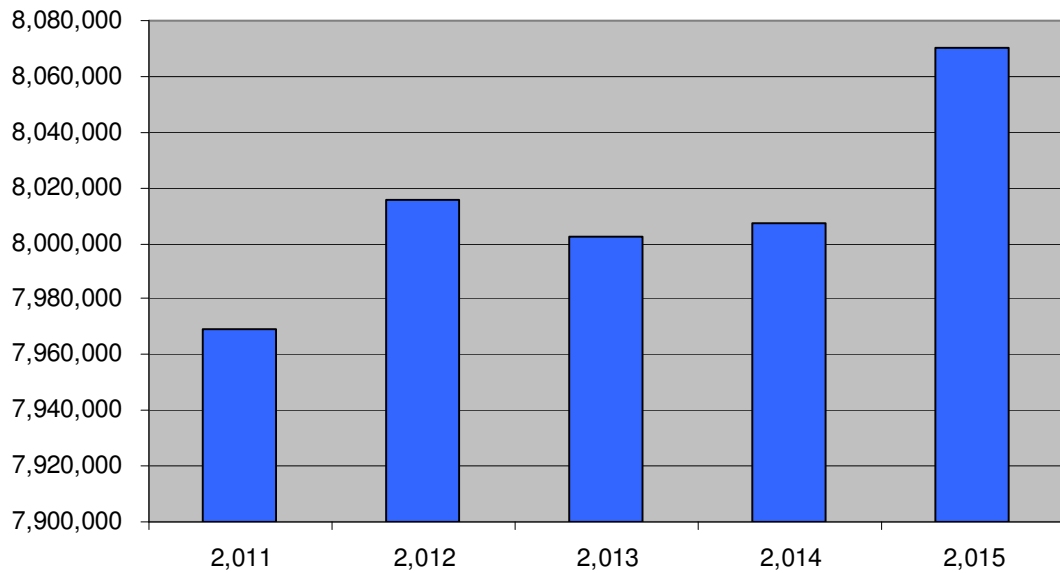
Source: SP AusNet; NIEIR

Table 5.6: Revised Forecast MW

Parameter	2011	2012	2013	2014	2015
Maximum Summer or Winter (MW)	1,875	1,960	2,048	2,133	2,221

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Figure 5.5: Revised Forecast Energy Forecasts (MWh)

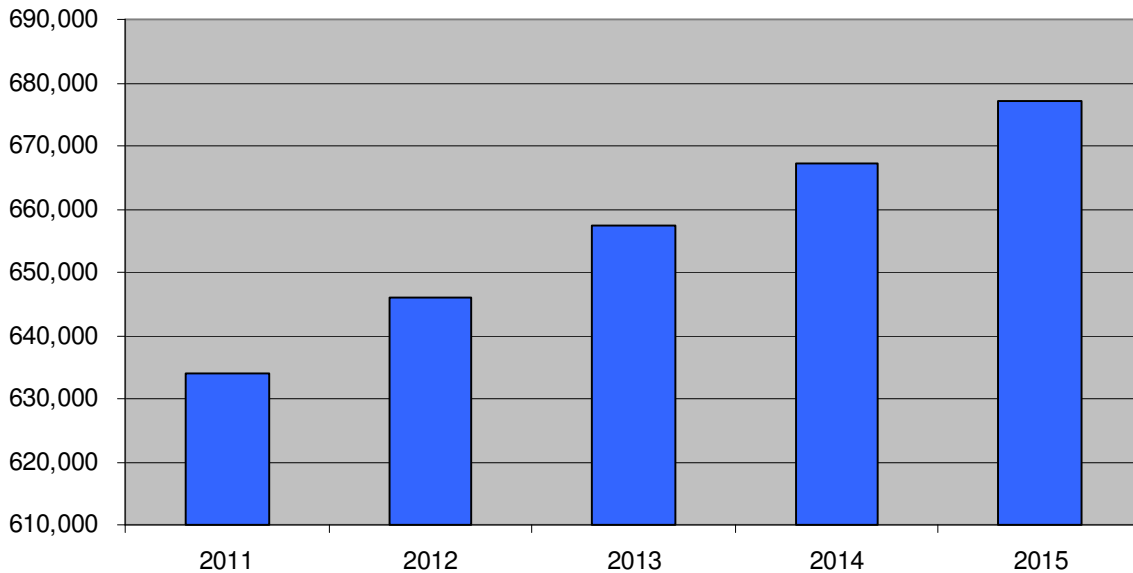


Source: SP AusNet; NIEIR

Table 5.7: Revised Forecast Energy Consumption

Parameter	2011	2012	2013	2014	2015
Energy Consumption (MWh)	7,969,159	8,015,627	8,002,295	8,007,075	8,070,551

Figure 5.6: Revised Forecast Average Customer Numbers

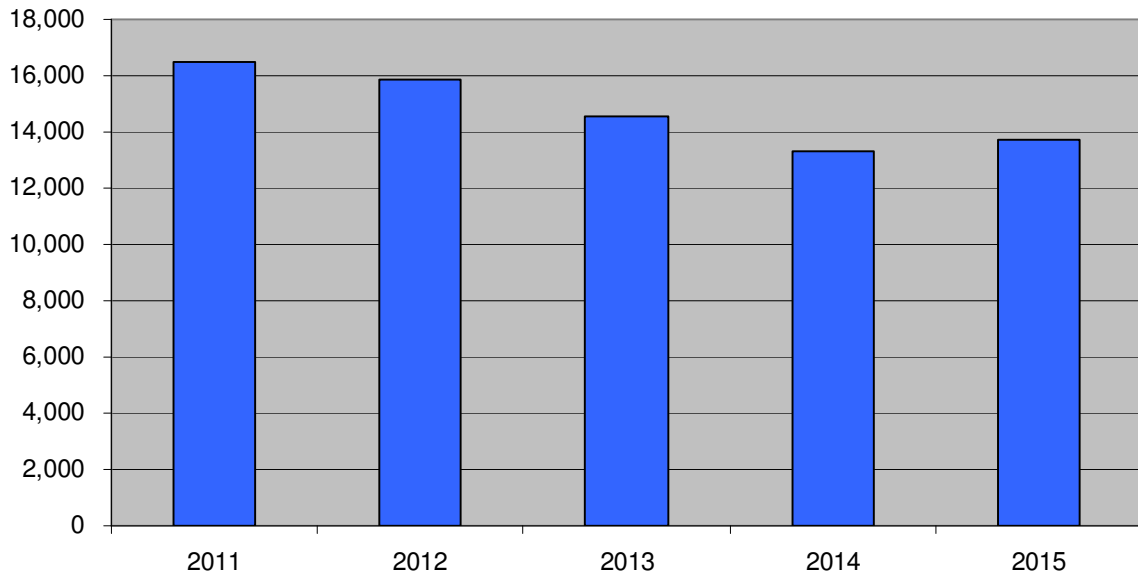


Source: SP AusNet; NIEIR

Table 5.8: Revised Forecast Average Customer Numbers

Parameter	2011	2012	2013	2014	2015
Customer Numbers	633,847	646,034	657,240	667,352	677,204

Figure 5.7: Revised Forecast Gross Customer Connection



Source: SP AusNet; NIEIR

Table 5.9: Revised Forecast Gross Customer Connections

Parameter	2011	2012	2013	2014	2015	TOTAL
Gross Customer Connections	16,479	15,895	14,580	13,327	13,742	74,024

6 Capital Expenditure

This chapter sets out SP AusNet's response to the AER's Draft Determination in relation to SP AusNet's capex forecast. SP AusNet's Original Proposal provided extensive information to support and explain the company's forecast for each capex category. In accordance with the NER requirements, this information included a comparison between historic and forecast expenditure; an explanation of the key expenditure drivers; details of the key risks that must be addressed; and an explanation of the forecasting methodology.

As noted in Chapter 1 of this Revised Proposal, the focus of this submission is to respond to the detailed matters raised by the AER in its Draft Determination. As such, this chapter only provides a brief overview of SP AusNet's approach to developing its capex forecasts, which is explained in detail in the Original Proposal. The remainder of this chapter is structured as follows:

- Section 6.1 provides an overview of SP AusNet's capex forecasts in its Original Proposal;
- Section 6.2 provides an overview of the Draft Determination on capex forecasts;
- Section 6.3 provides an overview of SP AusNet's overall response to the Draft Determination on capex;
- Section 6.4 and 6.5 address the AER's Draft Determination in relation to related party margins and overheads;
- Sections 6.6 to 6.13 address the AER's Draft Determination in relation to each category of capex;
- Section 6.14 addresses the AER's Draft Determination in relation to unit rates;
- Section 6.15 addresses the issue of capex and opex substitution; and
- Section 6.16 summarises SP AusNet's revised capex forecasts and provides evidence to demonstrate that the revised forecast satisfies the Rules requirements.

6.1 Overview of Original Proposal Capital Expenditure Forecasts

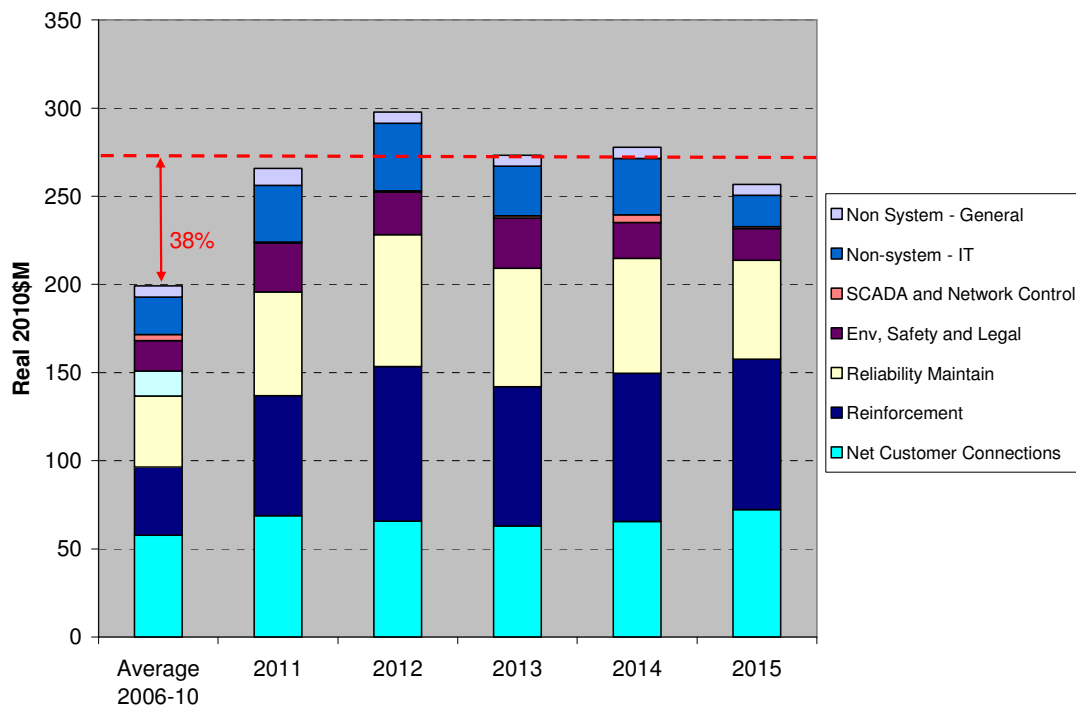
SP AusNet's Original Proposal forecast total capex for the forthcoming regulatory control period of \$1,372 million (real \$2010), which is an average of \$274 million per annum. SP AusNet's Original Proposal explained that the proposed increase of 48% compared to the current regulatory period is driven by:

- higher unit costs, with unit rates predicted to increase by around 9.5% in real terms over the forthcoming regulatory control period;
- an increase in the volume of asset replacement works to ensure that, in spite of the ageing of SP AusNet's asset base, public safety and network reliability and quality are maintained;
- an increase in augmentation and customer connection capex to provide sufficient new capacity to meet the forecast high maximum demand growth and the expected growth in customers; and

- IT expenditure that will provide the business system infrastructure needed to facilitate the achievement of SP AusNet’s asset management and operational efficiency objectives, and planned customer service standards.

SP AusNet provided the following comparison of its forecast capex (net of forecast customer contributions) with the average net capex during the current regulatory period.

Figure 6.1: Original Proposal Capital Expenditure Forecast (net of forecast customer contributions)

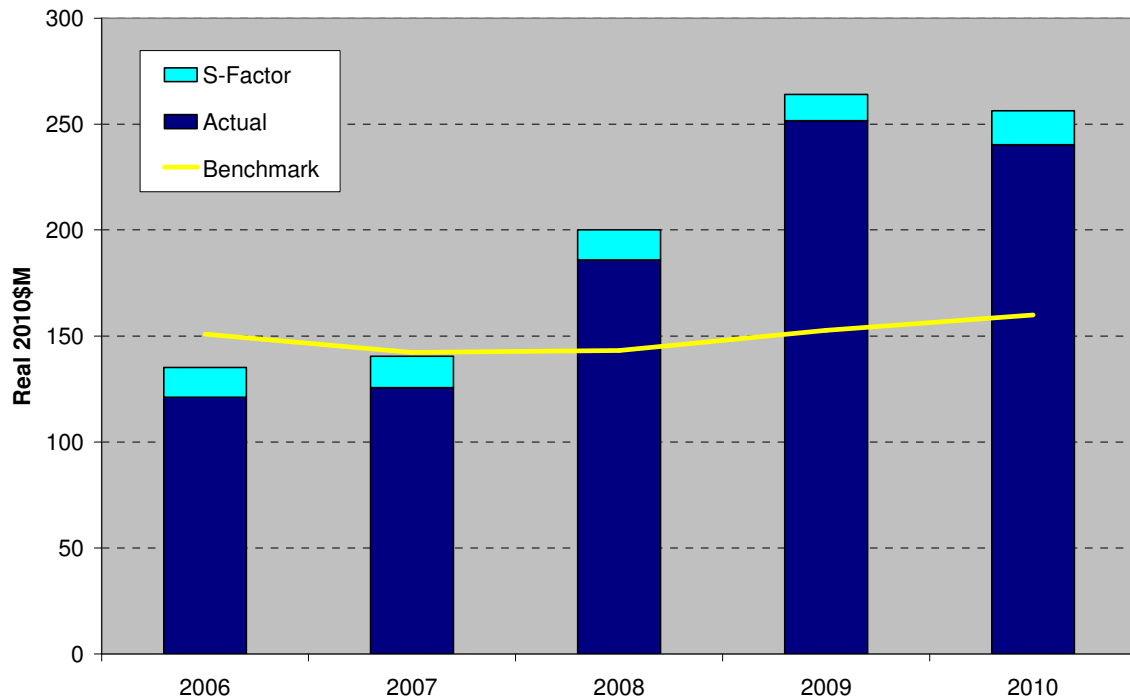


SP AusNet also explained that its current level of capex is \$176 million or 23% higher than the allowance set in the 2006 EDPR Determination (exclusive of S-Factor capex). Including S-Factor expenditure, the business is expected to spend \$247 million or 33% more than the regulatory allowance. SP AusNet noted that the following factors contributed to this increase:

- project costs exceeded the level assumed in the 2006 EDPR Determination. For example, a sample of reinforcement projects showed an increase of approximately 37% compared to the original forecast;
- the rate of increase in actual demand from the 2005/06 summer to the 2008/09 summer (6.7% per year) exceeded the forecast (3.7% per year). Actual customer connections (69,822) were also higher than forecast (65,548); and
- during the course of the current regulatory period, SP AusNet decided to own and capitalise IT and fleet assets rather than leasing and expensing them.

A comparison between total capex over 2006 to 2010 and that forecast in the 2006 EDPR Determination is provided in the figure below.

Figure 6.2: SP AusNet’s Capital Expenditure Compared to ESCV Benchmark



In addition to providing detailed information to support its forecasts for each capex category, SP AusNet’s Original Proposal also provided high-level benchmark comparisons with other Australian distribution companies. These benchmarks confirmed that SP AusNet’s capex proposal is reasonable when compared to the capex approved or proposed by DNSPs in other states. SP AusNet also noted that many distributors were facing similar cost pressures, including high demand growth and network deterioration as a result of an ageing asset base. Failure to act in these circumstances, in a manner consistent with the diligent, efficient and prudent network investment that has been undertaken by SP AusNet during the current regulatory period, could reasonably be expected to result in a failure to achieve the NEO, and is accordingly inconsistent with the NEL.

The Table below shows a summary of the capex forecast set out in SP AusNet’s Original Proposal.

EDPR 2011-2015 – Capital Expenditure

Table 6.1: Original Proposal Total Forecast Capital Expenditure

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Environmental, safety and legal	27.8	24.2	28.6	20.5	18.0	119.0
New customer connections (gross)	87.1	83.3	79.7	82.8	91.3	424.1
Reinforcement	68.2	87.6	78.9	84.2	85.3	404.2
Reliability and quality maintained	58.7	74.9	67.2	65.0	56.2	321.9
Reliability and Quality improve	0.0	0.0	0.0	0.0	0.0	0.0
SCADA and network control	0.6	0.8	1.2	4.3	1.0	7.8
Non-system – IT	32.3	38.1	28.2	31.9	17.9	148.4
Non-system – Other	9.6	6.5	6.2	6.4	6.3	35.0
Total (gross)	284.2	315.4	290.0	295.1	275.8	1460.5
Customer contributions	18.3	17.5	16.8	17.3	19.0	89.0
Total (net)	265.9	297.8	273.3	277.8	256.8	1371.5

6.2 Overview of Draft Determination for Capital Expenditure

The AER’s Draft Determination rejected SP AusNet forecast capex of \$1,372 million in total net capex and instead provided \$953 million.

Largely relying on the advice of its expert consultant, Nuttall Consulting, the AER’s main reasons for the 31% reduction in total capex were as follows:

Issue or Area	AER Draft Determination
<p>Inferring capex forecasts from historic actual expenditure</p>	<p>Historical expenditure represents an efficient level of expenditure and should be used as a basis for forecasting, and the proposed capex forecast is too high compared to historical trends. Further, from its historical actual expenditure trend analysis the AER considers that the Victorian DNSPs have consistently over-forecast their capex programs and notes (on page vii):</p> <p><i>“The approach of the AER is to begin its assessment of the Victorian DNSPs’ proposals by having regard to historical performance (actual capital and operating cost expenditure) in comparison with that forecast, both in previous periods and in relation to that forecast over the forthcoming regulatory control period. This analysis suggests the Victorian DNSPs’ past forecasts have been high relative to their actual expenditures over the past two regulatory control periods (10 years) and also relative to their allowed (benchmark) expenditures set by the ESCV.”</i></p> <p>The AER has therefore set aside much of SP AusNet’s forecast because it considers that the forecasts cannot be relied upon to determine regulatory allowances.</p>
<p>Reinforcement capex</p>	<p>The reinforcement forecast is inappropriate because, amongst other things:</p> <ul style="list-style-type: none"> • the planning methodology used relies too heavily on engineering judgement, lacks probability and economic analysis to justify timing and does not take into account savings from timing and scope changes flowing from internal governance processes; • basing the forecast on the 2007-08 load profile demand may overstate risks as load is expected to be peakier in the future; • deferral could be achieved by load transfer, more effective use of spare transformers and staging large projects; and • pro-active transformer upgrade program not proven to deliver benefits.

EDPR 2011-2015 – Capital Expenditure

Issue or Area	AER Draft Determination
Reliability and quality maintained (RQM) capex	<p>The RQM forecast is inappropriate because, amongst other things:</p> <ul style="list-style-type: none"> • the asset management models used are biased, not calibrated correctly and overstate risk of asset failure; • the assumed life for assets lower than economic life; • the risk of failures, including transformer core and coil failures, are higher than historical rates; and • changes in legislative obligations have not been proven.
Non-network IT capex	<p>The non-network IT forecast is inappropriate because, amongst other things:</p> <ul style="list-style-type: none"> • the proposed projects lacked economic justification and business cases; • the operational challenges and risks faced by SP AusNet are unlikely to change in the forthcoming regulatory period. and as such, step changes in expenditure were not proven to be required;³⁸ and • SP AusNet lacks agility to deliver its proposed programs.

Section 6.3 below provides an overview of SP AusNet’s response to the Draft Determination’s proposed 31% reduction in total net capex.

Sections 6.4 to 6.14 set out in further detail SP AusNet’s responses in relation to each category of capex.

6.3 High level comments on the Draft Determination

6.3.1 Inconsistency of AER’s decisions across jurisdictions

The AER’s Draft Determination on capex for Victoria’s DNSPs is inconsistent with its decisions for other States. An assessment of the AER’s Draft Determination reveals that where it has chosen to deviate from a position it has held in previous decisions, the changed approach leads the AER to reject a significant proportion of proposed capex. Examples of this include:

- a heavier reliance of historical actual expenditure to determine forecast capex;
- the rejection of bottom up planning to determine aggregate reinforcement capex; and
- an emphasis on age-based asset replacement, rather than condition-based.

These points of difference are discussed in turn.

Importantly, SP AusNet’s review identifies significant differences of approach leading to significant differences in outcome. That is, it is simply not correct to assert that the Draft Determination has followed the same approach as in other Jurisdictions. It has not.

³⁸ AER, *Draft Determination*, p. 421.

The weight of historical expenditure in determining capex forecasts

The use of historical expenditure to inform a regulatory determination is consistent with the NER which set out “the actual and expected capital expenditure of the DNSP during any preceding regulatory control period” as one of the capex factors.

However outturn costs are only one of the capital expenditure factors which the AER must have regard to in deciding whether to accept the capex forecast. The AER’s review, is required by Rule 6.5.7(e) must also have proper regard to the potential that future capex requirements can differ markedly from historic levels.

The AER has used historical expenditure to inform its review of capex proposals to varying degrees. For example, in Queensland, the AER and its consultants examined departures from identified trends in historical expenditure where it was considered appropriate, applying this approach largely in relation to replacement and non-system capex. Where forecasts deviated from business as usual expenditure (based on historical expenditure with abnormal under and overspends removed) the AER would examine the proposal more closely. Similarly in its NSW distribution review the AER relied upon historical trends to some extent in assessing the proposals for replacement and non-system capex.

However, the AER has never before relied upon historic expenditure to the extent to which it has in its Draft Determination for Victoria’s DNSPs. This reliance on historic expenditure is highlighted in the Draft Determination in the following terms:

“The approach of the AER is to begin its assessment of the Victorian DNSPs’ proposals by having regard to historical performance (actual capital and operating cost expenditure) in comparison with that forecast, both in previous periods and in relation to that forecast over the forthcoming regulatory control period.”³⁹

This approach is applied across the entire capex proposal, and not just the replacement and non-system capex categories. The AER then uses deviation from historical levels of expenditure to partly justify setting aside much of SP AusNet’s forecast. SP AusNet questions the appropriateness of applying a different level of emphasis on out-turn costs from one determination to another.

The AER appears to have conducted a different kind of review in Victoria of the grounds that the Victorian DNSPs are operating at an efficient level. In particular, the AER notes that:

“... trend analysis, together with comparative benchmarking of Victorian DNSPs with DNSPs in other jurisdictions, shows that Victorian DNSPs compare very favourably to those in other states. This means that the revealed costs of the Victorian DNSPs are a sound base for determining the starting point for evaluating their regulatory proposals.”⁴⁰

An implication of this is that because the AER considers Victorian DNSPs to be efficient, it is not necessary to undertake a balanced review of their proposals in the same way in which the AER has had to in other jurisdictions.

SP AusNet commissioned Graham Shuttleworth, UK Director of NERA and an international authority on economic regulation, to examine in broad terms whether it was sound to rely on historic information and simplistic trend analysis for capex forecasting. In short, it concludes that

³⁹ AER, *Draft Determination*, p vii.

⁴⁰ AER, *Draft Determination*, p vii.

a reliance on historic capex will provide unreliable forecasts (the resulting report is attached as an Appendix⁴¹).

Finally, a comparison of the approach the AER has taken in past determinations to defining the historical information which is taken into account, with the approach taken to the Victorian review highlights a further matter of material difference. In the AER's recent review of ETSA Utilities, the AER's historical trend included the estimates for the final 2 years of the regulatory period submitted by ETSA Utilities.⁴² In contrast, the AER has excluded these years in its Victorian review, on the basis that it does not use unaudited data. Given the high level judgements which are being made by the AER and past precedent, it is unreasonable to exclude consideration of this data for the reason that it is unaudited.

Bottom up forecasting

The AER has in the past considered that using bottom-up analysis is the most appropriate approach for estimating reinforcement capex, and that a top-down analysis should only be used to test its validity. For example, in its recent Queensland determination, the AER commented as follows:

"The AER acknowledges that the top-down adjustment approach applied in the draft decision provides a high level estimate of the likely impact of demand growth deferral. The AER considers the most accurate and robust method to determine required CIA [augmentation] capex is through a bottom-up process which demonstrates the relationship between the identified need or constraint, the selected option and the capex required."⁴³

It is evident that the AER has adopted a contrary approach for Victoria, as the AER concludes that:

"Based on its own investigation of the methodologies used to determine the reinforcement forecasts capex proposals the AER considers that the proposed forecasts based on a bottom up build of all projects do not adequately take account of the further detailed analysis and refinement of projects that results in the actual projects that are required and undertaken in the forecast period."⁴⁴

SP AusNet notes that bottom-up forecasting is conducted universally in electricity distribution planning (often in conjunction with top down forecasting). The AER recognised this in its recent decision for South Australia where it accepted the practice as follows:

"The AER notes that ETSA Utilities' approaches to developing and applying unit costs to forecast its capex requirements are similar to the approaches adopted by other DNSPs and TNSPs.

...Having considered ETSA Utilities' forecast capex program and cost estimation processes, advice from PB, ETSA Utilities' consultant and submissions, the AER is satisfied that ETSA Utilities' cost estimation processes for capex reflect a realistic expectation of cost inputs and are therefore likely to result in efficient cost forecasts. On

⁴¹ Appendix D - NERA, *AER Draft Decision on Opex and Capex Allowances*.

⁴² AER, *Draft Determination, South Australia*, p. 102

⁴³ AER, *Final Determination, Queensland*, p. 110.

⁴⁴ AER, *Draft Determination*, p 335.

*this basis the AER is satisfied that ETSA Utilities' cost estimation processes are consistent with the capex criteria, including the capex objectives.*⁴⁵

SP AusNet does not accept the AER's decision to rely on historic capex in preference to bottom up forecasts.

Once again, it is inappropriate for the AER to make a distinction between its treatment of DNSPs in Victoria, and those in other jurisdictions, unless there is a reasonable justification for doing so.

The AER should now be particularly careful about exercising its discretion in a manner that would create bias towards or against industry participants in different States, now that the participants are all regulated by, and participating in, the same regulatory framework over which the AER presides. This would otherwise create an unlevel playing field, and disadvantage businesses in those states which have not received the same treatment.

Reasonable grounds on which the AER might have cause to distinguish between DNSPs include geographic or terrain differences, classification of customer types and load profiles. The fact that Victorian DNSPs are privately-owned entities should not be a matter for which there is a justifiable reason to create a distinction, except if that fact causes capital and commodity inputs to be available at a different price.

Condition-based replacement is best practice

Condition-based replacement is widely understood to be the best approach to asset replacement. In its Queensland Distribution Price Review the AER acknowledged this:

"The AER notes that Energex has increased its focus on a condition based risk management approach for asset replacement and renewal rather than on the age of the asset alone. The AER considers a condition based replacement program is more efficient than one based solely on asset age.

*... The AER considers that a condition based approach which takes into account a range of factors (one being asset age) is more likely to result in an efficient outcome.*⁴⁶

However, in the Victorian Draft Determination the AER has decided to base its substitute forecasts on the outputs of a repex model which heavily relies upon asset age without any meaningful consideration of the condition of assets. Specifically, the AER's chosen approach fails to take into account:

- identified fleet problems;
- non-homogenous rates of deterioration;
- asset condition; and
- trends in failure rates.

SP AusNet disagrees with the AER's approach to forecasting replacement capex in light of the weaknesses in repex model and its previous decisions. Again, SP AusNet had reasonably anticipated that the AER would continue to adopt its previous approach in this regard. There is no adequate justification in the NER on which the AER can rely for its new approach. SP AusNet had not only formed a reasonable expectation that the previous approach would be adopted, but had relied on this reasonable expectation.

⁴⁵ AER, *Draft Determination, South Australia*, pp. 120-121.

⁴⁶ AER, *Draft Determination, Queensland*, p. 110.

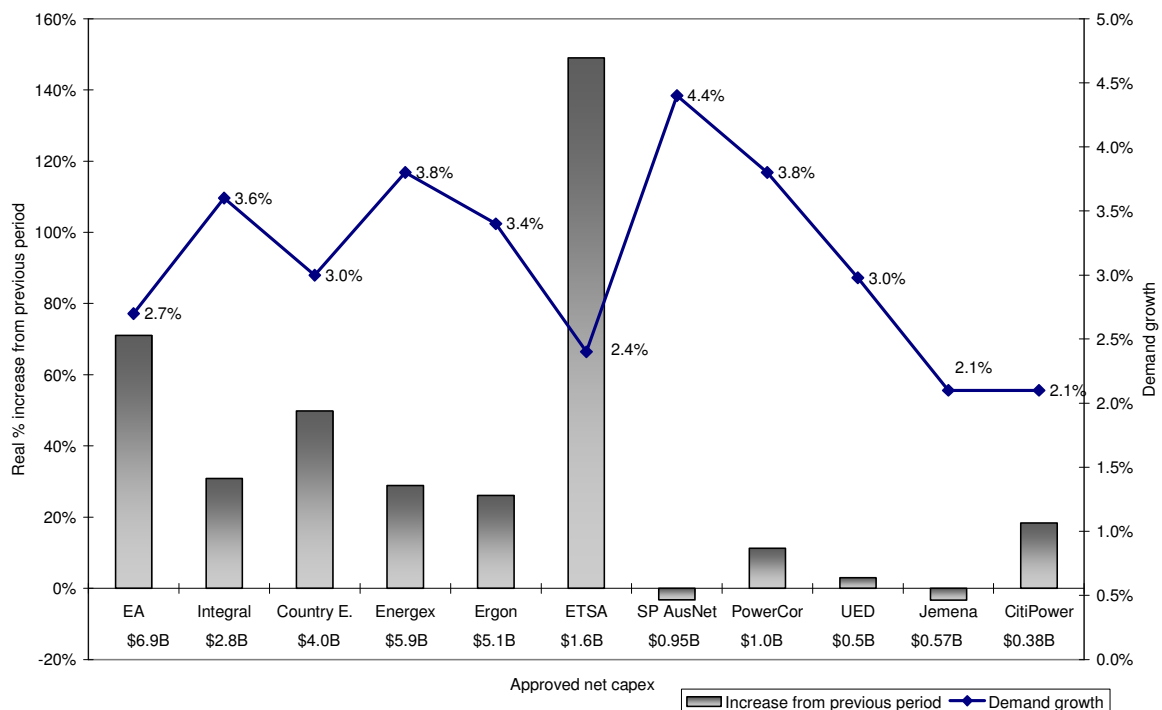
Impact of AER’s inconsistent approach

A capital expenditure factor the AER must take into account is the benchmark capital expenditure that would be incurred by an efficient DNSP over the regulatory control period (Rule 6.5.7 (e) (4)).

The AER’s changed views in relation to the use of historical expenditure, criticism of bottom up forecasting and emphasis on age-based asset replacement in the Victorian Draft Determination has produced a dramatically different interpretation of the meaning of “benchmark capital expenditure that would be incurred by an efficient DNSP” as compared to recent determinations.

In contrast to the approved increases in capex in Queensland, NSW and South Australia, the AER’s Draft Determination for Victoria provides capex allowances for the majority of the DNSPs at, or below, the current level of expenditure. This is in a context where demand growth is fairly matched across all of the jurisdictions. This is illustrated in the figure below.

Figure 6.3: AER Net Capex Decisions across the NEM (real 2010\$)



Notes:

- (1) Victoria’s figures are from the AER Draft Determination while all others are based on AER Final Decisions.
- (2) Victoria’s current expenditure based on 2006-08 actuals and expected 2009-10 expenditure as per Regulatory Proposals.

SP AusNet notes that each of these jurisdictions face similar cost drivers, in particular:

- continued peak demand growth, and increased penetration of air conditioners;
- increased network utilisation;
- ageing assets; and
- programs to address network security and environmental risks.

These challenges were highlighted by SP AusNet in its Original Proposal, but the outcome from the Draft Determination is very different from that experienced in other jurisdictions. Instead, the AER's focus appears to be on the relative efficiency of the Victorian businesses and the strength of the local economy, as illustrated in the following comments:

"The Victorian distributors have each sought substantial increases in expenditure compared with recent trends. Overall, increases of over 66 per cent in capital spending and 38 per cent in operational expenditure have been proposed.

'These substantial increases in network expenditure are not justified when you consider the fundamental characteristics of the Victorian distribution network,' Mr Andrew Reeves, acting AER Chairman, said today."

"On the whole, the Victorian distributors are efficient operators of a mature and comparatively reliable network. They have performed well over the current five year period and have also had the benefit of a strong economy and strong sales."⁴⁷

The stark difference in interpretation of efficient benchmark capital expenditure taken in the Victorian Draft Determination compared to that applied in other jurisdictions undermines the potential benefit of consistent regulation across jurisdictions, namely, improved regulatory certainty. A major objective in establishing a national regulatory framework and a national economic regulator was to provide more consistent regulatory decision-making and outcomes across the NEM. SP AusNet therefore encourages the AER to apply a consistent approach in its decision making, and treat all DNSPs on an equitable basis, as discussed above.

6.3.2 Forecasting Accuracy and Trend Analysis

SP AusNet is concerned that Nuttall Consulting makes a number of unfounded criticisms regarding the accuracy of SP AusNet's forecasting record. These adverse findings are reflected in Nuttall Consulting's conclusions and the AER's Draft Determination. The particular statements that concern SP AusNet are set out below:

"The average level of forecasting inaccuracy for the Victorian DNSPs over the last 8 years is 33%. This means that proposed expenditures are on average 33% more than the actual expenditures incurred by the DNSPs for the last two Regulatory Control Periods."

"... there has been a consistent inaccuracy in the estimating of capex in the remaining years of a Regulatory Control Period. SP AusNet are the only DNSP to provide an estimate that was subsequently overspent.

"...If we consider the absolute error in terms of 2005 forecasting, the average for Victoria is 35.8%. This is a very large forecasting error considering the relatively short timeframes involved."⁴⁸

Notwithstanding the acknowledgement that SP AusNet are the only DNSP that overspent, the AER's Draft Determination:

- places little weight on SP AusNet's capex forecasts for the forthcoming regulatory period on the presumed basis that DNSPs capex forecasts have tended to reflect this low level of accuracy; and

⁴⁷ AER, Media Release *AER rejects big increases to network charges for Victorian distributors but provides for efficient investment*, 4 June 2010.

⁴⁸ Nuttall Consulting Report, pp. 23-24.

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- sets aside of 2009 and 2010 capex estimates for the purpose of establishing historical trends, on the presumed basis that DNSPs may have tended to overestimate capital expenditure in the final years of a regulatory control period for the purpose of achieving a more favourable outcome in the next regulatory control period.

Neither of these criticisms can be levelled against SP AusNet and, to the extent AER has relied on the Nuttal analysis to make its decisions on SP AusNet capex forecasts, it is in error. The AER cannot reasonably rely on these tendencies in setting capex, if there has been no actual engagement in these tendencies. Furthermore, to bundle the DNSPs together as a group on the basis of these tendencies, where there is evidence that SP AusNet can be distinguished in relation to each of the tendencies, indicates a bias, or at least an unreasonable exercise of discretion by the AER.

The table below shows the forecasting accuracy for the regulatory control periods for networks in the last completed price review under SP AusNet ownership (note positive numbers indicate an overspend).

Table 6.2: Capex Forecasting Accuracy of last Regulatory Period

Price Review Proposal Forecast	Versus Regulatory Benchmark	Versus SP AusNet Forecast
Transmission 2002/03 to 2007/08	8.4%	8.4%
Gas Distribution 2002 to 2007	9.6%	-10.0%
Electricity Distribution 2001 to 2005	21.6%	5.5%

Sources: Actuals sourced from regulatory accounts, allowances and SP AusNet forecasts sourced from relevant Decisions and Proposals.

Notes: For transmission the calculation includes the transition year from the Victorian to National Regime. The ACCC accepted the SP AusNet capex forecasts in the 2002 Review. For electricity distribution, the comparison has excluded any capex SP AusNet has invested for reliability improvement as this is not intended to be funded from the ESCV allowance.

From this table it can be observed that:

- the actual expenditure has been within 10% of SP AusNet's own forecasts for all networks;
- there is no systematic underspending of the regulatory allowance. In fact, there has been systematic overspending; and
- for electricity distribution specifically there has been no systematic over forecasting of the allowance and SP AusNet's forecasts for the 2006 to 2010 regulatory control period made at the 2006 EDPR⁴⁹ was significantly superior to that of the regulator (an overspend of 5.5% relative to SP AusNet's forecasts compared to an overspend of 21.6% relative to the regulator's forecasts).

⁴⁹ EDPR 2006-10 Final Decision Volume 1 Statement of Purpose and Reasons, Table 7.5, p. 259.

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The table below shows SP AusNet's forecasting accuracy for the final two years of the regulatory control periods for all networks in the previous price review under SP AusNet ownership. The last column indicates whether SP AusNet over or underspent in the final year after an amount had been accepted by the regulator in its Final Decision (note positive numbers indicate an overspend). This final column is important because it indicates whether SP AusNet's updated forecasts for year 5 of a price review (2010 in this price review) can be considered reliable.

Table 6.3: Capex Forecasting Accuracy of Year 4 and 5 of a Price Review

Price Review Proposal Forecast	Actuals vs Year 4	Actuals vs Year 5	Actuals vs Final Decision
Electricity Distribution 2004 and 2005	13.7%	48.8%	19.3%
Transmission 2006/07 and 2007/08	-1.4%	-1.8%	4.7%
Gas Distribution 2006 and 2007	-1.5%	-1.4%	-6.8%
Electricity Distribution 2009 Gross	-6.7%	na	na
Electricity Distribution 2009 Net	-8.1%	na	na

Sources: Singapore Power Price Service Proposals for the Period 2006-2010, Appendix H: Templates
 SP AusNet Transmission Proposal 2008/09 – 2013/14
 SP AusNet GAAR
 SPI Electricity Pty Ltd EDPR 2011-2015 Regulatory Proposal
 SP AusNet regulatory accounts

From this table it can be observed that:

- SP AusNet's estimation accuracy for Year 4 and Year 5 of the regulatory period is excellent, with one exception noted below; and
- there is no systematic over forecasting of Year 5 of the regulatory period or underspending once locked in and approved in a Final Decision (which can differ to the forecast).

It is noted that the forecasts for the 2004 and 2005 in the previous regulatory control period were established by the network's previous owner, TXU, and reflected an approach to network investment and performance that differs from SP AusNet's present approach, especially in light of greater awareness of potential external factors. Following Singapore Power's purchase of the business, the new owners identified additional spending requirements. SP AusNet undertook this spending despite the fact that no return was to be received over the next 5 years. This example illustrates SP AusNet's commitment (at some financial cost) to the safety and reliability of its networks, and the establishment of a pattern that, with hindsight, has become even more justified.

Therefore, SP AusNet finds that Nuttall Consulting's criticisms regarding the accuracy of SP AusNet's forecasting record are without foundation. Consequently, SP AusNet considers that the AER should re-examine its conclusions in light of the above evidence and SP AusNet's actual data for 2009.

6.3.3 Failure to differentiate SP AusNet

Further the Draft Determination draws conclusions for the Victorian DNSPs as a whole that do not apply to SP AusNet^{50,51}:

“The DNSPs forecasts of their capex over 2001–08 are significantly higher than the actual capex spent by DNSPs over 2001–08. The AER’s trend analysis indicates that DNSPs’ past capital expenditure forecasts have been high and that DNSPs are again forecasting significant growth in their capital expenditure in the forthcoming regulatory control period. DNSPs’ actual capital expenditures on the other hand have been substantially below their forecast allowance consistently over time.”

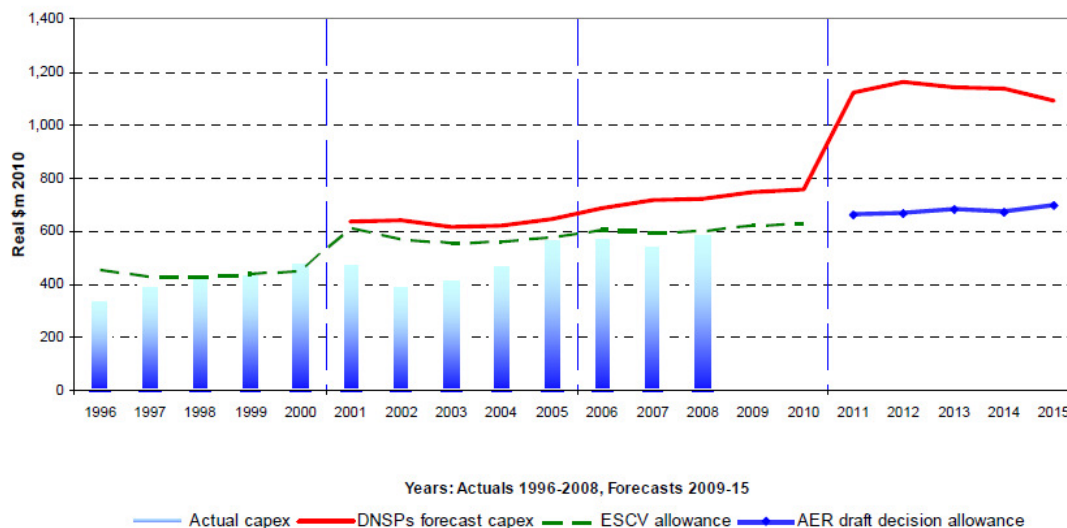
and

“This AER’s trend analysis suggests that the DNSPs’ capital expenditure forecasts tend to systematically over estimate capital expenditure. DNSPs appear to spend significantly less than forecast, and previously allowed, and DNSPs’ actual capital expenditure tends to follow a fairly gradually increasing trend.”

This reflects an inappropriate exercise of the AER’s discretion under the NER and the NEL.

The graph below is reproduced from the executive summary in the Draft Determination. It also illustrates that the AER has mistakenly focused on the Victorian distribution businesses as a group, rather than making distinctions where it is reasonable to do so.

Figure 1 Victorian DNSPs’ current and forecast capex and AER draft decision capex forecast



Source: AER analysis.

As noted above, however, in the case of SP AusNet:

- there is no systematic underspending of the regulatory allowance. In fact, SP AusNet has overspent compared to the regulatory allowance; and

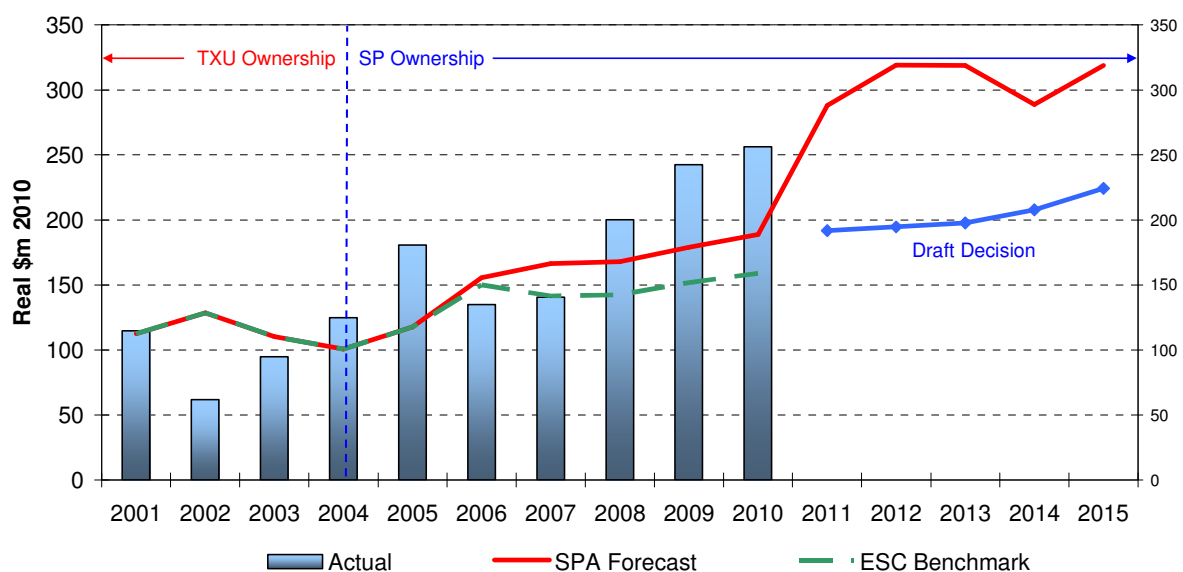
⁵⁰ AER, *Draft Determination*, pp. 292-3.

⁵¹ AER, *Draft Determination*, pp. 292-3.

- SP AusNet’s overall forecasting record is very good.

The figure below shows the AER’s graph as it applies to SP AusNet alone. It further illustrates that the AER’s capex allowance in the Draft Determination is out-of-step with recent levels of capex. Furthermore, the figure also illustrates that a top-down assessment (notwithstanding its serious limitations) suggests that SP AusNet’s forecast capex is consistent with recent trends. In the remainder of this Chapter SP AusNet provides detailed comments in relation to each capex category.

Figure 6.4: SP AusNet current and forecast capex



6.3.4 Conclusion

A proper consideration of SP AusNet’s actual forecasting record shows that the company has a very good forecasting record. It further indicates that there is no systematic bias to either over- or under-forecast capex, contrary to the conclusions drawn by the AER in its Draft Determination. In addition, the information provided in this section illustrates that SP AusNet’s updated forecasts of ‘year 5’ capex submitted during a price review can be regarded as reliable and unbiased. These conclusions are highly relevant to the AER’s unreasonable rejection of SP AusNet’s forecasts for 2009 and 2010, which has distorted the AER’s trend analysis and conclusions regarding SP AusNet’s capex requirements. This shows inherent bias in the exercise of the AER’s discretion, contrary to the requirements of the NER and the NEL.

In particular, the AER has not given due consideration to:

- the actual and expected capital expenditure of the DNSP during the preceding regulatory control period as required by Rule 6.5.7(e)(5); or
- information included in the Original Proposal or submissions received in the course of consulting on proposal as required under Rules 6.5.7(e)(1) and (2); or
- the individual circumstances of SP AusNet as required under Rule 6.5.7(c)(2).

6.4 Outsourcing and related party transactions

6.4.1 Overview of Original Proposal

SP AusNet lodged the Original Proposal in November 2009 which included detailed information in relation to related party arrangements applicable to the current regulatory control period (2006-2010) and the forthcoming regulatory control period (2011-2015). The AER found the Original Proposal compliant with the NER and RIN on the 24th December 2009. The RIN templates provided by the AER were also completed in accordance with the instructions issued, even though, on principle, there were matters where SP AusNet did not agree with the requirement in connection with these matters.

As part of its complying proposal, SP AusNet detailed \$17.2 million (including margins) of Capital works carried out by Jemena Asset Management (JAM) in 2009 and in the RIN templates forecast this level of expenditure to continue into 2010 and for the 2011-2015 period. The treatment of the margins was disclosed in the RIN templates.

In March 2010, SP AusNet received a request from the AER to confirm:

*“...that the excluding related party margins expenditure outlined above (capex (sheet 3.1), opex (sheet 3.2) and maintenance (sheet 3.3)) does not include:
any performance related payments paid by the DNSP to a related party, or
any other amount above the expenditure actually incurred or forecast to be incurred by the related party”⁵²*

In its response⁵³, SP AusNet confirmed the AER’s request and provided further information and reasoning as to why it was inappropriate to adjust for related party margins.

6.4.2 AER’s Draft Determination

The Draft Determination disallowed the related party margin for the capital works provided by the Jemena Group under a preferred service provider agreement. The AER argues that as:

- SP AusNet did not have an incentive to enter into an arm’s-length arrangement with the Jemena group, and
- there was no competitive tendering process prior to the procurement of these services,

the AER cannot presume that the costs to be incurred by SP AusNet under the agreement reflect efficient costs or costs of a prudent operator.

The AER noted that the corporate costs of the Jemena Group allocated to SP AusNet had already been factored into the base opex and capex forecasts, hence an additional margin to compensate for a share of the Jemena Group’s overheads was not appropriate as this would be an over-recovery of these costs.⁵⁴

In regard to assets owned and utilised by these Jemena Group entities in providing services to SP AusNet, the AER stated that it was not aware of any such assets which were not already contained within SP AusNet’s regulatory asset base. The existence of such assets could warrant the owners earning a return on and return of these assets.

⁵² Email from AER (Scott Sandles) received on 17 March 2010.

⁵³ SP AusNet, ‘RIN Templates – Related Party Margins – 22 March 2010’, p. 3.

⁵⁴ Victorian Distribution determination – Draft Decision, p. 194.

6.4.3 SP AusNet's response to the issues raised by the AER

In previous responses to the AER on this matter, SP AusNet has detailed its treatment of related party margins, in particular how they relate to expenditure that in the past had been undertaken by the Jemena Group, and their impact on future works, whether undertaken by the Jemena Group or others. SP AusNet believes the AER has made an error of fact in the Draft Determination by removing from the capex forecasts the amounts relating to margins that may be incurred via a related party charge. This amount should be reinstated to avoid this error. The various reasons for reinstating this amount are detailed below.

Bottom up approach to establishing the Capital expenditure forecasts

SP AusNet is concerned the AER has failed to understand that by removing forecast related party margin, they have ignored the benchmark costs established by the robust planning process as provided on 22 March 2010 and further elaborated below.

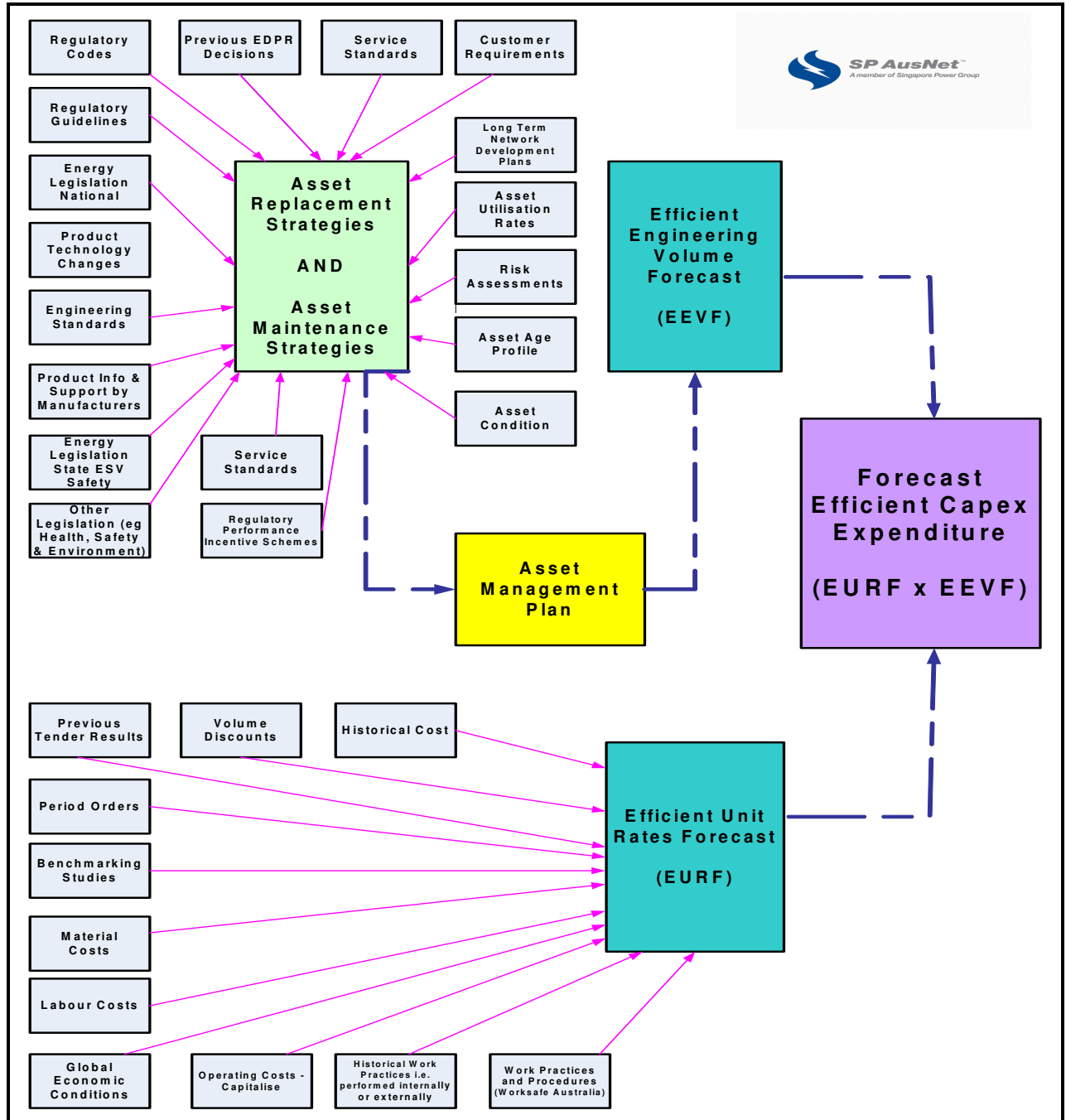
Figure 1 below details the 18 inputs and interdependencies that need to be included in determining SP AusNet's Asset Management Replacement and Maintenance Strategies and the 11 inputs and interdependencies that form the basis of the Efficient Unit Rates Forecast included in the RIN templates to the Asset Management Plan presented by SP AusNet.

Figure 1 is consistent with SP AusNet's Asset Management Process detailed in Section 2.2.4 of SP AusNet's Asset Management Strategy⁵⁵ and with our response lodged on 19 March 2010 in relation to the AER's questions requesting confirmation of cost increase data.

SP AusNet reiterates the position taken in discussions with the AER and its Consultants that Asset Management Planning and the development of Efficient Unit rates Forecasting is a complex and integrated process, to perform blanket adjustments on assumptions in relation to one particular aspect, which **may** or **may not** materialise, undermines the sound asset management and economic principles of the proposal.

⁵⁵ Asset Management Strategy SP AusNet November Pricing Proposal.

Figure 6.5: SP AusNet’s Capital & Maintenance Work Program Process



SP AusNet believes that the capital and maintenance costs should not be adjusted as:

- the forecasts are supported by robust asset management plans developed with complex interdependencies as shown above;
- the forecast volumes of work are those required to maintain its network and to deliver on SP AusNet’s legal obligations; and

- the unit costs are efficient benchmarked costs regardless of who performs the work.

SP AusNet cannot stress too highly that it does not decide what projects are allocated to JAM (or any other contractor, for that matter) in building up the forecast capex. The Asset Management Plan determines what and when the work needs to be done and depending on the differing contractors' availability in a given year the work is either carried out internally, allocated to a contractor on our Installation Service Provider panel (derived from a competitive tender process) or tendered out.

Materiality of related party margins

Given the relative immateriality of the amounts concerned when considered in the context of the operations of a distribution business (0.38% in the case of capex and 0.07% in the case of opex) and the fact that a decision on the allocation of work going forward is yet to be made, SP AusNet believes that it is inappropriate to remove the margin at this time. Should the work be undertaken by a third party it would be expected to include such a margin.

SP AusNet challenges the Draft Determination's position that if the related party does not have an "incurred cost" for each line of its charge then the charge should be treated as a profit margin. All companies, regulated or not, incur depreciation and cost of capital costs which are not always revealed just by looking at the makeup of the charges and the statutory accounts. SP AusNet believes related parties should be allowed a return of and return on capital invested just as non related parties include an allowance for these costs in determining their profit margin.

It is also important to note that as a listed company, SP AusNet has in place thorough and rigorous processes to ensure that commercial relations with the Jemena Group are conducted on terms that are no more favourable than arm's-length terms. The Board of Directors has established a committee that specifically considers every related party transaction, and approves such transactions only if they are deemed to reflect proper, commercial terms.

Just as SP AusNet treats its transactions with the Jemena Group on commercial terms, so too should the AER in assessing related party margins. To do otherwise reflects an improper exercise of the AER's discretion, contrary to the NER.

Uncertainty in relation to the future allocation of work

The type of works that are allocated to JAM are the same type of works that were subject to a competitive tender process which established SP AusNet's panel of prequalified Installation Service Providers (ISPs). This tendering process included Alinta Asset Management now JAM before they were a related party.

While JAM is a preferred services provider to SP AusNet, the allocation of works to be undertaken and the costs incurred are subject to a level of peer review by SP AusNet. Where projects are to be undertaken by JAM, a proposed contract price is provided and an internal assessment undertaken to ensure an understanding of the works involved and that the costs are reasonable and in line with previously tendered amounts either by JAM or other ISPs. Where costs are deemed to be unreasonable, a review is requested and any disputes are considered by an Executive Panel.

Works undertaken by others are generally subject to a formal process involving service suppliers registered on SP AusNet's Installation Service Provider's panel. In order to encourage competition under this process, suppliers are not advised of any 'right of last response' that a preferred supplier may have.

Margin to include recovery of Corporate Costs

SP AusNet accepts that there should not be a double recovery of a related party's corporate costs except where the related party is not a regulated entity and makes a majority of its margin from services to non-regulated entities. Any corporate / overhead costs of non related parties are recovered in the margin they earn and the market will determine by how much they over recover their costs. All non regulated related parties should be allowed to recover their corporate / overhead costs over their whole customer base.

6.4.4 SP AusNet's revised outsourcing and related party transactions forecast

SP AusNet advises that in the current RIN template 2.1 Capital Expenditure of the Revised Proposal, SP AusNet have not included any forecast for related party costs or margin as SP AusNet have not determined how much and what type of work would be allocated to a related party.

6.5 Overheads

6.5.1 Overview of Original Proposal

SP AusNet's Original Proposal did not directly address the issue of overheads although the proposed Cost Allocation Methodology and material supplied in support of the proposal did document its calculation.

6.5.2 AER's Draft Determination

The capex chapter of the Draft Determination provides no explanation of the adjustments made to SP AusNet's capitalised overheads. However, chapter 13 dealing with the efficiency carryover amounts for 2006-10 explains at a high level that adjustments to SP AusNet's proposed overheads were made on the basis that:

"SP AusNet has confirmed that it has capitalised both direct and indirect corporate overheads for the current regulatory control period. That is, the amount of 'indirect overheads' reported by SP AusNet includes both direct and indirect overheads. SP AusNet has also advised that it is not able to identify the amount of direct and indirect overheads that have been capitalised over the 2006–10 regulatory control period.¹¹⁵ In the absence of information from SP AusNet, the AER has assumed that 50 per cent of the total amount of 'indirect overheads' reported over the 2006–10 regulatory control period is attributable to indirect overheads."⁵⁶

With regards to both indirect and direct overheads the Draft Determination states:

"... the basis of the proposed rate of direct [indirect] overheads was not clear to the AER, and has not been supported in any documentation provided in the Victorian DNSPs' regulatory proposals.

...the AER considers that historical indirect overheads incurred provides a reasonable starting point to forecast direct overheads for the forthcoming regulatory control period."⁵⁷

With regards to direct overheads the AER⁵⁸:

⁵⁶ AER, *Draft Determination*, p. 585.

⁵⁷ AER, *Draft Determination*, pp. 298-99.

⁵⁸ AER, *Draft Determination*, p. 298.

“adjusted the proposed direct overheads where the DNSP has forecast direct overheads, as a percentage of direct costs, greater than historical levels.”

With regards to indirect overheads the AER:

“The AER has taken 2009 as the base year from the Victorian DNSPs’ regulatory accounts, and has made some adjustments to actual amounts provided in the regulatory accounts.

...Further, the AER notes that SP AusNet has an element of direct overheads in its base year (as reported in its regulatory accounts). The AER has adjusted for this by assuming that 50 per cent of the 2009 overheads in the base year relates to indirect overheads. The AER has also removed allowances for management fees included in SP AusNet’s forecast indirect overheads, consistent with the AER’s draft decision on outsourcing and related party transactions.”⁵⁹

These base costs were then escalated for growth and real price increases consistent with the approach used for opex forecasting.

6.5.3 SP AusNet’s response to the issues raised by the AER

SP AusNet does not accept the Draft Determination with respect to the calculation of capitalised overheads.

Split of overheads into direct and indirect

It is SP AusNet’s contention that the AER has incorrectly exercised its discretion in relation to its treatment of the adjustments, in a manner inconsistent with the NER.

With regards to the 50/50 split of overheads into direct and indirect, SP AusNet considers the AER split of overheads is purely arbitrary and is not justified. No adequate explanation of the rationale for this treatment has been provided. Furthermore, the AER declined to provide definitions upon which an estimated split could have been based despite being informed that such definitions would be required before such a split could be estimated:

“As noted in previous correspondence, SP AusNet does not capture, or classify, overhead costs as ‘direct’ or ‘indirect’. All ‘shared costs’ from all parts of the business that are not directly attributed to O&M or Capex, are ‘pooled’ and a portion capitalised if advised through the ABC survey process (for further information on this, please see SP AusNet’s draft CAM).”

Moreover, it is noted that neither the EIG3 nor the GIG17 makes the distinction between ‘direct’ and ‘indirect’ overheads - just overheads. Therefore, neither guideline provides any guidance or definition on this issue. Furthermore:

- The electricity and gas regulatory account templates seek disclosure of only capitalised overheads - not ‘direct’ or ‘indirect’ overheads. As such, SP AusNet has never developed a framework, methodology, systems etc to make this split, as no-one either internal or external to the business has ever considered it important enough to ask for it; and*
- During the RIN process, no definitions were provided by the AER to inform this requested disclosure between ‘direct’ and ‘indirect’ overheads, and moreover, it was SP AusNet’s understanding that it could disclose the information that it had, and explain where it didn’t have certain information (which it has done).*

⁵⁹ AER, *Draft Determination*, p. 299.

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Therefore, in summary, when preparing its Proposal, SP AusNet didn't have at its disposal a split of its overheads between 'indirect' and 'direct' overheads, nor did it seek to develop a methodology to split overheads between these two categories for the purposes of populating the RIN. Therefore, throughout this regulatory process, SP AusNet has only ever disclosed 'Total Overheads', with these arbitrarily being placed into the 'indirect overhead' rows within the RIN.⁶⁰

SP AusNet notes that at no stage throughout this regulatory process did the AER:

- provide a definition of "indirect" versus "direct" overheads; nor
- inform SP AusNet of this material issue, namely the definition of what was a 'direct' versus an 'indirect' overhead, as required under Section 16 (1)(b)(i) of the NEL.

SP AusNet does not believe that such a split is required to allow a thorough assessment of the reasonableness of its overhead capitalisation methodology. However, if the AER wishes an assessment to be made on this basis, it must provide the required definitions under Section 16 (1)(b)(i) of the NEL.

Use of the historical levels of overheads

SP AusNet reiterates that its capitalisation policy has remained unchanged since 2001. As such, historical levels of capitalised overheads are a reasonable starting point for the assessment of the proposed overheads.

An examination of the RIN template information would also confirm that the forecast amount of capitalised overheads remains very similar to the amount that applied in 2009. This is shown in the table below

Table 6.4: Reconciliation of capitalised overhead forecast with 2009 historical

	2009 \$M \$Nominal	2010 \$M real \$2010	2011 \$M real \$2010	2012 \$M real \$2010	2013 \$M real \$2010	2014 \$M real \$2010	2015 \$M real \$2010	2011-15 \$M real \$2010
2009 Capitalised Overheads on System Assets (source: 2009 Regulatory Accounts)		33.8						
EGW Real Labour Growth Factor		5.2%	1.4%	1.9%	2.7%	2.6%	2.4%	
x Assumed 65% Overheads Labour		65%	65%	65%	65%	65%	65%	
= Forecast Labour Overheads Growth		3.4%	0.9%	1.2%	1.8%	1.7%	1.6%	
Scale Escalation		1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	
Plus CPI (2010 only)		1.26%						
Forecast Capitalised Overheads		35.9	36.6	37.6	38.7	39.8	41.0	193.7
Forecast System Direct Capital Expenditure (Direct PLUS Cost Changes)								1,218.4
Forecast Capitalised Overhead Rate								16%

⁶⁰ SP AusNet, Response to AER information request, 30 March 2010.

Adjustments to overheads for management fees

This issue is dealt with, in detail, in section 7.2 in the Opex Chapter. Nonetheless, SP AusNet can confirm that no management fees are included in the forecast of overheads.

Capex/Opex trade off

In its treatment of overheads, SP AusNet notes the Draft Determination has removed some costs from overheads but has not made a compensating adjustment to opex. It is also noted that the Draft Determination, has not claimed these costs are not being incurred, rather they have commented only as to their treatment as capital versus operating expenditure. This *prima facie* does not provide SP AusNet an opportunity to recover its efficient costs as per Section 7A (2) of the NEL. The AER must be cognisant that, regardless of these costs treatment as capital (as capitalised overheads) or operating expenditure, the costs are being incurred.

In taking this approach the AER has not had regard for the capital expenditure factors outlined in Rule 6.5.7(e). In particular, the AER has not had regard for “*the substitution possibilities between operating and capital expenditure*”. SP AusNet would highlight that fact that if costs are not recovered as overheads they must be recovered as operating costs.

Concluding comments

This section has explained that:

- there is no basis to the AER decision to split overheads 50/50 into direct and indirect overheads and that this is not necessary to assess the reasonableness of the forecasts;
- SP AusNet’s capitalisation policy has remain unchanged since 2001 and that the forecast overhead capitalisation is consistent with historical amounts capitalised during the current regulatory control period;
- the AER has made an error of fact in relation to adjustments to overheads to remove management fees; and
- the AER has made an error of fact in excluding overheads from capex yet not making a compensating upward adjustment to opex.

As such, SP AusNet has reinstated its existing overhead methodology to calculate capitalised overheads for the Revised Proposal. A full description of the methodology used to calculate the overhead capitalisation rate and demonstration that this rate generates overheads entirely consistent with the historical amounts is contained in the support document “*SP AusNet 2011-15 Overhead Capitalisation Rate*”.

SP AusNet would welcome further dialogue with the AER on this issue if it considers that further information is required in order to allow the AER to more fully appreciate this issue. SP AusNet also considers that it reasonable the AER provide it an opportunity to review and comment on its overhead modelling prior to making the Final Determination.

6.5.4 SP AusNet's revised overheads forecast

SP AusNet's revised capitalised overhead forecast is shown in the table below.

Table 6.5: Revised Proposal Capitalised Overheads Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	36.0	39.5	40.6	35.5	42.1	193.7

6.6 Reinforcement Capex

6.6.1 Introduction

SP AusNet's Original Proposal explained that its approach to planning for network reinforcement is documented in the Distribution Network Planning Guide.

SP AusNet's Original Proposal noted that its actual reinforcement capex in the current regulatory control period is expected to exceed the allowance provided in the 2006 EDPR Determination. Furthermore, SP AusNet forecast that its reinforcement capex requirements would approximately double from current levels over the forthcoming regulatory control period (including overheads and escalation). SP AusNet identified the following factors that drive reinforcement capex:

- peak demand growth has been greater than expected in the current regulatory control period. The rate of increase in actual demand from the 2005/06 summer to the 2008/09 summer of 6.7% per year has been significantly higher than the 3.7% per year forecast;
- peak demand growth expected at a rate of 4.4% per year (50% POE) for the forthcoming regulatory control period;
- the growing levels of energy at risk and network utilisation are unsustainable and require stabilisation;
- increases in project costs in the current regulatory period, and these costs are expected to continue to increase in real terms; and
- reduced capacity being available within the network due to peak demand shifting from overnight hot water to summer afternoon in certain areas.

The table and figure below show SP AusNet's forecast reinforcement capex as presented in its Original Proposal.

Table 6.6: Original Proposal Reinforcement Capex Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	68.2	87.6	78.9	84.2	85.3	404.2

The AER's Draft Determination provides SP AusNet with \$170 million (direct, excluding overheads and escalation), or 53% of SP AusNet's proposed reinforcement capex (which was \$321 million direct). At this level of reinforcement capex, the following major problems will arise on SP AusNet's network:

- Energy at risk at zone substations will climb to nearly 80,000 MWhrs, equating to approximately \$22 million in annual economic cost to customers based on VCR.
- Utilisation will climb to 83% at zone substation level. This loads the system to nearly capacity, making it brittle and less able to cope with outages. Furthermore, this takes SP AusNet's utilisation to a level significantly higher than the industry average of 65-70%. In this instance, it would be unlikely that SP AusNet could meet its planning standards without further unfunded expenditure.
- Loading on 46 22kV feeders will remain above rating, compromising safe clearances to roadways.
- Number of zone substations operating above N – 1 rating will climb to 30 out of 48.
- Nine 66kV loops will face voltage collapse for line outages at high demand out of 19 loops.
- Cuts to 60% of the targeted distribution transformer upgrade program will result in increased exposure to catastrophic failure of transformers to some 19,000 customers during extreme hot days in the coming summer. Such failures are of major concern if they occur in heavily vegetated areas during summer because of the prevalence of bushfire risk in these areas.

Another consequence of being forced to adopt the AER's proposed reinforcement spend is that SP AusNet will be unable to meet its planning standard. SP AusNet notes that in this respect, the AER's Draft Determination on reinforcement is inconsistent with the capex objectives in 6.5.7(a)(2) and (3), which require the maintenance of quality, reliability, security and safety of services and the distribution system.

In light of the above outcomes, SP AusNet does not accept the AER's decision to set aside SP AusNet's forecast reinforcement proposal. In the following sections SP AusNet:

- addresses each of the AER's concerns to explain why these concerns are unfounded; and
- demonstrates that SP AusNet's reinforcement capex proposal meets the requirements of the NER, and should be accepted by the AER.

6.6.2 Historic and forecast reinforcement capex

Historical expenditure levels should not form the basis for forecasting the future needs of SP AusNet's network for a number of reasons.

Firstly, a view that historical costs can be regarded as an efficient base for determining forecasts does not recognise that the future will be different to the past. It would be imprudent to continue historical spending levels given that they have occurred against a background of steadily increasing network utilisation and risk. This is explained in more detail in section 6.1.3 below.

Further, it fails to recognise that one-off cost savings have been achieved by changes in the planning standard and cannot be sustained indefinitely. In a mature network where a consistent planning standard is applied through time, there would be a "diversity" of low marginal cost and higher marginal cost solutions to adding capacity. In such a situation it might be reasonable to

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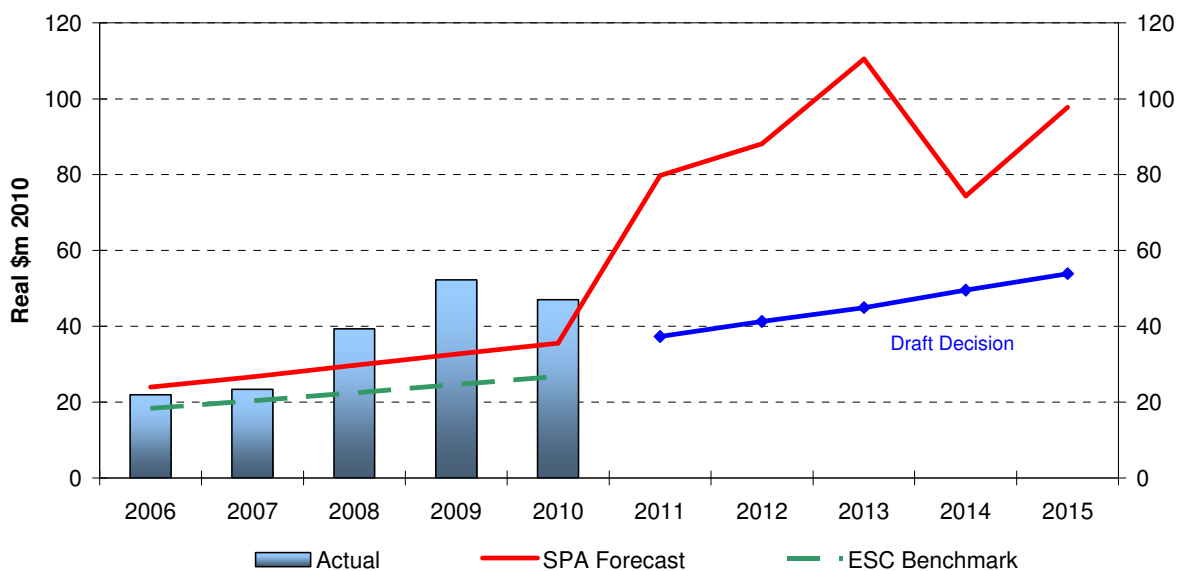
expect some consistency across successive regulatory periods in the level of reinforcement capex. However in SP AusNet’s case, a change in planning standard in the late 1990s (in particular, relaxation of the deterministic N-1 requirement) has enabled energy at risk to increase over the current period towards a permitted level, having regard to the trade-off between the marginal cost of reinforcement and the marginal value of supply reliability.

As such, SP AusNet’s relatively modest level of historical capex cannot be used as a future trend given that it was facilitated by the changed planning standard, the benefits of which are now exhausted. SP AusNet is unable to lower the planning standard further given that the likely result would be increased network outages.

Despite the above considerations, the AER believes that historical actual spends are a clear indicator of required and efficient expenditure, noting that “historical costs in relation to an activity can be regarded as an efficient base for determining an alternative view for that activity.”⁶¹

In the case of reinforcement, the AER considers that the DNSPs need to take greater account of historical actual expenditure levels as a starting point for forecast expenditure.⁶² The AER considers that the Draft Determination provides SP AusNet with a regulatory allowance consistent with its historical spend. However, this is not the case because the AER has ignored the trend in historic expenditure by excluding 2009 and 2010 data (having decided not to use unaudited data in its analysis). More recent estimates of 2010 expenditure and 2009 audited data are now available, which confirm the strong upward trend in recent reinforcement expenditure.

Figure 6.6: Historical expenditure against forecast and regulatory allowance



The figure above shows the real increase in reinforcement expenditure which has taken place over the 2001-10, consistent with the growing marginal cost of addressing high levels of network utilisation and energy at risk. It also shows that these costs are unavoidable, as SP AusNet has

⁶¹ AER, *Draft Determination*, p. 288.

⁶² AER, *Draft Determination*, p. 335.

overspent its reinforcement regulatory allowance by \$71 million (real) and its original forecast by \$42 million (real).

This demonstrates that the level of reinforcement expenditure provided by the AER's Draft Determination is well below level implied by the historical trend. It is clear that if the reinforcement decision is unchanged in the Final Determination, this will continue the pattern of SP AusNet being under-funded for its reinforcement requirements by the Regulator.

In summary, it is inappropriate to apply a historical trend to SP AusNet's reinforcement program given that it is not a sound basis to estimate future needs. Furthermore, any analysis of historic trends must include audited 2009 expenditure and the latest 2010 estimates.

6.6.3 Required reinforcement capex step change

The AER's Draft Determination rejects SP AusNet's view that reinforcement capex should increase significantly in the forthcoming regulatory period. Instead, the AER argues that SP AusNet's reinforcement capex for the forthcoming regulatory period should be consistent with recent levels of historic capex.

Contrary to the AER's view, however, historic expenditure levels cannot be maintained without compromising network reliability. This observation is best illustrated by the number of zone substations operating above N – 1 rating at maximum demand:

- in 1999 there were 6 zone substations (16%) operating above N – 1 rating;
- in 2004 there were 17 zone substations (40%) operating above N – 1 rating; and
- in 2010 there are 23 zone substations (52%) operating above N – 1 rating.

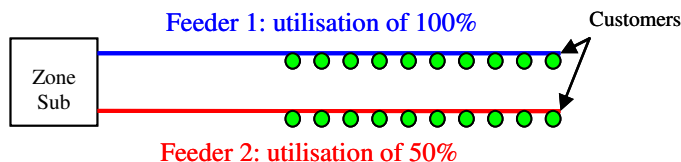
A similar issue applies at the 66kV level where there are now 8 out of 19 66kV loops above 110% of N – 1 rating at maximum demand. SP AusNet now has many more locations in the network that need reinforcing compared with previous regulatory periods. The spare capacity available in the network has been steadily reduced over the last 10 years to the benefit of consumers. There is now minimal "reserve capacity" remaining in the network to accommodate future growth and additional capacity is needed. The current high level of network utilisation and the lack of spare capacity to accommodate future demand growth means that significant capex work is now unavoidable.

The case study below illustrates how growing network utilisation must ultimately be addressed by significant 'lumpy' reinforcement capex, which means that future capex requirements can differ markedly from historic levels. It also shows how SP AusNet makes optimal use of load transfer capability and other lower cost solutions to the extent possible.

Case Study : Finite low cost solutions

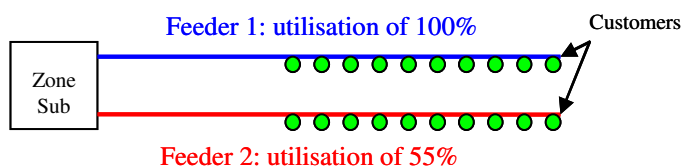
Consider a zone substation with two 22kV feeders that service a similar load in a geographic area. Feeder 1 is fully (100%) utilised at peak demand times and Feeder 2 is 50% utilised at peak demand times (see Diagram 1 below).

Diagram 1: Feeders and Zone Substation



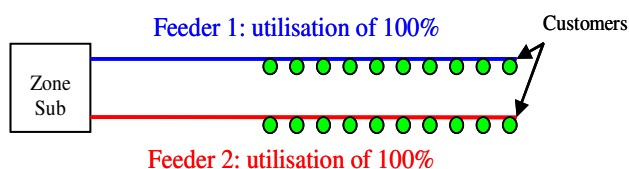
Now assume peak demand in the area serviced by Feeder 1 is forecast to grow by 5%. Utilisation on this feeder cannot be allowed to rise above 100% or SPA will not be able to supply at peak demand times. SP AusNet then shifts 5% load from Feeder 1 to Feeder 2 to meet the 5% growth in demand (see Diagram 2 below).

Diagram 2: Feeders after load shifting



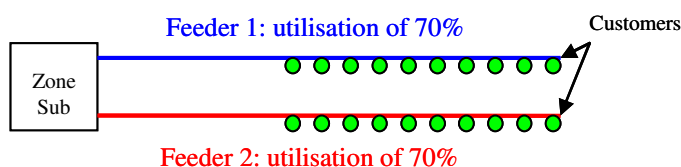
The use of load shifting to manage demand continues until both feeders are fully loaded at 100% (see diagram 3 below).

Diagram 3: Feeders fully loaded



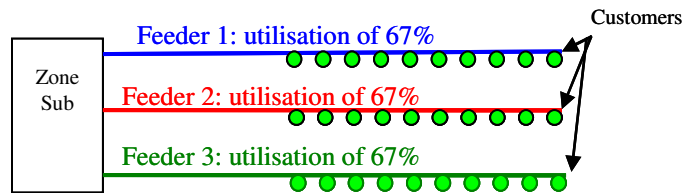
Utilisation on these feeders cannot be allowed to rise above 100% because this would breach planning standards. SP AusNet would then perform a thermal uprate on these feeders to allow them to take more load. This allows them to be re-rated and loaded at 70% capacity each (see Diagram 4 below).

Diagram 4: Feeders after thermal uprate



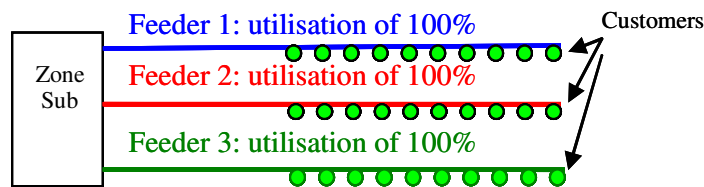
Load transfers are then able to be used again to meet growing demand. However steady demand growth will eventually see these feeders are fully loaded at 100% capacity again. Following this, a thermal uprate is no longer a possible solution. Therefore, it has reached a point where a new feeder is required. (see Diagram 5 below).

Diagram 5: New feeder constructed to increase capacity



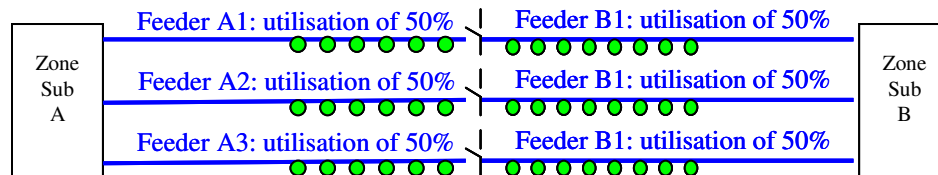
This pattern of investment to meet demand continues until all feeders are fully loaded at 100% (see Diagram 6 below).

Diagram 6: Feeders fully loaded



The existing zone substation is supporting the maximum number of feeders possible and is at maximum capacity. A new zone substation is then required, to split the load and accommodate the demand growth (see Diagram 7).

Diagram 7: New zone substation with more feeders to split load

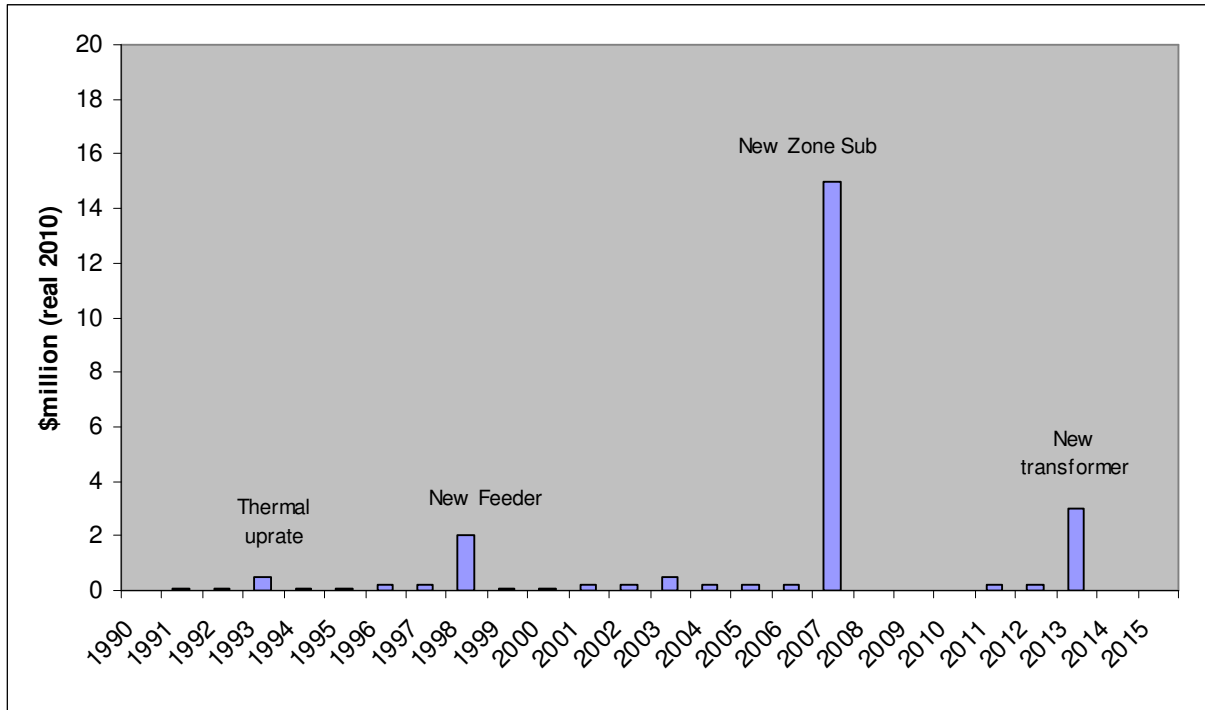


This significant investment means that the network has sufficient capacity to meet current demand and accommodate future growth. This case study is an example of a common situation across SP AusNet's 22kV and 66kV network and reflects the investment cycle around a zone substation.

As discussed above, SP AusNet's modest level of historical capex has been achieved through the efficient deferral of network reinforcement facilitated by the changed planning standard. Consumers have benefited from these savings as SP AusNet's asset base value reflects the lower level of investment. However these lower cost solutions have been exhausted, and new lines and zone substations are now required.

This means that the marginal cost of additional capacity is increasing, reflecting the "lumpy nature" of reinforcement (augmentation) capex. This is illustrated in the example below, which shows the historical capex invested over time in addressing load growth on feeders around the Lang Lang zone substation.

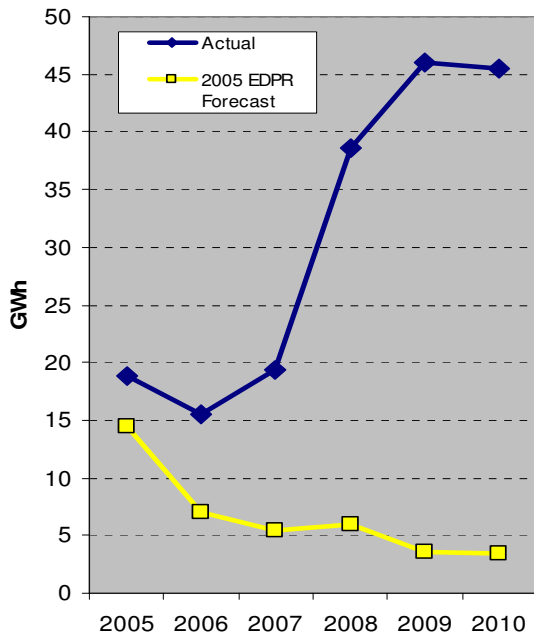
Figure 6.7: Lang Lang example of lumpy capex costs over time



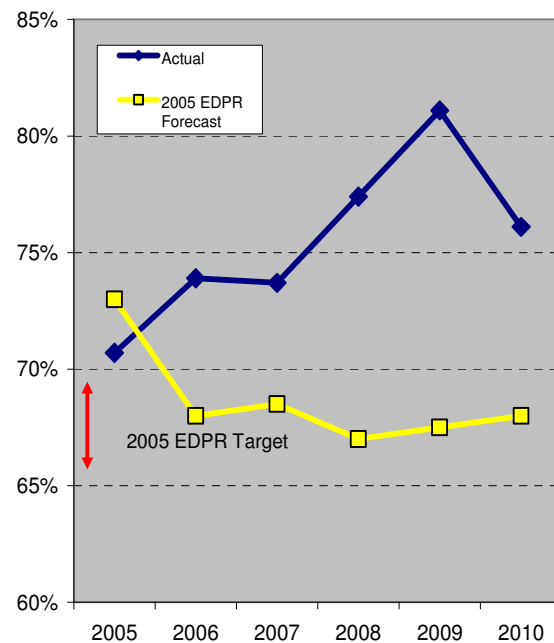
This story is echoed across SP AusNet’s network, with 6 new zone substations required in the next regulatory period.

A side-effect of the deferral of higher cost reinforcement investment has been the gradually reduced operating flexibility of the network, increasing load at risk which threatens reliability outcomes for customers. In key areas of SP AusNet’s network there is no longer the capacity to meet projected demand growth through short term solutions and ensure planning standards are met in a reasonable timeframe. Load at risk in key areas of the network is now projected to grow exponentially unless addressed with large scale investment. This is reflected in the significant increases in utilisation and load at risk observed between 2005 and 2010.

Figure 6.8: Load at Risk 2005 to 2010



Utilisation 2005 to 2010



The expected outcome of SP AusNet’s proposed reinforcement capex is the stabilisation of network utilisation and load at risk. SP AusNet emphasises that its proposed reinforcement capex will maintain, rather than improve, existing levels of network reliability.

6.6.4 SP AusNet’s use of economic analysis

The AER’s Draft Determination concluded that SP AusNet’s forecasting approach is not ‘fit for purpose’ in terms of being a reasonable and unbiased estimator for the future prudent and efficient expenditure at the aggregate level.⁶³ The AER considers that in many cases the basis of the timing of major projects was based not just on the energy at risk but a number of factors, and was heavily reliant on the judgement of planning engineers.⁶⁴ The AER believes that SP AusNet has not adequately provided a clear link between the exercise of engineering judgement and the economic efficiency of the forecast.⁶⁵

While SP AusNet provided a great deal of supporting information to the AER explaining its probabilistic planning and engineering analysis to support its reinforcement proposal (see *AMS-20-12 Capacity Plan* and relevant project reports) it appears that the AER has not fully understood the objective decision-making rules applied.

SP AusNet’s planning approach assesses the optimal timing of proposed projects on the basis that the annualised cost of augmenting exceeds the annualised benefits. This approach is applied consistently across the whole program. In fact, the quality of SP AusNet’s planning is

⁶³ AER, *Draft Determination*, p. 319 & p. 329.

⁶⁴ AER, *Draft Determination*, p. 335.

⁶⁵ *Ibid.*

acknowledged by the AER's Draft Determination where it observes that "only SP AusNet had rigorously applied detailed probabilistic planning to the development of its reinforcement plans."⁶⁶ Further, the transparency of SP AusNet's reinforcement planning approach means that the analysis undertaken can be repeated to generate capex requirements for a range of demand growth scenarios.

While full regulatory test level assessments have not yet been undertaken, the AER has recognised that the lack of economic analysis for forecast projects is, in most cases, due to the fact that business cases are only undertaken a year out from the commencement of the project, and as such, were not available for review. Nuttall Consulting concludes that more detailed analysis has 'reasonable potential' to show that either staging/deferral of the project or a lower cost option may be the preferred option.⁶⁷ SP AusNet notes that this assertion is not supported by any qualitative or quantitative evidence.

In SP AusNet's experience, a minority of projects are revised downwards in terms of scope or deferred, and this is typically offset by increases for other projects. Of the 37 reinforcement projects that proceeded through the approvals process, only 6 were reduced in scope and 6 were deferred, equating to a saving of around \$32.7 million (real). However another 14 were increased in scope or cost resulting in approximately \$44 million (real) in extra capex. Also, a further 7 projects worth approximately \$27 million (real) were required on top of those planned. Overall, an extra \$71 million (real) was spent. SP AusNet has provided the AER with commercial in confidence documentation supporting this analysis (see *Capital Approvals Table*).

Given this, there is no rational basis to the AER's assumption that a significant proportion of the reinforcement program will not be required due to savings and deferrals flowing from the capital governance process. As such, SP AusNet's reinforcement proposal is reasonable and should be accepted.

In response to the AER's findings, SP AusNet has undertaken further work and undertaken cost benefit evaluation of projects as part of preparing this Revised Proposal. This work builds on the analysis set out in the project reports submitted to the AER as part of the Original Proposal. These evaluations show that the timing put forward in SP AusNet's forecast maximised the net present value of benefits flowing from the proposed projects (see detailed project reports including *AMS 20-301* through *AMS 20-319* and accompanying *Project Economic Evaluation* reports).

Sensitivity analysis undertaken has demonstrated that SP AusNet's proposed reinforcement program is only sensitive to significant variations in the demand forecasts. The analysis shows that in order to shift all 2015 reinforcement works into the next period a decline in demand growth to an annual average of 3.6% would be required. Considering historic growth in demand for the current period is expected to be 4.5% under 50% POE conditions and growth expected is 4.4%, a decline to 3.6% is highly unlikely. Further, the economic and population growth outlooks from sources used in the ACIL Tasman report as well as the revised NIEIR forecasts suggest that a growth rate in the next period of around 4.2% is likely.

Given the above, the AER's assumption that further economic analysis would lead to a reduction in required projects is an error.

⁶⁶ AER, *Draft Determination*, p. 317.

⁶⁷ AER, *Draft Determination*, p. 335.

6.6.5 A probabilistic assessment of reinforcement capex

Based on its consultant's advice, the AER has determined that SP AusNet has not adequately assessed the probability of projects in its reinforcement program or considered different means of reducing or deferring expenditure in the 2011-15 regulatory period. The AER has therefore adopted Nuttall Consulting's recommended probability weighting of projects and applied that probability across the entire reinforcement program to derive a regulatory forecast.

SP AusNet does not accept the 53% probability assessment of its proposed reinforcement program and the method used to derive it. Nuttall Consulting uses a portfolio, top down approach to assess the probability of a small sample of projects in the 2011-15 regulatory period. From this it was determined that there is a moderate probability (53%) that the sample projects would eventuate. Nuttall Consulting then applied this probability assessment across the entire reinforcement program, recommending that SP AusNet should only be provided 53% of its reinforcement capex proposal.

The method used by Nuttall Consulting to arrive at this figure is an unsophisticated approach that cannot be relied upon for the purposes of producing a robust forecast of reinforcement capex. In particular:

- the reviewed projects are not a representative sample of the entire program. In particular, 3 out of the 4 projects reviewed are expected late in the forthcoming regulatory period (in years 2013-15) and hence, the level of uncertainty regarding timing, scope and cost of these works is naturally higher than projects towards the start of the period. In addition, the selected projects do not include any 22 kV and 66 kV line work which comprises 43% of the reinforcement program.
- the sample size used by Nuttall Consulting is inappropriate for the purposes of analysis. *Australian Standard AS 2490-1997: Sampling procedures and charts for inspection by variables for percent non-conforming* suggests that Nuttall Consulting should have sampled a total of 15 of the 57 individual projects (across the five subcategories) in SP AusNet's proposed reinforcement program to draw a statistically valid assessment of the reinforcement program. This also indicates that Nuttall has not fulfilled the AER's terms of reference which required that "where the consultant uses sample testing, the samples must be statistically significant."⁶⁸

Further, Nuttall's method fails to fulfil some of the main criteria of a sound forecasting methodology, namely, objectivity, transparency and repeatability, characteristics which are acknowledged by ACIL Tasman as fundamental to a sound forecasting methodology.

ACIL Tasman has noted that forecasting bias can be avoided or at least minimised by careful data management (e.g. removal of outliers, data normalisation etc.) and forecasting model construction (choosing a parsimonious model which is based on sound theoretical grounds and which closely fits the sample data). However, Nuttall's method does none of this. In fact, it creates bias to consistently under-predict forecast expenditure by the following means:

- a weighting of less than 100% is applied to the central estimate (or expected value of the overall forecast), which is an incorrect application of a portfolio approach. It ignores the fact that currently unforeseen projects that are not included in the build-up of the central estimate may proceed. It should be noted that a number of projects in the current regulatory period were not foreseen at the time of the ESCV's price review.

⁶⁸ AER, *Consultancy Terms of Reference – Victorian DNSP distribution determination*, p. 2.

- it ignores the fact that some reinforcement projects are already committed and that projects towards the start of the period have a high probability of occurring. For example, a number of projects early in the program such as Cranbourne Zone Substation (\$17.2 million), Wollert to Kilmore South 66kV line completion (\$7.8 million in 2011), the distribution transformer upgrade program (\$22.3 million in 2011 and 2012) have already been approved. These projects have commenced so they have a 100% chance of proceeding. Nuttall's decision to apply his 53% probability to the earlier years in the program is therefore flawed because it ignores the fact that projects at the start of the period are much more certain.

In assessing whether Nuttall's model fulfils the criteria of transparency and predictability, we can be guided by ACIL Tasman's comments that:

A transparent forecasting process is one that is easily understood and well documented to the extent that a forecast prepared by a person who was not involved in the initial process would be reasonably similar.

...The process should also clearly describe the methods used to validate and select the model chosen to undertake the forecasts. Any judgements applied throughout the process should be documented and justified. Adjustments to forecasts that are outside of the formal modelling process that are not documented with a clear rationale justifying that course of action should be treated with caution.⁶⁹

From a review of Nuttall's report, it is not explained how the assignment of probability for individual projects has been made, and how someone could replicate the results of this analysis. This is because the Nuttall assessment relies upon a subjective judgement as to the probable need for a project.

Accordingly, there is a strong argument that if the AER relies on the approach adopted by the Nuttall report, it will fail to exercise its discretion properly, contrary to the requirements of the NER.

In response to the weaknesses in Nuttall Consulting's portfolio assessment, SP AusNet has undertaken more sophisticated and rigorous analysis to test its reinforcement forecast. The analysis includes:

- Economic cost benefit analysis of individual major projects; and
- Monte Carlo analysis.

This analysis examines the forecast program on both a bottom-up and top-down basis.

Economic evaluation

SP AusNet has conducted cost benefit analysis of projects across the entire program to provide a representative sample set. The projects sampled include:

- 66kV line projects;
- 22kV feeder projects;
- New Zone substation projects;
- Additional transformers at existing zone substations projects; and
- Distribution transformer projects.

⁶⁹ ACIL Tasman, *Review of maximum demand forecasts: Final report*, p. 10.

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These projects are forecast for the breadth of the regulatory period, rather than being concentrated at the end of the period as adopted by Nuttall Consulting. SP AusNet's analysis tests the timing of the projects and assesses alternative options. The analysis also provides an assessment of the sensitivity of each project to:

- discount rate variation (6.5-8.5%)
- capital cost variations (+/- 20%)

These evaluations show that SP AusNet's preferred options and timing maximise the net present value of benefits flowing from the proposed projects (see detailed *Project Economic Evaluation* reports accompanying *AMS 20-301* through to *AMS 20-319*).

SP AusNet has also conducted analysis which demonstrates that SP AusNet's proposed reinforcement program is sensitive to significant variations in the demand growth forecasts. The analysis shows that in order to shift all 2015 reinforcement works into the next period a decline in demand growth to an annual average of 3.6% would be required. Considering historic growth in demand for the current period is expected to be 4.5% under 50% POE conditions, and the ACIL Tasman and revised NIEIR forecasts suggest that a growth rate in the next period of around 4.2% is likely, a decline to 3.6% is highly unlikely (see *Reinforcement Capex - Response to Draft Decision* paper.)

Monte Carlo statistical analysis

A top down analysis was undertaken by SP AusNet to test the veracity of the proposed reinforcement program. The model conducts Monte Carlo analysis, running simulations of scenarios to test the sensitivity of the total program and individual programs to changes in variables such as demand growth, project mix and timing and input costs (refer to *AMS 20-150 Network Reinforcement and Asset Replacement Sensitivity*). SP AusNet's scenario analysis also estimates the funding required to deliver the required program of works.

It should also be noted that this is a top down analysis used to check the results of the bottom up analysis, and as such the results of this analysis should not be considered a substitute for a rigorous bottom up analysis.

The results of the Monte Carlo analysis are shown in the table below.

Table 6.7: Results of Monte Carlo Analysis

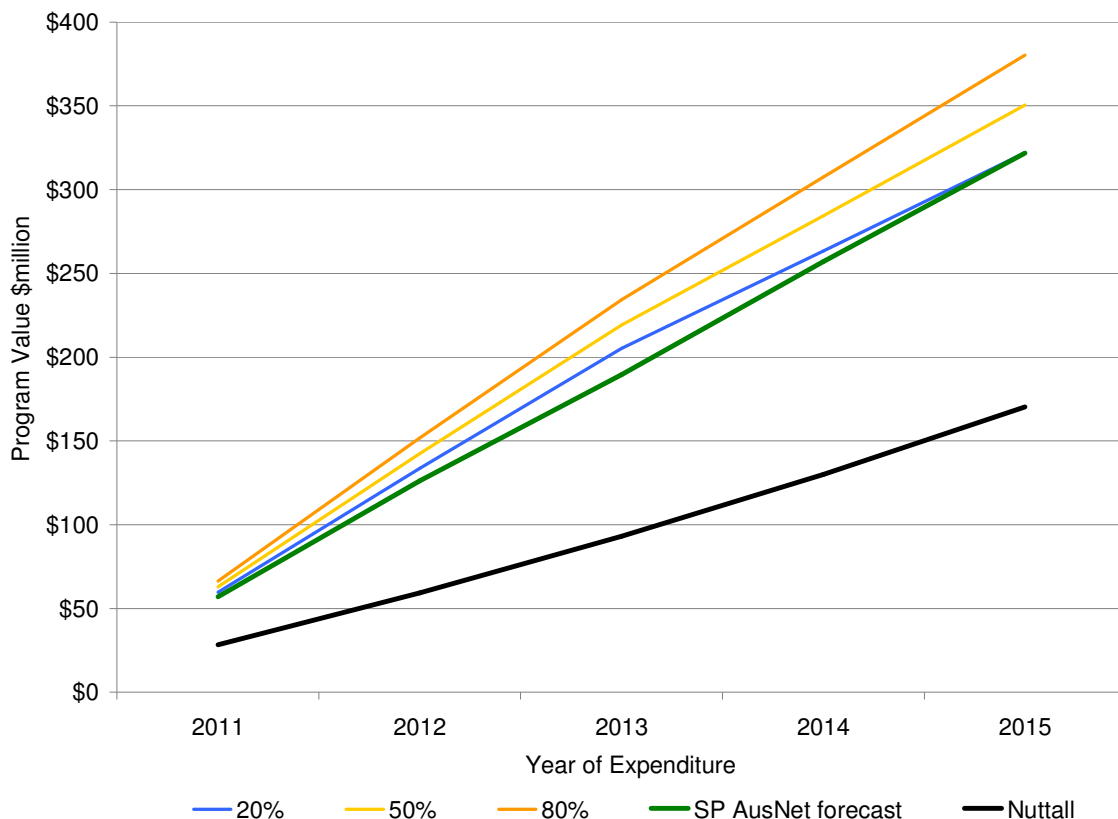
Confidence Level	Program (2 yrs)	Program (1 yr)	Project
20%	\$322M	\$313M	\$315M
50%	\$350M	\$337M	\$332M
80%	\$380M	\$361M	\$351M
Proposed Funds	\$322M		

Notes: Program (2 years) allows the entire program to shift forward/back by 2 years, while Program (1 year) only allows it to move by 1 year. Project outcomes allow individual projects to be moved in and out of the forecast depending on level of demand growth.

The modelling indicates that there is a 20% confidence that \$322 million would be sufficient to undertake the required work programs.

This analysis suggests that SP AusNet’s total reinforcement forecast of \$297 million is conservative and that an upwards risk exists in program requirements. It also shows that Nuttall’s recommended reinforcement capex is well below an acceptable confidence level. This is illustrated clearly in the figure below.

Figure 6.9: Confidence in Reinforcement Program



While adopted confidence levels are usually closer to the 50% level, SP AusNet notes that the 20% confidence level is highlighted in this context as the value differences between the 20-50% and 50-80% confidence intervals are relatively low (less than 10%) given the size of the program. These differences are well within the accuracy limits of a top-down high level model. This is shown in the close alignment between the confidence levels at the start of the period, with the difference gradually increasing towards the end of the period (see Figure above). Further, applying the analysis across the reinforcement and RQM programs has shown a difference of less than \$20 million between the 20% and 50% confidence levels, an extremely small difference given the programs total \$678 million.

Further, the analysis shows that where adjustments are made to demand growth to find the impacts on individual projects, the resulting changes lead to an extremely minor change to the total forecast program. Namely, the results are highly robust and not subject to large changes due to reasonable external influences.

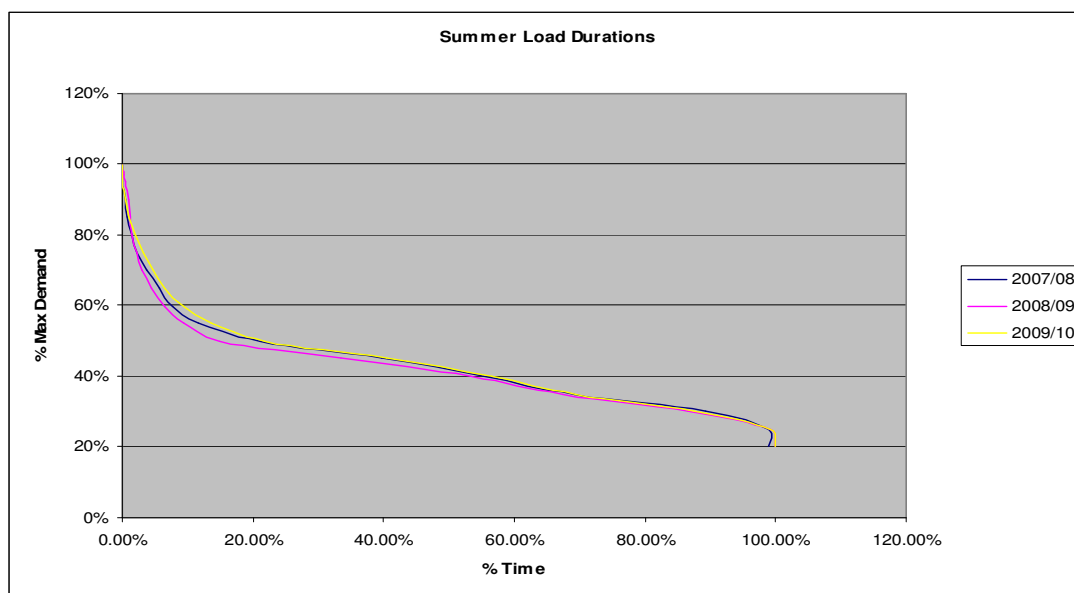
Given the above findings, there is no basis to the AER’s assumption that 47% of SP AusNet’s reinforcement proposal will not be required. As such, SP AusNet’s reinforcement proposal is reasonable and should be accepted.

6.6.6 Appropriate demand load profile

The AER has accepted Nuttall Consulting’s finding that basing SP AusNet’s reinforcement forecast on its 2007-08 load profile may overstate the risks to the network. Nuttall Consulting has noted that as load duration curves are getting more peaky over time, the use of older load duration curves will tend to result in an over estimation of levels of energy at risk.

SP AusNet rejects this assessment. SP-AusNet has comprehensive network loading data for the last 3 years and has completed an analysis of load duration curves for 2007/8, 2008/9 and 2009/10 to investigate whether this trend to more peaky load duration curves is apparent over these 3 years (refer to *Reinforcement Capex Response to Draft Decision*). The analysis shows the load duration curves have not changed significantly over the three years but there is some variability. The following chart shows load duration curves for the 3 years for Cranbourne Terminal Station 66kV bus.

Figure 6.10: SP AusNet Load Duration Curve



Analysis of load duration curves for Cranbourne Terminal Station 66kV bus for the last 3 summers shows that 2007/8 and 2009/10 load duration curves are very similar with 2007/8 load duration curve being very slightly more peaky than the 2009/10 load duration curve. Both summers were close to 50% POE conditions so their load duration curves are very similar. The 2008/9 load duration curve is more peaky than either 2007/8 or 2009/10 and this is already recognised due to this summer being a 10% POE summer.

However there is no clear evidence of the suggested trend of an increasing peakiness in these load duration curves. While we see that 10% POE curves are peakier than 50% POE curves, this does not prove a trend that they are all peakier.

As such, the 2007/8 load duration curves used by SP-AusNet to determine its reinforcement requirements for the next period are reasonable and represent a load duration curve expected for 50% POE conditions.

6.6.7 Specific options for reducing reinforcement capex

The Draft Determination raises the possibility that SP AusNet's reinforcement program may be reduced by transferring load or making better use of spare transformers. Each of these options is considered in turn.

In relation to load transfers, SP AusNet has already explored opportunities for deferral from load transfer. However an analysis shows that the potential for load transfers to defer augmentation are limited due to the nature of the network, and where they are available, load transfers have been factored into SP AusNet's strategy in relation to probabilistic planning risks as a standard practice. As such, it is inappropriate to include load transfers in the standard risk assessment.

When load transfer capability is available load can be transferred after a transformer failure has occurred and this will reduce the unserved energy. However there are a number of issues that affect the availability of load transfers on SP AusNet's network. Firstly, SP-AusNet's 22kV network is heavily loaded and load transfer capability is often limited at high demand periods because feeders must be in their normal configuration and be able to accept load transfers. The adjacent zone substation must also have sufficient spare capacity so that the additional load can be shifted without undue risk at the receiving zone substations. Further, the continued growth in demand and loading levels at zone substations with 55% (26 out of 47) now operating above N – 1 rating continue to limit load transfer capability. For these reasons load transfer capability is not always guaranteed although it may be available. Load transfer capability also varies with time and tends to decrease as surrounding load transfer feeders and zone substations become more heavily loaded. SP AusNet has 25 zone substations in rural areas which have small to very small load transfer capability.

As noted above, the AER has also determined that some projects might be deferred through more effective use of spare transformers. While the use of a spare transformer can reduce outage times and reduce risk at zone substations, it is difficult to guarantee that this option is timely, efficient or effective in most situations for a number of reasons.

Firstly, there are also complexities for SP-AusNet which has transformers with two different vector groups and two standard sizes. At least two spares would need to be carried and there are always complications to fit the spare into the various stations with a range of physical layouts.

Even if a spare transformer is installed, it could be expected to take at least 4 weeks and the risk of unserved energy could be quite significant. The only way to overcome this is to dedicate significant resources at a high cost to ensure the changeover can be done quickly, which is not efficient or prudent over the long term.

Further, even if a spare transformer is available and can be installed in four weeks to replace a failed unit then there will still be very substantial community costs if a failure actually occurs during the summer period. See *Reinforcement Capex Response to Draft Decision* for detailed discussion of this issue.

SP AusNet notes that while Nuttall Consulting recommends that load transfers and the use of spare transformers can defer augmentation, it fails to provide a balanced assessment of the standard probabilistic test applied by SP AusNet. In particular, the assessment provided is an incomplete consideration of relevant factors. When factors such as applicable transformer rating, ambient temperature and higher risk of failure for older units are considered, it leads to a conclusion that SP AusNet's planning approach would tend to result in an understatement of the

risk, rather than an overstatement. As explained in the supporting document *Reinforcement Capex Response to Draft Decision*, while load transfers and a spare transformer do reduce the energy at risk, other factors which increase risk also apply. These other factors contribute to the risk being higher than the standard test shows. SP AusNet believes that our standard probabilistic test does produce a balanced indication of reinforcement requirements when all the issues are considered and does not overstate the risks.

In summary, underlying weaknesses in the claimed assumptions in relation to deferring projects, together with an incomplete assessment of relevant factors, further supports the view that SP AusNet's reinforcement proposal is reasonable and should be accepted.

6.6.8 Transformer upgrade program

The Draft Determination has accepted Nuttall Consulting's assessment that the benefits of the proposed transformer upgrade program are not proven, and that the program only has a 60% probability of being required.

SP AusNet notes that Nuttall Consulting's probability assessment is incorrect because the program has already commenced. In addition, it appears that Nuttall Consulting has not understood that a significant proportion of the program is based on current levels of expenditure on transformer upgrades. In fact, \$20 million (direct costs) of this forecast expenditure is based on historical spend of \$4 million per annum on routine supply improvement works (eg: installing a new distribution transformer or undertaking reconductoring of low voltage mains in response to quality of supply issues). SP AusNet considers that this work must continue and if anything is likely to increase in magnitude. This \$20 million component will proceed consistent with historical spend.

The remaining \$22.3 million of the program is the targeted distribution transformer upgrade program referred to by Nuttall Consulting in its analysis. This program has commenced, having gone through SP AusNet's capital approvals process, and is expected to be completed in 2012. SP AusNet regards this work as essential to address problems with large numbers of transformer failures in recent years due to hot weather. *Reinforcement Capex Response to Draft Decision* addresses concerns raised by Nuttall Consulting in regard to the targeting of transformers.

The Draft Determination also has observed that in many cases the distribution transformers most susceptible to faulting would have been detected and replaced following the January 2009 heatwave.⁷⁰ In the case of SP AusNet this assumption is incorrect. A review of the works completed by SP AusNet in 2009 does not show that a material number of distribution transformers were replaced following the heat wave months of January and February. In fact while SP AusNet replaced approximately 90 transformers which failed, we identified another 930 which required replacement (see Appendix 3 of *Reinforcement Capex Response to Draft Decision*). Further, the assumption that only a heat wave would require the replacement of transformers ignores the continuous widespread growth in demand that has taken place across thousands of SP AusNet's installations.

6.6.9 Use of median demand rather than average demand

SP AusNet's reinforcement program is based on an underlying set of demand forecasts that reflect the 50% POE. The 50% POE figure is a median figure, as opposed to a mean, or average, figure. The difference between the two is primarily a function of the underlying

⁷⁰ AER, *Draft Determination*, p. 335.

distribution of the temperature data, which in turn drives temperature sensitive load on the system.

However, Clause 6.5.7 (a) (1) of the NERs requires SP AusNet to develop capex forecasts that "meet or manage the expected demand for standard control services over that period". Statistically, the development of an 'expected demand' would require SP AusNet to determine the 'mean', or 'average' demand for each year of the 2011-2015 period, and in turn, design its program consistent with meeting that 'mean' demand.

SP AusNet has been informed by NIEIR that the 50% POE demands that will be placed upon SP AusNet's network over the forthcoming regulatory control period, are, on average, 0.6% below the average demand. More specifically, NIEIR has commented that:

*"the median (50% POE) forecasts is below the average ("expected") forecasts over the regulatory period (2011 to 15). The difference varies from year to year but the average forecasts is always greater than the median forecasts. On average, the difference is approximately 0.6% in the regulatory period (2011 to 15)."*⁷¹

This difference equates to around 15MW per year. The data from NIEIR shows that the risk around the timing of SP AusNet's reinforcement program, is in fact, asymmetric, that is, these reinforcement projects are more likely to be brought forward, as opposed to Nuttall Consulting's proposition that they would be deferred.

Whilst SP AusNet has chosen not to refine its program to have regard for the fact that the underlying distribution is skewed, it does further illustrate that SP AusNet's project timing is inherently conservative, as any statistically robust assessment of the timing of reinforcement projects would first and foremost, have regard for the underlying distribution of the demand forecasts that drive the timing of that program.

6.6.10 Additional reinforcement capex

Electric Line Clearance

The *Electricity Safety (Electric Lines Clearance) Regulations 2010* have introduced a new requirement that prohibits vegetation to overhang bare overhead powerlines in cases where it was previously possible to conduct assessments of the area and implement risk management approaches. The AER's Draft Determination indicated that it would address SP AusNet's requirement for increased capital to address this regulatory change in Section 8 of the Draft Determination.⁷² However, this requirement appears to have been overlooked.

The solution suggested by Energy Safe Victoria (ESV) is not practical. SP AusNet's response to the RIS indicated that in 2002, SP AusNet managed approximately 3,400 overhang spans and undertook a program to reduce this number through pruning. In a presentation to the ELCCC on 12 September 2003, the owner of SP AusNet's network (which was then TXU) flagged that reducing overhangs below 2,000 through pruning was impractical and that the balance would either have to be addressed through network augmentation or allowed to be risk managed. SP AusNet also indicated that pruning by helicopter is a technology which is only applicable to limited situations. Further, the pruning of these 2,000 spans of significant vegetation is not always environmentally responsible, acceptable to the local communities or, most relevantly, effective in reducing the risk of vegetation contact with the overhead powerlines in these locations.

⁷¹ Email from NIEIR to SP AusNet on 25 June 2010.

⁷² Appendix L - AER, *Draft Determination*, p. 168.

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The appropriate solution in very high bushfire risk areas requires a consideration of a combination of aerial bundled cable (ABC) and undergrounding investment. Accordingly, SP AusNet considers augmentation of the 2,000 spans as the feasible solution to achieve compliance with the proposed regulations. It should also be noted that in most cases it is technically and economically impractical to augment only those spans with vegetation overhang and therefore augmentation of multiple spans adjacent to the overhang spans is also required.

SP AusNet has assessed the incremental cost to be \$36.5 million (direct costs) for the augmentation of overhead powerlines to eliminate the 2,000 overhang spans and achieve compliance. As this is a new requirement, SP AusNet proposes the roll out of a design and installation program will incur the expenditure profile set out in the table below.

Table 6.8: Network Augmentation to Address Vegetation Overhang

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Exemption Removal	2.2	4.0	6.2	10.2	13.9	36.5

Other augmentation works

Consistent with the Original Proposal, SP AusNet has included a number of miscellaneous works separate to the capacity program in the reinforcement capex category. These include:

- \$3.2 million for demand management and non-networks investments (see Chapter 8 of Original Proposal for further detail);
- \$9.0 million for secondary works. This includes communications and SCADA capex (specifically for remote monitoring) which is distinct from IT Master Station capex). It also includes capex for process configuration and management. See *AMS 20-127* for more detail; and
- \$10 million for works to address quality of supply requirements in the Distribution Code of Practice (see *AMS 20-15* for more detail).

These other augmentation capex costs total approximately \$22 million.

6.6.11 Impact of Demand Management Decision

SP AusNet notes that its Original Proposal included \$2.42 million in demand management and non-network solutions opex to defer reinforcement projects, plus \$3.75 million to build expertise and systems to support the integration of non-network solutions into distribution network planning. The AER's Draft Determination rejected this proposal without giving it any consideration. This is improper decision-making, and reflects an inappropriate and unreasonable application of the AER's discretion under the NER.

If the AER again rejects the demand management and non-network solutions in its Final Decision, an additional \$15.8 million is required in reinforcement capex.

6.6.12 Conclusion

SP AusNet has addressed each of the issues raised by the AER in the Draft Determination and explained that:

- It is inappropriate to apply a historical trend to SP AusNet's reinforcement program given that it is not a sound basis to estimate future needs. However, where outturn costs are used to inform the forecast, they must be complete and take into account audited 2009 data and the 2010 estimate.
- There is no basis to the AER's assumption that a significant proportion of the reinforcement program will not be required due to savings and deferrals flowing from the capital governance process. SP AusNet's experience from the current regulatory period actually suggests the opposite.
- A clear link exists between the exercise of engineering judgement and the economic efficiency of the forecast. SP AusNet's cost benefit and sensitivity analysis shows that the timing put forward in SP AusNet's forecast maximised the net present value of benefits flowing from the proposed projects (see detailed project economic evaluation reports). Further, the AER's assumption that further economic analysis would lead to a reduction in required projects is incorrect.
- The flawed method used by Nuttall Consulting to determine a substitute reinforcement forecast cannot be relied upon for the purposes of producing a robust forecast of reinforcement capex. SP AusNet's proper probabilistic analysis demonstrates that the forecast reinforcement capex is reasonable.
- The 2007/8 load duration curves used by SP AusNet to determine its reinforcement requirements for the next period do not overstate risks and represent a load duration curve expected for 50% POE conditions.
- Nuttall Consulting view that load transfers and the use of spare transformers can defer augmentation is based on an unbalanced assessment of relevant factors. When factors such as applicable transformer rating, ambient temperature and higher risk of failure for older units are considered, it leads to a conclusion that SP AusNet's planning approach would tend to result in an understatement of the risk, rather than an overstatement.
- The probability of the forecast transformer upgrade program only having a 60% chance of occurring is wrong, given that the program has been approved and commenced, and is expected to be completed in 2012. SP AusNet regards this work as essential to address problems with large numbers of transformer failures in recent years due to hot weather.
- As SP AusNet uses median demand in developing its reinforcement forecasts rather than average demand, reinforcement capex is actually understated because using the median demand leads to a lower reinforcement capex forecast.

Therefore SP AusNet's revised forecast reinforcement capex is reasonable and should be accepted in full.

6.6.13 SP AusNet's revised reinforcement capex forecast

In light of the issues raised by the AER, SP AusNet submits that the forecast reinforcement capex is reasonable, consistent with the NER and should be accepted in full.

SP AusNet has adjusted its zone substation forecasts to align exactly with the revised NIEIR system level demand forecast provided to SP AusNet. The original reinforcement program has therefore been reduced by \$5.4 million to \$296.6 million (\$2009) as a consequence of NIEIR's revised forecasts.

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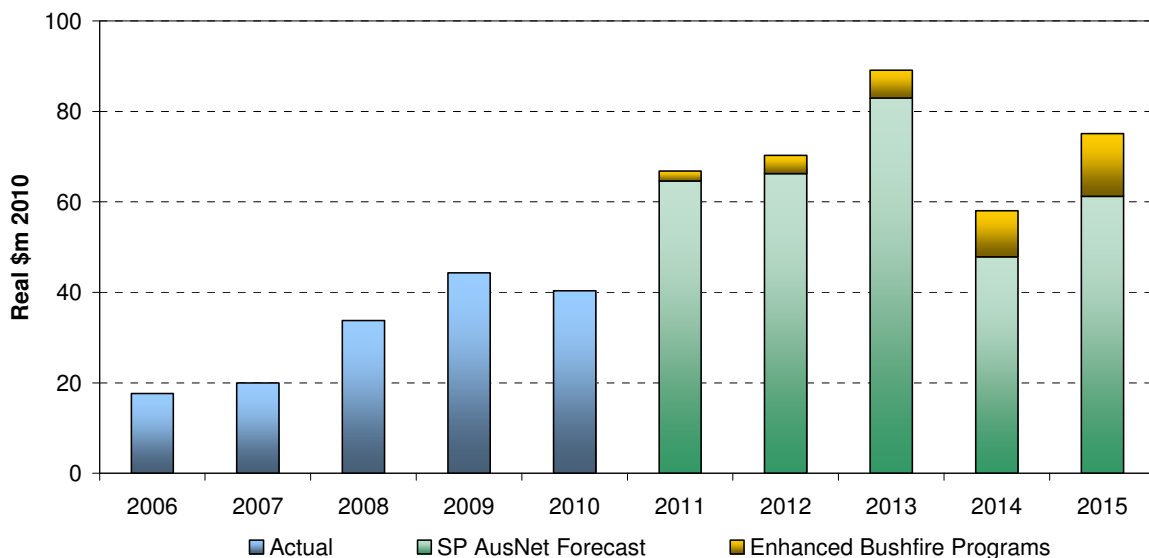
Further, SP AusNet requires an additional \$36.5 million to undertake network augmentation to address vegetation overhang. Approximately \$22 million is also required for other augmentation works, consistent with the Original Proposal.

The total revised reinforcement forecast is, therefore, \$359.5 million shown in the table and figure below. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.9: Revised Reinforcement Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	66.8	70.3	89.2	58.1	75.1	359.5

Figure 6.11: Revised Reinforcement Capex Forecast (Direct Cost)



SP AusNet notes that the information set out above together with the supporting documentation provided in this Revised Proposal demonstrates that the forecast of reinforcement capex set out above complies with Clauses 6.5.7 and S6.1.1 of the NER.

6.7 Reliability and Quality Maintained Capex

The AER has reclassified pre-emptive replacement programs that were originally classified in the ESL capex category as RQM capex for the purposes of the Draft Determination. The original classification was consistent with the approach adopted under the 2006 EDPR. Accordingly, the classification was presented that way in order to comply with the original RIN. Nonetheless, SP AusNet endorses the AER reclassification, in particular as it will simplify future reconciliations and

reviews. Therefore, SP AusNet has presented all historical and forecast information on the basis of the AER reclassification to allow like-for like comparisons.

The AER retained Nuttall Consulting to assist it in assessing SP AusNet's capex proposals. Page 397 of the Draft Determination noted that:

"In the case of SP AusNet, Nuttall Consulting noted that a number of programs for 'pre-emptive replacement' based on age/condition of assets had been included in the Environmental, Safety and Legal capex category. These programs (including associated proposed expenditures) were transferred from the Environmental, Safety and Legal capex category to the Reliability and Quality Maintained capex category."

Table 96 of the Nuttall Consulting report indicates that the costs of the following pre-emptive replacement capex activities have been transferred from SP AusNet's Environmental, Safety and Legal (ESL) capex category to the Reliability and Quality Maintained (RQM) category:

- Pre-emptive replacement of cables;
- Cross-arms;
- Pre-emptive replacement conductor – Steel;
- Pre-emptive replacement conductor – Copper;
- Pre-emptive replacement fog type HV insulator; and
- HV Fuses.

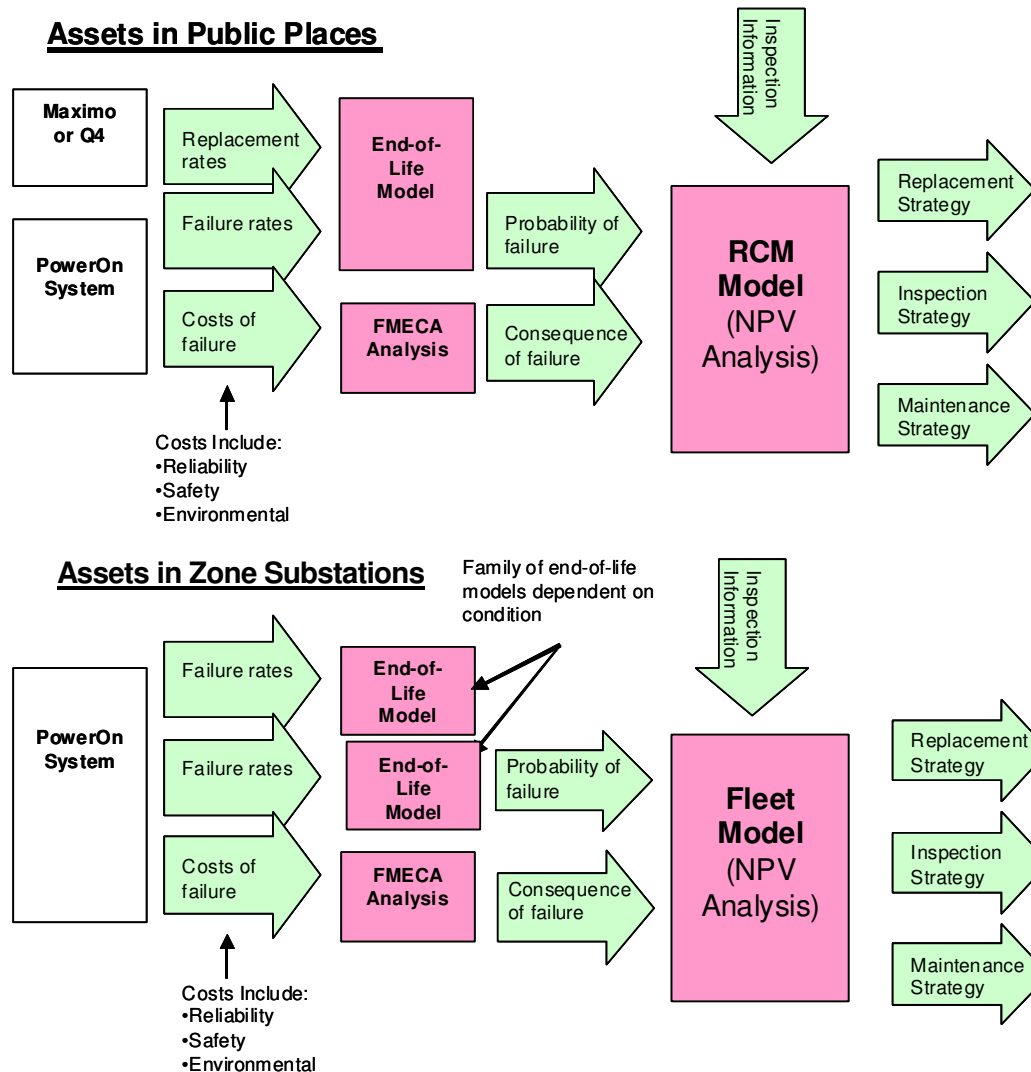
Discussions in this section are on the basis of this reclassification.

6.7.1 Introduction

SP AusNet explained that its forecast methodology for RQM capex involves the following three steps:

- a calculation of the probability of failure – an end-of-life model is constructed using the probability density function of a normal distribution constructed from the prevailing failure and replacement rates;
- a calculation of the consequences of failure – Failure Mode Effect Criticality Analysis (FMECA) is used to quantify how the equipment is expected to fail and consequences of failure for each class of asset; and
- an optimisation by cost and location of the resultant risk – by Reliability Centred Maintenance (RCM) or Risk models.

Figure 6.12: Methodologies for Asset Replacement Analysis



SP AusNet’s Original Proposal explained that in relation to primary network assets, forecast expenditure to maintain network reliability in the forthcoming regulatory control period involves increased replacement volumes. The planned programs are:

- surge diverters replacement program (accepted in the Draft Determination);
- distribution transformers replacement program – includes plans to retire 14 zone substation transformers, replace 16 large and 5 small transformers and refurbish 29 transformers due to increasing incidence of oil leaks and corrosion.. This replacement program will stabilize risk at 2006 levels.; and
- circuit breaker replacement program – this includes the retirement of 47 units and the replacement of 82 medium voltage and 21 high voltage circuit breakers to address rising reliability, safety and environmental risks. Replacements and retirements will be delivered via six zone substation re-build projects and a program of like-for-like replacements. This

EDPR 2011-2015 – Capital Expenditure

program stabilizes reliability, safety and environmental risks associated with circuit breakers at 2007/08 levels..

The Original Proposal explained that forecast expenditure programs to maintain network reliability in the forthcoming regulatory control period that involve stable or decreasing replacement volumes are:

- pole replacement and staking program (accepted in the Draft Determination); and
- automatic circuit reclosers and switches replacement program (accepted in the Draft Determination).

SP AusNet also identified capex areas associated with secondary and communications systems, which is strongly driven by compliance with obligations and standards (accepted in the Draft Determination):

In addition (transferred from ESL), replacement and refurbishment programs are proposed that reduce network related health and safety risks to as low as reasonably practicable for customers, personnel and the general public, including:

- Conductor replacement program – approximately 2,000 km of replacement work to address the risk of conductor failures. The need for this program is driven by the increasing age profile and naturally deteriorating performance of steel and copper conductor, primarily in the eastern network, where moist and more corrosive (salt) environments contribute to deterioration;
- Cross-arm replacement program – timber cross arm failure rates have consistently risen over time, and accordingly, timber cross arm replacement rates must progressively increase to address this;
- Insulator replacement program (accepted in the Draft Determination);
- Neutral screened service cables replacement program (accepted in the Draft Determination);
- Fuse replacement program (accepted in the Draft Determination).

SP AusNet's Original Proposal forecast reliability and quality maintained capex of approximately \$322 million over the forthcoming regulatory period (as shown in the table below). The AER Draft Determination treated approximately \$112.5 million from the original ESL capex category as reliability and quality maintained capex.

Table 6.10: Original Proposal Reliability and Quality Maintained Capex Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
RQM	58.7	74.9	67.2	65.0	56.2	321.9
ESL transferred into RQM	26.5	22.9	27.3	19.2	16.6	112.5
Total	85.2	97.8	94.5	84.2	72.8	434.4

The AER's approach to assessing the RQM forecasts has focused on:

- the benchmark capex that would be incurred by an efficient DNSP over the regulatory control period; and
- the actual and expected capex of the DNSP during the current and previous regulatory control periods.

In particular, the Draft Determination summarises the AER's approach as follows⁷³:

"The AER has compared the actual capex incurred during these regulatory control periods against the DNSPs' proposed capex and the AER's estimate of the required capex for the forthcoming regulatory control period taking into account any observed trends in actual capex."

The AER's own assessment rests heavily on the conclusions that Nuttall Consulting draws from its repex model, which is based on a model adopted by Ofgem in the UK.

The sections below present SP AusNet's detailed responses on issues relating to RQM capex.

6.7.2 Historic and forecast RQM capex

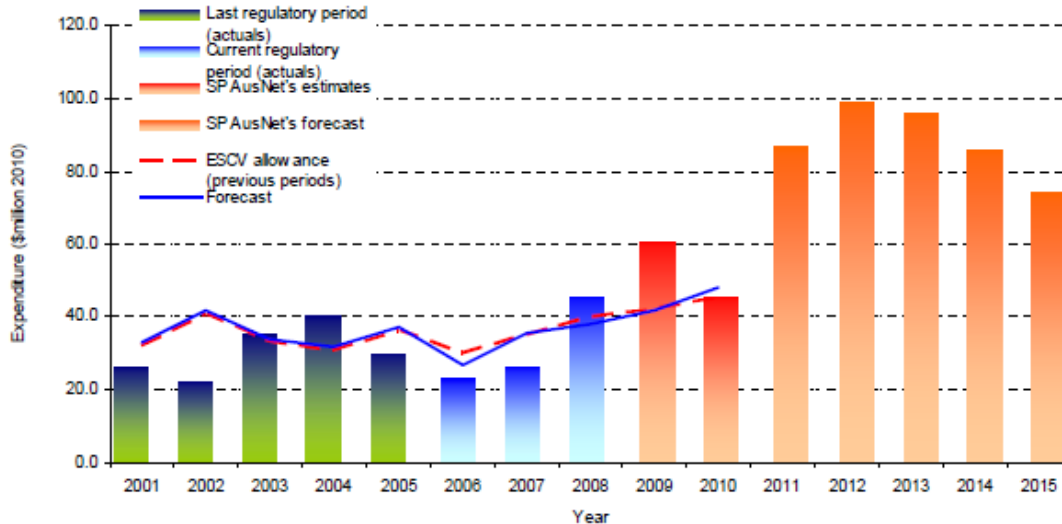
Nuttall Consulting makes several criticisms of SP AusNet forecasting accuracy and trends in RQM capex. Specifically, Nuttall Consulting comments that:

- The RQM expenditure trend is relatively flat;
- SP AusNet is forecasting a significant increase compared to recent expenditure levels; and
- SP AusNet historically over-forecasts RQM requirements.

The AER's Draft Determination includes a figure in support of these criticisms. The figure (reproduced below) shows RQM expenditure for the period 2001 to 2010 and compares it to RQM plus reclassified ESL forecasts for the forthcoming regulatory period. Evidently, the figure provides a breakpoint at 2011 because the forecast capex includes ESL capex which is not included in the 2001-2010 data. This provides a distorted comparison, which exaggerates the increase in RQM capex proposed by SP AusNet in the forthcoming regulatory period.

⁷³ AER, *Draft Determination*, p. 338.

Figure 8.9 SP AusNet RQM capex — historical and proposed (\$'m, 2010)

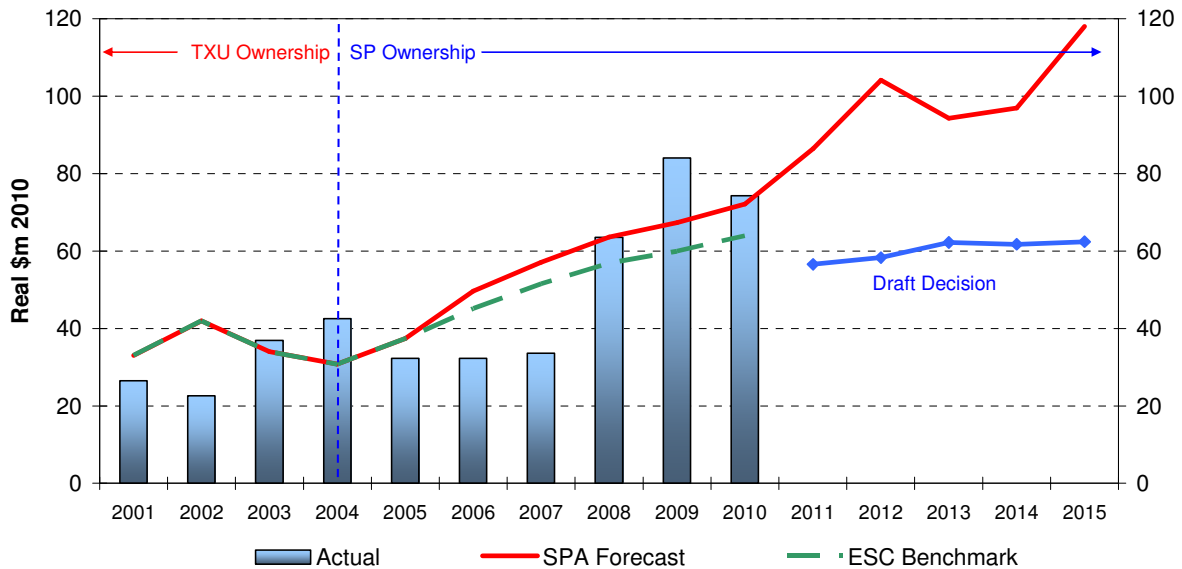


The Draft Determination concludes from the above figure that “*SP AusNet has difficulties in accurately forecasting its RQM capex needs*”⁷⁴. In sharp contrast with the AER’s conclusion, however, for the 2001 to 2005 regulatory control period (under TXU ownership), forecast RQM capex was within 9% of the actual capex. For the current 2006 to 2010 regulatory control period (under SP AusNet ownership) forecasting accuracy improved to 7% and was within 4% of the ESCV allowance. Therefore, SP AusNet has a sound forecasting record, and the AER has made an error of fact in drawing negative inferences from SP AusNet’s forecasting record to challenge the reasonableness of SP AusNet’s forecasts for the forthcoming regulatory period.

SP AusNet has also constructed appropriate like-with-like comparisons for the purpose of trend analysis. The figure below compares RQM plus ESL historic and forecast expenditure, and therefore corrects the incompatible data used by the Draft Determination. The figure demonstrates that SP AusNet’s revised forecasts are entirely consistent with historic trends while the Draft Determination allowance is shown to be consistently below recent levels of RQM plus ESL capex

⁷⁴ AER, *Draft Determination*, p. 380.

Figure 6.13: RQM Capex (including ESL reclassification) trend analysis (Total Cost)

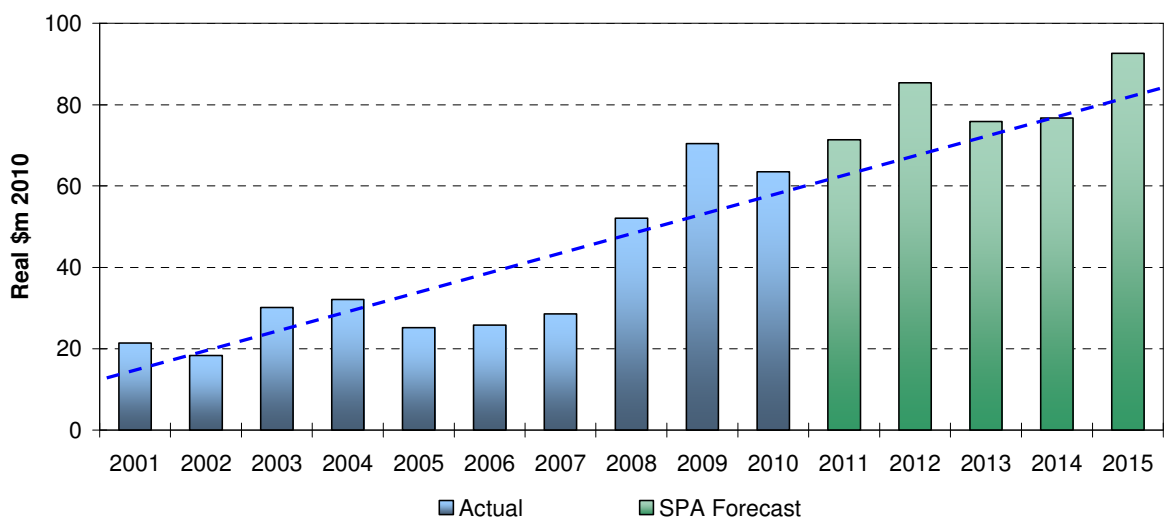


SP AusNet notes that since it has had operational control of the electricity distribution business and instituted appropriate long term asset management practices and analysis:

- the trend in replacement expenditure is consistently upwards; and
- the Revised Proposal case is consistent with that upwards trend.

These observations are illustrated in the figure below.

Figure 6.14: RQM Capex (including ESL reclassification) trend (Direct Cost)



A further related concern arises regarding the AER's direction to Nuttall Consulting to exclude 2009 and 2010 data in examining the relationship between historic and forecast capex. In particular, the AER directed Nuttall Consulting to adopt⁷⁵:

"a revealed cost approach to establishing an alternative view. In particular, the average of the audited actual expenditure in the current regulatory control period was adopted as a best estimate of likely future needs."

As already noted in section 6.3.3 above, ignoring recent data introduces forecasting bias if there is an upward trend in the expenditure profile. The method adopted is particularly surprising given that Nuttall Consulting expected capex to exhibit an upward trend⁷⁶:

"The profile also indicates a pattern of high expenditure at the end of the period that is followed by lower expenditure at the beginning of the next period. ... This pattern appears to follow the regulatory incentive powers, which are higher at the beginning of the period."

In SP AusNet's case, the AER's direction to ignore 2009 and 2010 forecasts was particularly egregious because:

- SP AusNet had a demonstrable track record of accurate forecasting both of the original allowance and the last two years of the current regulatory period;
- SP AusNet's actual 2009 expenditure data was available prior to the completion of Nuttall Consulting's report and further illustrated the accuracy of SP AusNet's forecasts;
- excluding 2009 and 2010 ignores the recent significant increases in RQM capex; and
- SP AusNet is already spending at levels consistent with its forecast RQM for the forthcoming regulatory period.

In summary, SP AusNet contends that the AER has not had appropriate regard for SP AusNet's actual and expected capex during the current and previous regulatory control periods as required under Rule 6.5.7(e)(5). Instead, the AER has erroneously concluded that SP AusNet's forecasting record justifies a critical assessment of its forecast RQM capex for the forthcoming regulatory period. In the following sections, SP AusNet responds in further detail to the specific concerns raised by Nuttall Consulting and the AER in relation to SP AusNet's RQM capex.

Moreover, apart from the fact that the AER's decision to overlook the 2009 and 2010 forecasts is inconsistent with the NER, this approach is arbitrary and lacks rational basis. It also produces bias, which may not have been fully anticipated by the AER when it took this decision.

6.7.3 Application of the Repex Model

As part of its review of the DNSPs' RQM capex proposal, Nuttall Consulting sought further information on specific capital projects and undertook a series of meetings with the DNSPs. From its review, Nuttall Consulting concluded that:

- The capital governance and practices of the DNSPs were well-evolved, fit-for-purpose capital governance processes and practices. However, the full extent of these processes has not been applied to these plans. That is, the level of evaluation and justification that may be expected prior to the approval of specific proposed projects and programs has not been applied to the DNSPs' forecasts.

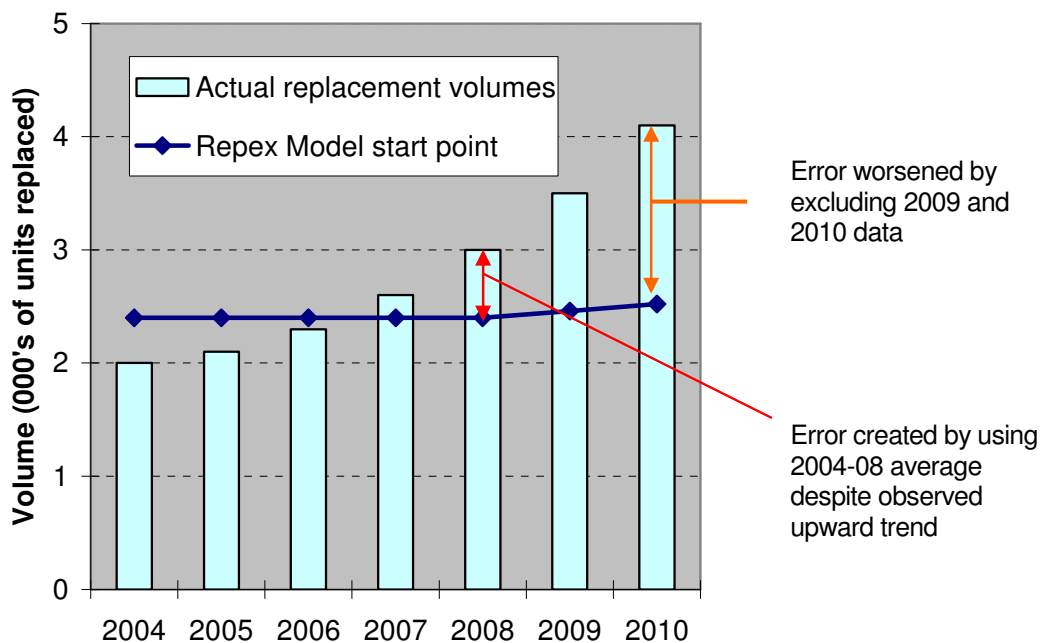
⁷⁵ AER, *Draft Determination*, p. 343.

⁷⁶ Nuttall Consulting, *Final Report*, pp. 226-7.

- The DNSPs have not adequately demonstrated that the model inputs and assumptions were “fit for purpose” in terms of enabling a ‘bottom-up’ build that was a reasonable estimator of overall prudent and efficient expenditure.
- There was insufficient detail on how the DNSPs have managed the risk over the current regulatory control period and why it was justified that these risks must be removed, and how risks will change moving into the forthcoming regulatory control period.
- There was a lack of economic analysis provided for some projects to demonstrate that the project/s scope and timing are required.

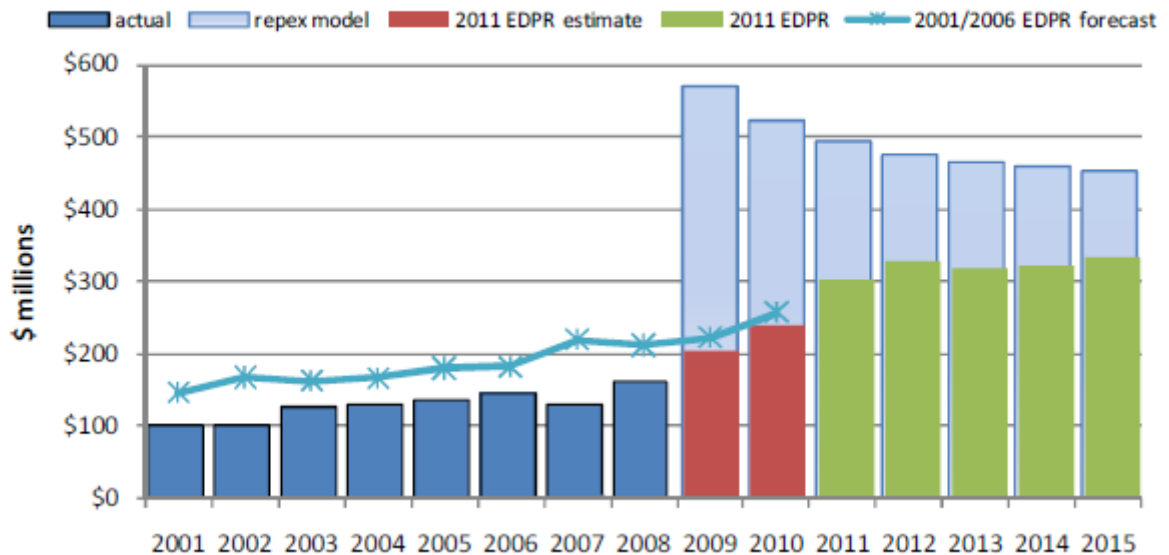
As a result of its findings, Nuttall Consulting developed its own model – the repex model – to provide an alternative assessment of the RQM capex for the forthcoming regulatory period. In accordance with its direction from the AER, Nuttall Consulting’s repex model was calibrated to reflect average historic RQM capex volumes for the period 2004 to 2008. The figure below illustrates the impact of the averaging approach applied by Nuttall Consulting, compared to a more robust approach that properly recognises trend increases in replacement capex.

Figure 6.15: Errors from an averaging approach



The figure above illustrates that the repex model is inherently focused on historic rather than future capex requirements. Therefore, it will not respond to changes in the assessed level of risk, or waves of replacement associated with an ageing asset base. In testing the veracity of the repex model, it is also instructive to highlight the results prior to its calibration. The following figure is reproduced from the Nuttall Consulting report.

Figure 11 Base case repex model forecast – aggregate



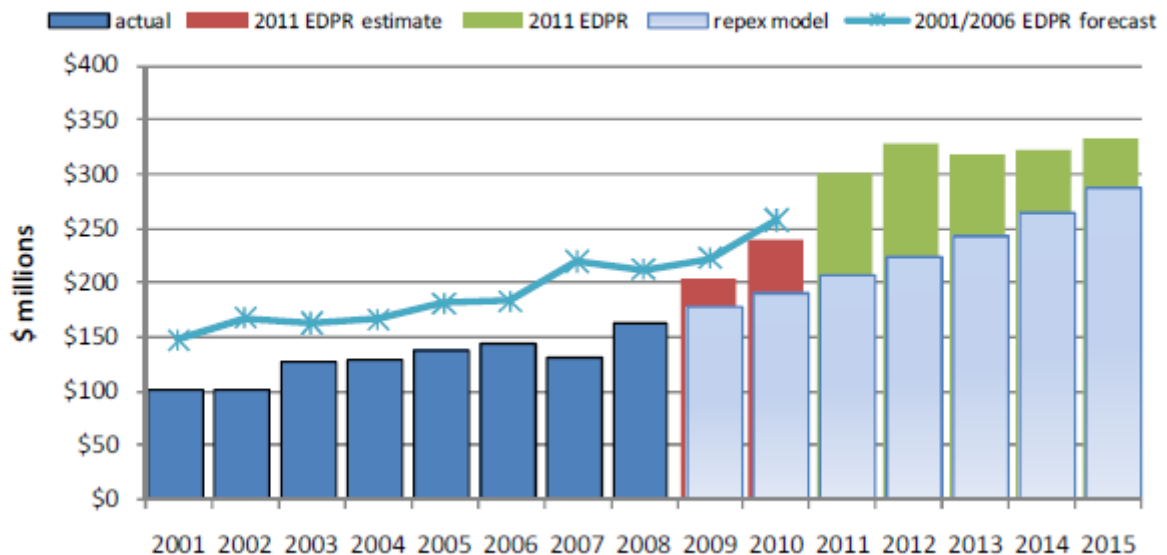
It is noteworthy that the pre-calibrated repex model indicated that the expenditure proposed by the Victorian businesses was too low. Nuttall Consulting commented on this outcome as follows⁷⁷:

“These results clearly show that the raw DNSP data provided for replacement modelling purposes is unlikely to be a reasonable estimator of replacement needs. This suggests that the replacement lives may be too long and/or the unit costs may be too high. It may also be that there is significantly more overlap between the age/condition related expenditure and other drivers than is suggested by the DNSPs.”

As noted above, the output from the calibrated model delivered lower estimates of RQM capex compared to the forecasts presented by the distribution businesses. The calibrated model is set out below.

⁷⁷ Nuttall Consulting, *Final Report*, p. 36.

Figure 13 - Calibrated repex model forecast – aggregate



SP AusNet is concerned by the approach adopted by the consultant in the use of this model. It is reasonable to draw two inferences from the consultant's approach:

It exhibits a pre-conceived view that the forecasts presented by the businesses are too high, and that models should be calibrated to deliver lower levels of capex.

The significant difference in the outputs produced by the repex model before and after its calibration indicates that it is not a reliable forecasting tool. It is noteworthy that SP AusNet's forecast RQM capex is underpinned by a number of significantly more sophisticated models.

Top down models such as the repex model systematically fail to consider risk and consequence relating to:

- safety of community, customers and employees;
- risk of property damage;
- network reliability and security; and
- advances in good industry practice.

This is particularly relevant in Victoria where there has been a substantial change to both the value of reliability and the perceived risks associated with fire ignition. In addition, top down modelling will ignore:

- cohorts within individual asset classes (for example, identified fleet problems);
- non-homogenous rates of deterioration;
- assessed condition; and
- trends in failure rates.

Therefore, top-down models such as the repex model cannot substitute for detailed bottom up analysis and forecasting, but can provide a useful cross-check providing that the models are appropriately designed. As explained above, the repex model will not provide an unbiased cross-

check because it ignores the most recent data points for RQM capex and assumes that the historic trend is flat, whereas in reality it is upward sloping.

The Draft Determination also states the repex model is “similar to those applied by Ofgem in the UK”. SP AusNet commissioned NERA to research how Ofgem uses its replacement models (the NERA report is attached as an appendix to this Revised Proposal⁷⁸). NERA observed that:

- Ofgem’s replacement model was not calibrated to historical levels of expenditure, but rather to the current average asset lives on replacement. Thus, the calibration reflected current company asset life policy, not recent levels of expenditure;
- While reliant on a correctly calibrated high level replacement model as a top down check, Ofgem departed from its model findings between the Interim and Final Proposals as result of detailed discussions between the companies and Ofgem and a detailed analysis of the bottom up cases presented by the businesses; and,
- as a result, Ofgem added £265 million to the Interim replacement expenditure allowance (based on their replacement model) in the Final Proposals.

Nuttall Consulting, therefore, appears to have misunderstood the basis and purpose of Ofgem’s replacement modelling. Rather than adopting the asset lives underlying SP AusNet’s asset management plans, Nuttall Consulting’s calibration is based on historic capital expenditure. The basis of Nuttall Consulting’s calibration is the mistaken belief that Ofgem had adopted a similar approach. It is of particular concern that Nuttall Consulting’s proposed reductions – principally driven by a miscalibration – would expose SP AusNet and our customers to significant risks.

SP AusNet considers these flaws in the design and application of the repex model demonstrate that it not fit for purpose and is therefore inconsistent with Clause 6.5.7 of the NER as it does not *reflect the efficient costs of achieving, or provide a realistic expectation of the cost inputs required to achieve the capex objectives*. Given this, the output of the model cannot be reasonably relied upon as a *constituent decision* (pursuant to Clause 6.12.1) into the AER final decision in its current form. A decision to continue relying upon the repex model would represent an unreasonable decision and incorrect exercise of discretion by the AER.

6.7.4 Zone Substation plant

Nuttall Consulting undertook a detailed examination of the transformer and CB replacement programs as “the outputs from these models become major factors in then defining the need for the substation rebuild projects, and their associated economic analysis”⁷⁹. Following its review, Nuttall Consulting reached the following conclusions regarding the appropriateness of SP AusNet’s model:

“The model is a contemporary approach to predicting replacement needs, and in principle at least, we see no reason to consider it is not appropriate for this purpose.”⁸⁰

Notwithstanding this positive conclusion, Nuttall Consulting made the following criticisms of the transformer replacement model:

- a degree of polymerisation that is not indicative of end of life on the majority of transformers scheduled for replacement in the next period;

⁷⁸ NERA, AER Draft Decision on Opex and Capex Allowances, attached as Appendix D.

⁷⁹ Nuttall Consulting, *Final Report*, p. 231.

⁸⁰ Ibid.

- lack of transparency on how probability and resulting risk is calculated in the model making hard to assess whether:
 - the appropriate risk mitigation options where reasonable;
 - deferral options had been considered;
 - optimal replacement timings were being predicted; and
- analysis of historic failure levels shows that no coil failures have occurred suggesting the models overstate risk.

With regard to the CB replacement model, Nuttall Consulting stated:

“the assumed lives were lower than those derived in the repex model, based upon recent historical replacement levels suggesting the model may significantly overstate the probability of failure for the older assets”⁸¹.

With regard to both models, Nuttall Consulting observed that:

- the SP AusNet documentation does not provide a post-model evaluation of the models findings to rigorously investigate these issues;
- analysis of historic failure levels does not demonstrate the spread of failures is as localised as the predictive models suggest; and
- calibration analysis did not confirm that modelled consequences and risks for predicted failures are equivalent to actual average risk.

Nuttall Consulting expressed similar concerns with the substation rebuild programs. Specifically that:

- the risks appear to be driven largely by the probability of the failure of the transformers and the subsequent consequences. However, this appears to be based upon high failure probabilities;
- the project reports provided by SP AusNet, do not address the make-up of the risks and the small-scale measures that may be applied to optimise the specific actions to mitigate these risks;
- provides no justification as to why SP AusNet considers the probability of failure and resulting consequences to be reasonable; and
- very little additional discussion on the detail of the options available to mitigate the most onerous risks.

The Report concludes that:

“... we do not consider that SP AusNet has adequately demonstrated that its models are “fit for purpose”. In our opinion, this would require a far more substantial and quantitative analysis to appropriately and transparently demonstrate their suitability. This would require network level and sample asset level analysis that shows that the number of failures, probability of failure, the aging relationship, and the consequences, derived through the model are reasonable unbiased estimates of the replacement needs. Such an evaluation would need to take into account SP AusNet’s historical information,

⁸¹ Nuttall Consulting, *Final Report*, p. 232.

including failure statistics and reliability consequences, asset condition monitoring results and risk mitigation measures.”⁸²

The AER Draft Determination relies on the recommendation of Nuttall Consulting stating:

“At this stage, the AER therefore accepts Nuttall Consulting advice that there is considerable discretion for SP AusNet to further defer and optimise most of these programs.”⁸³

SP AusNet is naturally disappointed by Nuttall Consulting’s conclusions and the AER’s findings in its Draft Determination as some of the concerns raised by Nuttall Consulting would have been addressed if SP AusNet’s offer to explain its models on site at SP AusNet’s offices had been accepted by Nuttall Consulting and the AER. This offer was particularly important because specialist software is required to run some key models. The fact that SP AusNet made reasonable attempts to “adequately demonstrate that its models are fit for purpose” and that these attempts were declined by the AER, means that the AER should not rely on this as a reasonable basis on which to reject the models.

SP AusNet would take to this opportunity to renew its offer to the AER and Nuttall Consulting.

SP AusNet’s earlier criticisms of the repex model are particularly pertinent to the transformer and CB replacement programs. In particular, the calibration exercise performed by Nuttall Consulting in the repex model will ignore:

- the recent and forecast asset failure trends;
- known asset specific condition; and
- the reliability and risk impact on customers and the community.

The output of the repex model lacks credibility because it predicts an expected life of 83 years for transformers and 68-69 years for circuit breakers. To illustrate this point the technical life of transformers and circuit breakers in previous decisions are included in the following table and compared with SP AusNet’s proposed mean lives. SP AusNet’s proposed lives are already well above the range approved in other jurisdictions confirming the Draft Determination findings on the efficiency of the underlying asset management. Nuttall Consulting has not offered, and SP AusNet is unaware of, any environmental or other factors that would lend credibility to the materially longer lives underlying the repex model results.

⁸² Nuttall Consulting, *Final Report*, p. 234.

⁸³ AER, *Draft Determination*, p. 382.

Table 6.11: Transformer and CB lives approved in other jurisdictions

	Transformer life	CB life
NSW	44.3-50	40-45
QLD	50	45
SA	45	45
SP AusNet Proposal (core and coil)	55 (68)	55.8

The model also fails to consider the economic life as opposed to the technical end of life. That is, it ignores the increasing monitoring, maintenance and refurbishment costs associated with aging transformers. SP AusNet has supplied two documents AMS 20-130 (revised) and AMS 20-122 which clearly illustrate that the PV cost is minimised by replacing the nominated transformers in the forthcoming regulatory period and the relationship between the replacement (capex) and refurbishment (opex) programs.

With respect to the substations rebuild program, in this Revised Proposal SP AusNet provides additional economic evaluation in support of the original program to address the concerns raised by Nuttall Consulting and the AER. In particular:

- the link between the substation rebuilds and the respective risk models and transformer and CB replacement programs has been clarified. These models provide the justification of probability of failure and consequence;
- for each substation rebuild's transformer replacements, a separate NPV analysis for each transformer compares the two key options of:
 - replace between 2011 and 2015; or
 - refurbish between 2011 and 2015 and then replace in the following regulatory control period.
- for each substation rebuild there are a number of options considered and compared, including refurbishment and replacement of various assets (including transformers and CBs where applicable) and combinations of these. The options are analysed using NPV analysis and the lowest cost is recommended.

This analysis demonstrates that the original analysis was sound, the core finding being that it is a lower cost to rebuild a substation than to just replace individual assets within that station (attached as "AMS 20-206", "AMS 20-221", "AMS 20-224", "AMS 20-225", "AMS 20-228", "AMS 20-233", "AMS 20-402", "AMS 20-403", "AMS 20-404", "AMS 20-405", "AMS 20-406" and "AMS 20-407").

In relation to transformer replacement model, SP AusNet responds to the concerns raised by Nuttall Consulting as follows:

- Recent international technical studies show that the degree of polymerisation (DPv) should only be used as an indicator of the average condition as it can hide high deterioration due to hot spots, localised heating and chemical deterioration from high acid level related deterioration of the oil.

- Whilst the condition of the winding insulation is critical in determining the end of life of a transformer, it is not the only critical factor. Therefore, a more holistic approach to determining the deterioration of the transformer windings and other components is required. In particular, SP AusNet considers the DGA/Oil Electro-physical & chemical condition/Furans / Bushing and winding dielectric response performance, winding and oil preservation systems, effective monitoring of temperatures and auxiliary conditions.
- In this Revised Proposal, SP AusNet has supplied additional information on how condition scores for each of the critical components are differentiated. This addresses Nuttall Consulting's concern that these scores rely too heavily on engineering judgement rather than objective analysis.
- Whilst SP AusNet has not experienced any core or coil failures, there is mounting evidence to suggest that coil failures are likely in the future. For example, since lodgement of the Original Proposal, four transformers identified for replacement have subsequently failed testing indicating high risk of terminal failure. Furthermore, core and coil failure is not the only major failure mode that must be taken into account. For example, tap changer, bushing or insulating oil failure can also result in a terminal transformer failure.
- In its Revised Proposal SP AusNet has supplied additional information on the calibration and post model evaluation of its transformer risk models (in particular, "*RQM Response to Draft Decision*", "*AMS 20-58 – Distribution transformer (Revised)*", "*Power Transformer replacement NPV Model – User Guide*", "*AMS 20-120*", "*AMS 20-128*" and "*AMS 20-130*").

To conclude, SP AusNet believes Nuttall Consulting has focused too narrowly on one measure of transformer condition. It is also worth noting that SP AusNet's internal expertise includes one of the Australia's leading transformer experts (CV attached). With this expertise in mind, SP AusNet is confident that a more thorough assessment by the AER and Nuttall Consulting will confirm that SP AusNet's proposed capex is appropriate and that a failure to rely on, or take into adequate consideration, SP AusNet's approach will amount to a demonstrable error in the exercise of the AER's discretion under the NER.

With relation to the circuit breakers replacement model, SP AusNet responds to the concerns raised by Nuttall Consulting as follows:

- SP AusNet has supplied additional information on how condition scores for each of the critical components are differentiated. This addresses the Nuttall Consulting's concern that these scores rely too heavily on engineering judgement rather than objective analysis.
- In its Revised Proposal SP AusNet has supplied additional information on the calibration and post model evaluation of its CB risk models (in particular, "*RQM Response to Draft Decision*" and "*AMS 20-129*").

To conclude, SP AusNet believes Nuttall Consulting has not fully appreciated the objective nature of SP AusNet's forecasting models. Again it is worth noting that SP AusNet's internal expertise includes one of the Victoria's leading switchgear experts (CV attached). With this expertise in mind, SP AusNet is confident that a more thorough assessment by the AER and Nuttall Consulting will confirm that SP AusNet's proposed capex is appropriate and that a failure to rely on, or take into adequate consideration, SP AusNet's approach will amount to a demonstrable error in the exercise of the AER's discretion under the NER.

6.7.5 Cross arm replacement

With respect to cross arms Nuttall Consulting found that forecast levels of replacement were likely to be an overestimate of replacement needs because changes in the management of cross arms (the implementation of 2.5 year inspection cycle):

“may have resulted in the significant ramping of the replacement levels that appears to have occurred during the current period. However, we consider that this will most likely result in elevated levels being estimated for 2009 to 2010 as some “catch-up” has occurred.”

Nuttall Consulting alluded to statements made by SP AusNet to support its conclusion

“This view appears to be supported by statements made by SP AusNet, where it has stated that the changes “reduced the volume of cross arm replacements between 2001 and 2004 but increased the volume of crossarms managed by re-inspection programs. This approach deferred the replacement of crossarms but could only be sustained until 2004. In 2005 replacement rates were increased to stabilize the cross arm failure rate and the volume of crossarms being re-inspected on the 18-month and 30-month cycles”

Nuttall Consulting concluded:

“we see no reason to consider that the forecast should not be around the average 2006-2008 levels with an allowance for the aging effect.”

The AER Draft Determination relies on the recommendation of Nuttall Consulting stating:

“Given the catch up in expenditure in the later years of the current regulatory control period as a result of the change in the assessment criteria, Nuttall Consulting reasoned that the replacement levels should return to normal levels in the forthcoming regulatory control period. Based upon the above, the AER considers that SP AusNet’s expenditure forecast does not reflect its future replacement needs.”⁸⁴

SP AusNet notes that Nuttall Consulting’s commentary does not provide any detailed criticism of the methodology or analysis underpinning SP AusNet forecasts in this area.

SP AusNet has provided the following additional evidence in support of its Revised Proposal:

- actual 2009 volumes (contained in “AMS 20-57 – Crossarms – Revised”) and costs;
- actual 2009 cross arm failure rates (contained in “AMS 20-57 – Crossarms – Revised”); and
- longer term back-casting of the predictive capacity of the SP AusNet risk model that underlie the original forecasts (attached as “Timber crossarm replacement forecasts – 2001data.xls”).

This evidence illustrates that:

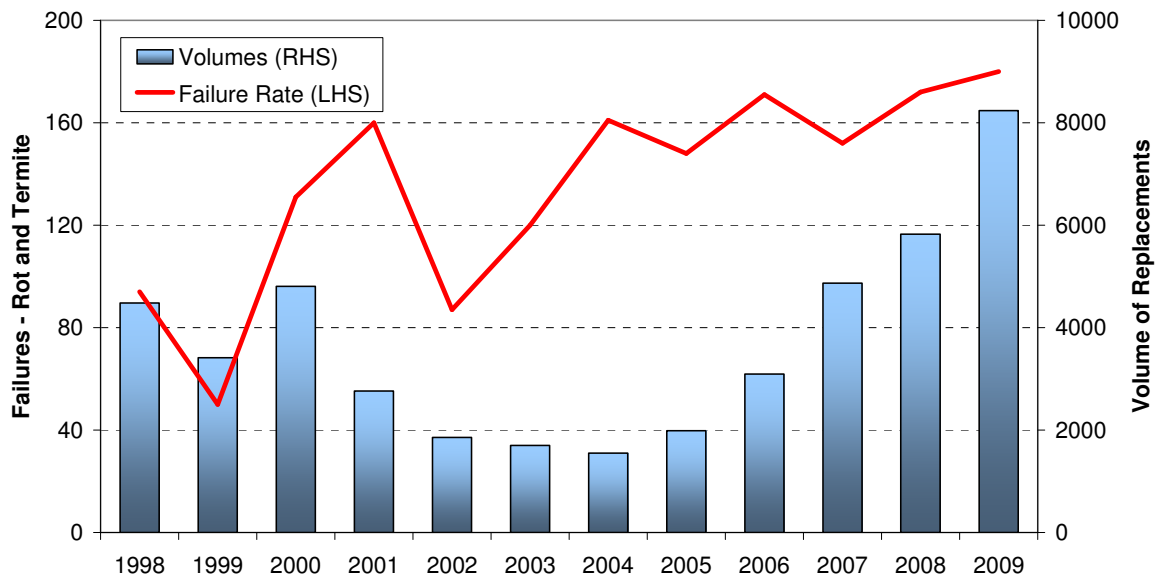
- volumes and costs are as forecast in the Original Proposal;
- the failure rate of cross arms has continued to trend upwards in 2009;
- the SP AusNet’s original forecasts are consistent with the long term replacement volume trend predicted in the cross arm risk model.

The figure below illustrates that 2009 replacement volumes were above the 8000 units forecast and that failure rates continued to climb indicating that risk has not been stabilised yet even at

⁸⁴ AER, *Draft Determination*, p. 383.

these levels (note the 2009 actual and 2010 estimated replacement volumes are above what is being forecast for the forthcoming regulatory control period).

Figure 6.16: Historic cross arm failures and replacement volumes



This illustrates that Nuttall Consulting’s contention that “*SP AusNet appears to be forecasting a step increase in replacements over historical levels*”⁸⁵ is simply not correct. In fact, the forecast replacement levels are below the volumes in 2009 and 2010.

It also illustrates that Nuttall Consulting’s contention the ramp in volumes over 2005 to 2008 “will most likely result in elevated levels being estimated for 2009 to 2010 as some “catch-up” has occurred” is not correct.

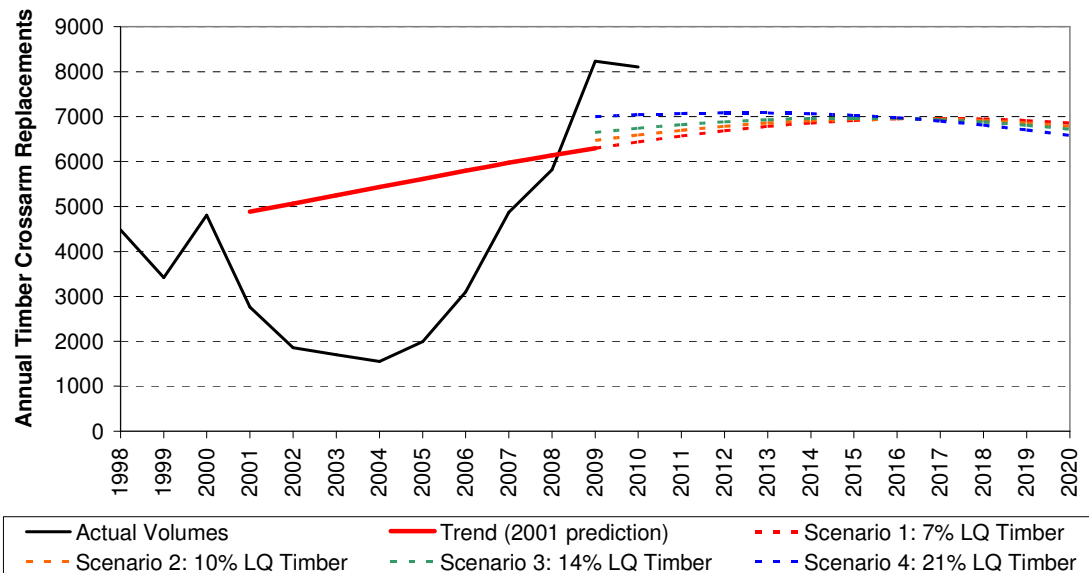
It is also obvious that the SP AusNet statement reproduced in the report was clearly referring to the increases including 2009 as being required to stabilise risk, hardly supporting the Nuttall Consulting thesis that risks would be stabilised at 2006-08 replacement volumes.

The evidence of increasing failure rates implies that to base the allowance on average 2006-08 expenditure as Nuttall Consulting does is unsound and fundamentally is at odds with Rule 6.5.7(a) objectives (3) and (4) and does not result in an allowance that maintains quality, reliability and security of the distribution system or standard control service. It is also a fundamental error in discretion to take into consideration only the lowest values in a sequence, merely on grounds that they are lowest.

In addition, SP AusNet has also undertaken an analysis that back-casts the volumes of cross arms replaced prior to 2001 in order to establish a trend line that is not influenced by the changes of replacement practices over the previous and current regulatory control periods. This is illustrated in the figure below.

⁸⁵ Nuttall Consulting Report, p. 237.

Figure 6.17: Backcast 2001 Predictions of Long Term Replacement Trend



In summary, following a peak of approximately 8000 units in 2009 through 2011 the model (based on 2001 data) predicts the replacement rate of timber cross arms plateaus around an average of 7000 units per annum across multiple scenarios. This analysis further supports SP AusNet’s forecast of 32,755 cross arms.

The comprehensive evidence SP AusNet has provided in support of the Revised Proposal demonstrates the 2009 and 2010 forecasts can be relied upon and that it is unsound to set them aside under Rule 6.5.7(e)(5).

To further support its original program, SP AusNet has:

- reviewed annual asset inspection data, which is independent of historical replacement rates, to establish the volumes of crossarms being assessed and assigned a condition maintenance code requiring replacement.
- developed and started to trial the use of a helicopter mounted with high resolution digital photography that tracks SP AusNet’s overhead network.

The combination of the historical method of condition assessment, enhanced ground based digital photography and the implementation of a mid cycle helicopter line patrol, SP AusNet’s forecast of 32,755 condition assessed replacement is justified.

6.7.6 Conductor replacement

Nuttall Consulting outlined two concerns with SP AusNet’s proposed replacement of \$1,770 km of steel conductor stating:

- Firstly, the fact that only 41km of a proposed 621km of replacement estimated for 2010 had been approved (clearly implying concerns over 2010 estimates); and
- Secondly, with regard to testing:
 - whether appropriate testing can be undertaken to target the relevant conductor for replacement, in order that the risks can be materially reduced; and

- whether such testing will support SP AusNet’s assumption that 50 years is the average age of the conductor requiring replacement.

Nuttall Consulting also noted that the ESV was in the process of undertaking testing of steel conductors that may be ‘...*informative as to the prudent level of conductor replacement*’, but that a report had not been produced at the time of the AER’s draft decision.

Nuttall Consulting suggested the following condition for implementation of a pre-emptive conductor replacement program.

“If an allowance for the pre-emptive conductor replacement program were to be allowed, irrespective of the Royal Commission’s findings, then SP AusNet would need to demonstrate that its proposed program is in accordance with ESV test result findings.”⁸⁶

The AER’s Draft Determination acknowledges a change in SP AusNet’s risk profile post the Black Saturday Bushfires and subsequently recommended an allowance for an increase to the past conductor replacement activity. However, the volume has been derived by the AER assuming a standard life for galvanised steel conductor of 60 years, as opposed to SP AusNet’s recommended 50 years on the grounds that:

“The AER though has seen evidence that the Victorian DNSPs have been successful in their asset life extension work elsewhere which casts doubt on whether the proposed 51.4 year life for steel conductors is pessimistic.”⁸⁷

Due to concerns with SP AusNet’s ability to target conductor replacements to specific risks, the approved program has then been further discounted by 20% on the assumption that it::

“... is reasonable to expect that with appropriate application of internal knowledge as to the status and condition of their assets SP AusNet will be able to achieve at least 80 per cent accuracy”⁸⁸

With respect to the profile of the forecast replacement kms of the conductor replacement program in relation to the 110 km planned for replacement in 2010, SP AusNet has profiled the program to back end the program while still delivering 2000 km of replacement in the forthcoming regulatory control period.

With respect to Nuttall Consulting’s first concern in relation to testing, SP AusNet’s “*AMS 20-52 – Conductor – Revised*” (attached) contains a strategy to enhance the existing conductor condition assessment criteria (Section 8.3 of AMS 20-52), to provide increased ability to identify the earliest time that an incipient failure can be first detected.

With respect to Nuttall Consulting’s second concern in relation to testing, SP AusNet has completed analysis involving the manual cross referencing of conductor failure data with conductor age data. This analysis indicates an average age for steel conductor failures of 42 years (attached as “*Conductor Failure Data – 2002 to 2010 May (ver1).xls*”).

SP AusNet is also fortunate that its replacement strategy is informed by its experience through the ground wire replacement program being undertaken on the transmission network. Ground wire on the transmission system is similar to steel conductor used on the distribution network. This program has also shown that under certain conditions and locations steel conductor life can be as short as 40 years.

⁸⁶ Nuttall Consulting Report.

⁸⁷ AER, *Draft Determination*, p. 383.

⁸⁸ AER, *Draft Determination*, p. 384.

As anticipated by Nuttall Consulting, the ESV released a Final report on 25 March 2010. Under Section 11 of the report stated the following in relation to steel conductors:

“Particular attention must be given for all steel conductors reaching 30 years of service as the sample testing showed a degrading of tensile strength of these conductors.”

SP AusNet considers that the ESV findings demonstrate that its proposed program is in accordance with ESV test result findings.

The information presented above, based upon actual asset condition assessment, does not support the AER’s assertion that SP AusNet has applied a ‘pessimistic’ end of life age of 51.4 years. The evidence would suggest the AER is dangerously optimistic in assigning an asset end of life of 60 years without reference or regard to asset performance. SP AusNet is acutely aware of the negative implications of making an error in this regard, in circumstances in which the media has reported an allegation of a “run-to-failure” policy⁸⁹. SP AusNet strongly denies any such allegation. SP AusNet has maintained a condition-based monitoring approach that detects and replaces assets, such as conductor, at the earliest practicable time to avoid and minimise these very risks. However, if the AER insists that SP AusNet should instead adopt a policy that assumes a 60 year life-span, this will attract justified criticism, increased risk, and increased consequences of significant magnitude. Such a decision will fail to achieve the fundamental tenets of the NEO.

The Draft Determination provides no substantiation for the concerns on the accuracy of the targeted conductor replacement program and SP AusNet notes the conductor strategy (Section 8.5 of AMS 20-52) identified specific sections of the network where conductor replacement is to occur and the volume economically justified and prioritised.

Nonetheless, SP AusNet observes that if the 80% accuracy assumption adopted by the AER was accepted, commonsense would suggest that the program should have been increased by 20% in the Draft Determination not reduced.

SP AusNet has supplied additional analysis in support of its original replacement programs. This answers both Nuttall Consulting’s criticisms and further supports the robustness, efficiency and prudence of the original programs. For the purposes of the Revised Proposal SP AusNet will stand behind the accuracy of the original targeted replacement program.

6.7.7 Additional RQM Programs

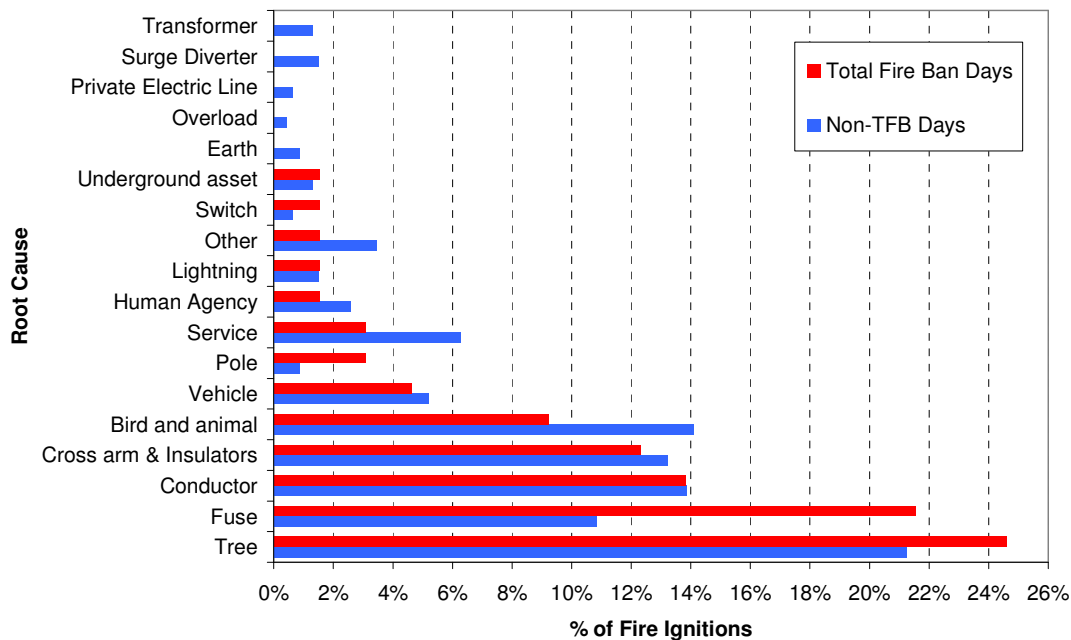
As raised with the AER in March 2010, SP AusNet has performed additional analysis with regards to bushfire risk that justifies additional replacement expenditure programs.

It should be noted that in the following discussion, figures provided relate to fire ignitions associated with electricity assets, which comprise about 1% of all fire ignitions across Victoria.

The following figure shows the percentage of fire ignition causes associated with electricity assets from 1991 to 2007 and the percentage of fire ignition causes also associated with electricity assets on total fire ban days from 1991 to 2007.

⁸⁹ *The Age*, “Mass class action on bushfires”, Saturday 19 June 2010.

Figure 6.18: Causes of ground fire ignition



With regard to causes that can be addressed through capex, cross arm and insulator failure results in 13% of fire starts, fuse failure results in 11% (but 21% of fire starts on Total Fire Ban days) and lack of bird and animal proofing in 14%. To address these causes, the resulting programs are proposed:

- enhanced cross arm and insulator replacement program;
- expulsion drop out (EDO) fuses replacement program;
- bird and animal proofing;
- enhanced control and protection program.

These programs are being assessed by the ESV and SP AusNet expects they will be subject to a strict reporting and monitoring regime to ensure the programs are rolled out as forecast.

In relation to the original cross arm and fuse replacement programs the original programs did not include the societal risk value associated with bushfire. The enhanced programs are justified by the inclusion of this risk.

SP AusNet's Original Proposal also did not include the retrofitting of bird and animal proofing on high voltage structures as the societal risk value associated with bushfire was not considered in the analysis (excepting for conductors). The new program is justified by the inclusion of this risk.

In relation to the enhanced control and protection program, it has been recommended by Counsel Assisting the Victorian Bushfire Royal Commission that the auto reclose function on lines in be suppressed high bushfire risk areas for the entire fire season, or that the number of automatic recloses be reduced. SP AusNet has costed the option of suppressing auto reclosers entirely at around \$1.2 million per annum from both value of unserved energy resulting from such a policy and the opex associated with manually changing protection settings at the start of each season. The majority of reclose devices on SWER and single phase circuits in these areas are oil circuit reclosers (OCRs) that cannot be remotely controlled by the SCADA system.

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A second option, to replace OCRs with automatic circuit reclosers (ACRs) in high bushfire risk areas, allows protection and reclose settings to be remotely adjustable in accordance with the forecast Fire Danger Index. That means total fire ban days can be targeted rather than the entire fire season dramatically reducing the value of unserved energy resulting from such a policy.

SP AusNet's Original Proposal did not include a program of replacing OCRs with ACRs in high bushfire risk areas. The enhanced program achieves the second option and minimum cost to the community.

Support documentations for these programs is attached to the Revised Proposal (in particular, "RQM Response to Draft Decision", "EDPR Additional Expenditures – Vegetation Compliance and Safety", "Crossarm Replacement Model – Enhanced BFM.xls", "Item 3.2 EDO Fuse replacement Strategy 2010 Final Ver1", "Accelerated Replacement – EDO FSDs.xls" and "Bird and Animal Proofing model")

The costs of these enhanced programs are set out in the table below. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.12: Enhanced RQM programs (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Cross arm and insulator replacement	3.8	3.8	3.8	3.8	3.8	19.5
EDO fuses	1.6	1.6	1.6	1.6	1.6	8.2
Bird and animal proofing	2.6	2.6	2.6	2.6	2.6	13.1
Control and protection	1.0	2.1	2.6	2.9	3.0	11.8
Total	9.1	10.1	10.6	11.0	11.1	52.6

6.7.8 Conclusion

SP AusNet has addressed each of the issues raised by the AER in the Draft Determination and explained that:

- It is inappropriate to apply a historical trend to SP AusNet's reliability and quality maintained capex program because it will fail to detect necessary increases in future expenditure requirements. However, where outturn costs are used to inform the forecast, they must be complete and take into account the latest available information, in this case audited 2009 data and the 2010 estimate.
- The AER seems to have misunderstood the basis and purpose of Ofgem's replacement modelling and to have misapplied its own version by calibrating it to past expenditures instead of current investment policies (and asset lives).

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- The output from the repex model is not fit for purpose and cannot be relied upon under the NER or as a basis to set aside SP AusNet’s forecasts.
- The flawed method used by Nuttall Consulting to determine a substitute reliability and quality maintained forecast cannot be relied upon for the purposes of producing a robust forecast of replacement capex.
- The criticisms made by Nuttall Consulting regarding the exercise of engineering judgment are unfounded. A clear link exists between SP AusNet’s engineering judgement and the economic efficiency of the forecast.
- The transformer and CB risk models are robust, accurate and calibrated appropriately.
- SP AusNet’s cost benefit and sensitivity analysis shows that the timing put forward in SP AusNet’s forecast maximises the net present value of benefits flowing from the proposed station rebuild projects (see detailed project economic evaluation reports).
- The proposed cross arm replacement program is consistent with the long term replacement trend and below 2009 and 2010 levels of replacement.
- The conductor replacement program is consistent with conductor failure data and ESV findings with regards to conductor life.
- Consideration of the societal risk value associated with bushfire justifies further enhanced replacement programs that were not included in the Original Proposal.

Therefore, SP AusNet’s revised forecast reliability and quality maintained capex is reasonable and should be accepted in full.

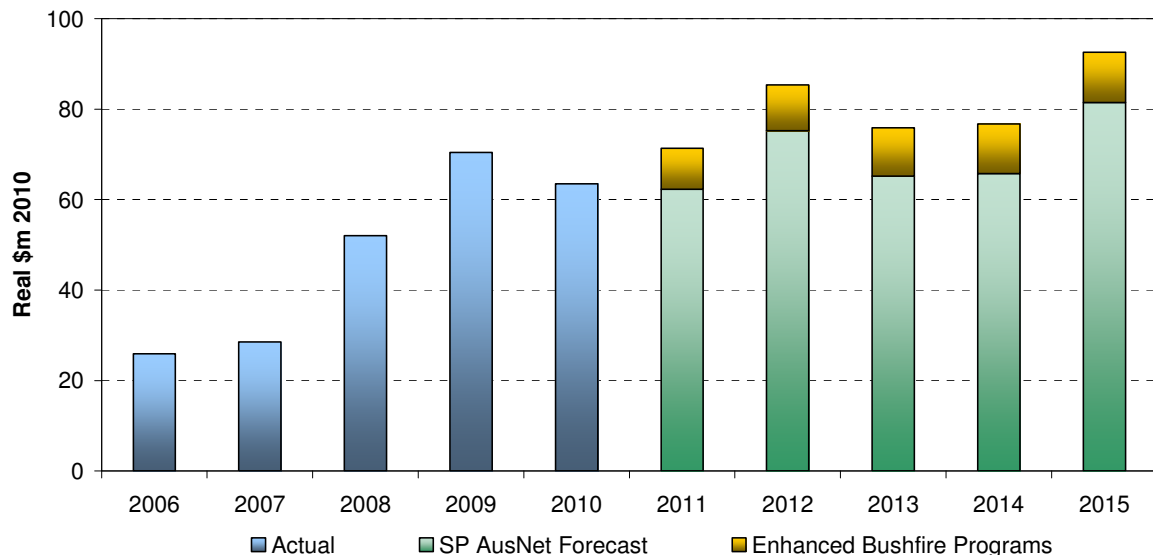
6.7.9 SP AusNet’s revised reliability and quality maintained capex forecast

In light of the issues raised by the AER, SP AusNet has revised its forecast of reliability and quality maintained capex as set out in the table and figure below. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.13: Revised Reliability and Quality Maintained Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	71.4	85.3	75.9	76.7	92.6	401.9

Figure 6.19: Revised Reliability and Quality Maintained Capex Forecast (Direct Cost)



SP AusNet notes that the information set out above together with the supporting documentation provided with this Revised Proposal demonstrates that the forecast of reliability and quality maintained capex set out above is consistent with Rule 6.5.7 and S6.1.1.

6.8 Reliability and Quality Improved Capex

SP AusNet's Original Proposal explained that it has not included any expenditure forecast for capex in the reliability and quality improved category. This approach represents a departure from the 2006 EDPR Determination, which categorised projects that were focused on achieving compliance with the Distribution Code as 'quality improved' expenditure. In SP AusNet's view, this expenditure is better categorised as investment to 'maintain' the network to required quality standards.

In the Draft Determination, the AER accepted SP AusNet's approach to the categorisation of capex between the reliability and quality 'maintained' and 'improved' categories. SP AusNet's Revised Proposal therefore adopts the same convention as noted in SP AusNet's Original Proposal.

6.9 Environmental, Safety and Legal Capex

6.9.1 Introduction

The AER has reclassified pre-emptive replacement programs that were originally classified in ESL capex category as RQM capex for the purposes of the Draft Determination. The original classification was consistent with the approach taken in the 2006 EDPR so was presented that way in order to comply with the original RIN. Nonetheless, SP AusNet endorses the AER reclassification, in particular as it will simplify future reconciliations and reviews. Therefore, SP

AusNet has presented all historical and forecast information on the basis of the AER reclassification to allow like-for like comparisons.

The AER retained Nuttall Consulting to assist it in assessing SP AusNet's capex proposals. Page 397 of the Draft Determination noted that:

"In the case of SP AusNet, Nuttall Consulting noted that a number of programs for 'pre-emptive replacement' based on age/condition of assets had been included in the Environmental, Safety and Legal capex category. These programs (including associated proposed expenditures) were transferred from the Environmental, Safety and Legal capex category to the Reliability and Quality Maintained capex category."

Table 96 of the Nuttall Consulting report indicates that the costs of the following pre-emptive replacement capex activities have been retained in SP AusNet's Environmental, Safety and Legal (ESL) capex category to the Reliability and Quality Maintained (RQM) category:

- Environmental, bunding, security;
- OH & S - Replace CTs;
- OH & S - Replace disconnectors; and
- OH & S - Replace silicon carbide gap arrestors.

Discussions in this section are on the basis of this reclassification.

6.9.2 Overview of Original Proposal

The Enhanced Network Safety Plan recommended a range of programs that reduce network related health and safety risks to as low as reasonably practicable for customers, personnel and the general public, including:

- a No Go Zone for line augmentations;
- asbestos removal; and
- OHS-related replacement programs for current transformers, disconnectors and silicon carbide gap arrestors.

SP AusNet's Original Proposal also included enhanced capex for its security program. SP AusNet explained that there are four main security threats to the electricity distribution network:

- Safety – of untrained persons in the vicinity of energy-containing equipment;
- Malicious – motivated by revenge, fame, association or challenge;
- Criminal – profit driven, including theft, fraud, sabotage or extortion; and
- Terrorism – threat or use of force to influence government or public through fear or intimidation.

The Infrastructure Security Risk Assessment Tool (ISRAT) is used to assess physical security risks and control measures in SP AusNet's installations. SP AusNet's Infrastructure Security Strategy is informed by more than 50 individual assessments, of major sites, and 20 generic assessments for the multiplicity of less significant installations.

6.9.3 SP AusNet’s response to the issues raised by the AER

The total (5-year) allowance of \$5.5 million for the four ESL activities listed above is consistent with SP AusNet’s forecast of total capex requirements (of \$5.6 million in 2010 dollars) for these particular activities. On this basis, SP AusNet will adopt the allowance set out in the Draft Determination for the four ESL activities that remain in that category following the AER’s transfer of the costs of SP AusNet’s proposed pre-emptive replacement capex activities to the RQM category.

6.9.4 SP AusNet’s revised environmental, legal and safety capex forecast

In light of the information set out above, SP AusNet has adopted the following forecast of ESL capex as set out in the table below. This forecast relates to the four ESL activities listed above, and is consistent with the AER’s conclusion on SP AusNet’s 2011 to 2015 environmental, safety and legal capex as set out in Table 8.39 of the Draft Determination. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.14: Revised Environmental, Safety and Legal Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	1.1	1.1	1.1	1.1	1.1	5.3

6.10 SCADA (IT) Master Station Capex

6.10.1 Overview of Original Proposal

SP AusNet’s Original Proposal explained that its SCADA Master Station capex forecast was developed by:

- engaging business units to understand Asset Management Strategies and to jointly assess requirements of IT to support deliverability of these strategies;
- assessing the current performance of IT systems and infrastructure to assess their capability to support the Asset Management Strategies;
- undertaking options analysis and identifying the preferred option;
- examining emerging technologies and trends that can be applied, where it is effective and efficient to do so;
- engaging experienced independent sources to provide research, benchmarks and/or cost estimates; and
- assessing the risk of preferred options, identifying appropriate mitigation strategies and the resulting residual risk.

SP AusNet further explained that it conducts a capital allocation and prioritisation process that aims to prioritise the following year’s capex to projects estimated to deliver the best value, aligned to the company’s corporate and asset strategies.

SP AusNet’s Original Proposal forecast SCADA IT capex of \$7.8 million for the forthcoming regulatory period, as shown in the table below. This represents a 53% (\$10 million) decrease compared to the current regulatory period.

Table 6.15: Original Proposal SCADA (IT) Capex Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	0.6	0.8	1.2	4.3	1.0	7.8

6.10.2 AER's Draft Determination and SP AusNet's response

While SCADA IT capex has been separated out from non-network IT for the purposes of SP AusNet's Original Proposal, the AER has not understood this and has stated:

"SP AusNet proposed expenditures relating to upgrading SCADA master station IT hardware and software. The AER notes that the project was also included in SP AusNet's Information Technology Strategy and, as a result, the project costs were also included in the proposed Non-network-IT capex. Therefore, the AER has rejected the inclusion of the proposed capex amounts in the SCADA and Network Control capex category".⁹⁰

SP AusNet was careful to not double count these costs. The IT Strategy addresses both programs but the costs are clearly separated in the Original Proposal and the RIN as \$7.8 million of Network Control SCADA IT capex and \$143 million of Non-Network IT capex.

The AER has effectively rejected SP AusNet's Network Control SCADA IT capex forecast but then provided a portion of it in non-network IT. This is because the AER has (possibly unintentionally) re-categorised SP AusNet's Network Control capex (ie: SCADA Master Station) into the Non-network IT capex category by including historical SCADA IT costs in establishing SP AusNet's Non-network IT capex forecast.

SP AusNet is indifferent to this categorisation approach. However, for clarity, SP AusNet reiterates that SCADA IT capex is a network control cost which is required to enable SP AusNet to continue to effectively manage and operate its network. While SP AusNet would accept a decision to reallocate SCADA IT costs to the general IT category, even though it provides a network control function, SP AusNet opposes any approach to determine an allowance for this expenditure on the same basis as Non network IT, given the system-critical nature of SCADA IT capex.

SP AusNet notes that the AER's expert consultant did not review SP AusNet's forecast network control capex as it is forecast to be significantly lower in the next regulatory period. It is clear that the AER itself has not undertaken a proper review of SP AusNet's proposal because while SP AusNet's forecast represents a decrease from historical expenditure, the AER has decided that SP AusNet:

"has not demonstrated an underlying need for a step increase in investment supported by an economic justification (cost benefit analysis including options analysis)

has not demonstrated why they cannot manage existing programs and associated risks within the current level of expenditure and existing practices as achieved in the current regulatory control period—given that they have successfully managed risks to within acceptable parameters in the current regulatory control period".⁹¹

⁹⁰ AER, *Draft Determination*, p. 412.

⁹¹ *Ibid.*

The AER has therefore made an error of fact, or has incorrectly applied its discretion, by rejecting SP AusNet’s capex forecast. SP AusNet therefore reiterates that the \$7.8 million forecast for SCADA IT capex meets the requirements of clause 6.5.7 of the NER and should be accepted in full.

6.10.3 SP AusNet’s revised SCADA Master Station capex forecast

In light of the response (set out above) SP AusNet’s revised forecast of SCADA Master Station capex is set out in the table below. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.16: Revised SCADA (IT) Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	0.6	0.7	1.1	4.1	0.9	7.4

SP AusNet notes that the information set out above together with the supporting documentation provided with this Revised Proposal demonstrates that the SCADA capex forecast set out above complies with Clauses 6.5.7 and S6.1.1 of the NER.

6.11 Non-network – Information Technology Capex

6.11.1 Overview of Original Proposal

SP AusNet’s Original Proposal explained that SP AusNet follows the same forecasting methodology for IT non network capex as that used for SCADA Master Station capex. Applying this methodology, SP AusNet’s Original Proposal set out a forecast of non-network IT capex of \$143 million over the forthcoming regulatory period. The programs identified by SP AusNet in its Original Proposal are briefly summarised below.

Asset and Works Management

SP AusNet explained that this program, forecast at \$20 million, replaces and consolidates IT systems that support Asset and Works Management functions as they reach end of supported life. SP AusNet also explained that the proposed increase in asset replacement work creates additional pressure to further integrate and automate these processes.

Network Management

SP AusNet explained that this program, forecast at \$9 million, will replace IT Systems that support Network Management functions as they reach end of life. SP AusNet explained that the forecast expenditure will upgrade the Distribution and Outage Management System (DOMS) and replace the Operations Centre wallboard. This program includes SCADA Master Station but these costs are allocated to the network control (SCADA IT) capex category. The network management program will also deliver improvements to auto circuit restoration, intelligent alarm management and communication protocols to the SCADA Master Station.

Customer Care

SP AusNet explained that this program, forecast at \$11 million, will improve customer interaction with SP AusNet, particularly during high activity periods and in relation to standard control services requiring direct interaction with customers, such as notification of planned maintenance works. SP AusNet commented that customers will benefit from enhanced self service functions that will facilitate the provision of accurate information to customers based on preferred communication channels.

Workforce Collaboration

SP AusNet explained that this program, forecast at \$16 million, will improve the use of asset and works data, thereby enabling SP AusNet to better maintain and restore the distribution system in the event of an outage.

Analytics and Reporting

SP AusNet explained that this program, forecast at \$12 million, seeks to capture actionable intelligence from the distribution network. Increased intelligence in the distribution network will continue to require analytics and reporting capabilities to process larger volumes of data quickly to allow for informed decision making.

Back office management

SP AusNet explained that this program, forecast at \$16 million, will replace and consolidate IT systems that support back office functions, such as Financial, Human Resources, Payroll and Risk Management.

IT Infrastructure and Operations

SP AusNet explained that this program, forecast at \$66 million, will provide appropriately reliable, fault tolerant, secure and supportable IT infrastructure. It aims to deliver agreed service levels and provide capacity to undertake identified business projects.

SP AusNet's Original Proposal included forecast non-network IT capex as set out in the table and figure below.

Table 6.17: Original Proposal Non-Network IT Capex Forecast*

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	31.9	37.1	27.1	30.2	16.7	143.0

*This table reflects the updated SP AusNet forecast in accordance with information submitted to the AER on 28th and 29th of January correcting an error in the forecast in the Original Proposal.

6.11.2 AER's Draft Determination and SP AusNet's response

The AER has rejected SP AusNet's proposal forecast of \$143 million and substituted a forecast of \$72 million.⁹² This is comprised of an annual allowance based on the historical average plus a

⁹² While this is the figure included in the table outlining the AER's conclusions on non-network IT capex, a calculation according to the AER's decision on page 422 of the Draft Determination to provide \$15 million per annum leads to a forecast of \$75 million. SP AusNet notes that \$75 million is the figure recommended by Nuttall Consulting.

\$10 million allowance to improve the agility of the IT infrastructure. The reasons behind the AER's decision, and SP AusNet's response to those reasons, are discussed in turn.

SP AusNet engaged Deloitte⁹³ to provide advice on specific recommendations in the Nuttall report such as those on agility and IaaS models, as well as the AER's approach to its draft decision. Deloitte's report is critical of the approach described in the Nuttall Report.

Applying the historical trend

Consistent with the AER's overall approach to capex in this review, the AER has decided that historic expenditure is a sound basis to forecasting non-network IT capex given that actuals are an indicator of efficient expenditure levels. This is inconsistent with its acknowledgement that there is limited usefulness in developing an IT capex forecast solely based on historic expenditure because of the nature of IT systems:

"The AER considers the variability of the capex amounts in this category relates to the periodic need to upgrade and/or replace assets...As such, the historic trend cannot completely determine future requirements."⁹⁴

However the AER assumes that historical expenditure is an appropriate base for forecasting because it assumes that:

"...the historic trend capex should include expenditures for changes which have eventuated in the current regulatory control period."⁹⁵

Consistent with this approach, the AER sought reasons for the variation from historical capex trends. SP AusNet explained that the step change in its IT capex is driven by the business's need to, amongst other things:

- support its asset and works management systems and enable analytic and reporting functions consistent with its Asset Management Strategy;
- avoid increased expenditure necessary to support obsolete systems;
- address customer satisfaction through preferred communication channels and enhanced information provision;
- replace and consolidate IT systems that support back office functions, such as Financial, Human Resources, Payroll and Risk Management.; and;
- adapt to the continued convergence and growth of intelligent network devices and IT systems.

The AER does not believe that the business environment and the operational challenges and risks faced by the DNSPs will change between the current regulatory control period and the forthcoming regulatory control period.⁹⁶ However, this is in contradiction to Nuttall's view that it was unable to review SP AusNet's detailed IT program given the many uncertain events, factors and considerations that will occur in the future⁹⁷. The AER has erroneously decided that historical spend would effectively cover SP AusNet's IT needs, concluding that:

⁹³ Appendix E - Deloitte - Review of non-system IT capital expenditure

⁹⁴ AER, *Draft Determination*, p. 419.

⁹⁵ Ibid.

⁹⁶ AER, *Draft Determination*, p. 421.

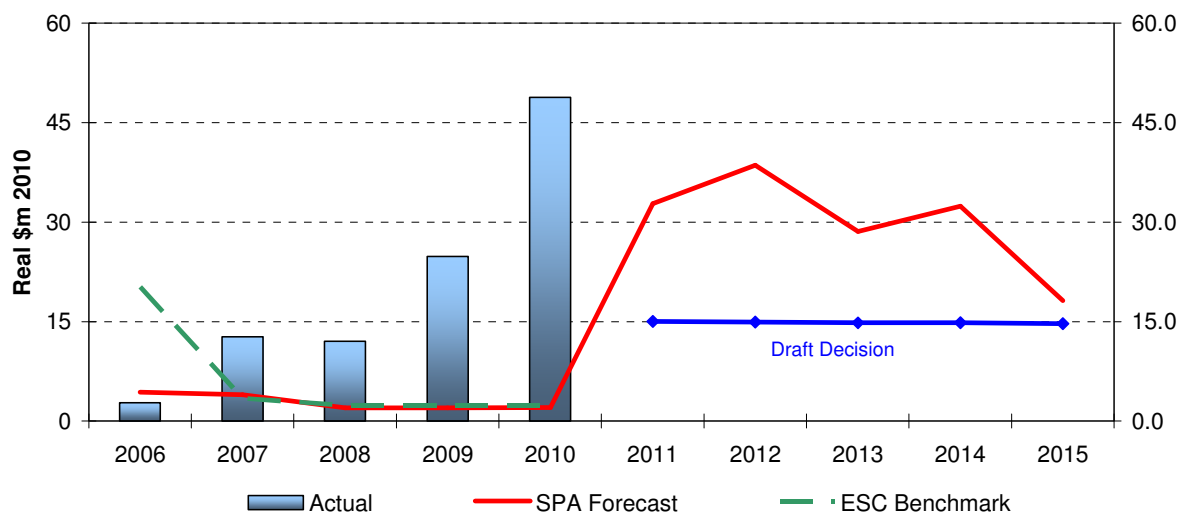
⁹⁷ Nuttall Consulting Report, p. 250.

EDPR 2011-2015 – Capital Expenditure

“The AER considers it appropriate to allow adequate funding to implement and operate business IT systems supporting customer service and the operation and management of the network in accordance with good electricity industry practice. Given that similar issues and cost drivers were raised in support of the capex proposals for the current and previous regulatory control periods, the AER considers that the actual/outturn expenditure represents the efficient capex amount.”⁹⁸

SP AusNet does not support the AER’s forecasting approach for IT capex. In SP AusNet’s case, IT capex during the current regulatory period has exceeded the inadequate allowance provided by the ESCV, as illustrated in the figure below.

Figure 6.20: Actual IT capex against regulatory allowance and forecast



The shortfall between actual and allowed capex has been funded by SP AusNet at a cost to its shareholders. In this context, it would be reasonable for the AER to assume that efficient, but discretionary, IT projects may have been deferred during the current regulatory period. However, a forecasting methodology that reflects historic capex is likely to produce allowances that systematically understate the requirements of the business. In any event, as IT capex is affected by a rapidly changing technological environment, a forecasting approach that is inherently backward-looking is patently unsatisfactory because it cannot reflect current or future technological solutions. Changing technology and uncertain events, factors and considerations means that it is difficult to accurately forecast IT capex and this is why significant over or under-spends can occur. The figure above also illustrates the lumpiness of IT expenditure, consistent with the AER’s observation that periodic replacement and upgrades are necessary.

⁹⁸ AER, *Draft Determination*, p. 420.

SP AusNet notes that the AER’s reliance on historical expenditure to determine forecasts is quite the opposite approach to that adopted in the 2009 NSW regulatory review where the AER relied almost solely on benchmarking of IT spending across the 3 distributors. SP AusNet notes on a per customer basis, the IT capex Draft Determination funds SP AusNet at a level below that approved for all three NSW businesses and ETSA in South Australia.⁹⁹

SP AusNet’s forecasts are, consistent with Rule 5.5.7(a) and (c) and reasonable (in accordance with Rule 6.18.8(a)(2)) in that they represent the best available forecasts based on current information. SP AusNet therefore considers that the AER’s forecasting methodology based on historic expenditure is inconsistent with Rule 6.5.7(c)(2), which provides that business should be able to recover the costs that a prudent operator would in its particular circumstances to achieve the capex objectives.

Deriving the historical trend

The AER has set aside SP AusNet’s bottom-up build of programs, and determined that SP AusNet should be provided its historic average, based on historic actuals from 2004-2008 (five years of audited data), plus an allowance for improving agility.

A flaw in the AER’s approach to determining historical spend is that it has excluded 2009 and 2010 data from its analysis because it views this as ‘forecast data and therefore not considered to be part of the historical trend.’¹⁰⁰ However audited 2009 regulatory accounts are now available for the AER to include in its analysis. Furthermore, the exclusion of 2010 is unsound as this year of expenditure indicative of SP AusNet’s IT requirements following the roll out of AMI infrastructure. 2010 data also demonstrates SP AusNet’s ability to deliver significant IT programs and resources.

By including 2009 and applying the AER’s five year window, the table below shows that historic spend on IT capex over the five years was \$66.9 million. By including 2010, the table below shows that historic spend on IT capex over the 2006-10 regulatory period is \$98.7 million.

Table 6.18: Historic Non-Network IT Capex Forecast

(Real 2010 \$M)	2005	2006	2007	2008	2009	2010	2005-09 Total	2006-10 Total
Total (excluding SCADA)	17.0	2.4	11.8	11.3	24.4	48.1	66.9	98.7

This shows an annual average spend of \$13.4 million for 2005-09, and \$19.7 million for the current period. While this is comparable to the AER’s forecast, this data **excludes** SCADA, while the AER’s forecast **includes** SCADA. When SCADA IT is included in the historic expenditure this gives a total of \$84.9 million for 2005-09, and \$119.1 million for the current regulatory period as shown in the table below.

⁹⁹ Deloitte, *Review Of Non-System IT Capex*, p. 11.

¹⁰⁰ AER, *Draft Determination*, p. 419.

Table 6.19: Historic Total IT Capex Forecast

(Real 2010 \$M)	2005	2006	2007	2008	2009	2010	2005-09 Total	2006-10 Total
Total (including SCADA)	16.6	9.6	15.2	14.1	29.4	50.8	84.9	119.1

This provides an annual average of \$17 million for 2005-09, and \$23.8 million for the current regulatory period, well above the AER's determination of an annual expenditure of \$13 million per annum. This shows that the AER's historical trend analysis is incorrect and not an adequate basis for deciding SP AusNet forecast non-network IT capex.

SP AusNet notes that it is inappropriate to dismiss 2009 and 2010 as anomalies due to AMI. The roll out of AMI and its IT implications are permanent, and the costs incurred to support AMI in terms of IT can be expected to continue into the future. As such 2009-10 expenditure accurately reflects SP AusNet's IT work load and should be considered in determining the IT requirements for the forthcoming regulatory period.

Further, SP AusNet's 2009-10 non-network IT actual capex partially reflects decisions to derive synergies between IT systems and infrastructure required to support AMI obligations, and those required for standard control services. For example, SP AusNet will introduce a Utilities Customer Information Service in late 2010 that will, amongst other things, migrate Customer Information and Service Order functionality from a highly customised solution. 15% of the Utilities CIS functionality is specifically required to meet the obligations of AMI and consequently it was more cost effective to implement a single solution at the same time.

AER's forecasting method inconsistent between DNSPs

SP AusNet notes that the AER has applied a different method of determining SP AusNet's forecast expenditure compared to the other DNSPs without explanation. For the four other Victorian DNSPs, the AER has allowed only the first 3 years of their proposals spread across the entire period, whereas it has used an annual historical average for SP AusNet.

If the same approach had been applied to SP AusNet, the resulting forecast would be \$96.1 million. This means that applying this different forecasting method to SP AusNet has reduced its forecast by \$24.1 million. This is a significant difference.

SP AusNet requested reasons for this decision from the AER and was not provided an explanation. The AER's response did not address the issue and stated:

"The AER has accepted the recommendations of Nuttall Consulting in relation to amounts for Non-network-IT capex for the forthcoming regulatory control period.

...The AER agrees with Nuttall Consulting that the DNSPs' IT systems/infrastructure are not agile. The AER has accepted Nuttall Consulting's finding that SP AusNet's IT strategies have not adequately considered internal and external factors that may impact on the proposed program delivery and therefore the recommended amount of \$15 million (fully absorbed cost) per year in the 2011-15 regulatory control period reflects historical IT

expenditure while also permitting SP AusNet to develop flexible and agile systems/infrastructure during the forthcoming regulatory control period.¹⁰¹

In certain circumstances, as noted above, it is appropriate for the AER to exercise its discretion to distinguish between the DNSPs. In this case, it amounts to unreasonable and unjustifiable bias in the outcome. This element of the AER’s decision also represents a failure to adhere to basic decision-making principles of procedural fairness.

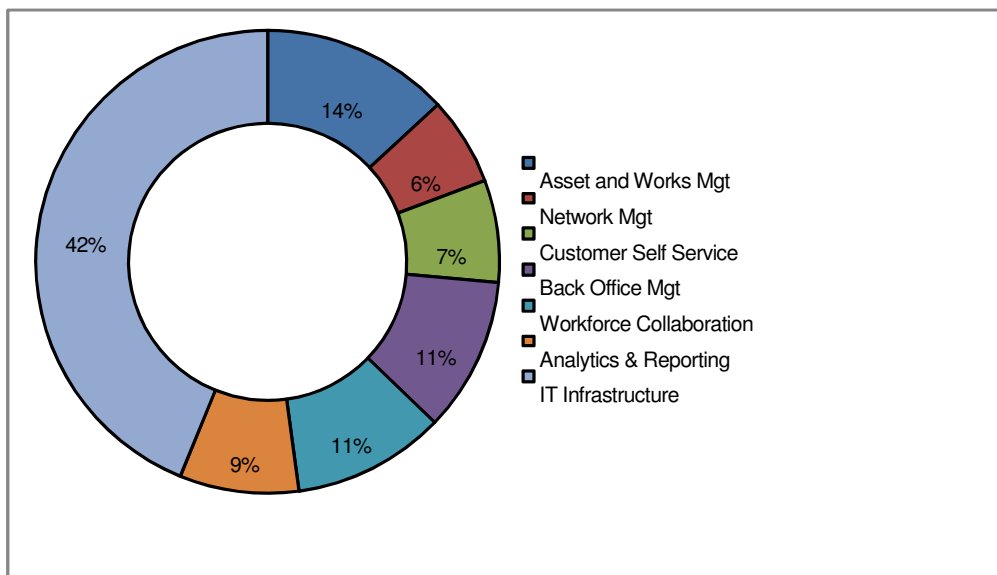
Incompleteness of AER’s review

The AER’s decision on non-network IT capex has been informed by a review of the SP AusNet’s non-network IT proposal by its consultant Nuttall Consulting. For SP AusNet, Nuttall’s review focussed on:

- server IT systems located inside dedicated data centres, and
- IT systems supporting the implementation of Advanced Metering Infrastructure (AMI) rollout mandated by the Victorian government.

In SP AusNet’s case, the scope of this review was extremely limited in that it only focussed on IT infrastructure. As shown in the graph below (Section 6.1 of the IT Strategy), IT infrastructure only comprises 42% of SP AusNet’s overall IT proposal. The IT Infrastructure program has a forecast capital expenditure of \$63.1 million. That means, at most only 42% of the IT Strategy proposed by SP AusNet had been assessed. Furthermore, Nuttall’s assessment did not examine the crucial relationship between applications and infrastructure.

Figure 6.21: Components of SP AusNet Non-Network IT Capex Forecast



Further, within the limited scope of Nuttall’s review, there was great emphasis on AMI-related programs. However SP AusNet’s proposed program of works for the forthcoming regulatory period contained only two projects related to the AMI project, the Customer Information Systems (CIS) Upgrade project and the UNIX Server Refresh project, totalling \$6.4 million.

¹⁰¹ Deloitte, *Review Of Non-System IT Capex*, p. 421.

SP AusNet considers that Nuttall's review of SP AusNet's IT proposal was far from comprehensive, and as such should not be heavily relied upon to determine SP AusNet's non-network IT capex forecast.

Agility

The AER agrees with Nuttall Consulting's assessment that the DNSPs do not have 'agile' IT architecture supporting business operation and service delivery.¹⁰² The AER has adopted Nuttall's definition of IT agility as the capability to rapidly and cost effectively adapt to change, including the ability to deploy new compute and storage resources quickly.¹⁰³ Nuttall identifies virtualisation as a key measure to achieve better agility. Nuttall Consulting considers that an efficient DNSP would develop an "agile" compute platform that could be incrementally expanded at relatively low cost whilst being based around a virtualisation product that would deliver: high availability enhanced disaster recovery, portability and live migration.¹⁰⁴

Nuttall observes that many of the DNSPs submitted a detailed IT Architecture or Strategy which failed to discuss or mention agility or the intention to provide their business with a flexible architecture that would be able to respond to the changing needs to the business.¹⁰⁵ The AER notes that the DNSPs' IT strategies do not discuss how their proposed IT investments would allow them to better respond in future to external events such as the mandated AMI rollout.¹⁰⁶ Additionally, the AER states that the absence of agile IT environments in the DNSPs will hinder their ability to complete the proposed IT projects¹⁰⁷.

SP AusNet engaged Deloitte to provide advice on agility within the utilities sector and SP AusNet's level of agility in relation to the industry's. Deloitte's view is that SP AusNet's infrastructure is typical of many organisations in the utilities industry that have embraced virtualisation and are providing agility capabilities in their IT environments.¹⁰⁸

The AER's view that SP AusNet has not sought to address agility is incorrect. SP AusNet's IT Strategy recognises virtualisation as a major investment driver (see executive summary and section 5.2). There is also a full chapter on virtualisation in the *IT Infrastructure Strategy* (Chapter 8 – Virtualisation Infrastructure Strategy) and more details are provided in Appendix G of that document. SP AusNet's Revised Proposal therefore includes appropriate scope for further virtualisation and fleet modernisation.

Indeed, SP AusNet has already delivered part of the proposed virtualisation effort in this period. For example:

- As at May 2009, 48% of the Wintel server environment was already virtualised in the current period.¹⁰⁹

¹⁰² AER, *Draft Determination*, p. 421.

¹⁰³ Nuttall report, p. 78.

¹⁰⁴ *Ibid.*, p. 79.

¹⁰⁵ *Ibid.*

¹⁰⁶ AER, *Draft Determination*, p. 421.

¹⁰⁷ *Ibid.*, p. 421-422.

¹⁰⁸ Deloitte, *Review Of Non-System IT Capex.*, p. 2.

¹⁰⁹ Section 8.3, *IT Infrastructure Strategy*.

- In February 2010, SP AusNet completed the implementation of new physical Enterprise Servers and these servers are virtualised and contain many enterprise applications.
- In May 2010, SP AusNet engaged Thomas Duryea Consulting to complete a detailed Wintel server virtualisation plan, which includes an assessment of applications suitable for virtualisation. This plan will inform a Virtualisation project, scheduled to commence in early August 2010, which aims to extend the use of Virtualisation within SP AusNet further.

In assessing SP AusNet's proposal the AER should seek to understand an appropriate level of virtualisation for the utilities sector. Deloitte's advice notes that "cloud computing is currently limited to commodity services that do not offer compelling value to utilities."¹¹⁰ SP AusNet's IT Strategy aims to deliver a level of agility that is appropriate to enable the delivery of standard control services, consequently ensuring that forecast expenditure is prudent. Deloitte considers that "SP AusNet has embraced and is deploying virtualisation principles in its IT environments. The level of adoption and virtualisation evident in the SP AusNet IT Infrastructure Architecture allows for an appropriate level of agility."¹¹¹

The AER also needs to take into account the limitation on the scale of virtualisation possible due to the obsolete applications still used by SP AusNet that are not supported in a virtualised environment. It should be recognised that application obsolescence is a major challenge to rolling out virtualisation. While SP AusNet has proposed programs to upgrade systems and rationalise these obsolete systems, the process of rationalisation already underway would be undermined by the inadequate IT capex allowance provided in the AER's Draft Determination.

Delivery

The AER has concluded that DNSPs will be unlikely to fully deliver their proposed non-network IT programs, commenting that:

"The AER considers the DNSPs will likely defer projects or adopt alternative projects in the forthcoming regulatory control period. Therefore the AER has rejected the capex expenditure amounts proposed by each of the DNSPs in this capex category and has substituted amounts."¹¹²

SP AusNet accepts that the nature of IT and technology changes means that it is possible that projects could be deferred or alternative projects adopted, and as such businesses must be able to respond to changing circumstances. SP AusNet has therefore developed an IT Strategy and prepared the IT capex forecast to be able to manage future needs and risks as well as possible.

However, the AER's review has not engaged in understanding and meaningfully reviewing this. While Nuttall's Report makes general assertions in relation to SP AusNet's IT systems and infrastructure, there is a lack of evidence in the form of concrete examples to support its assessment that SP AusNet will be unable to deliver the programs. In the absence of evidence supporting its view, the AER should not reject SP AusNet's IT forecast on the basis that there is insufficient 'agility' to deliver it.

SP AusNet's historical actual expenditure proves that it can deliver IT programs. By the end of 2010 SP AusNet will have delivered \$119 million worth of IT capex in the 2006-10 regulatory

¹¹⁰ Deloitte, *Review Of Non-System IT Capex*, p. 7.

¹¹¹ Deloitte, *Review Of Non-System IT Capex*, p. 8.

¹¹² AER, *Draft Determination*, pp. 421-422.

period. This reflects the critical role IT capex plays in the business, and the need to allow for future capex to effectively support the business.

SP AusNet's ability to deliver a significant project such as AMI is testament to its ability to deliver major IT projects. Further, in the forthcoming regulatory period, SP AusNet expects to reallocate AMI resources to assist with the delivery of the proposed IT programs.

In light of the above, there is no basis to a view that SP AusNet will not be able to deliver its forecast programs. The IT capex forecast represents the best available forecast based on current information and as such, the original non-network IT forecast of \$143 million is reasonable and should be accepted.

Capitalisation approach

SP AusNet owns all of its IT infrastructure and systems, and does not lease. In 2006, SP AusNet adopted this capitalisation decision as it was considered to be more cost effective over the long term. As part of this review, SP AusNet provided detailed historical information, including financial models and options analysis for owning its IT infrastructure.¹¹³

Nuttall's report acknowledges that each DNSP adopts different purchasing strategies and notes that:

"Each DNSP has adopted different purchase strategies, with some utilising capital expenditure and others utilising operating expenditure (e.g. leasing). It was determined that due to these different approaches it is not feasible to benchmark the DNSPs in relation to their proposed IT spends in a meaningful way."¹¹⁴

However, in its report to the AER, Nuttall Consulting suggests that SP AusNet should move towards a lease model, recommending that:

"SP AusNet develops its IT Infrastructure and approach along a modern agile and IaaS delivery methodology as a long term investment to manage IT capital expenditures in subsequent regulatory periods as it appears that the environment is quiet (sic) static."¹¹⁵

SP AusNet is concerned by Nuttall Consulting's statements for a number of reasons.

Firstly, the statements ignore the fact that SP AusNet is a multi-utility essential service business. SP AusNet is obliged to comply with the Terrorism Community Protection Act 2003 and consequently is required to produce and maintain a Security Risk Management Plan and conduct Risk Assessments for Critical Infrastructure sites. SP AusNet's Data Centres have been listed as "Vital" which is the highest rating in terms of classification. The Critical Infrastructure Protection Unit (CIPU) of the Victorian Police, liaise with both State and Federal agencies prior to the classification being awarded. Additionally, AEMO requires SP AusNet to maintain critical SCADA system infrastructure at 99.95% availability. These combined obligations increase the complexity and decrease the cost effectiveness of Data Centre leasing. As a consequence, the distribution network obtains a synergy benefit from utilising owned Data Centres.

To suggest that SP AusNet switch to an "infrastructure as a service" model ignores problems in shifting towards IaaS or a type of cloud computing. A major issue is the prohibitive cost in shifting back to a lease model. It is naïve to assume that simply moving to a lease model would reduce

¹¹³ Nuttall, p. 77.

¹¹⁴ AER, *Draft Determination*, pp. 421-422.

¹¹⁵ Nuttall, p. 250.

costs because while it would reduce capex, it would significantly increase opex costs. SP AusNet has estimated that to move to a lease model in the next regulatory control period, would require an estimated additional \$53 million in operating expenditure over the period, whilst only reducing IT capex costs by an estimated \$44 million. The increased operating expenditure would be recurrent into the following regulatory control period. These estimates exclude ‘buy back’ of owned assets and the cost to transition to a lease model. Having said that, it would not be possible for SP AusNet to find a leasing solution to support the \$75 million allowance provided in the AER’s Draft Determination (ie: SP AusNet cannot fully lease the balance of the \$143 million capex required)..

Another problem is that cloud service technology is not suitable to a utilities business. Deloitte’s report notes that utility software environments require heavy customisation to meet business requirements, such as complex systems integration between SCADA, asset management, billing, works management and GIS systems. Deloitte’s advice is that the utilities industry, which provides an essential service, should not yet adopt these types of technologies:

Given it is not advisable to implement solutions that require significant customisation and integration in the cloud environment, we do not believe a prudent operator in the circumstances of the DNSPs in the Victorian electricity industry should adopt the IaaS or cloud computing approach at this time- to do so would likely be inconsistent with the requirements of the NER.¹¹⁶

Finally, the AER is required to take into account the different operating models across businesses in light of clause 6.5.7 of the NER which requires the AER to consider the substitution possibilities between operating and capital expenditure and what an efficient operator would do in the business’s circumstances. Given this, the AER determination needs to factor in SP AusNet’s IT ownership model. Certainly there is no basis for the AER to seek to micro-manage SP AusNet’s commercial decisions.

Impact of Draft Determination

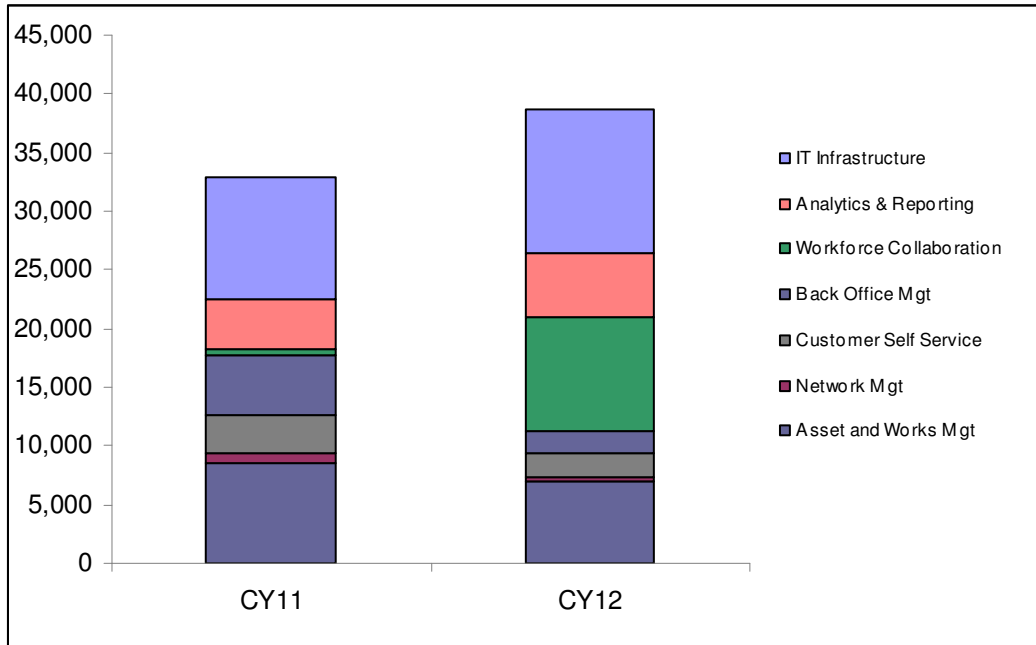
As a multi-utility regulated business, SP AusNet understands that IT systems and resources must be appropriately allocated to ensure that only those projects, necessary to underpin the supply of the standard control services are conducted. SP AusNet believes that the AER’s decision will severely undermine that prudent approach.

The incomplete nature of the Nuttall’s review and the lack of rigour in the AER’s decision shows a failure to consider SP AusNet’s industry expert-validated and clearly costed IT strategy and engage in the detail of the proposed programs. The resulting Draft Determination would further hamstring SP AusNet’s ability to continue its path to achieve an agile work environment as recommended by the AER.

Given the lack of funding, SP AusNet will be unable to invest in crucial IT capabilities programs which are scheduled and budgeted for the start of the regulatory period. This figure below shows the proposed programs for the first two years of the next regulatory period.

¹¹⁶ Deloitte, *Review Of Non-System IT Capex*, p. 8.

Figure 6.22: Forecast IT programs 2011-12 (\$M, nominal)



At a funding level of \$15 million per annum, SP AusNet will be unable to complete crucial programs to replace obsolete systems which support the business. It also compromises SP AusNet’s capabilities in customer self service. For example, a major project scheduled for 2011 is to enable customer management and care through a centralised data resource. If this is not funded, the customer self service portal which is to provide customers with the ability to input their own data and access information in relation to network outages and planned works will not be able to proceed. This compromises the business’s ability to manage the expected 20-30% increase in the number of customer interactions, provide timely and accurate supply outage information and improve customer service levels. Risks to “maintain the quality, reliability and security of supply of standard control services” would flow from this.

Crucial capabilities to be addressed throughout the period such as work scheduling and field mobility, information management, back office support, data automation and network billing will also be negatively impacted.

SP AusNet notes that the regulatory framework applying to Victorian electricity DNSPs during significant energy supply events has recently been reviewed by the ESCV. The ESCV’s 2009 Final Decision noted that the DNSPs’ Original Proposals to the AER included initiatives to upgrade their technological communications to customers and has “*taken these proposed initiatives into account.*”¹¹⁷ The AER’s rejection of SP AusNet’s non-network IT capex would therefore appear to conflict with the ESCV’s implicit assumption that upgraded communications will occur.

The AER’s capex efficiency incentives that operate within period mean that SP AusNet will be penalised disproportionately if it overspends its IT capex allowance. As such, SP AusNet cannot be expected to further self-fund any necessary and efficient IT capex should it fail to be supported

¹¹⁷ ESC, *Final Decision: Electricity Distributors’ Communications In Extreme Supply Events*, December 2009, p. iv.

by the AER’s Determination. To address these concerns, SP AusNet proposes that the capex efficiency regime to be applied to SP AusNet’s IT capex excludes a return of capital component and retains only the return on capital component (See Depreciation Chapter for further discussion of this).

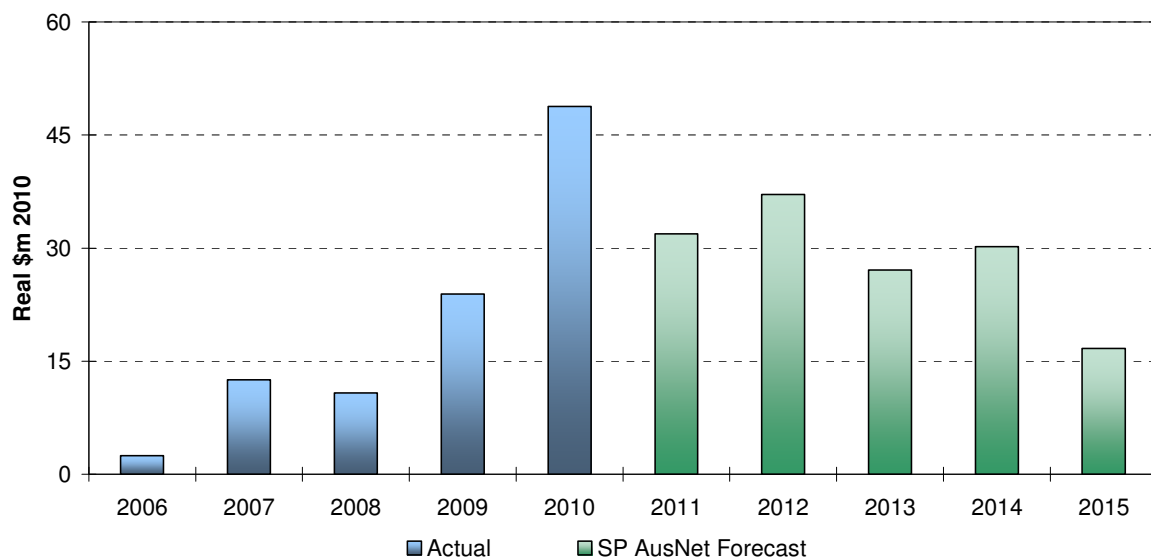
6.11.3 SP AusNet’s revised non-network IT capex forecast

SP AusNet has reviewed its non-network IT forecast in light of the issues raised by the AER. SP AusNet has not revised its forecast of non-network IT capex from the Original Proposal as it considers the forecast is efficient and reasonable. Accordingly, the forecast non network IT capex for the purpose of this Revised Proposal is as set out in the table and figure below. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.20: Revised Non-Network IT Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	31.9	37.1	27.1	30.2	16.7	143.0

Figure 6.23: Revised Non-Network IT Capex Forecast (Direct Cost)



SP AusNet notes that the information set out above together with the supporting documentation provided with this Revised Proposal demonstrates that the forecast IT capex set out above complies with Clauses 6.5.7 and S6.1.1 of the NER.

6.12 Non-network – Other Capex

6.12.1 Overview of Original Proposal

SP AusNet's Original Proposal explained that its forecast of capex for this category was developed through an extension of the existing annual budgeting process, and reflected the business requirements over the forthcoming regulatory period. SP AusNet's Original Proposal forecast non-network general capex of \$35 million over the forthcoming regulatory period. SP AusNet explained that this expenditure is required to purchase minor tools and equipment to allow the safe operation of the network by SP AusNet's employees. SP AusNet also noted that no fleet or facilities capex were included in the forecast capex.

SP AusNet's Original Proposal included the following forecast of non-network – other capex.

Table 6.21: Original Proposal Forecast Non-Network Other Capex

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	9.6	6.5	6.2	6.4	6.3	35.0

6.12.2 AER's Draft Determination

The AER rejected SP AusNet's forecast of Non-Network Other Capex and adopted a forecast of \$3.6 million per annum, totalling \$18.2 million (in 2010 dollars).

6.12.3 SP AusNet's response to the issues raised by the AER

SP AusNet has accepted the Draft Determination forecast as the starting point for its Revised Proposal. However, the Non-Network Other capex allowance is related to the size and scale of the network in manner similar to the opex allowance. Therefore, the allowance needs to be adjusted to be consistent with network growth and increased customer numbers.

Therefore SP AusNet has applied the same scale escalator to the Non-Network Other Capex as has been applied to the opex allowance. The calculation of the scale escalator is explained in detail in the Opex Chapter.

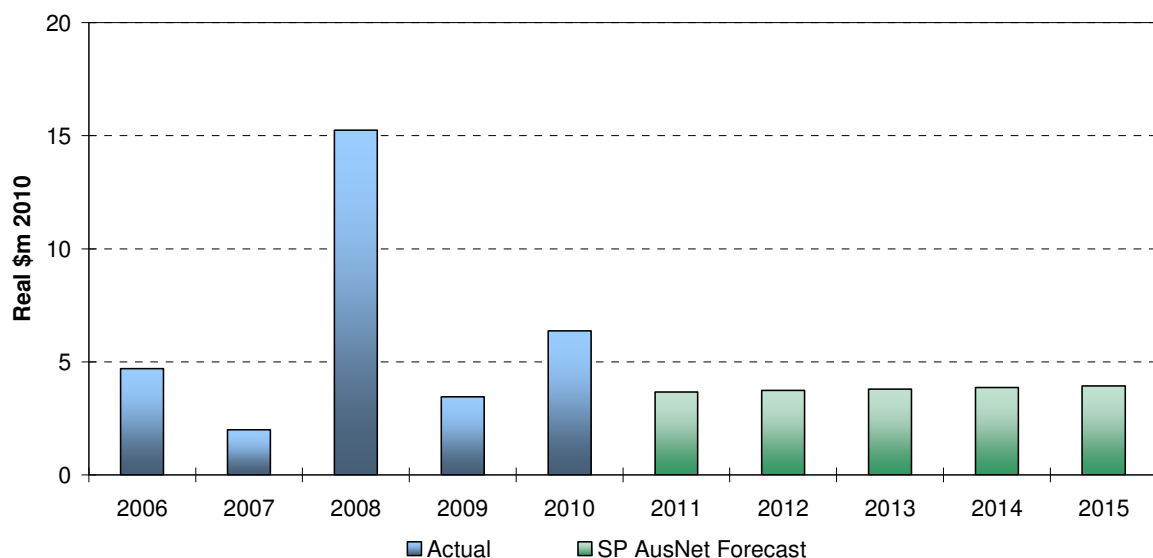
The AER's capex efficiency incentives that operate within period mean that SP AusNet will be penalised disproportionately if it overspends its Non-Network Other capex allowance. As such, SP AusNet cannot be expected to further self-fund any necessary and efficient Non-Network Other capex should it fail to be supported by the AER's Determination. To address these concerns, SP AusNet proposes that the capex efficiency regime to be applied to SP AusNet's Non-Network Other capex excludes a return of capital component and retains only the return on capital component (See Depreciation Chapter for further discussion of this).

6.12.4 SP AusNet's revised 'non-network other' capex forecast

In light of the issues raised by the AER, SP AusNet has revised its forecast of non-network other capex as set out in the table and figure below. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.22: Revised Non-Network Other Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	3.7	3.7	3.8	3.9	3.9	19.0

Figure 6.24: Revised Non-Network Other Capex Forecast (Direct Cost)


SP AusNet notes that the information set out above together with the supporting documentation provided with this Revised Proposal demonstrates that the forecast non-general capex set out above complies with Clauses 6.5.7 and S6.1.1 of the NER.

6.13 Customer Connections Capex

6.13.1 Overview of Original Proposal

SP AusNet's Original Proposal explained that the level of customer initiated capital expenditure is largely determined by economic conditions, which influences customer connection rates. SP AusNet explained that its consultants, NIEIR, expect average annual economic growth in GSP for Victoria to decline marginally to 1.76% over the forthcoming regulatory control period. As a result, growth rates in customer connections for the forthcoming regulatory period, as forecast by NIEIR, are similar to those experienced during 2006-10, specifically averaging around 2.1% per annum.

SP AusNet also explained that its unit rates for connecting customers are derived from historical data. SP AusNet's Original Proposal included a supporting document entitled *Unit Costing* to explain the estimation of unit rates. SP AusNet's Original Proposal also noted that customer connection capex is offset by customer contributions, which must be calculated in accordance with Guideline 14.

The Original Proposal concluded that SP AusNet expects \$335 million in total net customer connections capex over the forthcoming regulatory control period, as shown in the figure below. This represents an increase of 16% compared to the current regulatory period. SP AusNet noted that this does not include \$37 million of customer connections capex related to alternative control services.

Following the submission of the Original Proposal, SP AusNet identified an issue with the way in which customer contributions had been calculated which potentially did not comply with Guidelines 14. The AER was alerted to this issue, and that the method used may potentially underestimate customer contributions. As such, while SP AusNet’s forecast gross customer capex was sound, the forecast net customer capex would need to be revised.

6.13.2 Draft Determination

The Draft Determination accepted SP AusNet’s forecast gross customer capex of \$357 million. However, it has noted that the method by which forecast customer contributions have been calculated needs to be consistent with Guideline 14. SP AusNet’s historic levels of customer contributions have therefore been used as a placeholder to determine net customer capex. This is explained as follows:

“The AER is satisfied that SP AusNet’s gross new customer connections net capital expenditure reasonably reflects the efficient costs to achieve the capex objectives. It also reflects a realistic expectation of the demand forecasts and cost inputs required to achieve the capex objectives...”

The AER is not satisfied with SP AusNet proposed net new customer connections expenditure, given that the current requirements of Guideline No. 14 have not been taken into account in the forecast calculation of customer contributions, as described above. Historical customer contributions levels for SP AusNet have been used as a place-holder in this draft decision, as this issue needs to be resolved between the draft and final decision.”¹¹⁸

6.13.3 SP AusNet’s response to the issues raised by the AER

Gross capex

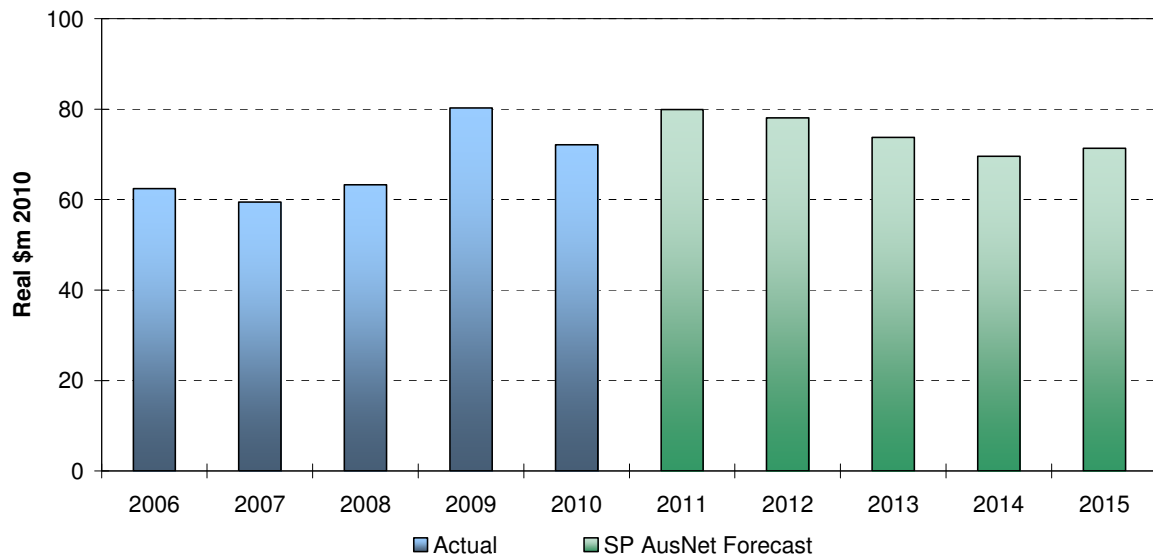
SP AusNet accepts the Draft Determination on forecast gross capex. However, consistent with the AER’s direction, SP AusNet has updated its forecast gross customer connections capex to reflect NIEIR’s revised customer connections forecasts. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.23: Revised Gross Customer Connections Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	79.9	78.1	73.8	69.6	71.3	372.7

¹¹⁸ AER, *Draft Determination*, p. 310.

Figure 6.25: Revised Gross Customer Contributions Capex Forecast (Direct Cost)



Customer contributions

In the Original Proposal, capital contributions for each customer category were calculated by taking a percentage based on historical percentages. SP AusNet concurs with the Draft Determination that this calculation was not compliant with the existing Guideline 14.

Applying Guideline 14, the level of customer contribution is calculated using the following formula:

$$CC = [IC - IR] + SF$$

Where:

CC is the maximum amount of the customer's capital contribution;

IC is the amount of incremental cost in relation to the connection offer;

IR is the amount of incremental revenue in relation to the connection offer; and

SF is the amount of any security fee under the connection offer.

Incremental revenue is defined as “the present value of the incremental distribution tariff revenue the distributor will earn in providing services as a result of also providing the connection services offered” where:

- the term over which the connection services offered will be provided is 30 years for domestic customers and, unless the distributor fairly and reasonably determines some other term is more appropriate in any particular case, 15 years for all other customers;
- the distribution tariff earned by the distributor over that term is;
- for the period over which the prevailing Price Determination applies, the distribution tariff the distributor is entitled to earn under that Price Determination; and
- after then, the distribution tariff the distributor would be entitled to earn under that Price Determination if it were to continue to apply, with the applicable X-factor being the same X-factor that applies in the last calendar year in respect of which that Price Determination applies.

This aspect of Guideline 14 introduces circularity into revenue calculation, as customer contributions calculations are a function of:

- P_0 adjustment;
- X-factor calculation;
- Final energy forecasts; and
- Final WACC.

In particular, the X-factor has significant influence on the NPV of incremental revenue being calculated, and therefore, the final value of customer contributions calculated. The interaction between the customer contributions and the revenue calculation requires several iterations between the customer contributions models and the PTRM before calculations can be finalised. This is because the contributions changes change the PTRM's X Factors that then change the contributions calculation which then further change the PTRM's X Factor and so forth.

Although there has been discussion about correcting Guideline 14, to date, it remains unchanged. Accordingly, for the purpose of this Revised Proposal, SP AusNet has assumed Guideline 14 will apply throughout the forthcoming regulatory period.

The existing calculation used as placeholder for the Draft Determination incorporates both the incremental cost and the NPV of incremental revenue assuming no changes to existing tariffs, X Factor and WACC. Therefore, the customer contribution for each customer class, has been forecast by:

- calculating the impact of new parameters (eg: tariffs, energy forecasts per customer, and WACC) on the NPV of revenue generated for each customer class; and
- deducting from this, the current NPV of revenue for that customer class used as placeholder in the Draft Determination (eg: based on existing tariffs; X-factor; WACC).

The customer contributions model has been submitted to the AER as part of this Revised Proposal. As stated above the model has been through several iterations with the PTRM to finalise the calculation and a repeat of this process will be necessary for the Final Decision.

SP AusNet's calculations result in forecast customer contributions amounting to approximately 11% of total gross customer connections over the period, on average.

Table 6.24: Revised Customer Contributions Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	10.2	10.0	9.4	8.9	9.2	47.7

6.13.4 SP AusNet's revised net customer contribution capex forecast

In light of the issues raised by the AER, SP AusNet has revised its forecast of net customer contribution capex as set out in the table and figure below. Costs are direct excluding overheads, cost escalation and margins to facilitate comparison with the Draft Determination.

Table 6.25: Revised Net Customer Connections Capex Forecast (Direct Cost)

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	69.7	68.1	64.3	60.7	62.2	325.0

SP AusNet notes the above information together with the supporting documentation provided with this Revised Proposal demonstrates that the forecast capex for customer connections set out above complies with Clauses 6.5.7 and S6.1.1 of the NER.

6.14 Unit Rates and Costs

6.14.1 Overview of Original Proposal

SP AusNet's Original Proposal explained that forecast unit rates are generally based on current and historic spending levels. The capex unit rates adopted by SP AusNet in its Original Proposal were developed during the course of 2009 and finalised in November 2009. SP AusNet explained that its unit rates are subject to regulatory cost management incentives, as well as competitive tender processes which inject external market rates into the cost analysis.

SP AusNet's Original Proposal also included the following escalators for labour and material costs.

Table 6.26: Original Proposal Real Input Cost Escalators

Escalator	2010	2011	2012	2013	2014	2015
Labour	2.56%	2.62%	2.60%	2.87%	2.54%	2.34%
Materials						
Aluminium	15.90%	5.10%	3.70%	3.90%	3.40%	3.10%
Copper	14.30%	0.70%	3.70%	4.10%	-4.10%	-4.20%
Steel	20.00%	6.90%	1.80%	0.80%	-0.70%	-0.80%
Crude Oil	29.00%	0.00%	1.00%	0.00%	0.00%	0.00%

SP AusNet explained that the above escalators are supported by reports from suitably qualified consultants in combination with information that specifically relates to SP AusNet, such as its current EBA. In particular:

- BIS Shrapnel¹¹⁹ estimated the labour escalators.
- SKM's report¹²⁰ explained the weightings given to each escalator for materials and equipment items, and explained how these weightings have been developed, including any assumptions.
- For some categories of equipment, SP AusNet applied its own weightings based on an engineering assessment. A spreadsheet entitled "*SP AusNet escalator weightings – Section 12.2(d)(ii) RIN Requirement*" was provided as part of the Original Proposal.

SP AusNet also noted that its capex forecasts did not include a contingency factor, with the exception of IT non-network capex.

6.14.2 AER's Draft Determination and SP AusNet response

The Draft Determination accepted SP AusNet's unit costs, but did not accept forecast scale and real cost (labour and materials) escalators. The Draft Determination concludes that SP AusNet's opex proposal should be adjusted for the impact of scale and real cost escalation by the amounts in the table below.

Table 6.27: AER conclusion on real cost increases (\$m, 2010)

2011	2012	2013	2014	2015	Total
1.7	2.7	3.7	5.2	6.2	19.5

Labour cost escalation

The Draft Determination rejects SP AusNet's forecast labour cost escalators and concludes that they do not reasonably reflect the opex and capex criteria. The AER substituted SP AusNet's labour escalators with forecasts that have been sourced from Access Economics. These are outlined in the table below.

¹¹⁹ BIS Shrapnel, *Wages Outlook for the Electricity Distribution sector in Victoria*, August 2009.

¹²⁰ SKM, *Victorian DNSP Annual Material Escalators 2010-15 Final Reprt – SPA Asset Categories*, November 2009.

Table 6.28: Labour Escalation Draft Determination¹²¹

	2010	2011	2012	2013	2014	2015
Internal labour real escalators	1.91%	0.94%	0.99%	0.86%	1.93%	1.46%
External labour real escalators	0.65%	0.87%	1.48%	1.89%	1.87%	0.69%

In summary, SP AusNet does not accept the AER's decision to:

- utilise Access Economics' labour escalator forecasts, as they are based on a measure of labour costs – the Labour Price Index – that SP AusNet contends leads to outcomes that are inconsistent with the requirements of the NER; and
- utilise the General labour escalator as calculated by Access Economics, for the purposes of escalating SP AusNet's outsourced labour costs.

The reasons for SP AusNet's rejection of the Draft Determination in relation to these costs are discussed in detail in Chapter 7 of this Revised Proposal.

SP AusNet's Revised Proposal includes an updated set of labour escalator forecasts calculated by BIS Shrapnel¹²². These forecasts have been applied to both its internal and external labour costs. These are set out in the table below.

Table 6.29: Labour Cost Escalators Rates

	2010	2011	2012	2013	2014	2015
EGW Real Labour Growth Rates	5.2%	1.4%	1.9%	2.7%	2.6%	2.4%
Outsourced Real Labour Growth Rates	3.2%	1.3%	2.0%	3.2%	3.3%	2.5%

It should be noted that SP AusNet proposes to commission BIS Shrapnel to update these forecasts using the same methodology for inclusion in the Final Decision.

Materials cost escalation

The Draft Determination is effectively made up of three sub-decisions:

- Acceptance of SKM's methodology for calculating materials' cost escalators;

¹²¹ AER, *Draft Determination*, pp. 137-138.

¹²² Appendix F – BIS Shrapnel - *Wages Outlook for the Electricity Distribution Sector in Victoria - July 2010*

- Rejection of SKM’s proposed methodology for calculating the exchange rate that is used to covert USD denominated materials’ prices into AUD denominated materials’ prices, with Econtech’s ANSIO report instead being used; and
- A clear intent to update these materials’ cost escalators as part of the development of the Final Decision.

SKM Methodology

The AER’s Draft Determination accepts SKM’s methodology for calculating materials’ cost escalators. SP AusNet has reached this conclusion based on the following statements:

*“The method proposed by SKM to forecast the escalation of aluminium and copper costs for the Victorian DNSPs is broadly consistent with the method allowed by the AER in recent decisions for other DNSPs. This method is based on the interpolation of LME spot and forward contract prices with Consensus Economics long term forecasts”.*¹²³

and

*“The method proposed by SKM to forecast the escalation of steel costs for the Victorian DNSPs is similar to that allowed by the AER in recent decisions for other DNSPs. Specifically, the steel cost escalators developed by the AER are based on the interpolation of the average of historical contract prices from Bloomberg for HRC in Europe and the USA with the average of Consensus Economics steel forecasts for Europe and the USA”.*¹²⁴

and

*“The AER considers that SKM’s approach to forecasting the escalation of the Victorian DNSPs’ crude oil costs is similar to the method previously approved by the AER in recent decisions for other DNSPs. That is, the crude oil cost escalator is based on the West Texas Intermediate (WTI) average monthly prices from the USA Department of Energy—Energy Information Agency. The AER interpolates this data with the Bloomberg forecast crude oil contract prices that use WTI crude oil prices as their reference price”.*¹²⁵

SP AusNet’s accepts the Draft Determination in relation to the use of the SKM methodology to develop materials’ escalators to be applied to SP AusNet’s capex forecasts for the purposes of developing the Final Decision.

Exchange Rates

The AER’s Draft Determination clearly states that it has not accepted SKM’s methodology for calculating the exchange rate that is used to convert USD denominated materials costs into AUD. More specifically, the AER state that:

“The AER is not satisfied that SKM’s approach that only uses historical data to prepare exchange rate forecasts reasonably reflects the capex and opex criteria. Further, the AER considers that Econtech’s Australian National State and Industry Outlook (ANSIO) report is a credible source for providing exchange rate forecasts.

¹²³ AER, *Draft Determination*, Real Cost Escalators, p. 119.

¹²⁴ *Ibid*, p. 121.

¹²⁵ *Ibid*, p. 123.

Accordingly, the exchange rates developed by the AER to convert materials forecasts and prices from USD to AUD interpolate historical exchange rates from the RBA with Econtech ANSIO exchange rates.

Further, the AER does not agree with SKM's view that continued volatility in global markets justifies a change to the above approach. The AER considers that the most recently available exchange rate forecasts from Econtech's ANSIO report should be used to convert USD forecasts into AUD in SKM's cost escalation model.”¹²⁶

SP AusNet accepts this component of the Draft Determination, namely, to utilise Econtech's ANSIO report to convert USD forecasts into AUD in SKM's escalation model.

Update data for Final Decision

SP AusNet's understanding of the Draft Determination is that it will update all materials' cost escalators for inclusion in the Final Decision. SP AusNet considers this, based on the following statement contained in the Draft Determination:

*“In addition, the AER considers that to develop a robust forecast it is appropriate to update the forecast materials cost escalators using the most recent data”.*¹²⁷

It is noted that the aforementioned statement references the following document: “AER, *ElectraNet transmission determination 2008–09 to 2012–13, Final Decision, April 2008, page 43*”. That document stated that:

*“To develop a robust forecast, the AER considers there is merit in using the best available information and that it is appropriate to update the forecast materials for cost escalators using the most recent data”.*¹²⁸

This approach is also consistent with the approach explicitly proposed by the AER for labour cost escalators in this Draft Determination:

*“The AER also considers it appropriate to further update these forecasts for the purposes of its final decision”.*¹²⁹

SP AusNet accepts this component of the Draft Determination – namely, to update material cost escalators for the most up-to-date information for inclusion in the Final Decision.

6.14.3 SP AusNet's Conclusion

SP AusNet accepts the Draft Determination in relation to the:

- Methodology that is used to derive the materials cost escalators;
- The use of Econtech's ANSIO report to convert USD denominated materials costs to AUD; and
- To update both of these components for the most up-to-date information for the purposes of developing the Final Decision.

In particular, SP AusNet considers that the adoption of the most up-to-date information on parameters such as labour and materials escalators is a prerequisite to the AER making

¹²⁶ Ibid, p. 124.

¹²⁷ Ibid, p. 125.

¹²⁸ AER, *ElectraNet transmission determination 2008–09 to 2012–13, Final Decision, April 2008, p. 43.*

¹²⁹ Op Cit, p. 133.

decisions that are consistent with the requirements of Rule 6.5.6(c)(1), namely that the AER must accept an operating expenditure forecast if the AER is satisfied that the total of the forecast operating expenditure for the regulatory control period reasonably reflects the “efficient” costs of achieving the operating expenditure objectives. In reality, in the context of this component of the Draft Determination, ‘efficient’ costs can materially vary from day-to-day as commodity prices change and currency forecasts change, therefore, it is appropriate to update these forecasts as close to the Final Decision as is reasonably practical.

Therefore, having regard to the clear intent by the AER to update the SKM’s materials cost escalators as part of the development of its Final Decision, SP AusNet confirms that it will engage SKM to update these forecasts for the purposes of including materials cost escalators in its Final Decision. This will use the methodology accepted by the AER as part of this Draft Determination. Moreover, SP AusNet will ensure that the latest Econtech exchange rates are also utilised.

However, for the purposes of developing this Revised Proposal, SP AusNet has not explicitly included the impact of the materials cost escalators in the development of its capex forecasts. For the avoidance of doubt – the capex forecasts contained in the building block model and within the body of this Revised Proposal do not include the impact of any materials cost escalators.

This approach should not be viewed as SP AusNet rejecting the inclusion of a materials cost escalator, as SP AusNet explicitly accepts the inclusion of revised material cost escalators in the Final Decision. Rather, SP AusNet has adopted this approach to assist the AER and other stakeholders reading this Revised Proposal to analyse the underlying drivers of its capex forecasts, excluding the impact of exogenous events on those programs, of which, changes in materials costs have the greatest impact. Moreover, this decision reflects the importance that SP AusNet places on the AER and all stakeholders understanding the impact on SP AusNet’s capex forecasts of it undertaking more reinforcement projects and increased replacement volumes, amongst other things, which it in turn considers are required to meet the capital expenditure objectives outlined in the NERs.

Notwithstanding the above, for the purposes of transparency, the following table shows the materials escalators, as currently calculated by SKM using the methodology accepted by the AER as part of this Draft Determination. In addition, SP AusNet has included the increment/decrement in capex costs in each year of the forthcoming regulatory control period, relative to the ‘no materials case’, that would occur as a result of adopting those materials cost escalators.

Table 6.30: Materials Escalator Rates – as at July 2010

Escalator	2010	2011	2012	2013	2014	2015
Labour	4.08	1.34	1.96	2.99	2.99	2.46
Materials						
Aluminium	26.3	19.6	-0.3	-1.5	-3.5	-3.3
Copper	35.2	14.9	-4.9	-6.0	-8.1	-8.2
Steel	21.4	12.6	-4.7	-0.4	-1.6	-1.4
Crude Oil	15.4	16.5	-0.7	0.1	-1.6	-1.2

Table 6.31: Impact on capex program of adopting materials cost escalator

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Total	30.6	29.5	29.3	21.6	22.2	133.3

6.14.4 SP AusNet's revised unit rates and cost escalators

As stated above, SP AusNet:

- Rejects the Draft Determination in relation to the labour cost escalators for the reasons set out in Chapter 7 of this Revised Proposal, and instead, proposes to adopt updated BIS Shrapnel forecasts.
- Accepts the Draft Determination in relation to the:
 - Methodology that is used to derive the materials cost escalators;
 - Use of Econtech's ANSIO report to convert USD denominated material costs into AUD denominated material costs; and
 - Updating of labour and materials' escalators with the most up-to-date information for the purposes of developing the Final Decision.

Finally, SP AusNet notes that the capex costs included in this Revised Proposal exclude the impacts of all materials' cost escalators, to assist the AER and other stakeholders reading this Revised Proposal to analyse the underlying drivers of its capex forecasts, excluding the impact of exogenous events on those programs. For the avoidance of doubt, this should not be considered as a rejection of the Draft Determination in relation to the inclusion of materials cost escalators,

nor should it be seen as a rejection of the inclusion of revised materials cost escalators in the Final Decision.

6.15 Capex / Opex Trade Off

SP AusNet's Original Proposal explicitly linked a number of its capex programs to opex outcomes, as it considered this to be consistent with the requirement to have regard to "the substitution possibilities between operating and capital expenditure", as required under NER Clause 6.5.6 (e)(7). It is noted that these trade offs are also consistent with the requirements placed upon the AER in the NERs to accept capital and operating expenditure forecasts that reasonably reflect the "efficient costs" of achieving the respective capital and operating expenditure objectives.

However, SP AusNet considers that the AER has failed to have regard for the capex / opex trade offs:

- underpinning SP AusNet's Original Proposal; and
- the impact that its proposed capital expenditure cuts in the Draft Determination more broadly will have on opex costs.

For example, the rejection of SP AusNet's proposed IT capex increase would necessitate an adjustment of the scaling factor adopted for operating costs as part of its overall scale escalation modelling. This capex / opex trade off was explicitly identified in SP AusNet's Original Proposal (page 213), yet, the AER does not appear to have considered or addressed this factor in their Draft Determination. SP AusNet considers that without such an adjustment, it would not be provided with a 'reasonable opportunity to recover the efficient costs of providing standard control service', as required under section 7A(2) of the NEL.

Another example of this is the impact that SP AusNet's explicit statement that it proposes to lease vehicles in the forthcoming regulatory control period will have on its opex costs. In particular, the AER has provided no capex allowance to purchase these vehicles (the AER explicitly remove historical fleet purchases from the historical figures that are used to then derive forward looking capex estimates for this category), yet they also reject SP AusNet's proposed opex allowance to compensate it for the leasing of vehicles that reach the end of their economic life in the forthcoming regulatory control period. This results in SP AusNet either being:

- unable to "maintain the quality, reliability and security of supply of standard control services", consistent with Clause 6.5.6 (3); or
- not being "provided with a reasonable opportunity to recover at least the efficient costs the operator incurs", as required under Section 7A (2) of the NEL.

Whilst it is open to the AER to "accept or approve, or to refuse to accept or approve, any element of a regulatory proposal" and to "substitute" an amount determined on the basis of the current regulatory proposal under Rule 6.12.3, the AER cannot do so without providing adequate and proper reasons for doing so, and cannot do so if to do so would undermine or diminish the attainment of the NEO. SP AusNet has demonstrated above that the absence of the above capex/opex trade offs for these two examples are clearly inconsistent with the NEO, and moreover, the revenue and pricing principles.

More broadly, SP AusNet considers that the AER has in effect, ignored this entire requirement under the NERs when it comes to their own Draft Determination, which in turn diminishes the attainment of the NEO. In particular, the AER has adopted significant cuts to SP AusNet's capex

program in this Draft Determination – cuts that are premised on undertaking lower volumes (reinforcement projects, replacement volumes) as opposed to being based on lower unit costs. However, there is no explicit demonstration of how the AER has analysed the impact of those cuts on SP AusNet’s opex forecasts, as would be required under the NERs such that “efficient” costs are provided for in the Building Block proposal. SP AusNet contends that the AER, when formulating its final determination, must have regard for the substitution possibilities of its own decisions.

SP AusNet’s bottom up modelling of its capex program provides the basis for understanding the impact that any capex allowance, when translated to particular programs, will have on opex costs. Rather than provide various combinations and permutations of capex/opex trade offs, SP AusNet contends that the AER must consult SP AusNet as to the impacts on its opex costs of any changes in the Final Decision to its capex allowances. This is consistent with the requirements under the NEL that the AER must ensure that the regulated DNSP to which the determination applies and any affected registered participant are informed of material issues under consideration by the AER. Again, in the absence of the consideration of this trade off in the Final Determination, SP AusNet would consider such decisions to be clearly inconsistent with the NEO, and moreover, the revenue and pricing principles.

6.16 Summary of Revised Capital Expenditure Forecast

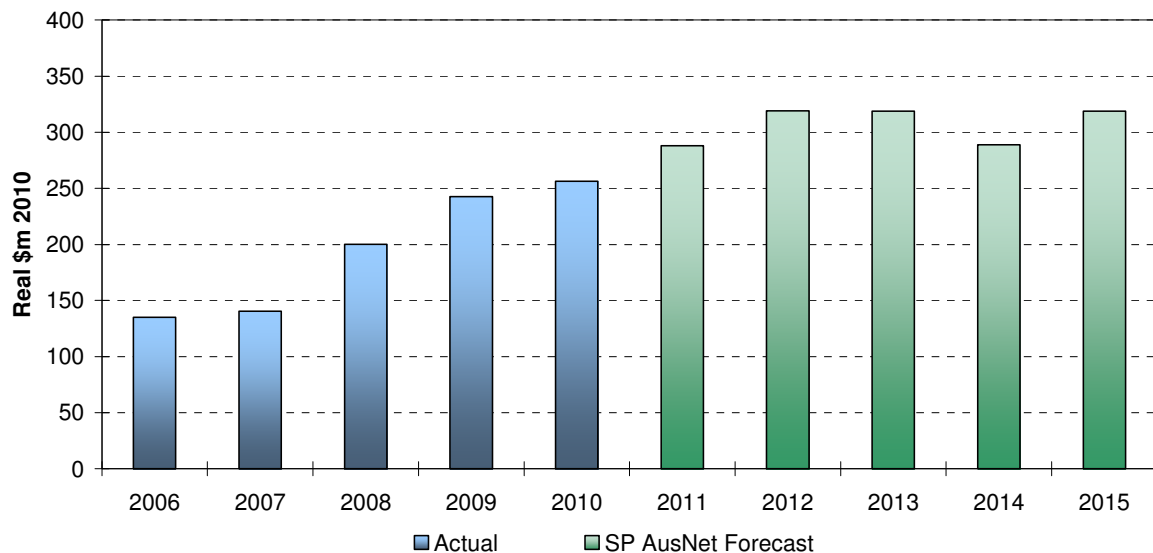
SP AusNet’s forecast total net capex in this Revised Proposal is \$1,534 million (real \$2010) for the forthcoming regulatory control period. This is an increase of \$162 million (real \$2010) or 12% from the \$1,372 million (real \$2010) that SP AusNet forecast in its Original Proposal. SP AusNet’s Revised Proposal has addressed the issues raised by the AER in its Draft Determination. However, SP AusNet remains of the view that a significant increase in capex is required in the forthcoming regulatory period principally to address:

- real increases in unit rates;
- the required increase in the volume of asset replacement works;
- an increase in augmentation and customer connection capex; and
- increases in IT expenditure to provide the necessary business system infrastructure to meet the challenges in the forthcoming regulatory period.

The table and figure below shows the breakdown of SP AusNet’s revised capex forecasts.

Table 6.32: Revised Capital Expenditure Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Gross Direct Capex	255.3	276.4	271.8	243.6	261.7	1308.8
Overheads	36.0	39.5	40.6	35.5	42.1	193.7
Cost Increases	7.0	13.2	15.7	18.7	24.4	79.0
Margins	0.0	0.0	0.0	0.0	0.0	0.0
Total Gross Capex	298.3	329.1	328.2	297.8	328.1	1,581.5
Customer contributions	10.2	10.0	9.4	8.9	9.2	47.7
Total Net Capex	288.1	319.1	318.8	288.9	318.9	1,533.8

Figure 6.26: Revised Capital Expenditure Forecast (Total Net Capex)


For the reasons set out in this Chapter, SP AusNet considers that the above revised forecasts comply with Clauses 6.5.7 and S6.1.1 of the NER, and should be accepted by the AER in its final determination.

7 Revised Operating and Maintenance Expenditure Forecasts

This chapter sets out SP AusNet's response to the AER's Draft Determination in relation to opex forecasts. SP AusNet's Original Proposal provided extensive information to support and explain the company's application of its opex forecasting methodology.

As noted in Chapter 1 of this Revised Proposal, the focus of this submission is to respond to the detailed matters raised by the AER in its Draft Determination. As such, this chapter only provides a brief recap on the detailed opex forecast information provided by SP AusNet in its Original Proposal. The remainder of this chapter is structured as follows:

- Section 7.1 summarises SP AusNet's opex forecasts in its Original Proposal and also provides an overview of SP AusNet's opex forecasting methodology;
- Section 7.2 addresses the AER's Draft Determination in relation to SP AusNet's base year opex;
- Section 7.3 addresses the AER's Draft Determination in relation to SP AusNet's forecast cost escalators;
- Section 7.4 responds to the AER's Draft Determination in relation to the trade off between capex and opex;
- Section 7.5 addresses the scale escalation factors that have been applied to SP AusNet's opex forecasts;
- Section 7.6 addresses the AER's Draft Determination in relation to SP AusNet's Step Changes and Other Cost Changes;
- Section 7.7 responds to the AER's Draft Determination in relation to self insurance;
- Section 7.8 sets out SP AusNet's revised debt raising costs;
- Section 7.9 addresses the AER's Draft Determination in relation to SP AusNet's forecast GSL payments in the forthcoming regulatory period;
- Section 7.10 presents SP AusNet's revised demand management expenditure in light of the Draft Determination;
- Section 7.11 presents SP AusNet's revised payout of the current S-Factor scheme; and
- Section 7.12 summarises SP AusNet's revised opex forecasts in response to the Draft Determination.

7.1 Original Proposal Operating Expenditure Forecasts

SP AusNet's Original Proposal forecast total opex for the forthcoming regulatory control period of \$894.21 million. The following table provides a breakdown of this forecast expenditure across the opex categories for each year of the forthcoming regulatory period.

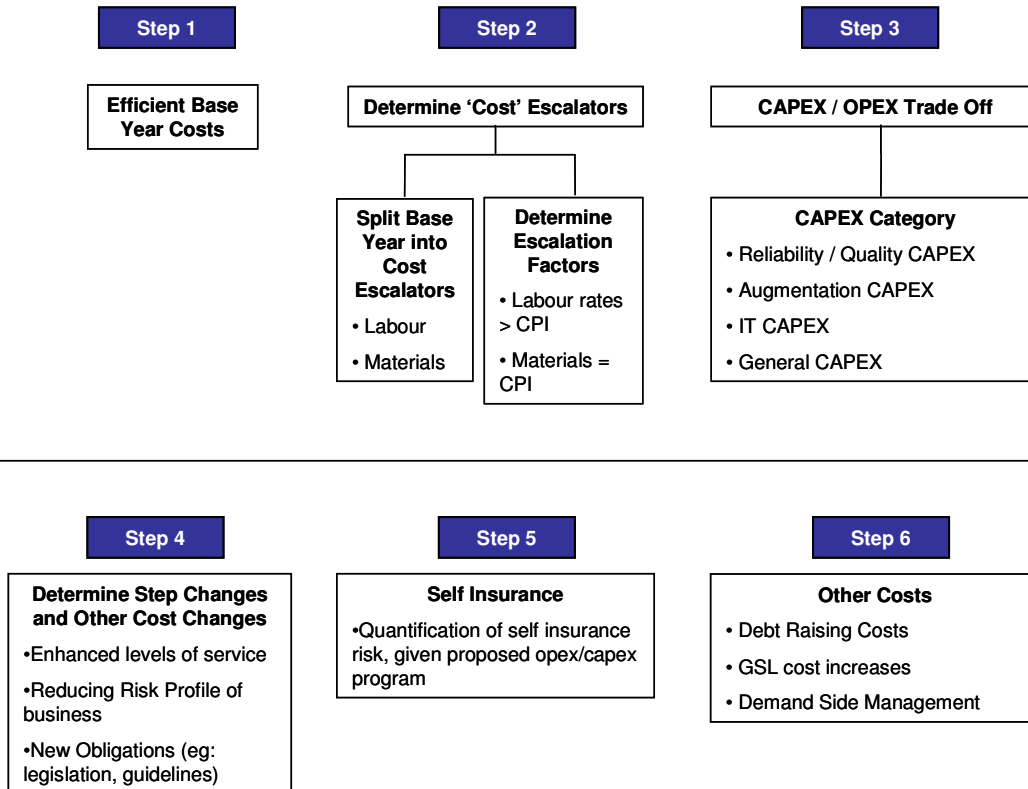
EDPR 2011-2015 – Operating Expenditure

Table 7.1: Original Proposal Operating Expenditure Forecast

(Real 2010 \$M)	2011	2012	2013	2014	2015	TOTAL
Operating						
Network operating costs	52.26	56.49	59.89	60.52	62.07	291.23
Billing and revenue collection	0.78	0.79	0.81	0.82	0.84	4.04
Customer service	9.10	9.05	9.26	9.45	9.63	46.50
Advertising / marketing	2.03	2.15	2.28	2.36	2.43	11.25
Regulatory costs	1.36	1.39	1.25	1.28	1.30	6.58
Other network operating costs	30.19	31.12	31.56	33.85	33.35	160.08
Maintenance						
Routine maintenance	5.37	5.49	5.59	5.68	5.77	27.90
Condition-based maintenance	14.68	15.12	15.34	15.57	15.96	76.67
Emergency maintenance	17.81	17.70	18.17	18.62	19.06	91.35
Vegetation management	27.18	28.42	27.35	27.34	27.85	138.14
SCADA and network control	0.15	0.15	0.16	0.16	0.16	0.78
Other Maintenance	-	-	-	-	-	-
Other Costs						
GSL payments	4.02	3.99	3.95	3.91	3.87	19.74
Debt raising costs	3.46	3.67	4.00	4.26	4.55	19.94
Total opex	168.39	175.55	179.61	183.82	186.84	894.21

SP AusNet's Original Proposal explained that these forecasts were produced using a set-by-step methodology, which is shown schematically below.

Figure 7.1: Original Proposal Forecasting Methodology



Chapter 7 of SP AusNet’s Original Proposal explained and substantiated the application of the above forecasting methodology. In its Draft Determination, the AER accepted that SP AusNet’s forecasting methodology is consistent with the NER requirements. However, the AER raised a number of issues with the detailed application of the methodology. In the remainder of this chapter SP AusNet summarises the key points in the Original Proposal; the AER’s issues; and SP AusNet’s response to the Draft Determination.

7.2 Efficient Base Year Expenditure

7.2.1 Overview of SP AusNet’s Original Proposal

SP AusNet employs a base year forecasting methodology for opex, and therefore the reasonableness of this resulting forecast depends on the base year opex being efficient. In its Original Proposal, SP AusNet explained that the 2009 base year opex is efficient because:

- SP AusNet has responded to the incentives provided by the efficiency carryover mechanism;
- the 2009 Base Year opex costs are consistent with its 2008 opex costs;
- benchmarking results clearly show that SP AusNet’s opex costs compare favourably to its peers; and
- the Base Year opex reflects circumstances (eg: typical weather events, exogenous events) that could reasonably occur over the forthcoming regulatory period.

EDPR 2011-2015 – Operating Expenditure

SP AusNet also noted that to produce forecasts of efficient opex for the forthcoming regulatory control period, it is appropriate to remove costs from 2009 base year to take account of the following three issues:

- the February 2009 bushfires and heatwave events;
- the Global Financial Crisis and the impact on the amount that SP AusNet’s management service provider - SPIMS – charged it for actuarial adjustments to SPIMS employees’ defined benefit superannuation contributions; and
- the small margin, \$0.038 million, that SP AusNet paid to a related party service provider in 2009 for maintenance services.

Having regard to the above, SP AusNet’s Original Proposal incorporated the following adjustments to its actual 2009 opex.

Table 7.2: Original Proposal Adjustments to 2009 Operating Expenditure

(2009 \$M)	Actual opex incurred in 2009
Bushfire Costs & Heatwave Costs	
<ul style="list-style-type: none"> • Unbudgeted vegetation management 	7.8
<ul style="list-style-type: none"> • Faults and emergencies response to bushfires 	0.76
<ul style="list-style-type: none"> • GSL and claims impact associated with bushfires 	2.1
Defined benefit actuarial adjustment	3.26
Related party margin	0.038

For consistency, SP AusNet also excluded the costs of these events from the 2009 opex costs it has used to calculate its efficiency carryover amount. This issue is considered in more detail in Chapter 8 of this Revised Proposal.

SP AusNet’s Original Proposal base year opex is set out in the table below.

Table 7.3: Original Proposal SP AusNet’s Base Year Forecasts

(Real 2010 \$M)	Opex
Latest 2009 estimate	141.13
Less costs of ‘non recurrent’ events	14.10
Less related party margin	0.04
Base Year Forecasts	127.00

7.2.2 AER’s Draft Determination

The Draft Determination makes three significant changes to the methodology used by SP AusNet to convert its 2009 OPEX forecasts to 2010 forecasts. These are:

- Removing management fee adjustment;
- SPIMS allocation adjustment; and
- Utilising the ESCV’s 2006 Final Decision to convert 2009 to 2010.

SP AusNet does not accept any of the above changes to the derivation of its base year expenditure.

These are discussed in more detail below.

7.2.3 SP AusNet’s response to the issues raised by the AER

Removing SPIMS related management fees

Section 6.7.1 of the Draft Determination refers to management fees paid by SPIMS to Singapore Power and the proportion of those fees that have been allocated to SP AusNet’s regulated electricity distribution business. The Draft Determination noted that in the last transmission decision, it rejected these fees in full as it considered they represented a third tier of management (over the Board and management company) and they had not been substantiated as costs to be incurred by a prudent operator. Further, the Draft Determination relied on the ESCV’s decision that had rejected the fees in full in the last GAAR decision on the basis that the costs were not relevant to the provision of reference services.

This Draft Determination has removed from Opex \$1.9 million of management fees paid to Singapore Power in the base year and \$9.3 million over the regulatory period, and from Capex \$0.9 million in the base year and \$4.5 million over the regulatory period.

SP AusNet’s detailed reasoning for rejecting the AER’s proposed removal of SPIMS related expenses is outlined in a confidential supporting document to this Revised Proposal. However, in short, SP AusNet has not incurred the management fee paid to Singapore Power by SPIMS. This is a cost that SPIMS has incurred; not a cost that SP AusNet has incurred in any of its financial or regulatory accounts. As the Singapore Power fee has not been included, then clearly it is

unnecessary to demonstrate that they are efficient costs that would be incurred by a prudent operator, nor that they sufficiently contribute to the provision of distribution services. For the Draft Determination to assume otherwise is an error of fact.

Moreover, whilst a performance fee is paid to SPIMS, it is not included in the base year Opex costs, nor is it included in the amounts reported in SP AusNet's Regulatory Accounts. In accordance with regulatory reporting guidelines, SP AusNet, does not include performance fee payments in any of its regulated business' accounts, and as such, did not include them in the base year or forecast numbers of the Original Proposal.

Therefore, SP AusNet does not accept the AER's removal of these fees, and instead, SP AusNet's revised forecast for the forthcoming regulatory period is the same as the Original Proposal.

SPIMS Allocation

The AER identified an issue with the SP AusNet group's allocation of SPIMS costs between the different business segments – regulated electricity distribution, regulated gas distribution, AMI, unregulated distribution, regulated transmission, unregulated transmission, and non-SP AusNet businesses. The Draft Determination argues that the ABC allocation methodology results in an above-average allocation of management costs in the base year of a particular review period and over a number of separate reviews (Transmission, GAAR, AMI and this review), and moreover, the method results in an over-recovery of SPIMS costs in total.

The Draft Determination has adopted a 'residual' ABC percentage allocation approach for the early years of the forthcoming electricity distribution regulatory control period, allocating to electricity distribution the SPIMS costs that are not already being recovered through the current transmission, gas or AMI determinations or being allocated in 2009 to unregulated or non-SP AusNet activities. This results in a reduction in SP AusNet's total Opex forecast by \$9.63 million and a reduction in total Capex forecast by \$4.7 million.

SP AusNet's detailed reasoning for rejecting the AER's proposed removal of SPIMS related expenses is outlined in a confidential supporting document to this Revised Proposal.

However, in summary, SP AusNet contends that under the NERs and the NEL, the AER's responsibility is to assess the efficiency of the regulated network service provider, which, in this case is, SP AusNet's electricity distribution business – SPI Electricity. The AER has no role in assessing the overall efficiency of SP AusNet's broader business. In terms of clause 6.5.6 of the NER, to be of relevance, the Draft Determination's analysis should be captured under one of the following two operating expenditure factors:

(4) benchmark operating expenditure that would be incurred by an efficient Distribution Network Service Provider over the regulatory control period;

(5) the actual and expected operating expenditure of the Distribution Network Service Provider during any preceding regulatory control periods.'

In relation to (4) above, the Draft Determination's analysis does not constitute benchmarking, as it does not look at the efficiency of the proposed SPIMS expenditure embedded within the base year Opex for SP AusNet's regulated electricity business, rather, it arbitrarily reduces the SPIMS expenditure to back solve to get to a 100% figure for SP AusNet's broader business. The AER has presented no analysis or proof to suggest that the SPIMS expenditure allocated to SP AusNet's electricity distribution business are in fact inefficient, which is the threshold requirement under the NER.

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In relation to (5) above, SP AusNet again contends that the actual and expected operating expenditure over the proceeding regulatory control periods for the regulated electricity distribution business is relevant, not SP AusNet's whole of business' actual/expected opex in preceding regulatory control periods.

Moreover, the AER's conceptual approach leads to results that are inconsistent the NEO and the revenue and pricing principles outlined in the NEL. In particular, the methodology results in SPI Electricity - the 'regulated network service provider' – not being "provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in...providing direct control network services", which conflicts with the requirements under Section 7A (2) of the NEL. Moreover, it is noted that the AER's 'residual' approach in no way has regard for the negative efficiency carryover adjustments that stem from changing allocations – therefore, the AER's 'residual' approach has no regard for actual financial impact upon the electricity distribution business.

Finally, the AER's 'residual' approach, which continually ratchets down the benchmarks of the network that is going through a price review such that "new total business wide benchmarks" equal actuals, results in SP AusNet having to pass on any scale or synergy gains immediately through to the customers. This is clearly inconsistent with Section 7A (3) of the NEL, which states that "a regulated network service provider should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides". This effectively removes all incentives for SP AusNet to achieve efficiency savings, which in turn flow onto customers.

Utilising the ESCV's 2006 Final Decision to convert 2009 to 2010

The AER's Draft Determination states that¹³⁰:

"The AER has rolled forward the 2009 base year costs to 2010 (the last year of the current regulatory control period) consistent with the approach proposed by Jemena, which is based on the change in costs assumed by the ESCV in determining the benchmark opex allowance for 2009 and 2010 in its 2006 EDPR. The roll forward of the actual 2009 base year costs takes into account the change in costs assumed by the ESCV in determining the 2009 and 2010 benchmark opex allowance. This is also consistent with the ESCV's approach of assuming that any cost efficiencies achieved by the Victorian DNSPs in the final year of the regulatory control period are zero."

This differs to the approach proposed by not only SP AusNet, but also Citipower and Powercor, which all escalated their 2009 base year costs for changes in scale and real costs, amongst other things.

In summary, SP AusNet does not accept the AER's Draft Determination in relation its methodology for escalating 2009 costs to 2010 costs, as it considers that it leads to the derivation of operating expenditure forecasts for the 2011-2015 regulatory control period that are not consistent with the requirements of Clause 6.5.6 (c)(1) of the NERs, which require the AER to accept forecasts that reasonably reflects the "efficient costs" of achieving the operating expenditure objectives.

In particular, SP AusNet contends that the above NER Clause requires that the AER must have regard for the impact that their 2010 forecast has on determining efficient operating expenditure forecasts for the 2011-2015 period. In practical terms, SP AusNet notes that they are fundamentally linked, as 2011 forecasts are derived by varying 2010 forecasts for certain factors

¹³⁰ Victorian Draft Distribution Determination, p. 246.

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(eg: labour escalation rates, scale escalation factors), which in turn flow through to forecasts for 2012, 2013 etc. Therefore, any systematic under or over estimation of the 2010 opex forecast leads directly to an under or over estimation of all of the 2011-2015 operating expenditure forecasts. For example, if a large labour cost increase is expected in 2010, then this labour cost increase flows through to the efficient labour costs that a business will incur throughout the 2011-2015 period. Alternatively, if larger changes in energy volumes, demand or customer numbers are expected to occur in 2010, relative to what was forecast as part of the 2006 EDPR, then there will be a disconnect between 2010 forecast derived by the AER using its proposed methodology, and the efficient opex costs that would be incurred by a business in that year. The AERs' approach to adjusting 2009 to 2010 operating cost forecasts effectively disregards the link between 2010 forecasts and 2011-2015 forecasts, by proposing to adjust 2009 forecasts to 2010 based on information that is in fact 5 years old.

Moreover, SP AusNet disagrees with the underlying justification provided for utilising this methodology to preserve incentive properties. In fact, the 2010 forecasts in no way, shape or form, impacts on the incentives for businesses to seek efficiencies in the 2010 year, as whatever the forecast, it can reap efficiency savings for the next 5 years. Therefore, SP AusNet considers that there is no impact on the AER's ability to meet the NEL requirement (Section 7A (3)) that "a regulated network service provider should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides".

However, what the AER's proposed approach does do is conflict with the requirements under the NEL (Section 7A (2)), which require that "a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in... providing direct control network services". In particular, SP AusNet reiterates that the AER's proposed approach embeds any under or over estimation of the 2010 opex forecast into 2011-2015 forecasts. SP AusNet considers that the use of the most up-to-date information with regards to labour cost escalators, scale escalation etc minimises the risk that this will occur, particularly when compared with the use of an escalation approach that relies on underlying assumptions that stem from a decision that was made 5 years before.

Finally, SP AusNet also notes that there is a significant disconnect between the AER's proposed escalation approach for opex, and its proposed approach to capex. The latter, quite appropriately given the requirements placed upon the businesses and the AER under the NEL and the NER, has regard for the most up to date information with regards to labour and materials escalators in the 2010 calendar year to determine capex unit rates which are then used to derive capex forecasts for the 2011 to 2015 regulatory control period. However, as noted previously, the AER's approach to opex effectively disregards this most up to date information, and instead, reverts to information contained in a decision from 5 years ago.

Having regard to the above information, SP AusNet does not accept the AER's proposed methodology for escalating 2009 opex costs to 2010 opex costs. Instead, consistent with its Original Proposal, SP AusNet proposes that the AER's final decision on scale escalation be used, along with the approved 2010 labour cost escalators, along with any other justifiable change to the business 2009 opex costs that will incur in 2010. In proposing this, SP AusNet considers that such an approach is the only way that the AER can derive 2010 forecasts that then provide the basis for the derivation of 2011-2015 opex forecasts that are consistent with the requirements of Clause 6.5.6 (c)(1) of the NERs.

7.2.4 SP AusNet's revised base year opex calculation

The following table outlines SP AusNet base year opex calculation.

Table 7.4: Revised Proposal SP AusNet’s Base Year Forecasts

(Real 2010 \$M)	2009 Opex (\$ real 2010)	2010 Opex (\$ real 2010)
Latest 2009 estimate	141.0	
Less costs of ‘non recurrent’ events	16.87	
Less GSL Payments	6.75	
Less Licence Fee Adjustment	0.3	
Less related party margin	0.03	
Base Year Forecasts	117.05	
<i>Plus escalation between 2009 and 2010</i>		5.52
2010 year costs		122.56

7.3 Cost Escalation

7.3.1 Overview of SP AusNet’s Original Proposal

SP AusNet’s forecasting methodology employs labour and material cost escalators to ‘roll forward’ the 2009 base year opex.

In relation to the labour escalator, SP AusNet’s Original Proposal adopted two labour categories – internal or related party labour; and outsourced labour. The real labour cost escalators applying to each category were derived through a combination of two sources:

- SP AusNet’s current EBA agreements, where applicable; and
- Independent calculations made by BIS Shrapnel, which take account of future labour productivity improvements.

SP AusNet first determined the appropriate base year labour costs, taking into account the expected growth in labour costs in the 2010 calendar year. For the years 2011-2015, SP AusNet utilised BIS Shrapnel’s independent forecasts to calculate wage cost escalators. The resulting labour escalation rates adopted by SP AusNet are set out in the table below.

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Table 7.5: Original Proposal Real Labour Cost Escalation Rates

	2010	2011	2012	2013	2014	2015
EGW Real Labour Growth Rates	3.36%*	2.90%	2.60%	2.70%	2.60%	2.40%
Outsourced Real Labour Growth Rates	3.06%/3.74%^	2.40%	2.60%	3.00%	2.50%	2.30%

*Note: This is based on the average of SP AusNet's two key EBA rates (ASU and ETU), less SP AusNet's calculated YoY CPI figure of 1.26%.

^3.06 is the weighted average of SP AusNet's known non-related party contractor increases in 2010, and BIS Shrapnel forecasts, whilst 3.74% represents the expected increase in external contractor costs for vegetation management in 2010.

In relation to material cost escalation rates, SP AusNet's Original Proposal explained its view that material costs could increase in real terms, particularly given the likely introduction of a Carbon Pollution Reduction Scheme (CPRS). However, SP AusNet concluded that it did not have sufficient information at the time of preparing its Original Proposal to take a firm position on the likely size of the increase. On this basis, SP AusNet adopted a real material cost escalator of 0% in its Original Proposal, but noted that it would reconsider the impact of the CPRS at the Draft Determination stage of the AER's review if further information became available.

7.3.2 AER's Draft Determination and SP AusNet's overall response

Page 256 of the Draft Determination states that the AER is not satisfied that the Victorian DNSPs' opex proposals reasonably reflect the opex criteria, including the capex and opex objectives. The Draft Determination concludes that SP AusNet's opex proposal should be adjusted for the impact of labour and materials real cost escalation by the amounts in the table below.

Table 7.6: AER conclusion on opex real cost increases (\$m, 2010) for SP AusNet

2011	2012	2013	2014	2015	Total
1.7	2.7	3.7	5.2	6.2	19.5

SP AusNet does not accept the Draft Determination in relation to cost escalators, as, amongst other things, the AER's proposed measure of labour cost changes is inconsistent with the requirements under the NERs.

Specifically, the two components of the Draft Determination that SP AusNet does not accept are:

- The adoption of Access Economics' real labour cost escalators; and
- The application of the EGW escalator to less than 100% of SP AusNet's internal labour costs.

SP AusNet's detailed response to these issues is provided in the sections below.

7.3.3 SP AusNet’s response on labour cost escalators

The AER has rejected SP AusNet’s proposed labour cost escalators, and has, instead, adopted escalators provided by Access Economics. More specifically, the AER has:

- Adopted Access Economics’ EGW labour cost escalators for internal labour costs, with this being based on the Labour Price Index (LPI) labour cost measure; and
- Adopted Access Economics’ General labour cost escalators for its outsourced labour costs, with this again, being based on the LPI labour cost measure.

The AER discusses three issues in relation to the development of labour cost forecasts in the Draft Determination. These are:

- The appropriate wage measure;
- Relevance (Timeliness) of data; and
- Productivity measures.

These issues, along with a broader critique of Access Economics’ methodology, are addressed in more detail below.

7.3.4 Appropriate Wage Measure

The Draft Determination states that¹³¹:

“The AER has considered the proposed labour escalators provided by the Victorian DNSPs, and examined BIS Shrapnel’s methodology for deriving the underlying forecasts. While BIS Shrapnel’s forecast methodology appears reasonable, the AER has concerns with BIS Shrapnel’s preferred measure of changes in the price of labour, and the application of these forecasts”.

In addition, the AER provides the following comments in support of the use of their preferred labour cost measure – the Labour Price Index (LPI) - as opposed to the full-time adult ordinary time earnings (AWOTE) measure utilised by BIS Shrapnel¹³²:

“The labour cost escalators utilised by the Victorian DNSPs are based on BIS Shrapnel’s AWOTE wage measure. However, consistent with previous AER determinations, the AER considers that the LPI is the measure that most reasonably reflects the labour costs that a Victorian DNSP is likely to incur.

BIS Shrapnel considered that the main distinction between AWOTE and the LPI relates to the influence of compositional shifts in employment. In particular, AWOTE estimates are affected by changes in both the price of labour and changes in the composition of the labour market.

Conversely, BIS Shrapnel noted that the LPI does not reflect changes in the skill levels of employees within industries, or the overall workforce, and is likely to understate true wage inflationary pressures. Access Economics also acknowledged that there are drawbacks to both LPI and average earnings measures. However, for the purpose of measuring changes in the price of labour, Access Economics considered the LPI to be their preferred measure.

¹³¹ Appendix K - Victorian Draft Distribution Determination, p. 132.

¹³² Ibid.

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Given the influence of compositional shifts in employment noted previously, the Australian Bureau of Statistics (ABS) also considers the LPI to be their preferred indicator of changes in wage rates”.

Given that the Draft Determination has not rejected BIS Shrapnel’s methodology, rather, its use of the AWOTE measure; it is worth reiterating the key aspects of the AWOTE measure relative to the LPI measure. The following observations are based on information from the Australian Bureau of Statistics’ (ABS) website:

- AWOTE¹³³:
 - Is a subset of the quarterly survey of Average Weekly Earnings (AWE), which produces estimates of average gross weekly earnings associated with employee jobs in Australia, at a point in time. The key earnings series produced from the survey are: full-time adult ordinary time earnings (commonly referred to as AWOTE); full-time adult total earnings; all employees total earnings.
 - Average Weekly Earnings statistics represent average gross earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Changes in the averages may be affected not only by changes in the level of earnings of employees, but also by changes in the overall composition of the wage and salary earner segment of the labour force.
 - Information for the AWE survey is collected via mail questionnaires which are sent to approximately 5,200 employers. The employer sample selected is stratified by state, sector, industry division and employment size to ensure adequate state, sector and industry representation. A minimum response rate of 95% is achieved for the survey as a whole and for each state, sector and industry.
- LPI¹³⁴:
 - The LPI is an integrated set of chained Laspeyres (i.e. base period weighted) indexes. The LPI measures changes in the price of labour services resulting from market pressures, and it is unaffected by changes in the quality and quantity of work performed. Therefore, price indexes such as the LPI enable prices for a common item or group of items to be compared at different points in time.
 - The wage price indexes are produced using information about the actual wage and salary payments made to job occupants in the survey reference period rather than nominal or list rates (e.g. awards or book rates) for each job.

Further relevant information on these two wage measures can also be gleaned from other forecasters. For example, Econtech, in previous work provided to the AER, stated, with regards to the LPI, that¹³⁵:

“For the survey, each employer first selects a sample of jobs from their workplace(s) and provides the ABS with information on these jobs, including detailed pricing specifications. In subsequent quarters they provide details of payments made to the current occupants of these same jobs.”

¹³³<http://www.abs.gov.au/Ausstats/abs@.nsf/0/14CDB5CD59F6A075CA2575BC001D6157?OpenDocument>

¹³⁴<http://www.abs.gov.au/ausstats/abs@.nsf/DOSSbyTopic/1D2B5BA917555B84CA25706E0074D0B9?OpenDocument>

¹³⁵ Labour Costs Growth Forecasts – 13th August, 2007 – A report prepared for the AER – p. 4.

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Furthermore, Access Economics, in their report to the AER as part of this Draft Determination, discussed one of the drawbacks of the LPI as being¹³⁶:

“Second, it is sometimes relevant that the composition of the workforce is changing. That is particularly true in analysing the implications of wage developments for the Australian economy as a whole. For example, promotions are easier to get during a sustained expansion, reflecting the strength of cyclical demand rather than pure productivity. Other things equal, that adds to total incomes in the economy, but doesn’t show up in the LPI (which does not ‘recognise’ that people at a certain seniority today are, on average, different to those who were at that level some years past).”

Having regard to the above information, SP AusNet makes the following observations:

- It is clear that the AWOTE series reflects a measure of the actual labour costs within an industry, with this subsequently divided by the number of full time employees; whereas
- The LPI reflects pure price changes (that is, the average wage rate paid to particular job categories) therefore the LPI is not impacted by increases in hours worked or changes in the composition of the employee workforce.

The ABS provides the following examples of compositional changes that are not reflected in LPI movements¹³⁷:

- changes in the nature of work performed (e.g. different tasks or responsibilities)
- changes in the quantity of work performed (e.g. the number of hours worked)
- changes in the characteristics of the job occupant (e.g. age, successful completion of training or a qualification, grade or level, experience, length of service, etc.)
- changes in the location where the work is performed.

SP AusNet notes that the NEL and the NER provide some general guidance in relation to this issue. Under section 7A of the NEL, a DNSP should be provided “a reasonable opportunity to recover at least the efficient costs the operator incurs in providing direct control services”. Moreover, Clause 6.5.6(c) of the NER requires that the AER must accept the forecast opex if it is satisfied that it reasonably reflects the efficient costs of achieving the opex objectives and, the costs that prudent operator in the circumstances of the DNSP would require to achieve those objectives.

The AER’s comments in their Draft Determination appear to infer that the AER perceive that compliance with the NEL and NERs requires them to ensure that businesses are compensated for “change in wage rates”. Access Economics appear to confirm this when they state that¹³⁸:

“As the above discussion from the ABS suggests, they see the LPI as their preferred measure for “changes in the price of labour”. That is the task at hand here, and hence the LPI (excluding bonuses) is Access Economics’ preferred measure for this type of analysis.”

However, SP AusNet considers that the derivation of ‘efficient labour costs’ for a ‘prudent operator’ under the NEL and the NERs requires the AER to consider two issues:

¹³⁶ Ibid.

¹³⁷ <http://www.abs.gov.au/ausstats/abs@.nsf/DOSSbyTopic/1D2B5BA917555B84CA25706E0074D0B9?OpenDocument>

¹³⁸ Op Cit

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- Does the business pay an efficient (market) wage rate to the workers that it employs; and
- Does the business employ the correct composition of workers in order to allow it to meet the operating expenditure objectives (Clause 6.5.6 (a) of the NERs). In assessing this, the AER must also have regard to:
 - the relative prices of operating and capital inputs (Clause 6.5.6 (e)(6));
 - the substitution possibilities between operating and capital expenditure (Clause 6.5.6 (e)(7)).

Given the influence of these two underlying factors, SP AusNet considers that the AER cannot simply assume that because a business is funded for the expected changes in the market rate for certain type/s of worker/s (by adopting the LPI), that those forecasts will therefore reasonably reflect the 'efficient costs' that a 'prudent operator' would incur. This is because the composition of workers employed by that business now may not represent the least cost technically efficient suite of workers required to provide those services in the future. For example, an industry may be being materially impacted by certain technological changes, thus leading to a change in the composition of the workforce required to operate, utilise or leverage off, that technology. Also, the composition of a workforce is influenced by the macroeconomic environment. Whichever is the cause, a prudent and efficient business' future labour costs will be a function of the:

- composition of workers required to deliver the required output in any year, given the relative cost of labour and capital, which in turn is influenced by broader macro economic conditions; and
- payments made to those workers, with this reflecting the equilibrium market rate for those types of workers.

In the context of the electricity industry, SP AusNet notes that there have, and will continue to be, significant changes in the composition of its workforce, due to, in particular, changes in the nature of work performed (e.g. live line work, move to "smarter" networks, larger capital expenditure programs influencing the composition of labour required to manage, plan that expenditure etc), and continual changing in the characteristics of its job occupants (e.g. significant training of new apprentices, moving up pay scales). SP AusNet contrasts this with a more static industry such as the retail industry, where there is minimal change in the composition of its workforce, and very static 'grading' structures within that workforce.

In conclusion, SP AusNet considers that whilst the LPI may represent changes in "wage rates", it does not reflect changes in a business' "wage costs". This is because it disregards one of the two components of a business' 'efficient labour cost' function – namely, the composition of the labour force that is required to meet the operating expenditure objectives, which in turn impacts on the labour costs that a prudent and efficient DNSP will incur. SP AusNet notes that unlike in some other industries (eg: retail), the latter is a fundamental influence on an electricity distributor's costs.

Therefore, SP AusNet considers that the utilisation of the LPI labour measure is inconsistent with the statutory requirements on the AER under the NER and the NEL to accept operating expenditure forecasts that are based on the efficient costs that a prudent service operator would incur over the forthcoming regulatory control period. Moreover, it is noted that no other component of the Draft Decision captures changes in the composition of SP AusNet's labour force required to meet the operating expenditure objectives. As such, SP AusNet does not accept the Draft Determination in this regard.

7.3.5 Relevant Data

Consistent with statements made in other decisions, the Draft Decision states that it¹³⁹:

“considers that the forecasts provided by the Victorian DNSPs no longer represent the best available estimates of future labour costs. Consistent with this view, the AER has applied the Access Economics labour cost growth forecasts for Victoria as produced in March 2010, in deriving labour cost escalators for the Victorian DNSPs for this draft decision.

The AER also considers it appropriate to further update these forecasts for the purposes of its final decision”.

Whilst SP AusNet agrees with the AER’s final statement above, namely that the forecasts utilised should be updated for the Final Decision, SP AusNet rejects the AER’s continued use of the ‘timeliness’ of this data as a sufficiently compelling reason for utilising an alternative set of labour cost forecasts - in this case, Access Economics’ forecasts. All stakeholders understand that this is an inevitable by product of the propose / respond model. The AER’s use of this as a reason for adopting Access Economics forecasts is analogous to SP AusNet stating in this Revised Proposal that it does not accept the AER’s labour cost escalators on the basis that Access Economics’ forecasts were done in March, and now BIS Shrapnel’s data is more ‘up-to-date’.

7.3.6 Productivity

The AER states that¹⁴⁰:

The AER considers that productivity adjustments can be an important factor in forecasting actual business costs and notes this approach is consistent with previous regulatory decisions. The AER further notes that Access Economics considers productivity factors as a key driver of wage differentials and has incorporated productivity into its modelling. The AER supports the application of Access Economics’ productivity impacts in the modelling of its wage cost growth forecasts and does not consider it necessary to include further productivity adjustments. The AER considers Access Economics wage cost growth forecasts reflect a realistic expectation of labour costs.

In response, SP AusNet agrees that productivity adjustments are important, and that they should be included in labour cost modelling. It is for this reason that SP AusNet ensured that BIS Shrapnel included productivity adjustments in the labour cost forecasts that they produced for SP AusNet. Given that the AER has not commented upon BIS Shrapnel’s productivity adjustment, and that it has stated that their “forecast methodology appears reasonable¹⁴¹”, SP AusNet can only conclude that the AER accepted this component of BIS Shrapnel’s labour cost forecasts, and that the above statement was a broader, more general statement, on why there is no need to include an additional productivity adjustment.

7.3.7 Conclusion - EGW

As stated previously, SP AusNet does not accept the AER’s Draft Determination as it considers Access Economics’ forecasts to be inconsistent with the NERs, as they are based on the LPI labour cost measure, which only estimates one component of the ‘efficient labour cost’ function – namely the “change in the price of labour”, whilst disregarding the other component, namely, the

¹³⁹ Appendix K - AER – *Draft Determination*, p. 133.

¹⁴⁰ Ibid.

¹⁴¹ Ibid, p. 132.

composition of the labour force required to meet the operating expenditure objectives. In SP AusNet’s view, only the combination of both will allow labour forecasts to reflect the actual costs that a prudent and efficient DNSP would incur. Failure by the AER to take this consideration into account will necessarily cause the failure of the achievement of the NEO.

Moreover, as outlined at the end of this section, SP AusNet has significant broader reservations with regards to the Access Economics modelling approach and outcomes.

Given that the AER has “examined BIS Shrapnel’s methodology for deriving the underlying forecasts¹⁴²” and has stated that their “forecast methodology appears reasonable¹⁴³”, SP AusNet has re-engaged BIS Shrapnel to update their AWOTE labour costs forecasts, utilising the same methodology as was used to undertake their original work. Consistent with the information provided by BIS Shrapnel in their original report, SP AusNet considers that AWOTE is the most valid measure of the wage costs that will be faced by Victorian DNSP’s over the forthcoming regulatory control period, as it includes the effects of changes in both the price of labour and changes in the composition of SP AusNet’s labour force. These updated forecasts are set out in the Table below, with more detailed justification provided in an Attachment to this Revised Proposal.

Table 7.7: EGW Real Labour Growth Rates

	2010	2011	2012	2013	2014	2015
EGW Real Labour Growth Rates	5.2%	1.4%	1.9%	2.7%	2.6%	2.4%

Source: BIS Shrapnel

It should be noted that SP AusNet proposes to engage BIS Shrapnel to update these forecasts using the same methodology for inclusion in the Final Decision.

7.3.8 Labour Cost Escalators – Outsourced Labour Escalators

The AER rejects the use of BIS Shrapnel’s outsourced labour cost escalator, and instead, utilises Access Economics’ general labour cost escalators. In making this decision, the AER states that¹⁴⁴:

“While the AER accepts BIS Shrapnel’s methodology, the AER considers it is important to utilise the most recently available data to calculate labour cost escalators”

The AER goes on to state that¹⁴⁵:

“The AER notes though that the most recently available data, as provided by Access Economics, does not include a specific LPI forecast for the ‘property and business services’ sector. Notwithstanding this, the AER considers that the Access Economics general labour cost forecasts are a reasonable proxy given that such a measure would be inherently influenced by labour rates in the ‘property and business services’ sector.”

¹⁴² Ibid, p. 132.

¹⁴³ Ibid.

¹⁴⁴ Ibid, p. 136.

¹⁴⁵ Ibid, p. 137.

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In summary, SP AusNet rejects the AER's use of Access Economics' General Labour Cost Forecasts to determine its outsourced services labour costs forecasts, for the same reasons as outlined above in relation to the EGW forecasts. Moreover, conceptually, in addition to the LPI issue outlined above, SP AusNet fails to see how the AER could consider the use of a General Labour Cost Escalator, which includes all industries, as being more reflective of the efficient costs that a prudent and efficient operator would incur than the use of a more granular, weighted outsourced labour cost escalator, as was originally provided by BIS Shrapnel – given the actual make up of these services. Moreover, this outcome is particularly concerning given that the AER states that¹⁴⁶:

"In utilising the Access Economics general labour cost forecasts, the AER acknowledges BIS Shrapnel's view that it is not appropriate to use movements in the total (all industries) Victorian wages to escalate outsourced services labour costs.

Specifically, BIS Shrapnel noted that the all industry average is adversely impacted by the inclusion of lower average wages and wages growth in the 'retail trade', 'accommodation, cafes and restaurants', and 'transport and services' sectors. BIS Shrapnel also noted that these sectors do not include services utilised by the Electricity distribution sector. The AER notes that the all industry average would be inflated by sectors with higher than average wage growth, such as 'mining', and maintains that the general labour cost escalator is a reasonable proxy for the 'property and business services' sector."

Consistent with SP AusNet's position on EGW labour cost escalators, and the fact that "the AER accepts BIS Shrapnel's view that the range of services outsourced by the Victorian DNSPs are likely to be classified by the ABS under the ANZSIC as either 'construction' or 'property and business services', and the fact that *"in lieu of a more detailed split, the AER considers that the simple averaging approach undertaken by BIS Shrapnel is appropriate for the determination of the outsourced services labour cost escalators"*¹⁴⁷, SP AusNet has asked BIS Shrapnel to update these forecasts for inclusion in this Revised Proposal. These are outlined in the Table below.

Table 7.8: Outsourced Real Labour Growth Rates

	2010	2011	2012	2013	2014	2015
Outsourced Real Labour Growth Rates	3.2%	1.3%	2.0%	3.2%	3.3%	2.5%

Source: BIS Shrapnel

It should be noted that SP AusNet proposes to engage BIS Shrapnel to update these forecasts using the same methodology for inclusion in the Final Decision.

¹⁴⁶ Ibid, p. 137.

¹⁴⁷ Ibid, p. 136.

7.3.9 Critique of Access Economics' Model

In addition to the aforementioned criticisms of the use of the LPI as the preferred wage cost measure, SP AusNet, along with the other DNSP's, engaged BIS Shrapnel¹⁴⁸ and KPMG EconTech¹⁴⁹ to undertake separate reviews of Access Economics' modelling approach and the veracity of their outcomes relative to empirical evidence, in order to assess the reasonableness of their overall labour escalation forecasts. Both critiques are attached to this submission.

In summary, BIS Shrapnel split their critique into two separate components:

- Empirical testing of the validity of Access Economics' model using published ABS data; and
- Testing the outputs of the Access Economics model against known recent EBA outcomes.

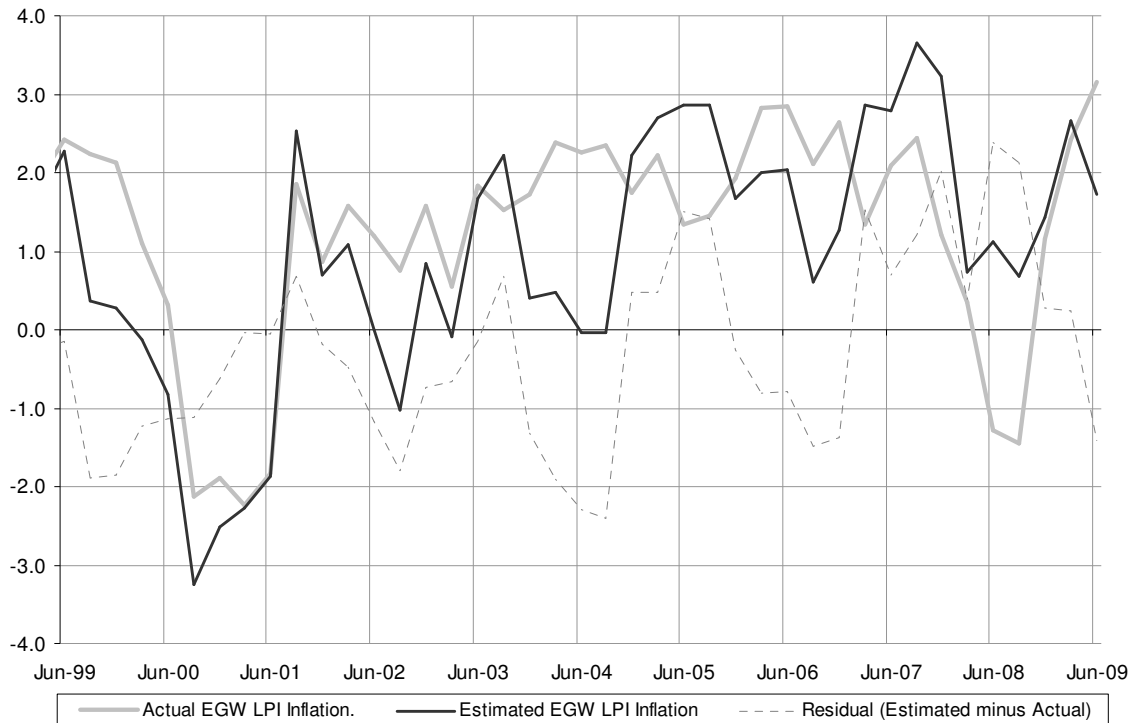
In relation to the former, BIS Shrapnel states that:

- Access Economics uses three component drivers (output, productivity, and relative wages) to determine the deviation between their EGW wages forecasts and national wage forecasts.
- BIS Shrapnel tested Access Economics' utilities wage deviation model by using published ABS data to empirically test the validity of their claim that utilities wage differentials from the national average can principally be explained by variations in its component drivers.
- BIS Shrapnel's modelling revealed that sector wage deviations are in fact *inversely related to both the cyclical (output) and productivity variables*. This means that an increment in output (productivity) deviations, which can arise from stronger sector output growth, will lead to a fall in utilities LPI differential with the national average. As this differential has been negative throughout the sample, an improvement in sector productivity growth will lead to a larger negative differential between the two index points. This means that the final sector LPI, which is derived by adding the sector wage differential to the national LPI, will be lower and the *wage escalation significantly underestimated. This finding is directly in contrast to Access Economics' a-priori expectations*.
- As can be seen from the chart below (Chart 3.3 in BIS Shrapnel's Report), the Access Economics model does a poor job in approximating the observed wage escalation in the EGW sector. Residuals are significantly different from zero and therefore cannot be dismissed as 'white-noise' or a zero mean process. The chart also reveals that for the majority of the sample, Access Economics model understates the actual wage escalation in the EGW sector. The sample average of the model generated average was 1.1 per cent per annum, 0.2 percentage points lower than the actual real LPI escalation of 1.3 per cent per annum. Given Access Economics choice of explanatory variables, this is not surprising.

¹⁴⁸ Appendix G – BIS Shrapnel - *Review of Access Economics' Utilities Wage Model*

¹⁴⁹ Appendix H - KPMG - *Assessment of the AER's Draft Decision on labour Cost Escalation Victoria*

Figure 7.1: Real EGW LPI v Model Predictions



Source: BIS Shrapnel & ABS Data

Source: Chart 3.3 - BIS Shrapnel – Review of Access Economics' Utilities Wage Model

In relation to BIS Shrapnel's second review topic, they demonstrate that Access Economics' model ignores the realities of wage formation in the EGW sector. In particular, Collective agreements account for over 80% of pay rises in terms of setting pay in the Electricity, Gas and Water sector. This means that collective agreements (usually Enterprise Bargaining Agreements) dominate the wage movements in the EGW sector. Furthermore, these agreements run for an average of 3 years (according to information from the Department of Education, Employment & Workplace Relations). This means recent EBA outcomes are a reasonable guide to overall wage movements in the EGW sector for the next one to two years.

In direct contrast to this, Access Economics' wage model appears to disregard the reality that EBAs dominate wage setting, and that recently lodged EBAs suggest wage increases in the EGW sector in the near term are likely to be at least 0.5 percent higher than the AEM in 2009/10, and in 2010/11.

In summary, KPMG Econtech made the following observations¹⁵⁰:

- Labour Cost Measures – whilst the LPI is the most appropriate measure of wage movements, AWOTE is a better indicator of overall labour cost movements, because it captures changes in labour costs that are driven by changes in the composition of

¹⁵⁰ KPMG EconTech, *Assessment of the AER's Draft Decision on Labour Cost Escalation: Victoria*; 8 July, 2010, p. vi.

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employment. By using the LPI, the AER is likely to have underestimated wage pressures associated with macroeconomic factors. As such, its estimate escalators are likely to be too low.

- Weak Economic Outlook – in the short run, economic growth drives labour demand and hence wages growth. Given that Access Economics’ outlook for economic growth is relatively pessimistic, their LPI forecasts may underestimate wage pressures being created by growing labour demand.
- Lack of Transparency – insufficient information is provided on how Access Economics have dealt with missing LPI data series; further consideration is required in order to verify whether or not Access’ detailed state by industry LPI forecasts are consistent with its national LPI forecasts.

The above critiques cast further doubt over Access Economics’ forecasts, in addition to SP AusNet’s position that the LPI is not the appropriate measure of the labour costs that a prudent and efficient electricity distribution business will incur over the forthcoming regulatory control period.

7.3.10 SP AusNet’s revised labour cost escalators

SP AusNet does not accept the AER’s decision to:

- Utilise Access Economics’ labour escalator forecasts based on the LPI; and
- Utilise the General labour escalator as calculated by Access Economics, for the purposes of escalating SP AusNet’s outsourced labour costs.

SP AusNet’s Revised Proposal includes a revised set of BIS Shrapnel labour escalator forecasts, which it has in turn applied to its internal labour costs, and external labour costs.

Table 7.9: Labour Cost Escalators Rates

	2010	2011	2012	2013	2014	2015
EGW Real Labour Growth Rates	5.2%	1.4%	1.9%	2.7%	2.6%	2.4%
Outsourced Real Labour Growth Rates	3.2%	1.3%	2.0%	3.2%	3.3%	2.5%

Source: BIS Shrapnel

As stated previously, SP AusNet proposes to engage BIS Shrapnel to update these forecasts using the same methodology for inclusion in the Final Decision.

7.3.11 SP AusNet’s response to the application of EGW escalator to less than 100% of internal labour

In their Draft Determination, the AER rejects the application of the EGW labour cost escalator to 100% of internal labour costs, and instead, applies the EGW escalator only to “specialist EGW

employees”, with “clerical and administrative staff” labour costs being escalated by a general labour cost escalator.

More specifically, page 133 of the Draft Determination states that¹⁵¹:

“Access Economics stated that wages in the EGW sector are expected to grow more rapidly relative to wages in the general economy. The AER notes that BIS Shrapnel expressed similar views in its report for the Victorian DNSPs”

Following directly on from this statement, the AER states that¹⁵²:

“Accordingly, the AER considers that an appropriate cost escalator for internal labour resources should reflect the underlying composition of the workforce. That is, the AER considers that the Victorian DNSPs’ internal labour resources consist of specialist EGW employees, as well as clerical and administrative staff whose labour cost growth rates are more likely to reflect those of the general economy.”

The AER further notes that¹⁵³:

“the modelling approach undertaken by the Victorian DNSPs applied a single EGW labour growth rate across all internal employees. As such, the AER sought information from all the Victorian DNSPs, excluding United Energy, on the split of the labour costs of their internal labour force”.

Subsequently, the AER’s Draft Determination allocates each business’ internal labour resources between electricity specific and clerical / administrative staff such that it can apply the EGW labour escalators to the former and General Labour escalators to the latter.

In summary, SP AusNet considers the AER’s approach to be an inappropriate method for estimating total labour costs. Moreover, SP AusNet observes that the AER appears to have adopted this approach as a result of its observation that the underlying wage cost indices for EGW are higher than the General labour escalation rate, rather than as a result of any robust conceptual analysis that supports the application of an industry based labour index (EGW) to a subset of that industry’s labour (‘electricity specific’ labour).

In saying this, SP AusNet considers that the AER should have regard for the fact that the EGW escalator is in fact a weighted average wage cost escalator for each of those industries (Electricity, Gas and Water), not a wage cost escalator for certain types of workers in those industries. As such, the EGW implicitly has regard for the types of labour utilised within those industries already. Therefore, stripping out wages for certain types of workers, and applying a different wage cost escalator to them, would also require the corresponding EGW wage index to be re-weighted to reflect the new composition underpinning that index. It is noted that in theory, the outcomes of the disaggregated approach should be exactly the same as applying the weighted EGW labour cost escalator to all labour within those industries. It is noted that in their review of the Access Economics’ report, KPMG Econtech also support the view that the AER has diluted labour growth by adopting this approach¹⁵⁴.

In addition, the AER does not provide evidence to suggest that Access Economics’ approach to determining EGW and General labour escalation forecasts supports the use of their escalators in

¹⁵¹ Ibid., p. 133.

¹⁵² Ibid., p. 134.

¹⁵³ Ibid.

¹⁵⁴ KPMG EconTech , p. vi.

this way. In fact, the Access Economics report implies that that the AER's approach would be inappropriate¹⁵⁵:

“The wage forecasting methodology adopted in this report involves estimation of the deviations between industry – and State-specific wage measures and the broadest measures of wages in the Australian economy. In other words, the AEM model has provided an overall picture for how the LPI will move, and the remainder of the modelling determines which industry, State and industries within States will see their LPI measures grow faster or slower than this value.”

SP AusNet considers this statement to infer that if the overall wage growth applicable to the EGW industry is reduced (by applying a non-EGW labour rate to a certain proportion of that industry's labour force), then other industries / States labour forecasts would have to increase, such that the aggregation of all the LPI's across different States and industries is still consistent with the “overall picture for how the LPI will move”. Furthermore, SP AusNet observes that Access Economics appears to only ever refer to industries in their supporting analysis/report, not individual types of workers within those industries. As such, applying Access Economics' figure to “electricity specific” labour within the EGW industry, as opposed to all labour working in that industry, would appear to be inconsistent with the underlying modelling approach used by Access Economics to develop those forecasts. The same issue applies if BIS Shrapnel's real labour escalators were to be utilised in the same manner. Accordingly, SP AusNet considers that the AER has erred in its approach in determining this issue.

More generally, the AER's approach of estimating labour rates for certain types of workers within an industry is at odds with the way most credible labour economists, along with the ABS, calculate labour cost indices. See “6345.0 Labour Price Index, Australia” for examples of how the ABS structures their labour indices by industry type ('Finance and Insurance'; 'Education'; 'Health and Community Services'; 'Manufacturing'; 'Mining'; 'Electricity Gas and Water').

Having regard to the above analysis, SP AusNet does not accept the AER's approach to applying EGW and General Labour forecasts, as it would lead to labour cost escalators that do not reflect the labour escalation rates that would be incurred by a prudent and efficient DNSP, and therefore, they are inconsistent with the requirements placed upon the AER under the NER and the NEL to accept operating expenditure forecasts that are based on the efficient costs that a prudent service operator would incur over the forthcoming regulatory control period.

SP AusNet has therefore retained the approach that it adopted in its Original Proposal – namely, that the accepted EGW real labour cost escalator should be applied to all employees directly employed within the Electricity Industry. In SP AusNet's case, this includes those directly employed by SP AusNet, along with all labour costs attributable to its related parties, with the latter considered to be within the definition of the 'EGW' for the purposes of developing EGW forecasts.

7.4 Capex / Opex Trade Off

7.4.1 Overview of SP AusNet's Original Proposal

SP AusNet's Original Proposal notes that Clauses 6.5.6(e)(7) and 6.5.7(e)(7) of the NER require the AER to consider the substitution possibilities between opex and capex in its assessment of a DNSP's forecast expenditure. SP AusNet noted that its work programs explicitly recognised the

¹⁵⁵ Access Economics, *Forecast growth in labour costs: March 2010 report*, p. 105.

linkages between its capex and opex. In its Original Proposal, SP AusNet provided a detailed examination of the linkages between opex and capex in relation to the following matters:

- The opex benefits from the proposed increase in the number of distribution transformers was taken into account following AECOM's recommendation that \$875,000 be netted off from SP AusNet's expected climate change costs;
- The increased volume of asset replacement will not have a net impact on opex. SP AusNet commented that it had not sought an increase in its opex as a result of 'ageing assets', nor had it sought to reduce its opex forecasts for the perceived reduction in opex costs when older assets are replaced with newer assets.
- SP AusNet included a small additional opex allowance to accommodate network growth and increased customer numbers.
- The planned replacement of existing IT systems during the forthcoming regulatory control period will have a consequential effect on IT opex. In particular, additional operating costs will arise in relation to on-going support; training users of the new systems; and administering and licensing new IT systems.
- SP AusNet's reasonable decision to continue its leasing arrangements for its facilities and its fleet of vehicles, trucks etc (entered into towards the end of the current regulatory period) is expected to lead to higher opex as the existing leases are renewed.
- SP AusNet's proposed increase in its capex program will increase the amount of opex costs that are incurred by SP AusNet to deliver these programs.

SP AusNet's Original Proposal provided a detailed assessment of the impact of the capex program on the company's opex forecasts.

7.4.2 AER's Draft Determination

The AER has effectively rejected all of SP AusNet's CAPEX / OPEX trade offs. Notwithstanding this, there is scant detail with regards to the AER's rationale for rejecting these trade offs. SP AusNet considers that the AER has not given reasonable regard to the trade offs proposed by SP AusNet.

7.4.3 SP AusNet's response to the issues raised by the AER

SP AusNet's proposed capex / opex tradeoffs are addressed in turn below.

Distribution Transformers

In its Original Proposal, SP AusNet noted that:

"AECOM recommends that \$875,000 be netted off from SP AusNet's expected climate change costs over the forthcoming regulatory control period, as the impact of extreme heat events is calculated to be greater in 2009 than what is expected to occur over the forthcoming regulatory control period. The abnormally high costs in 2009 is a direct function of SP AusNet's distribution transformers being overloaded during those extreme events, thus causing a higher number of faults and emergencies than normal."

Subsequent to the Original Proposal, SP AusNet discovered that it double counted the reductions associated with the heatwave events, as these were already removed from SP AusNet's Base year. Therefore, in effect, the distribution transformer costs associated with these extreme heat

conditions have already been removed from SP AusNet's forecasts, and therefore, this capex / opex trade off should be zero.

Information Technology

SP AusNet noted that the planned replacement of existing IT systems during the forthcoming regulatory control period will have a consequential effect on IT opex. In particular, additional operating costs will arise in relation to on-going support; training users of the new systems; and administering and licensing new IT systems.

It is worth reiterating that in forecasting operating expenditure for the forthcoming regulatory control period, SP AusNet has, for each project.

- Engaged business units to understand the anticipated efficiency benefits and the material impact those benefits have on forecast operating expenditures.
- Determined whether the benefits are recurring or once off and apply those benefits to the 2009 base year.
- Determined whether the project is materially adding IT systems and infrastructure that did not exist in the 2009 base year and for those new IT systems and infrastructure forecast required labour and software and hardware maintenance to support and maintain those IT assets.
- Applied these costs from the anticipated commission date of the project.

Section 7.2.1 ('Step Changes in Operating expenditure') of the IT Strategy underpinning the Original Proposal provides further rationale for the proposed opex changes.

As SP AusNet does not accept the AER's proposed reduction in its IT capital expenditure program, SP AusNet does not accept the proposed reduction in its opex costs associated with this increased IT capex program.

SP AusNet's revised forecasts are outlined in the table in section 7.4.4.

Impact of Replacement Program

This is addressed in the scale escalation section.

Leasing

SP AusNet's decision to continue its leasing arrangements for its facilities and its fleet of vehicles, trucks etc is expected to lead to higher opex as either the existing leases are renewed, or where current equipment that is owned, reaches the end of its useful life, and is then replaced by leased fleet/vehicles. SP AusNet notes that the AER's Draft Determination provides no substantive discussion as to why these opex forecast were rejected. The AER has failed to advise SP AusNet of the relevant material issues considered by the AER in its decision in respect of this issue.

As stated in its Original Proposal, SP AusNet's analysis shows that it is economic to continue its leasing arrangements for its facilities and its fleet of vehicles, trucks etc. Therefore, no capex costs associated with these two expenditure items have been included in the Original Proposal. Notwithstanding this, it is noted that the trade off from this decision to not purchase these items is that:

- All of SP AusNet's major facilities will continue to be leased, with no change to the number of assets being leased, however, there are marginal changes in the expected

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real costs of leasing two facilities – Lilydale and South Morang – which have been included in the opex forecasts. These reflect known circumstances that will affect both of those facilities in the forthcoming regulatory control period; and

- SP AusNet’s fleet opex costs are still expected to increase over the forthcoming regulatory period, as existing fleet that is currently owned (SP AusNet purchased some fleet in 2008) by SP AusNet reaches the end of its economic life and is replaced with new, leased fleet. This change has been modelled based on the expected useful lives of all existing fleet items, along with the lease costs on a like-for-like replacement of that fleet. SP AusNet has included the disposals associated with the sale of this fleet during the forthcoming regulatory control period in its PTRM model.

In relation to the former, SP AusNet discussed the changing circumstances associated with two of its sites in its Original Proposal. In relation to Lilydale, in excess of 140 SP AusNet employees operate out of this leased depot which also houses stores, vehicles and equipment to service a customer base of 250,000. The lease is due to expire early in the forthcoming regulatory control period. The landlord has laid sewerage pipes within the asphalted yard to the rear of the depot, in preparation for subdividing the yard into nine industrial lots. At the end of the lease term, the landlord will be in a position to complete the subdivision plans, which will result in either the rent increasing significantly or eviction. SP AusNet has conservatively assumed a move to a different site, at current market rates. SP AusNet would be more than happy to provide further substantive details of this to the AER upon request. In relation to the South Morang site, approximately 50 SP AusNet employees, as well as contracted Tenix crews that service the SP AusNet network in the Northern Growth Corridor, are housed there. The current lease for South Morang Depot is between TRU Energy and the landlord on a short-term basis (12 months). SP AusNet occupies the site in a cohabitant arrangement with TRU Energy, sharing the lease 50/50. There is no long term certainty that TRU Energy will continue this arrangement. SP AusNet seeks further dialogue with the AER on this issue subsequent to the receipt of this Revised Proposal.

As such, SP AusNet does not accept the AER’s Draft Determination and instead, resubmits its Original Proposal forecasts. Again, SP AusNet would appreciate the opportunity to further explain these specific expenditure items to the AER after submission of this Revised Proposal.

In relation to the latter, SP AusNet fails to understand how the AER could not consider it reasonable for SP AusNet to be funded to replace fleet that it currently owns, with leased fleet, during the forthcoming regulatory control period. The AER appears to have failed to adequately take relevant factors into consideration. More specifically, SP AusNet considers the rejection of such an allowance, in conjunction with no capex allowance to replace these vehicles at the end of their economic life, results in SP AusNet either being:

- Unable to “maintain the quality, reliability and security of supply of standard control services”, consistent with Clause 6.5.6 (3); or
- Not being “provided with a reasonable opportunity to recover at least the efficient costs the operator incurs”, as required under Section 7A (2) of the NEL.

Furthermore, SP AusNet considers that any reasonable stakeholder would consider it good industry practice, and therefore prudent, for SP AusNet to adopt a procurement process that involves replacing vehicles when they reach the end of their economic life. Furthermore, SP AusNet notes that the NERs require the AER to have regard for the substitution possibilities between operating and capital expenditure, which this component clearly is, and yet, the AER, in rejecting the opex allowance, has in effect, disregarded the substitution impacts associated with their decision to reject this opex forecast.

Finally, SP AusNet notes that the disposal amounts factored into the building block model includes over \$1m of vehicle disposals in 2011 and 2012, which further illustrates this capex / opex trade off. Moreover, it provides further substantive evidence of the fact that some of these assets will reach the end of their useful life during and forthcoming regulatory control period.

As such, SP AusNet does not accept the AER’s Draft Determination. SP AusNet can provide detailed calculations on the derivation of this cost upon request.

Impact of Larger Capex Program on Opex

SP AusNet’s proposed increase in its capex program will increase the amount of opex costs that are incurred by SP AusNet to deliver these programs. This is reflected in its proposed capitalisation rate, which reflects a reduced overhead capitalisation rate of 16% for the forthcoming regulatory control period, relative to the historical average of 26.5% for the period 2006-2009.

The detailed assumptions and calculations for this rate are provided in a working paper submitted to the AER in conjunction with this Revised Proposal.

7.4.4 SP AusNet’s revised assessment of the capex/opex trade-offs

SP AusNet proposes the following capex / opex trade off costs.

Table 7.10: Capex/Opex Trade Off

(Real 2010 \$M)	2011	2012	2013	2014	2015
Climate Change / Distribution Transformers	0.00	0.00	0.00	0.00	0.00
IT Costs	6.81	7.32	7.32	9.18	8.28
Leasing of Vehicles	0.39	0.52	0.81	1.55	2.00
Lease costs for major facilities	0.29	0.30	0.88	0.88	0.88

7.5 Scale Escalation

7.5.1 Overview of SP AusNet’s Original Proposal

SP AusNet’s Original Proposal included additional opex costs associated with network growth and increased customer numbers. The calculations supporting SP AusNet’s “scale escalation” were outlined in a detailed model that was provided to the AER as part of its Original Proposal.

7.5.2 AER’s Draft Determination

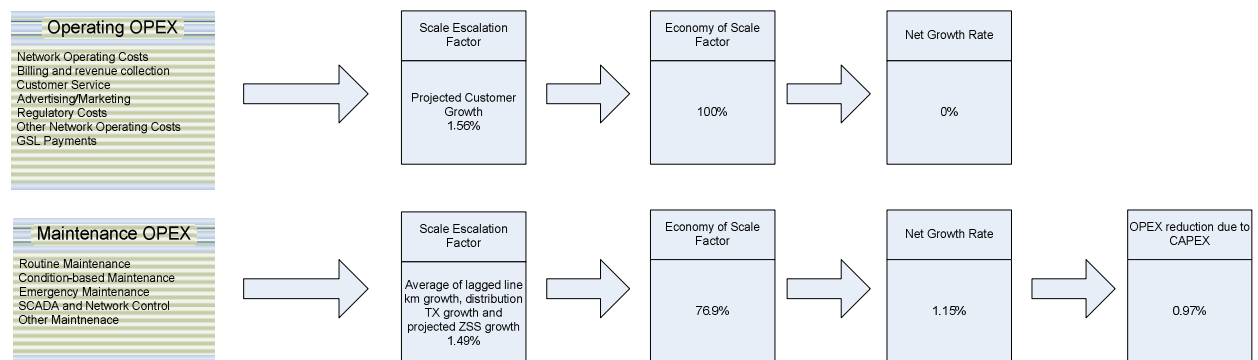
The AER has adopted a scale escalation modelling approach that differs to that which was proposed by SP AusNet as part of its Original Proposal. In particular, the Draft Determination adopts two growth drivers for each DNSP:

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- a composite network growth factor calculated as a simple average of the annual growth in lagged line length and the number of distribution transformers and zone substations over the forthcoming regulatory control period; and
- the annual growth in customer numbers over the forthcoming regulatory control period.

SP AusNet's interpretation of the AER's model is represented diagrammatically below.

Figure 7.2: AER's Scale Escalation Model



7.5.3 SP AusNet's response to the issues raised by the AER

SP AusNet does not accept the AER's Draft Determination on scale escalation. In particular, it does not accept the AER's:

- Derivation of its composite driver;
- Scaling factor; and
- Capex / opex trade off.

Derivation of Composite Network Growth Factor

SP AusNet has identified three key issues in relation to the AER's derivation of its composite network growth factor, namely:

- The inclusion of distribution transformer growth;
- The use of the number of zone sub stations as a driver; and
- The adoption of a simple average, as opposed to a weighted average.

In relation to the first point, SP AusNet does not consider Distribution Transformer growth to be representative of opex growth due to the simple low maintenance nature of distribution transformers, which are in the main, operated on a run to failure replacement strategy. This issue is magnified as the AER uses a simple average, as the inclusion of Distribution Transformer growth reduces the overall composite network growth driver for SP AusNet. Ceteris paribus, this results in the scale escalation factor underestimating the true impact of network growth on SP AusNet's operating costs, which is inconsistent with the requirements of Clause 6.5.6 (c) of the NERs. As such, SP AusNet proposes that this component of the AER's composite network growth driver be removed.

In relation to the second point, SP AusNet has considered the proposals put to the AER by other DNSPs and has concluded that in fact it is inappropriate to use the number of zone sub stations as a key underlying driver of SP AusNet's opex costs. In particular, SP AusNet accepts the arguments put by other parties that this driver does not capture the impact that new equipment installed at existing sites will have on expected opex costs. This equipment is primarily driven by the need to provide additional capacity at those sites. A prime example of this is where additional transformers are installed at existing zone sub stations. SP AusNet's original zone sub station driver would not have factored in the proportionate increase in opex costs that would be incurred by adding such equipment to existing sites. As such, SP AusNet considers that a physical measure of the amount of new additional equipment that will be installed over the forthcoming regulatory control period will be more representative of the additional costs associated with operating and maintaining its network over that period. SP AusNet also notes that a focus on physical equipment is consistent with the AER's philosophy on escalators. As such, SP AusNet proposes a combination of growth in feeders and growth in power transformer population as appropriate drivers of activity, which in turn will influence the opex costs incurred by SP AusNet over the forthcoming regulatory control period. SP AusNet considers a weighting of 70% for transformer growth and 30% for feeder growth is reasonable, reflecting the higher per unit maintenance and condition monitoring requirements of transformers relative to switchgear.

In relation to the third point, as mentioned previously, SP AusNet considers that the AER's use of a simple average growth driver disregards the relative impacts of each network driver, which in turn is likely to lead to a scale escalation formula that is in fact, inconsistent with the requirements of under Clause 6.5.6 (c) for the AER to accept opex forecast that reflect the efficient costs that a prudent operator would incur.

SP AusNet notes that its original scale escalation model weighted its growth drivers by 2009 O&M costs. Whilst SP AusNet still maintains that this approach is reasonable, it notes that the inclusion of transformers and feeders as a growth driver complicates the calculation of the underlying opex weighting, as SP AusNet does not capture data at this level. Therefore, SP AusNet proposes to use a capex weighted average to represent the growth in maintenance categories. This is based on capex information contained in SP AusNet RIN template. SP AusNet considers that in the absence of detailed opex data in relation to the weighting of costs between different drivers, the best proxy is to use capex as the unit by which these drivers are weighted.

Scaling Factor

The AER applies an economy of scale factor to the growth escalator. For operating costs, the AER determined that a 100% economy of scale factor should be applied, which in turn leads to a growth escalator of zero being applied to these opex categories.

This zero growth escalator is applied to the following operating cost categories:

- Billing and Revenue collection
- Customer Service
- Advertising/marketing
- Regulatory costs
- GSL payments
- Network Operating costs
- Other Network Operating costs

SP AusNet proposed the adoption of a 100% economy of scale factor for the above operating cost categories in its Original Proposal, primarily based on the assumption that its proposed IT capex program would be accepted. More specifically, SP AusNet stated the following¹⁵⁶:

“The above table illustrates that SP AusNet has assumed that the increasing costs associated with providing back office services to support its business over the forthcoming regulatory control period will be offset by productivity savings within those business units. Moreover, SP AusNet has not factored into its opex forecasts the impact of having to provide direct customer services to an estimated additional 60,000 customers from 2009. In making this assumption, SP AusNet has not only factored in underlying productivity improvements in this area of its business, but also, the impact that its IT capex program will have on the costs associated with undertaking these functions.”

The AER has rejected SP AusNet’s proposed increase in its IT Capex spend in their Draft Decision. SP AusNet contends that if that decision were to be maintained in the AER’s Final Decision, then the AER must adjust the scaling factor adopted for operating costs as part of its overall scale escalation modelling. Only with such an adjustment would SP AusNet be provided with a ‘reasonable opportunity to recover the efficient costs of providing standard control service’, as required under section 7A(2) of the NEL.

More broadly, SP AusNet considers its clear linkage between the capex spend and the opex benefits is consistent with the requirement to have regard to “the substitution possibilities between operating and capital expenditure”, as required under NER Clause 6.5.6 (e)(7), which in turn is driven by the requirement to propose operating expenditure forecasts that meet the operating expenditure objectives, one of which is outlined in Clause 6.5.6 (a)(1) of the NERs “to meet or manage the expected demand for standard control services over that period”.

SP AusNet considers that conservatively, this would see a 75% scaling factor utilised, which is consistent with the figure adopted by the AER for Powercor and Citipower in their Draft Decision for operating expenditure.

For maintenance costs, the AER determined that an approximate 23.1% economy of scale existed, and accordingly, multiplied the 1.49% maintenance escalator by $(1-0.231) = 0.769471463017745$ to arrive at 1.14554905895763% for growth with economy of scale removed. SP AusNet notes that the 76.9471463017745% used to reduce the growth escalator is a very detailed figure, however, no calculation is included, so it is unclear how the AER has derived this figure. The accuracy of the figure suggests that a goal seek may have been used to derive the figure.

Notwithstanding this, this economy of scale adjustment applies to the following maintenance categories:

- Routine Maintenance
- Condition-based maintenance
- Emergency Maintenance
- Vegetation management
- SCADA and network control
- Other Maintenance

¹⁵⁶ SPI, *Original Proposal*, p. 213.

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In discussing its proposed economy of scale factor in table J.9 of its Draft Determination, the AER states, amongst other things, that:

- For Emergency Maintenance – approximately 45% of network incidents should be removed from scale growth on the assumption that new network only suffers from exogenous events (non asset failure events) rather than defects; and
- For Condition-based maintenance – the AER assumes that condition-based maintenance is driven by defects, and moreover, that as defects do not occur on a new network, a larger proportion should be excluded for condition-based maintenance.

Broadly, SP AusNet considers there to be two substantive issues with the AER's analysis.

Firstly, SP AusNet considers that the AER's assumptions clearly disregard the infant mortality issues associated with newly installed assets. In particular, there is a significant amount of literature outlining the issue of newly installed assets being subject to quality (of installation or component) failures, prior to reaching the steady-state random failure rate that can be observed for the large proportion of its life before wear out issues begin to take hold. This is the classic reliability bath tub curve, which is commonly referred to in the literature on this subject – for example, "Maintenance, Replacement and Reliability – Theory and Applications", by Jardine and Tsang (2006). The savings the AER suggest will occur infer that they believe newly installed network will never step up to failure rates consistent with the existing network. However, network components installed five or ten years ago should have transitioned to failure rates consistent with the random failures of the remaining pre-wear out sections of the network. SP AusNet considers that as the AER utilises a lagged network length growth driver, it is implicitly picking up this transition to a 'normal' failure rate.

Secondly, with regards to condition based maintenance, SP AusNet considers that the AER has not given reasonable regard to appropriate factors in making its decision on this issue; in particular, that is, the fact that many defects are caused by exogenous events, and whilst the network can be operated, the defects, once discovered, must be rectified for the ongoing reliable and safe operation of the network. SP AusNet considers that for the AER's assumption to hold, it would have to assume that the new network is impervious to damage from strong winds, animals, foliage, or lightning. This is clearly not realistic and does not promote efficient operation of electricity services.

Overall, SP AusNet considers the justifications provided by the AER to reject its scale escalation factor, and instead adopt the AER's own factors, are:

- Based on unrealistic assumption with regards to the impact (or lack there of) of exogenous events on new network components; and
- Inherently inconsistent with their own underlying growth drivers, with lagged growth drivers being used, yet the AER's continues to assume a 'new component' defect rate, not the 'aged' defect rate.

As such, SP AusNet considers that its original scale escalation adjustment of 5% is reasonable, and therefore, it has retained that adjustment for the purpose of developing its scale escalators that have been included in this Draft Determination.

Capex/Opex Trade Off

In its Original Proposal SP AusNet made the following statement¹⁵⁷:

“As an asset approaches, or reaches, the end of its economic life, then the expected reliability of that asset reduces, whilst the cost of maintaining and operating that asset will generally increase.

Conversely, when an asset, which was at or near the end of its economic life, is replaced, then the level of reliability increases, whilst the cost of operating and maintaining the new asset will generally reduce.

SP AusNet observes that the capital expenditure objectives outlined in Clause 6.5.7(a)(3) and (4)) require that its capex program allows it to maintain existing levels of service. The results of this are that the increasing age and deteriorating condition of some network assets will be offset by a reduction in the age, and therefore, enhanced condition (through replacement) of other network assets.

A by-product of this is that the reduced opex costs associated with replacing assets that are at or near the end of their economic life, will be offset by the increased opex costs associated with maintaining and operating older assets that aren't replaced during the forthcoming regulatory period. It is for this reason that SP AusNet has not sought an increase in its opex as a result of 'ageing assets', nor has it sought to reduce its opex forecasts for the perceived reduction in opex costs when older assets are replaced with newer assets.

It is noted that this approach is also consistent with SP AusNet's capitalisation policy, which, in general, capitalises the costs of fixing an asset that has been identified as faulty in an inspection program. This approach means that maintenance, in particular, is not particularly correlated to the consequence of failure, rather the probability of failure, which in turn is primarily driven by the age and condition of an asset.”

In its Draft Determination, the AER acknowledged the above statement, whilst also stating further on that:

Replacement capex allowance is targeted at these 'old assets' as it becomes economic to replace as opposed to repair such assets in order to maintain service performance. This view is supported by Wilson Cook's observations on defect rates above. In advising on the replacement capex allowance, Nuttall Consulting observed:

Based upon our review, and considering the findings of our repex modelling and the past overestimation of RQM [reliability quality maintained] requirements, we consider that the RQM allowance should be based on the recent historical levels with some additional allowance for aging of the network. We consider that the results of our repex modelling can be used as a reasonable estimate of the increases required due to the aging.

The implication is that the effect of increased replacement capex should be considered in the calculation of the rate of scale escalation. SP AusNet did not provide additional material to suggest this is not the case.

The AER provided further support for their statement that the effect of increased replacement capex should be considered, by quoting PB Power:

“PB would expect that a well-targeted, prioritised and optimised asset replacement program will reduce preventative maintenance requirements because older assets are more likely to be in poor condition to have been nominated for increased inspection and maintenance cycles. It is also reasonable to anticipate that the benefits of a well targeted

¹⁵⁷ SPI, *Original Proposal*, p. 211.

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replacement program will mean fewer unplanned asset failures requiring both defects rectification and emergency response, and will result in improved reliability and public safety.”

SP AusNet does not dispute the essence of PB Power’s comments that *a well-targeted, prioritised and optimised asset replacement program will reduce preventative maintenance requirements because older assets are more likely to be in poor condition to have been nominated for increased inspection and maintenance cycles*, nor does it dispute the underlying thrust of the AER’s comment that *“the implication is that the effect of increased replacement capex should be considered in the calculation of the rate of scale escalation”*.

However, based on the above comments, both PB power and the AER have failed to adequately consider the impact that assets that are not replaced in the next regulatory period have on Opex costs. In particular, any discussion on the impact of the capex program on Opex costs must have regard for the net change in the age/condition/risk of its entire fleet over the forthcoming regulatory control period, after taking into account SP AusNet’s capex program, not just the gross change in the capex program.

SP AusNet reiterates that in accordance with the NER, it has proposed a Reliability and Quality maintain case for replacement Capex. This is designed to retain existing levels of risk, which leads to virtually no change in the weighted average remaining life of its asset base. This means that despite “older assets being the focus of a well targeted, prioritised and optimised asset replacement program”, assets that aren’t currently in that ‘replacement bracket’ will move into that bracket during the next regulatory control period, thus offsetting the reduction in operating costs caused by replacing those older assets.

In combination, SP AusNet contends that this will lead to the retention of existing opex levels for its existing network. SP AusNet further contends that the AER’s proposed approach to assessing this topic explicitly excludes the consideration of this important driver of opex costs. In particular, SP AusNet considers that *“calculating the annual ratio of compounding renewal capex to an estimate of the current (undepreciated) replacement cost of the asset base, and then applying 20 per cent of this ratio to calculate the recommended adjustment to the forecast operating and maintenance expenditure allowance”* bears no relationship to the underlying risk/age/condition profile of SP AusNet’s existing asset base, after the delivery of that capex program. Moreover, SP AusNet is unable to find any reference as to why the AER considers this formula will allow it to derive opex forecasts that reasonably reflect the efficient costs that a prudent operator would incur; why it considers the *“20 percent of this ratio”* component reasonable; or, for that matter, what this is designed to reflect, and how this has been derived.

If the AER were to in fact ascribe weight to PB Power’s previously mentioned comments about targeting ‘ageing assets’, it would base its assessment on a measure of either age, risk modelling, or condition, or some combination of these parameters, after the capex program has been delivered. Without such an assessment, the AER’s proposed methodology will lead to a systematic underestimate of the opex needs of a business, as it can not adequately incorporate the impact that ageing assets that are not replaced during the forthcoming regulatory control period have on a prudent and efficient DNSP’s operating costs. This approach would be directly in contrast to the requirements placed upon the AER under the NEL, for example section 7A(2), and the NERs, for example 6.5.6 (c), when assessing SP AusNet’s operating expenditure forecasts.

Therefore, SP AusNet reject’s the AER’s capex/opex trade off adjustment, as it would, amongst other things, not allow SP AusNet a reasonable opportunity to recover its efficient costs in providing services.

7.5.4 SP AusNet’s revised scale escalation

SP AusNet’s proposed scale escalation rates are outlined in the table below. The model supporting this calculation has been provided as part of the documentation supporting this Revised Proposal.

Table 7.11: Capex/Opex Trade Off

	2011	2012	2013	2014	2015
Scale Escalation	2.33%	2.33%	2.33%	2.33%	2.33%

Source: SP AusNet_Scale_Opex Resubmission.xls

7.6 Step Changes and Other Cost Changes

7.6.1 Overview of SP AusNet’s Original Proposal

SP AusNet’s forecasting methodology requires two categories of cost to be added to the base year opex:

- the costs of meeting certain regulatory and statutory obligations (‘Step Changes’); and
- the costs of providing other discrete additional outputs to its customers and/or the community (‘Other Cost Changes’).

SP AusNet identified a number of step changes and associated costs related to compliance with the following regulations:

- Electricity Safety (Bushfire Mitigation) Regulations;
- Customer Framework Changes; and
- AEMC Distribution Planning Framework Requirements.

SP AusNet identified a number of Other Cost Changes relating to changes in SP AusNet’s operating environment, including safety considerations. The relevant items included:

- Vegetation management (‘Enhanced Safety’);
- Power cable test programme;
- Condition monitoring;
- Power transformer refurbishment;
- Substation earthing systems;
- Substation site clean-up works;
- Process and Configuration Management;
- Substation Civil Infrastructure Works;
- Substation Fire System Works;
- Bushfire Insurance;

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- Quality of Supply Investigations; and
- Climate Change.

SP AusNet also identified the following cost changes that could be described as customer-initiated:

- SMS Communication to Customers during outage events;
- Enhanced Customer Communication in Extreme Storm Events; and
- PSAIDI Reduction.

For each of the identified Step Changes or Other Cost Changes noted above, SP AusNet's Original Proposal provided a detailed description of the change and the estimated costs arising. Importantly, SP AusNet also noted two specific obligations that may arise during the next regulatory period that would cause it to incur a material increase in its opex costs in the next regulatory period, relative to its 2009 Base Year. These two potential obligations are:

- Electricity Safety (Electric Line Clearance) Regulations; and
- Management of Electromagnetic Fields.

SP AusNet noted that the Original Proposal did not include the costs associated with meeting these external obligations. Nevertheless, SP AusNet reserved the right to include the costs associated with these obligations in its response to the AER's Draft Determination.

7.6.2 AER's Draft Determination

The table below lists the step change values proposed by SP AusNet alongside the values adopted by the Draft Determination

Table 7.12: Step change values proposed by SP AusNet compared with the Draft Determination (\$ 2010M)

	SP AusNet proposed	AER Draft Determination
Electricity safety regulation related	10.0	5.3
Climate change	18.3	0.0
Insurance	16.7	15.0
National distribution planning	1.9	1.9
Customer communications	3.9	0.0
Steady State related	5.4	0.0
DNSP specific / Overhead re-allocation	35.1	2.8
Total	91.3	25.0

7.6.3 SP AusNet's response

SP AusNet has presented its response to the Draft Determination in two parts, as follows:

- an assessment of the AER's conceptual approach to assessing step changes; and
- an assessment of the AER's detailed responses to individual step changes.

These are discussed in further detail in the sections below.

7.6.4 An Assessment of the AER's Approach to Assessing Step Changes

The AER has summarised its proposed approach to assessing what it defines as step changes in the following paragraph¹⁵⁸:

"In assessing the Victorian DNSPs' proposed step changes, the AER has in the first instance had regard to changes in the regulatory obligations and subsequently changes in the operating environment. Consistent with the AER's approach to step changes in the New South Wales final electricity distribution determination, the AER has then assessed whether the proposed (operating expenditure) opex is prudent and efficient.

In determining whether the opex is prudent and efficient, the AER has had regard to whether the proposal has appropriately quantified all cost savings and benefits."

Based on this description, it appears that the AER has adopted a two stage approach to assessing step changes, with the first step being to establish whether or not the step change is linked "to changes in the regulatory obligations and subsequently changes in the operating environment". If this first threshold is met, then the AER will then proceed to assess the prudence and efficiency of the step change and in doing so, will have "regard to whether the proposal has appropriately quantified all cost savings and benefits".

As outlined in its Original Proposal, SP AusNet considers that the first part of the aforementioned process – which effectively limits step changes to changes in "regulatory obligations and changes in the operating environment" - is inconsistent with not only the NERs, but also the NEL's primary objective and section 7A of the NEL relating to the revenue and pricing principles. In particular, the NEO states that:

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity".

Legislative guidance is provided to the AER in section 16 of the NEL, which states that:

(1) The AER must, in performing or exercising an AER economic regulatory function or power—

(a) perform or exercise that function or power in a manner that will or is likely to contribute to the achievement of the national electricity objective.

The NEL defines an 'AER economic regulatory function or power' as:

a function or power performed or exercised by the AER under this Law or the Rules that relates to:

(c) the making of a transmission determination or distribution determination

In addition, section 16 (2) states that:

In addition, the AER—

¹⁵⁸ AER Draft Determination, p. 258.

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(a) must take into account the revenue and pricing principles—,

(i) when exercising a discretion in making those parts of a distribution determination or transmission determination relating to direct control network services.

SP AusNet considers that the above sections of the NEL mean that the:

- NEO objective is all encompassing, that is, the AER must consider the achievement of the *NEO* at all times when making decisions that form part of its Distribution Determination; and
- Revenue and Pricing Principles must be explicitly considered when the AER is, under the *NER*, able to exercise discretion.

SP AusNet notes the NEL Second Reading Speech provides guidance in how to interpret the *NEO*¹⁵⁹:

“The market objective is an economic concept and should be interpreted as such. For example, investment in and use of electricity services will be efficient when services are supplied in the long run at least cost, resources including infrastructure are used to deliver the greatest possible benefit and there is innovation and investment in response to changes in consumer needs and productive opportunities.

The long term interest of consumers of electricity requires the economic welfare of consumers, over the long term, to be maximised. If the National Electricity Market is efficient in an economic sense the long term economic interests of consumers in respect of price, quality, reliability, safety and security of electricity services will be maximised.”

In addition, the Australian Competition Tribunal (ACT) has provided the following interpretation of the *NEO*¹⁶⁰:

“The national electricity objective provides the overarching economic objective for regulation under the NEL: the promotion of efficient investment and efficient operation and use of, electricity services for the long term interests of consumers. Consumers will benefit in the long run if resources are used efficiently, that is if resources are allocated to the delivery of goods and services in accordance with consumer preferences at least cost. As reflected in the revenue and pricing principles, this in turn requires prices to reflect the long run cost of supply and to support efficient investment, providing investors with a return which covers the opportunity cost of capital required to deliver the services.”

SP AusNet considers that both interpretations in effect, broaden the scope of what types of expenditure should be considered by the AER as part of its Distribution Determination, beyond that which would be included by a simple reference to Clause 6.5.6 (a) of the *NER*. In particular, ‘promoting efficient investment in’ can only be achieved if the AER considers expenditure that is being proposed to provide net benefits to the consumers (ie: where the benefits to consumers of making that investment outweighs the costs to society of making that investment). In its Proposal, SP AusNet also noted that such an approach was entirely consistent with perfectly competitive markets, where a business will seek to enhance the level of service it provides to its customers, if the incremental benefit to the individual customer from the provision of that service (which translates into a higher willingness to pay) outweighs the incremental cost to the business to provide that service. It is noted however, that in a competitive market, businesses can convert these service level improvements (excluding uncoded externalities) into financial outcomes, thus,

¹⁵⁹ NATIONAL ELECTRICITY (SOUTH AUSTRALIA) (NEW NATIONAL ELECTRICITY LAW) AMENDMENT BILL <http://www.ret.gov.au/Documents/mce/documents/NEL2ndreadingspeechhansard9feb0520050211091852.pdf>, p. 2.

¹⁶⁰ Australian Competition Tribunal - Application by EnergyAustralia and Others [2009] ACompT 8 – Corrigendum, p. 10.

potentially becoming self financing, whereas this is not generally the case for monopoly service providers without regulatory approval for that expenditure.

As such, SP AusNet considers that despite the opex objectives outlined in Clause 6.5.6(a) of the NER being prefaced on a 'maintain' case (which, SP AusNet notes, the AER refers to on page 234 in of Appendix L as the key reason for rejecting SP AusNet's Step Changes), the overarching objective of the NEL requires the AER to make decisions within the context of a distribution determination that 'promote efficient investment in' the electricity system, which entails consideration of expenditures that enhance the level of service provided to customers.

It is noted that this approach is consistent with the criteria that the ACT upheld when assessing the EnergyAustralia appeal on step changes. Those criteria stated that business should demonstrate that¹⁶¹:

(a) it is related to a fundamental change in the business environment arising from outside factors or offset by cost efficiencies in other areas;

(b) it is attributable to the imposition of new or changed obligations due to external factors including, if relevant, mandated improvements in service levels;

(c) it is of a type that will improve service levels voluntarily as opposed to being mandated - in respect of which customers' willingness-to-pay for the improved service should be demonstrated;

(d) it will bring cost savings or benefits to customers - in respect of which, the business should be able to demonstrate that:

(i) it is continually looking for better ways of using its resources and improving its processes and systems to improve service levels or achieve cost efficiencies;

(ii) it has defined the savings and benefits in terms of their nature and the expected time of their realisation; and

(iii) where the savings and benefits are quantifiable, they have been quantified in sufficient detail for cost-benefit analyses to be prepared and that the cost-benefit analyses justify the investment; or

(e) alternatively, if it does not meet any of these criteria, the business has demonstrated that it will continue to operate efficiently as a whole, despite the cost increase.

In its Draft Determination, the AER appears to have failed to follow the findings of the ACT in the EnergyAustralia case, and thus, has failed to follow an applicable precedent.

In conclusion, if the AER's narrow approach to assessing step changes is maintained, the regulatory environment effectively becomes a 'race to the bottom', whereby, businesses are at best, only funded to make incremental changes to their business practices to improve the levels of service they provide customers, despite the fact that larger scale changes may constitute a more efficient investment program. If this is the AER's interpretation of their requirements under the NERs and the NEL, then they should clearly state this, such that all stakeholders – in particular customers - are aware of the current limitations placed upon businesses to improve levels of service.

The implications associated with adopting the AER's proposed approach are discussed in more detail below, in the context of some of the other underlying criteria that the AER appears to have adopted in assessing SP AusNet's Step Changes.

¹⁶¹ Australian Competition Tribunal - Application by EnergyAustralia and Others [2009] ACompT 8 – Corrigendum, p. 55.

7.6.5 An Assessment of the AER's Underlying Criteria

Whilst the AER's Draft Determination does not outline any detailed criteria in support of their assessment of SP AusNet's proposed step changes (apart from focusing on changed regulatory obligations), they do appear to have adopted a number of implicit criteria when assessing those changes. These are that:

- A potential change in a future regulatory obligation that affects a is reason enough to reject that step change;
- Potential Step Changes that enhance service levels or reduce costs should be funded by the business as they are 'self financing'; and
- The costs of complying with all existing regulatory obligations should already be embedded within SP AusNet's Base Year opex.

These are discussed in order below.

7.6.6 Assessment of AER criterion: Future Changes in Regulations

It appears that the AER has deemed that a step change will not be accepted, if that proposed expenditure increase may be affected by a potential change in future regulatory obligations. For example, in relation to SP AusNet's request to seek additional funding to reduce the number of hazardous trees falling from outside of the clearance zone, the AER made the following statement in their Draft Determination¹⁶²:

"The AER recognises the importance of bushfire mitigation but considers that it would not be prudent to approve additional opex for these proposals until the VBRC's recommendations, and the Victorian Government's response to those recommendations, are released"

Whilst this approach is consistent with the AER's view that a step change can only be included if there is a definitive change in regulatory obligations, as stated previously, SP AusNet considers that this narrow definition of what constitutes a step change is inconsistent with the requirements placed on the AER to perform or exercise their functions in a manner that will or is likely to contribute to the achievement of the NEO. This prescriptive approach by the AER is necessarily inconsistent with the achievement of the NEO. Further, this approach constitutes an incorrect exercise of the AERs discretion in accordance with the NEL.

In particular, by deferring any decision in relation to this expenditure to the VBRC, the AER has in fact abstained from making an assessment as to whether the underlying proposed expenditure would in fact constitute efficient expenditure on SP AusNet's electricity distribution network. This is particularly pertinent given this expenditure was premised on delivering net benefits to the community, not on meeting a defined regulatory obligation. If, subsequent to any AER decision, the VBRC and consequent legislation imposes an obligation on a business that cuts across any expenditure proposals approved by the AER in their Final Decision (which means that they have been deemed to be consistent with the NERs and the NEL), then the cost pass through process is the appropriate true up mechanism to ensure that that business is compensated for any increased expenditure required.

¹⁶² Appendix L - AER Draft Determination, p. 184.

In conclusion, consistent with SP AusNet's original approach to step changes, SP AusNet considers that the AER should make a decision under the NER and NEL to either reject or accept any proposed expenditures that cross over with the VBRC when they are premised on providing net benefits to the community, and subsequent to this, if the VBRC's recommendations become additional regulatory obligations causing increased expenditure over the AER's allowance, then this form the basis of any future cost pass through application. Any alternative process would be inconsistent with the correct application of the NEL and the NER by the AER in its decision making process.

7.6.7 Assessment of AER criterion: Business improvements will be Self Financing

On a number of occasions, the AER state in their Draft Determination that a step change should be rejected as businesses will self finance business improvements that reduce costs. For example, in relation to SP AusNet's request to seek additional funding to reduce the number of hazardous trees falling from outside of the clearance zone, the AER states the following¹⁶³:

"the AER notes that any business process improvements which result in lower costs will be self financing as the net costs should be expected to be less than those reflected in the revenue requirement".

In relation to SP AusNet's proposal to increase its expenditure on Condition Monitoring and Power Transformer Refurbishment proposals, the AER states that¹⁶⁴:

"The AER agrees with Nuttall Consulting's review of SP AusNet's condition monitoring and power transformer refurbishment proposals. The AER further notes that any business process improvements which result in lower costs will be self financing as the net costs should be expected to be less than those reflected in the revenue requirement".

In and of itself, SP AusNet agrees with the AER that the extent to which a business can self finance a step change should be considered when assessing the net costs of undertaking that step change. However, in assessing this issue, SP AusNet considers that the incentives for businesses to self finance business improvement expenditure is much more complicated than the AERs comments in its Draft Determination may appear to suggest. In fact, whether businesses will self finance expenditure or not will be a function of whether a business can convert that investment's economic benefit into a financial benefit. Therefore, the AER would have to consider the impact that its own regulatory regime has on a business' ability to convert those economic benefits into financial benefits, in order to ensure that the expenditures that they approve through the regulatory review process 'promote efficient investment in the electricity distribution network', and are consistent with the requirements of the NERs (eg: prudence and efficiency).

In short, the AER needs to consider whether the business process improvement project proposed leads to:

- enhanced service levels, or
- lower costs.

In relation to the former, the type of service level improvement (USAIDI, PSAIDI) will determine whether businesses can and should be required to self finance that expenditure. In relation to the latter, the type of expenditure (capex or opex) and timing of the efficiency benefits (within period,

¹⁶³ Ibid.

¹⁶⁴ Ibid, p. 236.

or in future regulatory periods) of the expenditure reduction will affect a business' ability to self finance that expenditure.

More specifically, self financing expenditure related to providing enhanced levels of service will depend on whether SP AusNet can convert the economic benefit into a financial benefit. Where this is not the case, inefficient allocation of resources occurs, which SP AusNet considers to be inconsistent with the NEL objective. In the context of delivering electricity distribution services, the AER's regulatory framework already acknowledges this disconnect by way of the adoption of an S-Factor regime for USAIDI improvements. The S-Factor scheme is designed to allow businesses to internalise the economic benefits that accrue from delivering higher reliability to its customers, such that economically efficient investment in USAIDI occurs. Outside of this service level parameter (USAIDI), the AER has mistakenly assumed that 'business improvement processes' that lead to enhanced levels of service will inevitably be self financing, as the enhanced level of service delivered to customers through these programs will inevitably not manifest itself in a financial return to businesses, given the monopoly service characteristics of electricity distribution businesses.

An example of this is SP AusNet's proposed PSAIDI improvement program. Evidence presented to the AER showed that customers value PSAIDI improvements, which is in turn an economic benefit, however, the nature of the regulatory regime means that SP AusNet cannot convert any improvements in PSAIDI into a financial benefit. In this scenario, SP AusNet proposed a step change, as it was not able to self finance this expenditure, despite it being economically efficient (as the customer benefits outweighed the costs). As such, relying on businesses to self finance expenditure such as this will, inevitably, lead to under investment in these types of projects, contrary to the achievement of the NEO. It is also noted that the step change criteria upheld by the ACT included expenditure in support of such outcomes (*"it is of a type that will improve service levels voluntarily as opposed to being mandated - in respect of which customers' willingness-to-pay for the improved service should be demonstrated"*). This inconsistent approach by the AER will, in SP AusNet's view, result in an unreasonable outcome.

In relation to 'business improvement processes' that reduce the long term cost of providing the same level of service to consumers, SP AusNet considers that many investments that reduce costs may still not be self financed, as the current regulatory regime results in a disconnect between:

- opex expenditure that reduces capital expenditure versus opex expenditure that reduces operating expenditure; and
- opex expenditure that accrues benefits in the short term, versus opex expenditure that accrues benefits in the long term.

In summary, opex expenditure that reduces a business' future capital expenditure requirements exhibits a lower return (after the first year of the regulatory control period) than if it reduced operating expenditure. This occurs as a result of the adoption of an efficiency carryover mechanism for opex, which allows efficiency gains to be retained by the business for 5 years, and not for capex. This means that the benefit to the business reduces the further into the regulatory period the capex efficiency is achieved. In fact, it is noted that any capex efficiencies that are achieved in the next regulatory period are unable to be captured at all by the business, as these efficiencies flow directly through to customers via the adoption of lower capex forecasts. Therefore, the concept of self financing such expenditure is incorrect in this scenario, which means that the AER will be unable to rely on 'self financing' to drive the delivery of business improvement processes that would otherwise be in the long terms interests of consumers.

It is noted that NERA, in a report to SP AusNet on, amongst other things, the extent to which the AER's revealed costs methodology for determining forward looking opex allowances is consistent with the economic provisions of the opex expenditure assessment rules, stated much the same:¹⁶⁵

“the AER rejects proposals on the suggestion that they should be self-financing by way of offsetting opex reductions, even though the benefits of such programs are not necessarily confined to opex (as distinct from capex) reductions occurring in the same regulatory period (as distinct from a future regulatory period).”

SP AusNet's proposed Condition Monitoring and Transformer Refurbishment step changes are examples of business improvement projects that are designed to reduce forward looking capex forecasts, which, therefore, are not consistent with the concept of self financing.

Alternatively, if proposed opex expenditure delivers opex efficiency benefits in future regulatory control periods, then future opex forecasts will, by definition, factor this into their Proposals, as the AER must assess the prudence and efficiency of operating expenditure each regulatory re-set period. As such, opex incurred in one regulatory period that reduces the longer term opex costs of a business will not be self financing, again, because business' can't internalise that efficiency benefit. A prime example of this is SP AusNet's "Vegetation Management - Incremental Growth" step change, which entails an additional \$8.1m of expenditure over the regulatory control period to increase the volume of immature tree species along powerline easements that it negotiates with land owners to remove. SP AusNet's modelling showed that this approach to vegetation management has the lowest NPV of costs in the long term, and therefore, is consistent with the Clause 6.5.6(c)(1) of the NER to adopt programs that represent 'the efficient costs of achieving the operating expenditure objectives'. Again, it is noted that this is consistent with the step change criteria upheld by the ACT, which included expenditure on "*outcomes that will bring cost savings or benefits to customers - in respect of which, the business should be able to demonstrate that... (i) it is continually looking for better ways of using its resources and improving its processes and systems to improve service levels or achieve cost efficiencies; (ii) it has defined the savings and benefits in terms of their nature and the expected time of their realisation; and (iii) where the savings and benefits are quantifiable, they have been quantified in sufficient detail for cost-benefit analyses to be prepared and that the cost-benefit analyses justify the investment*".

Again, under such a scenario, businesses are not incentivised to self finance expenditure, as they are unable to capture the efficiency benefits associated with that expenditure; this is contrary to the achievement of the NEO.

7.6.8 Assessment of AER criterion: Cost of Complying with all existing obligations should already be embedded within SP AusNet's Base Year

There are a number of examples in the AER's Draft Determination that indicate that the AER has adopted an underlying criteria that the cost of complying with all existing obligations should always be considered to be embedded within SP AusNet's Base Year.

For example, the AER states that¹⁶⁶:

“the AER considers that the proposed step change regarding substation earthing systems does not represent a change in SP AusNet's operating environment.

¹⁶⁵ NERA - AER Draft Decision on Opex and Capex Allowance - A Report for SP AusNet - page 23

¹⁶⁶ Appendix L - AER Draft Determination, p. 236.

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Accordingly, the AER considers switchyard resurfacing and earth grid testing to be part of the normal ongoing operation of a prudent and efficient DNSP. As this expenditure is not a step change, it should already be included in SP AusNet's base opex"

Additionally, the AER states that¹⁶⁷:

"AER considers that the substation site clean-up works proposal is not a step change as SP AusNet has been unable to demonstrate that its proposal is linked to a new or changed regulatory obligation".

SP AusNet supports the use of the revealed cost approach to determining opex as the starting point for determining a business' prudent and efficient level of opex, as it leverages off the properties of the EBSS, and overcomes what the AER considers to be an asymmetry of information between it and the business. However, SP AusNet considers that this approach should not extinguish a business' ability to seek funding for changes in opex associated with complying with existing regulatory obligations that have not otherwise been incurred in the base year. SP AusNet's rationale for adopting this approach is threefold:

- This creates a symmetrical treatment of non-recurrent items within the regulatory process;
- Creates a regulatory environment whereby businesses do not have an incentive to adopt inefficient expenditure profiles; and
- Is consistent with the CAPEX criteria outlined in the NER.

In relation to the first issue, SP AusNet notes that the AER is vigilant in ensuring that businesses remove any non-recurrent expenditure. Given the NER requirements, SP AusNet supports this approach, and notes that it in fact identified a significant number of non-recurrent expenditure items for the AER. However, SP AusNet notes that the issue of non recurrent opex is not asymmetric – that is, it should not just involve removing expenditure from the Base Year. As outlined in SP AusNet's Original Proposal, SP AusNet considers that it will incur additional expenditure, over and above its Base Year, to meet regulatory obligations which have not changed. This additional opex is effectively non recurrent opex. It is noted that this approach is consistent with the AER's treatment of one specific step change - Customer Charter Opex (*"It is therefore considered a non-recurrent opex item that has not been included in the base opex costs for CitiPower, Powercor, Jemena and United Energy"*¹⁶⁸) – yet the AER does not adopt the same approach for other regulatory obligations.

SP AusNet considers that for consistency, and to comply with the requirements of the NER and NEL, expenditure to meet regulatory obligations, over and above that incurred in the Base Year - should be considered as step changes, and the prudence and efficiency of this expenditure should be assessed like any other proposed expenditure.

In relation to the second issue ('inefficient expenditure profiles'), SP AusNet considers that the AER should have reasonable regard to the impact that its decision on step changes will have the incentives for businesses to continue to efficiently provide network services. This is consistent with the requirements of section 7A(3) of the NEL that DNSPs should be provided with incentives to efficiently provide network services.

¹⁶⁷ Ibid, p. 235.

¹⁶⁸ AER Draft Determination ,p. 202.

SP AusNet considers that by limiting step changes to changes in regulatory obligations, the AER risks incentivising businesses to adopt inefficient expenditure profiles, which, in turn, would have a material impact on the ability of a business to operate in a manner that will achieve the NEO. In particular, by inferring that all opex costs are recurrent (except for Customer Charter expenditure), and therefore in the Base Year, businesses may be incentivised to profile their expenditure such that they ensure that they incur any required expenditure in their Base Year, as opposed to adopting an expenditure profile that delivers this outcome in the most efficient way possible, to the benefit of the long term interests of consumers.

An example of this is SP AusNet's proposed step change on substation site earthing systems. As stated in SP AusNet's Original Proposal¹⁶⁹:

“Over time soil and fine material can build up in the surface allowing weeds to invade. This process degrades the electrical performance of the surface layer. In stations that have high fault levels and/or poor earth grid performance, this can increase the electrocution hazard to unacceptable levels.”

SP AusNet went on to state that¹⁷⁰:

“The condition of a number of zone substation switchyard surfaces has degraded over time to an extent where a resurfacing programme needs be implemented to ensure surfaces meet current industry safety standards for step and touch potential.”

As inferred in the above statement, this component of this step change is a non-recurrent opex item – it reflects the fact that the timing of the expenditure is a function of the underlying degradation in the earthing system. This degradation does not miraculously coincide with the Base Year of a regulatory period – rather, it occurs over a long period of time – around 30 years – therefore, for the AER to assume that an opex cost such as this will in fact be recurrent, and therefore in the Base Year, is incorrect.

If the AER retains its proposed approach to assessing step changes, businesses will only ever be encouraged to incur non recurrent expenditures in their Base Year, as the impact on the efficiency carryover is the same, no matter which year the over expenditure (relative to allowances) is incurred, however, only expenditure in the Base Year provides them with the ability to attain future funding for such expenses. This approach is inconsistent with the achievement of the NEO.

Whilst SP AusNet acknowledges that the burden of proof is on the business to show that these costs have not otherwise been included in the Base Year (eg: through maintenance logs; condition reports), SP AusNet considers that the AER's step change criteria needs to acknowledge that if appropriate information is provided in support of an expenditure program, such non-recurrent opex cost increases required to meet existing regulatory obligations are in fact consistent with the NER and NEL.

Lastly, SP AusNet considers the inclusion of such costs is consistent with the capex criteria, namely, to “comply with all applicable regulatory obligations or requirements associated with the provision of standard control services”. This, in and of itself, does not mean that all proposed expenditures can or should be accepted by the AER – they should still be subject to the same prudence and efficiency assessments as all other proposed expenditures - however it does mean that the AER shouldn't adopt a criteria for assessing step changes that automatically precludes these proposed costs from being assessed, just because there has been no 'change' in the

¹⁶⁹ Appendix I - Incremental Opex impact to 2009 Base Year, p. 36.

¹⁷⁰ Ibid.

regulatory obligation, as they are still costs required to ‘comply with all applicable regulatory obligations’.

7.6.9 Assessment of the AER’s detailed response to individual Step Changes

The following sections provide a detailed response to the AER’s Draft Determination in relation to individual step changes.

7.6.10 Increased Bushfire Insurance Incurred in September 2009

SP AusNet accepts the AER’s decision with regard to the additional insurance costs that SP AusNet has incurred from September 2009.

Table 7.13: Insurance Premiums – September

(\$2010M)	2011	2012	2013	2014	2015
Insurance Premiums – September	3.00	3.00	3.00	3.00	3.00

Source: *Opex Step Change_FINAL.xls*

7.6.11 Distribution Planning

SP AusNet accepts the AER’s decision with regard to the distribution planning framework changes, subject to revising these costs for the most up to date labour escalators.

Table 7.14: Distribution Planning

(\$2010M)	2011	2012	2013	2014	2015
Distribution Planning	0.41	0.41	0.42	0.44	0.45

Source: *Opex Step Change_FINAL.xls*

7.6.12 Additional Insurance Coverage

Whilst the AER accepted SP AusNet’s request for additional funding to compensate it for the additional costs associated with it renewing its existing external insurance policies over the forthcoming regulatory control period, it rejected SP AusNet step change associated with taking out additional insurance coverage, over and above its existing insurance limits.

In support of the latter, the AER stated in its Draft Determination that¹⁷¹:

“On the \$0.3 million additional step change, the AER sought additional information from SP AusNet on why it sought additional coverage and what the ‘additional coverage’ relates to.

In response, SP AusNet stated that the additional coverage related to a maximum probable loss exercise that it is ‘in the process of finalising’. It stated that the \$330 000

¹⁷¹ AER Draft Determination, p. 192.

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forecast is based on a quotation from its insurer to increase its coverage, however due to confidentially reasons, SP AusNet stated it was unable to provide that quotation to the AER.

SP AusNet has not provided details about the calculation of the maximum probable loss exercise. Accordingly, due to this lack of supporting information, the AER is not satisfied that SP AusNet's proposed step change for additional insurance coverage reasonably reflects efficient costs, costs incurred by a prudent operator, or a realistic expectation of input costs"

SP AusNet notes that the AER has sought additional information from SP AusNet in support of this Step Change, and in particular, "details about the calculation of the maximum probable loss exercise". SP AusNet has finalised this work for input into this regulatory process. It is noted that SP AusNet's Maximum Foreseeable Loss exercise supports a \$[c-i-c] increase in its insurance limits. This document is provided as supporting documentation to this Revised Proposal.

The additional cost of taking out this external insurance coverage is estimated to be \$2.38M. This is based on a considered estimate by SP AusNet's insurance broker, Marsh, after having regard for the different layers of coverage required to reach the capacity SP AusNet requires, the different markets available to source that coverage, and the different premium costs associated with coverage in those different markets. In addition, SP AusNet notes that it also sought information from Marsh in relation to the liquidity of the overall market for insurance, up to, this limit. In short, Marsh has indicated that the market for insurance up to this limit is considered liquid. This is outlined in supporting documentation to this Revised Proposal.

Additionally, SP AusNet notes that there is no double counting between this increased external insurance coverage, and SP AusNet's proposed cost pass through event provision for an 'Insurance Event'. In fact, SP AusNet considers that they will actually work in tandem to ensure that SP AusNet adopts the most efficient risk management approach – such that Clause 6.5.6 (c) of the NERs is achieved. More specifically, the efficient mix of risk mitigation mechanisms / products will be a function of, amongst other things, the:

- Liquidity of the market for insuring that risk;
- Whether that risk is specific to the business, or is common across multiple businesses; and
- The probability distribution of outcomes associated with that risk (ie: mean, standard deviation).

More specifically, SP AusNet notes that for risks that are borne by numerous businesses, insurers generally have the benefit of being able to pool risks across different:

- Asset bases (eg: younger networks, older networks, underground networks);
- Geographic areas (eg: urban, rural, CBD); and
- Jurisdictions (eg: Victoria, Australia, USA, UK).

Where coverage is sought above a reasonable deductible level (reflecting the moral hazard risk), and where the market for external insurance is liquid, then the pooling benefits outlined above generally result in external insurance being the most efficient mechanism for managing such risks, relative to other options such as the inclusion of a self insurance quantification or a cost pass through mechanism. SP AusNet considers this to be the case for its proposed increase in liability premiums, particularly given Marsh's observations that the market for taking on these

levels of risk is liquid; with the cost pass through mechanism providing the most efficient risk mitigation mechanism for coverage beyond this insurance limit, as the insurance market is less liquid, and therefore, likely to be less reflective of the efficient underlying costs associated with that risk.

The following table outlines the cost of additional liability insurance premiums that SP AusNet has included in this Revised Proposal.

Table 7.15: Additional Insurance Coverage

(\$2010M)	2011	2012	2013	2014	2015
Additional Insurance Coverage	2.38	2.38	2.38	2.38	2.38

Source: *Opex Step Change_FINAL.xls*

7.6.13 Hazardous Trees

As outlined in the Draft Determination, SP AusNet considers that there are net benefits to its customers and the broader community from it spending \$22.00 million (real 2010) to address an increasing bushfire risk profile by reducing the number of tree related incidents from 17 per annum to 10 per annum.

More specifically, SP AusNet stated that¹⁷²:

“Whilst legislation in Victoria prescribes minimum clearance distances for vegetation to powerlines, SP AusNet proposes to address an increasing bushfire risk profile by reducing the number of tree related incidents from 17 per annum to 10. This will be achieved using a risk based approach toward targeted removal of high risk vegetation outside the clearance space in high bushfire risk areas. The complex nature of required consultation will necessitate the enhanced safety program being run over three HBRA cycles, which are generally two years in duration.

Efficiency metrics established for this program would limit the cost of cutting per span to less than the financing cost for a network augmentation alternative and the annual program cost to less than \$5.67M (7incidents x \$810k/incident) per annum to maintain a long run average of 10 incidents per annum”.

The estimated cost for addressing 5,000 hazard trees per annum as part of the enhanced safety program is \$3.94M per annum”.

SP AusNet proposed this program as the benefits to the community from reducing tree related incidents from 17 to 10 (7 incidents x \$810k/incident = \$5.67M) outweighed the costs (\$3.94m).

Notwithstanding the fact that this program was premised on delivering net benefits to the community, not on meeting a defined regulatory obligation, the AER stated that it¹⁷³:

“recognises the importance of bushfire mitigation but considers that it would not be prudent to approve additional opex for these proposals until the VBRC’s recommendations, and the Victorian Government’s response to those recommendations, are released”.

¹⁷² Appendix I - Incremental Opex impact to 2009 Base Year, p. 22.

¹⁷³ AER Draft Determination, p. 184.

Other key points that the AER makes in their Draft Determination are that¹⁷⁴:

“SP AusNet has, as part of its justification for this proposal, provided an estimate of the societal risk per tree related fire incident. The AER considers that, at this time, this information may be of more use as an input to the Victorian Government’s deliberations on, and response to, the VBRC’s final recommendations”.

“The Victorian DNSPs may seek the approval of the AER to pass through to distribution network users a positive pass through amount should their costs increase because of new regulatory obligations arising from the VBRC’s final recommendations and the Victorian Government’s decisions in response to the recommendations”.

“The AER notes that this draft decision does not preclude the DNSPs from undertaking the proposed programs through self financing arrangements should they determine it is in their commercial interest to do so. However, the AER notes that any business process improvements which result in lower costs will be self financing as the net costs should be expected to be less than those reflected in the revenue requirement”.

Consistent with the AER’s statements, SP AusNet’s proactive approach has in fact been recognised by the 2009 Victorian Bushfire Royal Commission, as evidenced in a communication to the industry that says¹⁷⁵:

‘Given the evidence before the Commission that a high proportion of electricity-related fire starts occur from trees outside the regulated clearance zone contacting power lines, the Commission is considering making recommendations addressing this issue. The Commission will consider, in the course of its deliberations for the Final Report, making a recommendation in the following terms:

(a) The State of Victoria should amend the Electricity Safety (Electric Line Clearance) Regulations 2010 (Vic) and Code of Practice for Electric Line Clearance (if passed in a similar form to the proposed regulations) to require distribution businesses to implement hazardous tree programs similar to those initiated voluntarily by SP AusNet.’

However, it is noted that SP AusNet has been a member of the Electric Lines Clearance Consultative Committee (ELCCC), which has previously reviewed options to included prescriptive requirements for management of vegetation outside the clearance space. To date, this has been problematic in so far as a prescriptive approach to establishing greater regulated clearance spaces that are applied universally will have unacceptable outcomes from a community and local council perspective. Accordingly, SP AusNet considers the proposed review of legislation regarding management of vegetation adjacent to distribution assets will rely on the adoption of risk based methodologies, similar to that used under the Electricity Safety Management Scheme (ESMS).

In summary, SP AusNet acknowledges and is supportive of the AER’s draft decision with regards to being able to pass through cost increases that result from the imposition of any new regulatory obligations arising from the VBRC’s final recommendations and the Victorian Government’s decisions in response to the recommendations. However, as stated in previous sections, SP AusNet considers that VBRC does not constrain the AER’s decision on this proposed step change under the NER and NEL, as these expenditures are premised on providing net benefits to the community. If, subsequent to this, the VBRC imposes additional obligations causing

¹⁷⁴ Ibid.

¹⁷⁵ Email, Corrs Chamber Wesgarth, *Unclassified: 2009 Victorian Bushfires Royal Commission – Electric Line Clearance and Hazard Trees*, 28 May 2010.

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increased expenditure over the AER's allowance, then this will form the basis of any future cost pass through application.

SP AusNet also notes that this view is consistent with that held by NERA, who were engaged to, amongst other things, assess the extent to which the AER's revealed costs methodology for determining forward looking opex allowances is consistent with the economic provisions of the opex expenditure assessment rules. In relation to the Hazardous Tress Step Change, NERA stated that:

"This aspect of the AER's draft determination clearly illustrates that the practical application of its "step change" framework involves a much narrower set of considerations than are suggested by the AER's own description of the principles on which it is based. In our opinion, the AER's apparent refusal to contemplate increased expenditure to address heightened risks and/or consequences of bushfires unless or until such measures are imposed on DNSP's is an inconsistent and overly narrow interpretation of both the opex objectives, criteria and factors set out in the NER as well as of its own framework developed by reference to the NER requirements...."

On its own stated principle that step changes include "a change in operating environment", it is not apparent to us why the AER was unprepared in its draft decision to undertake an assessment of SP AusNet's proposed response to perceived increases in the risk and/or consequences of bushfires".¹⁷⁶

In addition, with regards to the comments on self financing contained within the Draft Determination, SP AusNet notes that this step change does not provide any material reductions in costs, or improvements in reliability, as the focus of this program is in rural areas, where limited USAIDI benefits accrue (because of the relatively low customer density).

Given that the AER has not considered any of the detailed quantifications in support of SP AusNet's Original Proposal, SP AusNet proposes to refer the AER back to its original justification for including this step change that accompanied its Original Proposal¹⁷⁷, including all supporting spreadsheets and calculations of both costs and societal benefits.

Table 7.16: Hazardous Trees

(\$2010M)	2011	2012	2013	2014	2015
Hazardous Trees	4.17	4.25	4.39	4.53	4.65

Source: Opex Step Change_FINAL.xls

7.6.14 PSAIDI

SP AusNet is disappointed that the AER has not only rejected this step change but also that the reasons that the AER provided in its Draft Determination did not address the key rationale that SP AusNet provided in support of the inclusion of this step change.

¹⁷⁶ NERA – AER Draft Decision on Opex and Capex Allowance – A Report for SP AusNet p.20.

¹⁷⁷ Appendix I - Incremental Opex impact to 2009 Base Year, p. 46.

When discussing SP AusNet's Original Proposal the AER stated in its Draft Determination that:

"In terms of the planned service target performance incentive scheme (PSAIDI) reduction, the AER notes that the PSAIDI target referred to in SP AusNet's regulatory proposal is an aspirational target that was set by the ESCV in the EDPR 2006–10.

Given the aspirational nature of this target, the AER considers that this proposal is not a step change as it is not based on a new or changed regulatory obligation or requirement.....

While not providing SP AusNet funding directly through its proposed planned SAIDI step change, the AER notes that SP AusNet will be provided with additional funding for continuing its existing work practices through scale escalation—see appendix J.

This scaling factor will be applied to SP AusNet's base line operating costs in recognition of the (capex) augmentation that it intends to undertake in the forthcoming regulatory control period.

For the reasons discussed above, and based on the information presented to the AER and its own analysis, the AER considers that it is not reasonable for the planned SAIDI reduction project to be included in SP AusNet's proposed step changes."¹⁷⁸

SP AusNet considers the above discussion contained in the AER's Draft Determination fails to reasonably consider the reasons and analysis SP AusNet provided the AER in support of this step change. Whilst the AER focused only on this being an "aspirational target", SP AusNet in fact proposed this step change as there are considered to be net benefits to its customers from reducing PSAIDI. In support, SP AusNet points to the following statements in its detailed step change support document:

"Based upon SP AusNet's current forecast for network capital investment 2011-2015 to be a real increase of 30% on the current period it is estimated that this would equate to an estimated further increase of 30 minutes in PSAIDI.

With PSAIDI currently at 65 minutes, this would equate to a PSAIDI of 95 minutes over the 2011-2015 period. For SP AusNet to achieve the regulatory target of 34 minutes, an equivalent reduction of 61 PSAIDI minutes is required.

With a current customer base of 610,000 customers, a 61 minute PSAIDI reduction would equate to approximately 37,210,000 customer minutes. Assuming the average planned interruption durations of 300 minutes where portable generation would be utilised, this equates to 124,033 customer interruptions per annum. Using this customer interruptions number and an average customer after diversity maximum demand of 3kW10, this implies a total 372MW of portable generation capacity that is required to be hired and installed during planned interruptions of the network. At a current average cost for a 500kVA generator hire and set up of \$5,300, this equates to \$3.94M per annum to reduce PSAIDI by 61 minutes.

From a societal cost perspective the volume of annual lost load equates to 930MWhrs assuming an average load of 1.5kW per customer. The Value of Customer Reliability (VCR), that values the cost to customers for unplanned interruptions, is currently \$47.850 (plus CPI from 2008)/MWhr. Using the former Essential Services Commission weighting of VCR for planned and un-planned interruptions for the 2001-2005 s-factor mechanism indicates planned interruptions are 38% of un-planned. Accordingly, the annual VCR to customers for planned interruptions in excess of the regulatory target are forecast to be

¹⁷⁸ Ibid, p. 235.

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\$19.4M per annum which exceeds the proposed cost for generator hire to meet the regulated customer service target.”¹⁷⁹

Moreover, SP AusNet assumes that the AER was cognisant of its underlying justification for this step change during the review process, as SP AusNet twice provided further information in support of the benefits underpinning this step change calculation after its Original Proposal^{180, 181}. The second time was in response to the following question:

“Has SP AusNet undertaken analysis on customers willingness to pay for the potential improvement in planned SAIDI? If so, please provide”

In answering this question on PSAIDI, SP AusNet’s response referenced, amongst other things, the use of the CRA study to support its quantification (“*SP AusNet has not, itself, undertaken a detailed customer willingness to pay for the potential improvement in planned SAIDI. Rather, it has relied on the CRA study – “Assessment of the Value of Customer Reliability (VCR)” – which is used throughout the industry to determine the value that customers place on reliability, in combination with the ESCV’s 38% weighting for ‘planned’ interruptions*”). In addition to this qualitative answer, SP AusNet provided additional details on the calculation of the customer benefits to the AER (‘PSAIDI Calculation.xls’). This detailed calculation differed slightly to SP AusNet’s original quantification, based on an alternative calculation methodology that was in fact, suggested by the AER. This was also outlined in this response:

“SPA has recalculated the VCR as suggested by the AER using actual customer interruption duration and the weighted volume of residential and small commercial customers to derive a VCR of \$19,720/MWHR as opposed to the industry average of \$47,850/MWHR. Application of the new VCR in combination with the ESCV 38% weighting for ‘planned’ interruptions, provides an annual customer benefit of $930MW \times \$14,290 = \$13.3M$ p.a. This value still exceeds the portable generation cost of \$3.94M p.a.”¹⁸²

Given that the AER’s rationale to reject this step change fails to take into consideration the key underlying driver for this step change, SP AusNet does not accept the AER’s Draft Determination. Instead, SP AusNet requests that the AER consider the detailed information that SP AusNet has already provided it – both in the Original Proposal, and in the response to the follow up questions asked of it by the AER – to determine whether there are net benefits to SP AusNet’s customers, and make a decision based on this analysis. A failure to do so will, in SP AusNet’s view, lead to an unreasonable outcome.

Finally, as stated in previous sections, SP AusNet considers that despite the operating expenditure objectives outlined in Clause 6.5.6(a) of the NER being prefaced on a ‘maintain’ case, the overarching objective of the NEL, along with the Revenue and Pricing Principles outlined in the NEL, requires the AER to ‘promote efficient investment in’ the electricity system. As this proposed expenditure leads to significant net benefits to the community, SP AusNet considers that this proposed expenditure is consistent with the overarching NEO and should reasonably be preferred by the AER. The inclusion of such expenditure is consistent with the criteria upheld by the ACT when assessing step changes as part of the EnergyAustralia decision.

¹⁷⁹ Appendix I - Incremental Opex impact to 2009 Base Year, p. 46.

¹⁸⁰ Q&A Response - Opex Step Change 050210.doc.

¹⁸¹ Q&A Response - PSAIDI 25022010.

¹⁸² Ibid.

Table 7.17: PSAIDI

(\$2010M)	2011	2012	2013	2014	2015
PSAIDI	4.17	4.25	4.39	4.53	4.65

Source: *Opex Step Change_FINAL.xls*

7.6.15 Vegetation Management – Incremental Growth

SP AusNet’s “Vegetation Management – Incremental Growth” step change involved spending an additional \$8.8m over the regulatory control period to increase the volume of immature tree species along powerline easements that it negotiates with land owners to remove. In support, SP AusNet’s noted that its modelling showed that this approach to vegetation management has the lowest NPV of costs in the long term, and therefore, is consistent with the Clause 6.5.6(c)(1) of the NER to adopt programs that represent ‘the efficient costs of achieving the operating expenditure objectives’. It is also noted SP AusNet provided the AER with the opportunity to come to its offices to review the model underlying its calculations¹⁸³.

The AER has not provided SP AusNet with detailed reasons for its decision, beyond a summary description on page 233. It is noted that in subsequent correspondence, the AER stated that incremental growth of vegetation management was discussed in page 233 and 234 of Appendix L of the Draft Determination. Specifically, the AER stated¹⁸⁴:

"The AER considers that these proposals are not step changes as SP AusNet has not demonstrated that these proposals are linked to a new or changed regulatory obligation or requirement. The AER notes that SP AusNet's regulatory proposal explicitly states that these proposals are being driven by its desire to 'enhance' outcomes."

Given the above statements, it appears that the AER has inadvertently misinterpreted this proposed step change. In particular, this step change was not proposed to “enhance outcomes” – in the context of delivering higher levels of service – rather, this step change was proposed as it was considered to be consistent with Clause 6.5.6(c)(1) of the NER to adopt programs that represent ‘the efficient costs of achieving the operating expenditure objectives’. This was supported by the results of the NPV analysis that were included in SP AusNet Original Proposal.¹⁸⁵ It is further noted that this increased expenditure was not incorporated into SP AusNet’s scale escalation modelling.

Furthermore, SP AusNet reiterates the discussion from previous sections, namely, that if a proposed opex expenditure delivers opex efficiency benefits in future regulatory control periods – which this Step Change clearly does – then future opex forecasts and the scale escalators applied to those opex forecasts will, by definition, factor this into their Proposals, as the AER must assess the prudence and efficiency of operating expenditure each regulatory re-set period.

¹⁸³ Q&A Response - Opex Step Change 050210.doc.

¹⁸⁴ Email from Paul Dunn to Thomas Hallam, SP AusNet on 21/06/2010 04:11 PM.

¹⁸⁵ Appendix I - Incremental Opex impact to 2009 Base Year, p. 46.

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As such, SP AusNet does not accept the AER’s Draft Determination, and instead, re-submits its Original Proposal for this step change, and refers the AER to all its original supporting documentation for further review. Again, SP AusNet would seek the opportunity to take the AER through the detailed model that supports this calculation.

Table 7.18: Vegetation Management – Incremental Growth

(\$2010M)	2011	2012	2013	2014	2015
Vegetation Management – Incremental Growth	2.65	3.24	1.45	0.81	0.71

Source: Opex Step Change_FINAL.xls

7.6.16 National Energy Customer Framework (NECF)

The AER’s Draft Determination rejects SP AusNet’s additional expenditure requirements associated with the development of the NECF.

In particular, the AER’s Draft Determination states that:

“It considers that participating in the development of policy and regulations, in this case the NECF, is part of the normal ongoing operation of a prudent and efficient DNSP. The AER therefore considers that this proposal should already be part of SP AusNet’s ongoing opex and that it is not reasonable for this project to be included in SP AusNet’s proposed step changes”.

Firstly, as outlined in its Original Proposal, the primary driver for this step change is to contribute to the development and finalisation of the transitional arrangements in support of the NECF, not the NECF itself.

In addition, whilst SP AusNet agrees with the concept that participating in the development of policy and regulations is generally part of normal on-going operation, it notes that this step change is premised on the fact that policy / regulation changes of the scale of the NECF and their subsequent transitional arrangements are in fact, non-recurrent; that is, they are not normal, ongoing operations of a prudent and efficient DNSP. It would be inefficient (not to mention contrary to the achievement of the NEO) for SP AusNet to resource up to cater for these types of policy/regulation changes that are abnormal events in both scope and timing.

If the AER retains its existing approach as per the Draft Determination, businesses will be incentivised to resource up to cater for non-recurrent events that may only come along every 5 or 10 years, as this becomes the only means by which they can recover the costs associated with such activities. As such, SP AusNet considers that the AER’s Draft Determination is inconsistent with both the NER, namely Clause 6.5.6(c)(1) and (2), and the NEL, namely Section 7A(3).

Therefore, SP AusNet does not accept the AER’s Draft Decision in relation to this step change, and consequently, re-submits its original step change.

Table 7.19: NECF

(\$2010M)	2011	2012	2013	2014	2015
NECF	0.16	0.17	0.00	0.00	0.00

Source: Opex Step Change_FINAL.xls

7.6.17 Power Cable Test Program

The AER has not provided any details of or reasons for this step change in their Draft Determination, beyond a summary description on page 232. Consequently, the AER does not appear to have outlined any reasons as to why this step change has been rejected. As such, SP AusNet is not in a position to critique the AER's analysis or rationale in support of the AER's decision, except to submit that this failure to provide SP AusNet with adequate reasons for its decision is unreasonable and accordingly, SP AusNet is not aware of the material issues considered by the AER in reaching its decision in relation to this issue.

Notwithstanding this, SP AusNet reiterates the key points from its Original Proposal and subsequent documentation that:

- There has been an increasing failure rate of underground power cables;
- SP AusNet's commitment to undertake this program is demonstrated by the fact that it has already purchased equipment to undertake these tests; and
- This will lead to the more efficient management of these assets in the long term. In particular, energy at risk and health and safety risks are key drivers of SP AusNet asset replacement programs.

In relation to the last point, SP AusNet stated, in its response to the AER's questions on its step changes¹⁸⁶, that:

"In summary, this will lead to the more efficient management of these assets in the long term. In particular, energy at risk and health and safety risks are key drivers of SP AusNet's asset replacement programs. A key component underpinning the derivation of the costs associated with these risks is the probability of failure. By being able to more accurately forecast long-term asset condition and remaining life, replacement decisions can evolve from what is currently a 'Rule of Thumb' approach, based on generic industry data (eg: international data on failure rates from similar assets), to focus more on the condition and performance of that specific asset. Relative to the current (or 'do nothing') case, asset lives may be extended beyond the existing 'rule of thumb', or conversely, shortened, depending on the actual condition of the asset. Either outcome will, when based on the more granular, asset specific condition data attained through this process, lead to lower long term costs to the community. In the case of the former, this benefit manifests itself through the time value of money benefit from delaying the replacement of these assets, in the case of the latter, the lower energy at risk and health and safety risks".

This concept – that opex expenditure in one period can lead to long term efficient outcomes by allowing businesses to develop more efficient replacement programs for these assets in the long

¹⁸⁶ Q&A Response - Opex Step Change 050210.doc.

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term – is fundamentally important in the assessment of step changes such as this. This relates back to SP AusNet's issue of self financing, and the inability of a business under the current regulatory regime to recover any increased opex expenditure, over and above its allowance, that delivers more efficient capex programs in future regulatory periods.

Notwithstanding the above, SP AusNet acknowledges the AER and Nuttall Consulting's reference to the need to undertake further quantitative analysis on step changes such as this to more clearly demonstrate that a prudent and efficient DNSP would in fact undertake that expenditure.

SP AusNet notes that it is difficult to accurately forecast the specific benefits that are expected to result from such a program, as the information gleaned from the testing program will, in effect, define the scope and magnitude of the benefits. As such, unless the results of other similar studies¹⁸⁷ can be utilised, it is inappropriate to base any benefits case solely on second guessing the exact information that will be gleaned from the testing program.

In situations such as this where the benefits are a function of the data that is ascertained from the program itself, a common economic approach is to test the magnitude of the benefits that would need to accrue for the program to at least breakeven. This breakeven point then allows a qualitative assessment to then be used to assess whether that investment is reasonably likely to be efficient. Intuitively, this approach will show that an opex program dedicated to ascertaining more relevant and pertinent information on an asset / asset class' condition for use in designing more efficient replacement programs for that asset will be more beneficial the:

- More of those assets that a business has;
- Closer the fleet of assets are, on average, to the end of their expected life;
- The smaller the change in the economic life required to make that expenditure breakeven; or
- Larger the value of those assets.

To assess this, SP AusNet's analysis first involved developing a Base Case that reflected the expected replacement program for underground cables over a 40 year period. Subsequently, SP AusNet assessed the extent to which that replacement program would need to change in order to make the NPV of that capital deferment exceed the NPV of the opex costs to undertake the test program. In summary, the analysis shows that undertaking a long term cable test program would at least break even under the most conservative of assumptions. For example, the program would more than break even when:

- Up to 6% of cables being replaced in any one year by 2045, which is consistent with the expected age based replacement profile for this asset class;
- Deferrals of that base case only commencing in 2030; and
- Only 12% of the cable value in that year being deferred for one year.

The results of this analysis show that:

- NPV Benefits: \$3.68m; and
- NPV Costs: \$3.51m.

¹⁸⁷ SP AusNet is unaware of any similar work being undertaken in other jurisdictions, or for other like industries.

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It is noted that the NPV of costs represents SP AusNet’s step change costs, extended out for 40 years.

In conclusions, SP AusNet is confident that these are very conservative assumptions, given the: back-ending of the assumed deferrals to 2030; the low deferral period (only one year); and the low deferral success rate (12% of all cables due for replacement in that year).

As such, SP AusNet considers it is reasonable to assume that expenditure on this project would lead to long term least cost outcomes to SP AusNet’s customers, and therefore, this expenditure reasonably reflects the level of expenditure that prudent and efficient DNSP would incur, as required by Clause 6.5.6(c)(1) and (2) of the NERs.

Moreover, this is further reinforced by the fact that SP AusNet has already shown its commitment to undertaking the program by purchasing the testing equipment.

As noted in previous sections, this expenditure is not self financing, given that the driver of such expenditure is to allow more efficient forward looking capital expenditure programs to be developed, which in turn, flows through as a benefit to customers.

Table 7.20: Power Cable Test Program

(\$2010M)	2011	2012	2013	2014	2015
Power Cable Test Program	0.49	0.50	0.34	0.17	0.18

Source: Opex Step Change_FINAL.xls

7.6.18 Condition Monitoring

The AER has rejected SP AusNet’s proposed step change in relation to ramping up its current condition monitoring program. The AER states, amongst other things that:¹⁸⁸

“Condition monitoring—forecast \$5.4 million (\$2010) to enhance its asset condition monitoring and to improve safety, reduce failure risk and more reliably forecast timely asset replacement requirements”

With regards to their detailed review, the AER states that¹⁸⁹:

“the AER sought advice from Nuttall Consulting. Nuttall Consulting found that...with respect to condition monitoring, one of the key outcomes of this proposal would be that SP AusNet improved its knowledge of the condition of its assets. It noted that this should result in reduced asset failures and/or life extension, reduced outages and associated fault and maintenance expenditures. Nuttall Consulting concluded that the lack of any quantitative benefits associated with this proposal was not reasonable and that SP AusNet had not demonstrated its proposal was prudent and efficient”

The AER goes on to state that¹⁹⁰:

¹⁸⁸ Appendix L—Operating Expenditure Step Change. p. 233.

¹⁸⁹ Ibid, p. 236

¹⁹⁰ Ibid.

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“The AER agrees with Nuttall Consulting’s review of SP AusNet’s condition monitoring and power transformer refurbishment proposals. The AER further notes that any business process improvements which result in lower costs will be self financing as the net costs should be expected to be less than those reflected in the revenue requirement. In addition, the AER considers that SP AusNet has not demonstrated that these proposals are linked to a new or changed regulatory obligation or requirement”

Finally, the AER states that¹⁹¹:

“More broadly, the AER notes that the NER requires the AER to have regard to the benchmark expenditure that would be incurred by an efficient DNSP over the regulatory control period. The AER also notes that no other Victorian DNSP has sought, as part of its regulatory proposal for the forthcoming regulatory control period, approval for step changes of the type described above. The AER therefore considers that it is not reasonable for these projects to be included in SP AusNet’s proposed step changes and has therefore excluded them”.

SP AusNet’ considers the AER’s rationale for rejecting this step change as flawed, for the following reasons:

- SP AusNet reiterates that by implementing the condition monitoring, SP AusNet will derive a far better understanding of the condition of each assessed asset component, which will enable it to make even more informed decisions regarding short term overloading and allowable operating temperatures than it does now. This is expected to lead to the deferment of replacement capital expenditure for the affected assets (ie: Transformers, Circuit Breakers, Instrument Transformers);
- However, SP AusNet accepts the AER’s position that SP AusNet needs to more clearly demonstrate the quantitative benefits associated with this proposed step change, and as such, it provides additional analysis for the AER’s consideration (see below);
- SP AusNet considers that the AER’s proposition that businesses will ‘self fund’ expenditure that is driven by the desire to deliver more efficient capital expenditure programs in future periods, is in fact, inconsistent with the current regulatory regime. In particular, it is directly inconsistent with several of the outcomes expressly stated in the NEL as forming part of the achievement of the NEO. This has been discussed in detail in previous sections; and
- The reference to the fact that *‘no other Victorian DNSP has sought....approval for s of the type described above.. as part of its regulatory proposal for the forthcoming regulatory control period... therefore considers that it is not reasonable for these projects to be included in SP AusNet’s proposed step changes’* is a prima facie form of benchmarking. However, to be effectively considered by the AER under Clause 6.5.6 (e)(4) of the NERs, SP AusNet considers that the AER would also need to thoroughly understand each business’:
 - Current expenditure on this program that is in turn included in their Base Year; and

¹⁹¹ Ibid, pp. 236-237.

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- The extent to which each business would benefit from changing their expenditure on a program such as this, which, will vary across businesses depending on the age profile of their assets, their existing failure rates, the numbers of assets, etc.
- Without the above benchmarking features being met, the inclusion or otherwise of similar features in other submissions is, and should be, wholly irrelevant to the AER's reasonable consideration of SP AusNet's proposal.

In relation to the need to undertake more quantitative analysis, SP AusNet undertook similar analysis as was undertaken for the 'Power Cable Test Program' step change. In particular, SP AusNet has further analysed the point at which its Condition Monitoring program will breakeven. It is noted that this analysis has been combined with the Transformer Refurbishment program (see next step change), to demonstrate the efficiency of both of those programs in combination. This is because both programs work in unison to deliver some benefits, namely, those related to Transformers, although it is noted that the Condition Monitoring program also delivers substantial other benefits, including to Circuit Breakers and Instrument Transformers.

The results of this analysis show that the Condition Monitoring Program, in conjunction with the Transformer Refurbishment Program, has:

- NPV Benefits: \$8,9M; and
- NPV Costs: \$6,9M (both Condition Monitoring and Transformer Refurbishment).

The assumptions underpinning the benefits calculation above are that the:

- Mean cost per item of equipment is: Transformers (\$1.1m); Circuit Breaker (\$149k) and Instrument Transformers (\$81k);
- Number of items of equipment assumed to be replaced in 2016-2020 regulatory control period (assumed 2018 replacement year) is: Transformers (42); Circuit Breaker (122) and Instrument Transformers (40); with these being based on SP AusNet's risk models that in turn supported its Original Proposal;
- Mean deferment period is: Transformers (6 years); Circuit Breaker (3 years) and Instrument Transformers (3 years); which are based on ½ of the standard deviation of the expected service life of these assets, as outlined in SP AusNet's AMS 20-01 and asset management strategies for these assets;
- Proportion of deferments around the mean is: -2 years (10%); -1 year (10%); mean (50%); +1 year (10%); +2 years (20%); no deferment (10%);
- WACC: 7.5%; and
- The assessment of benefits is only limited to the 2016-2020 regulatory control period, therefore, the additional, longer term benefits that are expected to accrue from these programs have not been included. Therefore, the above benefits quantification will underestimate the actual long terms benefits of the programs.

SP AusNet undertook the following sensitivity testing on the benefits case:

Figure 3: Modelling Outcomes ('000s \$2010)

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Expected Outcome	2018	2020
Tfr - 6 years	6,972.67	6,033.68
CB - 3 years	1,610.05	1,393.23
Int Tfr - 3 yrs	293.08	253.61
	8,875.80	7,680.52
Low Outcome	2018	2020
Tfr - 4 years	4,959.25	4,291.40
CB -2 years	1,104.36	955.64
Int Tfr - 2 yrs	201.99	175.92
	6,265.60	5,422.96
High Outcome	2018	2020
Tfr - 7 years	7,875.29	6,814.75
CB -4 years	2,080.46	1,800.29
Int Tfr - 4 yrs	378.74	327.74
	10,334.50	8,942.78

Source: Opex Step Change - Trans Refurbishment NPVVersion2.xls

*The years mentioned in the above table reflects the mean deferment period modelled.

As can be seen, SP AusNet's expected case is \$8.9M, relative to the NPV of costs of \$6.9M. Net benefits are still attained, even when the average replacement year is assumed to be at the end of the next regulatory control period (2020). Moreover, even if a very conservative deferment period (Low Outcome) is assumed, with the same distribution around that mean deferment period, the net benefits would only be \$600k less than the net costs. Given that the information garnered from the condition monitoring program provides benefits in perpetuity, the longer term benefits (beyond the 2016-2020 regulatory control period) associated with undertaking these programs are, on the balance of probabilities, likely to lead to net benefits to SP AusNet's customers, even under these very conservative deferment period assumptions. It is also noted that the high outcomes clearly demonstrate that there are net benefits associated within undertaking the program.

These results are outlined in a spreadsheet accompanying this Revised Proposal.

SP AusNet considers that the above results clearly demonstrate that even utilising very conservative assumptions, these programs are expected to at least breakeven, and therefore, it is reasonable to expect that additional opex to enhance its condition monitoring program, in conjunction with its transformer refurbishment program, will be efficient. Therefore, SP AusNet considers it reasonable to assume that expenditure on this project would lead to the delivery of long term least cost solutions to SP AusNet's customers, and therefore, this expenditure is prudent and efficient as required by Clause 6.5.6(c)(1) and (2) of the NERs.

Table 7.21: Condition Monitoring

(\$2010M)	2011	2012	2013	2014	2015
Condition Monitoring	1.12	1.21	1.18	1.21	1.24

Source: Opex Step Change_FINAL.xls

7.6.19 Power Transformer Refurbishment

The AER rejected SP AusNet proposed Power Transformer Refurbishment step change on the same basis as it rejected SP AusNet's Condition Monitoring Program.

As such, SP AusNet reiterates the points that it made in the previous section on Condition Monitoring.

Furthermore, SP AusNet has undertaken further quantitative analysis on this proposed step change – using the same methodology deployed for the Condition Monitoring Program.

The results of this analysis are outlined in the previous section.

As stated previously, SP AusNet considers that the above results clearly demonstrate that even under the most conservative of assumptions, these programs will breakeven, and therefore, it is reasonable to expect that additional opex to enhance its power transformer refurbishment program, in conjunction with its condition monitoring program, will be efficient. Therefore, SP AusNet considers it reasonable to assume that expenditure on this project would lead to the deliver of long term least cost solutions to SP AusNet's customers, and therefore, this expenditure is prudent and efficient as required by Clause 6.5.6(c)(1) and (2) of the NERs.

Table 7.22: Power Transformer Refurbishment

(\$2010M)	2011	2012	2013	2014	2015
Power Transformer Refurbishment	1.22	0.84	0.78	0.68	0.67

Source: Opex Step Change_FINAL.xls

7.6.20 Substation Earthing Systems

The AER has rejected SP AusNet's proposed step change related to Substation Earthing Systems. This proposed expenditure involved:

- Resurfacing being carried out in the switchyards of six substations.
- The earth grid current injection programme being enhanced in order to complete all zone substations by 2015.

As stated in SP AusNet's Original Proposal¹⁹²:

"Over time soil and fine material can build up in the surface allowing weeds to invade. This process degrades the electrical performance of the surface layer. In stations that have high fault levels and/or poor earth grid performance, this can increase the electrocution hazard to unacceptable levels."

SP AusNet went on to state that¹⁹³:

"The condition of a number of zone substation switchyard surfaces has degraded over time to an extent where a resurfacing programme needs be implemented to ensure surfaces meet current industry safety standards for step and touch potential."

In rejecting this proposed step change, the AER states that¹⁹⁴:

"...the AER considers that the proposed step change regarding substation earthing systems does not represent a change in SP AusNet's operating environment."

Accordingly, the AER considers switchyard resurfacing and earth grid testing to be part of the normal ongoing operation of a prudent and efficient DNSP. As this expenditure is not a step change, it should already be included in SP AusNet's base opex".

SP AusNet reiterates that a substantial component of this step change is a non-recurrent opex item – it reflects the fact that the timing of the expenditure is a function of the underlying degradation in the earthing system. This degradation does not miraculously coincide with the Base Year of a regulatory period – rather, it occurs over a long period of time – around 30 years – therefore, to assume that an opex cost such as this will in fact be recurrent, and therefore in the Base Year, is incorrect.

With regards to injection testing, SP AusNet's refers the AER back to a statement in its Original Proposal that stated that¹⁹⁵:

"Recently, ESV, through the Blue Book forum, has requested electricity generation, transmission and distribution utilities in Victoria to regularly confirm the integrity of their installed earthing systems with respect to electrical safety. SP AusNet has implemented an earth grid current injection programme to address this requirement and plans to complete this programme in all zone substations by 2015. Five zone substations (including three in 2009) have already had this testing completed and it is planned to do a further three during 2010. As the testing will be included in the proposed rebuild works for seven zone substations, this will leave 40 stations to test between 2011 and 2015."

In addition, SP AusNet noted the following in its response to the AER's questions on step changes¹⁹⁶:

"Consistent with the requirements of the Electricity Safety (Network Assets) Regulations 1999 to undertake these inspections and tests at least every 10 years, five zone substations (including three in 2009) have already had this testing completed and it is planned to do a further three during 2010".

¹⁹² Appendix I - Incremental Opex impact to 2009 Base Year, p. 36.

¹⁹³ Ibid.

¹⁹⁴ Appendix L — Operating Expenditure Step Change, p. 236.

¹⁹⁵ OpCit, p. 36.

¹⁹⁶ Q&A Response – Opex Step Change 050210.doc

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Having regard to the above information, SP AusNet does not accept the AER's Draft Determination for the following reasons:

- Whilst there is not an explicit change in the regulatory requirements, the Regulations require such tests to be done every 10 years. As such, there is a disconnect between the timing required by the Regulations and the length of the regulatory period, which results in this program of works being non-recurrent in nature.
- Further reinforcing the above is the change in interpretation of those Regulations by ESV, which reinforces the need for SP AusNet to incur costs to undertake these works to meet existing regulatory requirements.
- SP AusNet has demonstrated its willingness to adopt an efficient expenditure program by incurring costs associated with a portion of this program in its 2009 Base Year already (which, it notes, have been excluded from SP AusNet's proposed step change expenditure); and
- SP AusNet's expenditure program has been designed to comply with the Regulations and to meet the ESV's requirements in the most efficient way possible. As explained in previous sections, if the AER's proposed approach to assessing step changes were to be adopted, businesses would be incentivised in future periods to only ever undertake work such as this in their Base Year, in order to ensure that they actually get funded for completing works that are required in order to comply with its existing regulatory obligations. Clearly, this approach would not achieve the NEO.

Table 7.23: Substation Earthing Systems

(\$2010M)	2011	2012	2013	2014	2015
Substation Earthing Systems	0.30	0.19	0.20	0.20	0.20

Source: Opex Step Change_FINAL.xls

7.6.21 Substation Site Clean Up

The AER has rejected SP AusNet's proposed expenditure to retire assets and clean up sites to maintain adequate environmental and safety standards at zone substations that are expected to be made redundant over the forthcoming regulatory control period.

In rejecting this proposal, the AER states that it¹⁹⁷:

“considers that the substation site clean-up works proposal is not a step change as SP AusNet has been unable to demonstrate that its proposal is linked to a new or changed regulatory obligation. In response to an information request by the AER, SP AusNet cited ESMS safety requirements, EPA requirements and contractual conditions as drivers for this proposal. The AER notes that SP AusNet has been unable to demonstrate to the AER's satisfaction that either the Electricity Safety Act 1998 or the Electricity Safety

¹⁹⁷ Appendix L – Operating Expenditure Step Change, p. 235.

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(Management) Regulations 2009 explicitly apply to this proposed step change. SP AusNet has also been unable to demonstrate to the AER's satisfaction that any obligations under the Environment Protection Act 1970, such as the treatment of contaminated soil, are new requirements. The AER also notes that contractual obligations are not a driver for a step change".

SP AusNet considers that the AER has made a material error in interpreting the NERs and the NEL in such a way that for this step change to be approved, SP AusNet has to "demonstrate to the AER's satisfaction that any obligations under the Environment Protection Act 1970, such as the treatment of contaminated soil, are new requirements". SP AusNet has never suggested that they were seeking this expenditure to comply with 'new requirements', nor, it notes, do the NERs, namely Clause 6.5.6 (a)(2), require it to demonstrate that this expenditure results from a 'new' requirement, rather, the operating expenditure objectives in the NER refer to complying "with all applicable regulatory obligations or requirements associated with the provision of standard control services".

SP AusNet reiterates that it isn't a new obligation per se that drove this expenditure proposal, rather, these works are required as a result of the fact that "proposed network augmentation projects will drive the redundancy of zone substations YPS (11kV switchyard and associated multi-storey control building), YN, YC, MDG and SFS", and "hence, asset retirement and site clean-up works will be required at these substations for safety and environmental reasons"¹⁹⁸. In essence, it is a change in SP AusNet's operating environment that is driving these costs.

The AER's assertion that 'contractual obligations are not a driver for a step change' has significant implications for the incentives that are placed upon management in the day-to-day running of their businesses. The explicit exclusion of any contractual obligations incentivises businesses to reallocate risks within a contract such that they can generate a continuous stream of cash outflows to cover all possible risks, as opposed to retaining some risk, which may lead to one off potential cash outflows being incurred at some point during or at the expiry of the contract. SP AusNet considers the AER's proposed approach precludes these costs from being recovered, despite their incurrence potentially reflecting the most efficient means of mitigating that risk. It is also noted the AER's proposed approach would lead to businesses structuring contracts such that they expire in the Base Year, such that any residual risks borne by the business (that manifest in additional costs) can be recouped through their Base Year expenditures.

This is unlikely to be the most efficient allocation of risk between contracting parties, and therefore, this outcome would be inconsistent with the NEL, in particular, the NEO and Section 7A (3), which requires that DNSPs be provided with incentives to efficiently provide network services.

Therefore, SP AusNet does not accept the AER's Draft Determination for the following reasons:

- This expenditure is a by-product of SP AusNet undertaking its proposed capex program, and as a result, having to comply with existing obligations¹⁹⁹. This proposed expenditure has nothing to do with a 'new' regulatory obligation, nor do the NER expenditure objectives require an expenditure to be premised on a 'new' regulatory obligation;
- Automatically disallowing the costs associated with meeting any contractual obligations may incentivise businesses to adopt inefficient contracting practices, which is not only

¹⁹⁸ Appendix I – Incremental Opex impact to 2009 Base Year, p. 38.

¹⁹⁹ The *Environment Protection Act*, administered by the EPA contains a number of provisions relevant to contamination of land; for example, Section 45 makes it an offence to pollute land and Section 57 provides for environmental audits by accredited auditors.

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inconsistent with the NER requirements – namely Clause 6.5.6 (c) (1) and Clause 6.5.6 (c) (2) – but also the requirements of Section 7A (3) of the NEL;

- It is good industry practice, and therefore, prudent, for a DNSP to remediate all sites that it is not proposing to use, or where it will decommission assets, in the forthcoming regulatory control period, which in turn affects their assessment of this proposed expenditure under Clause 6.5.6 (c) (2) of the NERs; and
- The remediation of sites was in “*the long term interests of consumers of electricity*” and moreover, the interests of the general public living in the vicinity of those sites, consistent with the NEO.

Table 7.24: Substation Site Clean Up

(\$2010M)	2011	2012	2013	2014	2015
Substation Site Clean Up	0.13	0.13	0.28	0.05	0.19

Source: Opex Step Change_FINAL.xls

7.6.22 Substation Civil Infrastructure Works

The AER has not provided any detailed reasons for this step change in the AER’s Draft Determination, beyond a summary description on page 233. Consequently, the AER does not appear to have outlined any detailed reasons as to why this step change has been rejected. As such, SP AusNet is not in a position to critique the AER’s analysis or rationale in support of their decision.

SP AusNet notes that this expenditure was proposed in order to²⁰⁰:

“rectify civil infrastructure issues that have developed in stations. These issues are described in AMS – Civil Infrastructure (20-55). The condition issues address impact on zone substation security, reliability and safety.”

In summary, SP AusNet considers that it is good industry practice, and therefore, ‘prudent’ for a DNSP to maintain its civil infrastructure in and around its zone substations, for the benefit of both its customers (by improving the visual amenity of these sites) and its employees (safety). However, SP AusNet also notes that it is highly improbable that an ‘efficient’ DNSP’s expenditure program would entail it incurring a continuous stream of cash outflows on such items, in particular:

- given the disconnect between the expected lives of the infrastructure that are considered as part of this step change (>5 years for signs, security, drainage trenches, etc) and the 5 year regulatory review timeframe, which inevitably results in a ‘gap’ where lower levels of expenditure, relative to long term required expenditure, would occur; and

²⁰⁰ Op Cit, p. 40.

- the evidence that SP AusNet has already provided to the AER that these programs have not been undertaken in the Base Year. For example, SP AusNet stated that “exterior signage was last replaced in the re-branding of the Victorian Distribution business and is not reflected in the opex base year²⁰¹”, and the “last operational signage replacement program was completed over a decade ago²⁰²”. SP AusNet seeks the opportunity to provide any further information required of it by the AER to support these statements.

Overall, it would in fact be unlikely for a ‘prudent’ and ‘efficient’ DNSP’s Base Year to reflect the expected expenditure on items such as this. Rather, a ‘prudent’ and ‘efficient’ DNSP would profile its expenditure, having regard to the underlying degradation in the item that it is expending money on. This creates a ‘lumpy’ expenditure program – which is in fact, efficient.

SP AusNet, therefore, does not accept the AER’s rejection of this step change. The AER has not provided SP AusNet with detailed reasons for its decision or the material factors it considered in reaching its conclusion.

Table 7.25: Substation Civil Infrastructure Works

(\$2010M)	2011	2012	2013	2014	2015
Substation Civil Infrastructure Works	0.21	0.21	0.22	0.22	0.23

Source: *Opex Step Change_FINAL.xls*

7.6.23 Substation fire systems

SP AusNet proposes to improve its annual fire preparedness at its stations prior to the fire danger period. This programme includes cleaning gutters and managing fuel and vegetation within each station and liaising with local fire authorities for each station.

It also covers the hydrant testing requirements that are now required every five years and repairs required after testing discovers defects along with audits of the suitability of the water supplies at each site. Moreover, discussions in late 2009 with SP AusNet’s underwriters have determined that it must provide appropriate loss mitigation equipment and maintain it more effectively so as not to void its insurance policy.

The AER has rejected SP AusNet proposed allowance for the substation fire systems. In particular, the Draft Determination states that²⁰³:

With respect to the substation fire system works, the AER notes that the fire hydrants and hydrant systems in zone substations are subject to the maintenance testing requirements of Australian Standard AS1851-2005, Maintenance of fire protection systems and equipment. The AER notes that this standard has not been newly established and that SP AusNet has not demonstrated how any recent changes to this standard have imposed any new or changed obligations on SP AusNet. The AER also considers that SP

²⁰¹ Ibid.

²⁰² Ibid.

²⁰³ AER, *Draft Determination*, page 234-235

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AusNet has not demonstrated how other aspects of its current fire preparedness program are linked to new or changed regulatory obligations. The AER therefore considers that this proposal should already be part of SP AusNet’s ongoing SP AusNet opex and that it is not reasonable for this project to be included in SP AusNet’s proposed step changes.

As stated previously, SP AusNet does not accept the AER’s narrow definition of what constitutes a step change, therefore, it considers that the AER’s reason for rejecting its step change has no basis under the NER or the NELs.

SP AusNet resubmits its proposed allowance for this step change.

Table 7.26: Substation Fire Systems

(\$2010M)	2011	2012	2013	2014	2015
Substation fire systems	0.15	0.15	0.15	0.15	0.16

Source: *Opex Step Change_FINAL.xls*

7.6.24 Process and Configuration Management

The AER has not provided any details of, or reasons for, rejecting this step change in their Draft Determination, beyond a summary description on page 233. Consequently, the AER does not appear to have outlined any reasons as to why this step change has been rejected. As such, SP AusNet is not in a position to critique the AER’s analysis or rationale in support of their decision.

SP AusNet stated in its Original Proposal that improving database management will have the following long term benefits²⁰⁴:

- Efficient data storage and asset management
- More appropriate and efficient design and maintenance standards
- Savings on engineering time spent on configuration and construction
- Reduction in safety- and human error–related incidents
- Minimisation of the physical impact of outages on the electricity distribution network

SP AusNet also notes that expenditure is proposed against a background of changing technology and operating environment. In particular, traditionally, protection and control schemes comprised electro-mechanical relays hard-wired into a single purpose arrangement. These schemes had limited functionality and limited operational ranges. Settings for such schemes were hand calculated and recorded in hard copy project files. A summary of the key settings were retained on card indexes. The process of maintaining functionality and appropriate settings was focussed

²⁰⁴ Ibid, p. 42.

on periodic field testing to ascertain whether the relays were operational and the settings had been correctly applied.

Today, protection and control schemes are integrated within a single digital micro-processor based relay or Intelligent Electronic Device (IED) which has, by comparison, almost unlimited re-configuration capability (just like a PC you can do many different tasks with this microprocessor). IEDs have multiple functions, for example, protection and control and measurement and real time data gathering and event recording all in one micro processor. Configuration of the IED and establishment of settings is all via software. Manufacturers provide software for engineers to develop the settings for each IED and to test, validate and then download the settings to the IED in question by SCADA or by a PC brought to site. Similarly, measurements and event logs are retrieved from the IED via SCADA or an on site PC. At best there are a few standard interface drawings to interconnect the IEDs to SCADA and other relays. The vast bulk of the traditional hard wired interconnections between relays have simply disappeared inside the software within a few relays.

The result of this is that all the configuration and settings are electronically stored in data bases like TRESIS. TRESIS forms a data storage and a setting application management function. The process of developing and applying settings and the management of software versions and the configuration of this growing array of micro-processors distributed in more than 60 sites right across eastern Victoria is a growing business need. To deliver the performance expectations, there is a considerable administrative effort to keep applying these devices in a standardised manner and keep updating the configurations and software in a controlled manner. It is important to remember that this interactive array of networked IEDs control electrical protection system which provide safety for consumers and the general public as well as protecting very valuable transformers, circuit breakers and other electrical plant from damage. Other units provide the control functions which enable remote operation of our network from the 24/7 control room. The remote control operations must be accurate, repeatable and verifiable. Each IED must be configured to communicate with the master SCADA so that it can be remotely and automatically interrogated and reconfigured. The configuration and process management task is no less complex than managing a very large fleet of networked PCs. Except of course these PCs are controlling functions which have much greater health, safety, reliability and quality consequences.

IED61850 is a new, internationally recognised protocol, which has been adopted by all manufacturers of IEDs. Early digital relays are being stranded as manufacturers convert their product lines to the IEC61850 standard. Older digital micro-processor relays no longer enjoy hardware or software support. Just like IT software and hardware the life cycle is short, some 7 to 15 years. Hence the turn over volume is high. SP AusNet is progressively moving to the IED61850 protocol. This new standard will simplify, standardise and economise these complex tasks. However, there is a changeover cost.

As such, SP AusNet's position is that a failure to invest in Process and Configuration management will see risk costs rise as more human errors occur in the configuration and setting process and service performance fall as IEDs fail to operate as intended.

SP AusNet, therefore, does not accept the AER's rejection of this step change, and in saying so, reiterates the fact that the AER does not appear to have provided any underlying justification for the rejection of this program, contrary to the requirements stipulated in the NEL.

Table 7.27: Process and Configuration Management

(\$2010M)	2011	2012	2013	2014	2015
Process and Configuration Management	0.14	0.23	0.24	0.24	0.25

Source: Opex Step Change_FINAL.xls

7.6.25 Quality of Supply

The AER has rejected SP AusNet’s proposal for an allowance to be granted for the increased costs associated with Quality of Supply incidents. In rejecting SP AusNet’s proposed allowance, the AER states that:²⁰⁵

“The AER also considers that SP AusNet’s claim does not reflect expenditure that a prudent and efficient service provider would incur. Primarily, no tangible evidence has been supplied to support expectations of an increased level of customer complaints.”

As noted previously, customers typically only enquire about their power quality when the voltage delivered is well outside EDC limits. The introduction of AMI is not expected to have a detrimental impact on the quality of supply provided and subsequently, SP AusNet’s submission of a 600 per cent increase in customer complaints appears unfounded”

SP AusNet does not accept the AER’s Draft Determination in relation to Quality of Supply incidents. In particular, the inference from the AER’s Draft Determination is that ‘tangible evidence’ must be in the form of detailed quantitative data. In reality, in situations such as this where customers will have unprecedented access to information on their power quality, it is virtually impossible to produce tangible (quantitative) evidence to support such an outcome, as there is no direct evidence from anywhere else in the world to leverage off.

SP AusNet also notes that this view is consistent with that held by NERA, who were engaged to, amongst other things; assess the extent to which the AER’s revealed costs methodology for determining forward looking opex allowances is consistent with the economic provisions of the opex expenditure assessment rules. In relation to this step change, NERA stated that:

“we note that the question of whether or not customer complaints are likely to increase in the circumstance described and, if so, by how much, appears not to be a matter of whether SP AusNet’s conduct is prudent and efficient (as stated by the AER). Rather, the question to be addressed is whether or not better availability of data as to actual quality of supply will give rise to an increase in the number of complaints. Although this necessitates the forecasting of developments that are inherently uncertain, the AER appears not to have adopted an objective approach to this task”²⁰⁶

SP AusNet considers that as per Section 7A (2) of the NEL, “a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in...providing direct control network services”. SP AusNet considers it reasonable to assume that as AMI will provide transparency of network supply quality to a level never

²⁰⁵ Appendix L—Operating Expenditure Step Change, p. 205.

²⁰⁶ NERA – AER Draft Decision on Opex and Capex Allowance – A Report for SP AusNet p.22.

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experienced before, it is reasonable to assume that there will be a higher incidence of customers complaining about their quality of supply. This has a consequent impact on SP AusNet's costs, which in turn formed the basis for this step change.

Therefore, SP AusNet does not accept the AER's Draft Determination, and instead, re-submits the proposed opex allowance outlined in its Original Proposal (updated for new escalators).

Table 7.28: Quality of Supply

(\$2010M)	2011	2012	2013	2014	2015
Quality of Supply	0.52	0.78	2.13	1.14	1.10

Source: *Opex Step Change_FINAL.xls*

7.6.26 Climate Change

SP AusNet accepts the AER's Draft Decision in relation to its OPEX step change that is linked to climate change.

Table 7.29: Climate Change

(\$2010M)	2011	2012	2013	2014	2015
Climate Change	0.00	0.00	0.00	0.00	0.00

Source: *Opex Step Change_FINAL.xls*

7.6.27 POEL inspection program

SP AusNet accepts the AER's draft decision in relation to its OPEX step change that is linked to POEL inspection program, subject to updating the final numbers for the latest labour cost escalators.

Table 7.30: POEL Inspection Program

(\$2010M)	2011	2012	2013	2014	2015
POEL Inspection Program	0.39	0.39	0.41	0.42	0.43

Source: *Opex Step Change_FINAL.xls*

7.6.28 SMS customers

SP AusNet Original Proposal included costs associated with leveraging off its enhanced 'Outage Notification System' to allow it to send an automated SMS to registered customers when they are likely to be affected by:

- Planned outage events;
- Unplanned outages;
- Load shedding events (where the affected are is known); and
- Extreme events (eg: bushfires, heatwaves, storm events)

The Draft Determination has rejected this proposed expenditure:

“does not, however, consider that there is sufficient certainty regarding an obligation for the Victorian DNSPs to communicate with customers via SMS...”

The AER also notes the broader concerns raised by VECCL with respect to mass communication, those being that:

- *the implementation of a SMS communication scheme may lead to unanticipated or unsafe responses*
- *the cost effectiveness of mass communication protocols needs to be tested.*

On the basis of its own analysis, the concerns raised by VECCL and material provided by SP AusNet, United Energy and Jemena, the AER is not satisfied that SP AusNet's regulatory proposal is a step change. Specifically, the AER does not consider that there is a new regulatory obligation or requirement within the EDC that necessitates SP AusNet using SMS to communicate with its customers with respect to information on planned outage events, unplanned outages, load shedding events and extreme events.”

It is noted that the EDC, above, refers to the draft amendments to the Electricity Distribution Code, which, subsequent to SP AusNet's November Proposal, were finalised. SP AusNet did not include the costs associated with complying with this change in its November proposal, as it was only in draft form at the time. This is discussed in more detail in the next Section.

In relation to SP AusNet's Original Proposal to enhance its SMS capability, SP AusNet is again concerned that a proposal to enhance the level of service that it provides customers has been initially rejected on the basis that there is no explicit regulatory obligation. Contrary to the AERs approach, SP AusNet considers that such communication would, in an increasingly technologically savvy world, only serve to promote the long term interests of consumers, and indeed, be expected by customers during the next regulatory control period. In addition, it seems anomalous that on one hand, the Victorian Government, along with a number of other State governments, are cultivating the use of SMS technology to inform consumers of emergency events, yet the AER deems that this is not in the long term interests of consumers with regards to communicating electricity outage information to customers. SP AusNet considers that use of such technology by other agencies - prima facie - demonstrates customers' willingness to pay for such services. In addition, it creates a perception within the community that the use of this technology should be 'the norm' for a business such as SP AusNet.

Finally, SP AusNet considers that the AER's adoption of such a prescriptive and narrow approach to defining what constitutes a step change in this Draft Determination will have significant long term ramifications for businesses. This approach will result in businesses not undertaking anything more than marginal changes to its business practices that don't have either:

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- Short term reductions in costs, which in turn can then be captured by the business under the current regulatory regime; or
- S-Factor benefits.

Having regard to the above information, SP AusNet does not accept the AER's decision in relation to enhanced SMS capability. If the AER's Draft Determination is retained, SP AusNet will be unable to provide smart technological benefits via this service to its customers.

Table 7.31: SMS Outage Information

(\$2010M)	2011	2012	2013	2014	2015
SMS Customers	0.41	0.52	0.63	0.70	0.76

Source: Opex Step Change_FINAL.xls

7.6.29 Enhanced Communication During Storms

SP AusNet's Original Proposal included an allowance to initiate a storm preparedness campaign to help manage customers' expectations if power is lost and to inform them of their responsibilities. SP AusNet's program involved print, television and radio advertising, brochure development and delivery of a 'retainable' item, such as a fridge magnet.

The AER has rejected SP AusNet's program to enhance its communication during storm events. In particular, the Draft Determination states that it:

considers that there is merit in providing additional information to consumers, however...

SP AusNet has not demonstrated how its proposal is linked to the ESCV's final decision on Electricity Distributors' Communications in Extreme Supply Events or other actual or expected regulatory changes or obligations. The AER notes that SP AusNet has referred to the findings contained in the Esplin Review to justify its proposal. However, the AER does not consider the findings contained within the Esplin Review constitute a new regulatory obligation or requirement

In addition, the Draft Determination states that:

Finally, the AER notes that the NER requires the AER to have regard to the benchmark expenditure that would be incurred by an efficient DNSP over the regulatory control period. The AER notes that the other Victorian DNSPs have not, as part of their regulatory proposals for the forthcoming regulatory control period, sought funding for this type of project.

As stated previously, SP AusNet does not accept the AER's narrow definition of what constitutes a step change, therefore, it considers that the AER's reason for rejecting its step change has no basis under the NER or the NELs. Moreover, SP AusNet considers the fact that some other businesses have not proposed similar expenditure is not, in and of itself, a robust form of benchmarking which in turn could lead the AER to form the view that they expenditure is not 'efficient', nor that a 'prudent' business would not seek to provide such services to customers.

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As such, SP AusNet re-submits this step change. In addition, SP AusNet notes whilst their may appear to be a cross over with the changes to the EDC, the costs underpinning this step change did not include the costs of the mail out, therefore, this is effectively incremental to the additional costs under the EDC information requirements, therefore, there is no double counting.

Please see SP AusNet’s Original Proposal for further information on this step change.

Table 7.32: Enhanced Communication During Storms

(\$2010M)	2011	2012	2013	2014	2015
Enhanced Communication During Storms	0.36	0.14	0.14	0.14	0.14

Source: Opex Step Change_FINAL.xls

7.6.30 Amendments to the Electricity Distribution Code

The ESCV’s final decision on Electricity Distributors’ Communications in Extreme Supply Events places obligations in the relevant ESCV codes to (amongst other things):

“... require the distributors to provide customers with more accessible information through information on their websites and sending letters to their customers annually, prior to summer...”

As stated previously, these changes were only in draft form at the time SP AusNet was preparing its November Proposal. Therefore, SP AusNet considered it prudent to not include the costs associated with complying with that change until it was finalised. As the changes to the EDC have now been finalised, SP AusNet understands clearly its obligations under the revised code, and therefore, is in a position to cost these changed regulatory obligations.

The costs of meeting this existing obligation are outlined in the table below. In particular, it is noted that this includes:

- Printing and supply costs; and
- Mailing costs.

The estimated costs associated with complying with this change in regulatory obligation are based on the costs per customer deemed to be efficient by the AER as part of its Draft Determination for United Energy and Jemena. This equates to \$0.91 per customer.

Table 7.33: Amendments to the Electricity Distribution Code

(\$2010M)	2011	2012	2013	2014	2015
Amendments to the Electricity Distribution Code	0.59	0.60	0.61	0.61	0.62

Source: Opex Step Change_FINAL.xls

7.6.31 Customer Charter

SP AusNet notes that due to an unintended oversight on its behalf, no step change was included for the provision of a customer charter to all of SP AusNet’s customers once every five years, as required under Clause 9.1.2 of the Electricity Distribution Code.

SP AusNet notes that the AER has provided funding to the other DNSP’s for this step change in its Draft Determination. More specifically, the AER stated that:

“The AER accepts that DNSPs will incur printing, distribution and mailing costs associated with provision of the customer charter during 2011–15 and that an existing, ongoing obligation (defined in the code) requires DNSPs to provide the charter to all customers at least once every five years. It is therefore considered a non–recurrent opex item that has not been included in the base opex costs for CitiPower, Powercor, Jemena and United Energy.”

SP AusNet notes that it is subject to the same regulatory obligation as the other businesses; therefore, it proposes the inclusion of this step change as part of this Revised Proposal.

The costs of meeting this existing obligation are outlined in the table below. In particular, it is noted that this includes printing, supply costs and mailing costs.

These costs are based on the average cost per customer accepted by the AER for Citipower, Power and United Energy. This equates to \$0.96 per customer. It is noted that SP AusNet excluded Jemena from the calculation, as these costs appear to be materially larger than the other three businesses.

Table 7.34: Customer Charter

(\$2010M)	2011	2012	2013	2014	2015
Customer Charter	0.62	0.00	0.00	0.00	0.00

Source: Opex Step Change_FINAL.xls

7.6.32 Tariff Reassignment Process

SP AusNet considers that the AER’s proposed Tariff Reassignment Procedures and Obligations place additional, onerous and unnecessary requirements on distributors and a make a potentially costly objection process available to customers. These issues, and the underlying assumption underpinning this step change, are outlined in Chapter 15 of this Revised Proposal.

If the AER chooses not to accept SP AusNet’s proposed change, then SP AusNet will incur additional costs associated with complying with the AER’s currently proposed requirements.

More specifically, these costs are based on the estimated number of new connections plus change in occupiers in the next regulatory period, and additional call centre queries that will stem from this changed approach. It is noted that the additional costs of any EWOV review have been excluded from these costs. If the AER does not accept SP AusNet’s proposed refinement to their reassignment procedures, then this significant cost will need to be included for the purposes of developing the Final Decision.

These costs are outline in the following table.

Table 7.35: Tariff Reassignment

(\$2010M)	2011	2012	2013	2014	2015
Tariff Reassignment	0.21	0.21	0.21	0.22	0.23

Source: Opex Step Change_FINAL.xls

7.6.33 Electricity Safety (Electric Line Clearance) Regulations - Clause 2(1) – Maintaining Clearance Spaces

In relation to the previous exemption from ESV that allowed vegetation to enter the clearance space at certain times, the AER state in their Draft Determination that:

“The AER sought advice from ESV as to whether its understanding that the expiration of the exemptions will not require the DNSPs to increase the frequency of their pruning cycles, or undertake mid cycle inspections and pruning was correct. ESV confirmed that this understanding was correct.

Nuttall Consulting reviewed Jemena’s estimate of the cost impact of removing the exemptions from maintaining clearance spaces at all times. Nuttall Consulting concluded that it was ‘not clear the monetary saving, if any, the current exemption grants to Jemena’.

The AER go on to state that:

“For the reasons discussed above, and as a result of the AER’s consideration of the DNSPs’ regulatory proposals and other supporting information, the AER is not satisfied that the DNSPs’ proposed expenditure for the cessation of line clearance exemptions reasonably reflects the opex criteria, including the opex objectives. In coming to this view the AER has had regard to the opex factors.”

In response, SP AusNet notes that the AER sought advice from ESV as to whether the removal of the exemption does not ‘require’²⁰⁷ the DNSPs to increase the frequency of their pruning cycles, or undertake mid cycle inspections and pruning. SP AusNet considers the use of the word ‘require’ is fundamental to the assessment of this issue, and in turn, understanding the context in which ESV may have answered the above question. In particular, SP AusNet notes that as the regulations do not *prescribe* the frequency of cyclic inspection or pruning, ESV is technically correct in confirming the AER’s statement regarding frequency of cycles (ie: that they are not ‘required’).

However, SP AusNet considers that the NEL and the NER place a number of broader requirements on the AER in relation to its assessment of this proposed expenditure, which, when taken into account, should not lead to the position adopted by the AER in relation to this issue.

In particular, SP AusNet considers that in assessing the efficient costs associated with complying with this new regulatory obligation, as required by Clause 6.5.6 (c)(1) of the NERs, the AER must consider the costs to the community associated with the various options required to meet that regulatory obligation, as this will allow resources to be allocated to the delivery of goods and services in accordance with consumer preferences at least cost. SP AusNet considers that this

²⁰⁷ AER, *Draft Determination*, Appendix L, June 2010, p.170.

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interpretation is consistent with the overarching objective contained in the NEL, namely “to promote efficient investment in.....with respect to.....quality, safety”.

As stated previously in SP AusNet’s Original Proposal there are two theoretically potential options for businesses to comply with the regulations, post the removal of the exemption to maintain compliance. These are to:

- Increase the frequency of inspection and pruning, *OR*
- Maintain the same intervals between cycles and prune more severely.

Both have different direct, indirect and community costs, and therefore, both need to be assessed in order to determine which program of work in fact constitutes efficient investment on the electricity network.

SP AusNet estimates that in fact, Option 1 (more frequent inspection/pruning) provides the greatest economic benefit, and therefore, it represents the efficient expenditure in the electricity distribution network, given the requirement placed upon SP AusNet to comply with this changed regulatory obligation. The costs outlined in the table below reflect the transition to compliance by mid 2013. SP AusNet propose transition to full compliance for hazardous bushfire risk areas (HBRA) by the end of 2011 and low bushfire risk areas (LBRA) by mid 2013. This transition period is to acquire and train the additional resources required to undertake the increased volume of cutting activity.

Table 7.36: Increased Frequency of Inspections and Pruning

(\$2010M)	2011	2012	2013	2014	2015
Option 1 – Increased Frequency of Inspections and Pruning	4.55	5.72	7.02	7.25	7.43

NOTE: The difference between these figures and Table 7.33 reflect the conversion from \$2009 to \$2010, along with transition to full compliance.

Both of the aforementioned options are discussed in further detail below.

Option 1 – Increase Frequency of Cycles

As outlined in the Original Proposal, based upon actual annual vegetation management data, SP AusNet annually prunes approximately 60,750 spans, of which, approximately 23,490 are assessed as having re-growth within the regulatory *clearance space*. Estimates of the incremental cost are based on the current contract cutting rate per span. Again, this was outlined in the Original Proposal.

Table 7.37: Forecast Vegetation Costs Without Current Exemption (\$2009)

Item	Actual average spans cut (p.a)	Estimated additional spans cut (p.a)	Additional Personnel	Unit Rate	Incremental Cost (\$M)
HBRA	43,200	12,960		\$195/span	\$2.53
LBRA	17,550	10,530		\$195/span	\$2.05
Assessors			20	\$80k p.a.	\$1.60
Admin			2	\$60k p.a.	\$0.12
TOTAL	60,750	23,490			\$6.30

Note: HBRA = High Bushfire Risk Area, LBRA = Low Bushfire Risk Area

Re-growth into the clearance space between pruning cycles in HBRA is much lower due to reduced vegetation density, proximity of vegetation to assets and the ability for SP AusNet to establish greater clearance spaces for regrowth to predominantly high voltage assets through consultation with rural property owners.

Vegetation management in LBRA involves a predominant volume of low voltage assets that are constructed physically lower to the ground and surrounded by a greater density of vegetation. SP AusNet maintains a balance between community expectations regarding the cost to safely maintain the electrical network and protecting aesthetic amenity of the environment.

Removal of the exemption will require SP AusNet to ensure no re-growth enters the clearance space and it has therefore proposed a mid cycle inspection and pruning cycle to address the assessed number of spans that are susceptible to such re-growth.

More detail on the underlying justification for this cost is contained in SP AusNet' Original Proposal, namely, in Section 7 of the Appendix titled "Incremental Opex Impact to 2009 Base year".

Option 2 – Severe pruning

As indicated in Section 7 of SP AusNet's 'Incremental Opex Impact to 2009 Base Year' paper, SP AusNet did not consider this option to be feasible due to past experiences at attempting to undertake deeper pruning, which resulted in severe community reaction, local council opposition, community meetings and involvement of Energy Safe Victoria in the dispute resolution process.

It is noted that as part of the decision making process during these disputes, the 'Burnley Method' has been used to establish an amenity value of vegetation that has been pruned or removed. It is noted that the 'Burnley Method' has also been used by the Australian judicial system in the same manner.

Therefore, subsequent to its Original Proposal, SP AusNet engaged an arboreal consultant to undertake a survey and provide a report to SP AusNet of the typical vegetation and its potential loss of amenity value that forms part of SP AusNet's vegetation management program.

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The Report²⁰⁸ provided 14 separate amenity valuations of the typical range of species, size and location in relation to overhead powerlines. The consultant evaluated the lost amenity value of the 14 individual samples under the scenario that they were subjected under existing vegetation management cycles to deep pruning required to ensure that no re-growth enters the regulated clearance space prior to the next scheduled management cycle.

The consultant applied a factor as to the proportion of the tree's value lost as a result of deep pruning which ranged from 30% to 100%, the majority of which were considered to be 100% as shown in the figure below. The consultant also commented that²⁰⁹:

"...you cannot make a big tree a small healthy tree no matter what you do. Severe pruning can create entry points for all sorts of decay-causing organisms and in turn formation of potential failure points. In cases where harder pruning to achieve greater tree clearances would destroy the specimen, the tree valuation considers it a 100% loss (the monetary value of the full amenity of this tree)."

Figure 7.4: Amenity Tree Evaluation

Amenity Tree Evaluation					
Tree #	Tree Name	Location of trunk in relationship to lines	Size	% Loss of Amenity	Loss of Monetary Value
1	Manna Gum – <i>Eucalyptus viminalis</i>	Adjacent	Large	30%	\$23,272
2	Narrow-Leaved Peppermint, <i>Eucalyptus radiata</i>	Adjacent	Large	100%	\$60,049
3	Red-Flowering Gum, <i>Corymbia ficifolia</i>	Under	Medium	100%	\$1422
4	Red-Flowering Gum, <i>Corymbia ficifolia</i>	Under	Large	100%	\$8631
5	Blackwood, <i>Acacia melanoxlyn</i>	Under	Medium	100%	\$4274
6	Sweet Gum, <i>Liquidambar styraciflua</i>	Under	Medium	100%	\$3825
7	Sweet Gum, <i>Liquidambar styraciflua</i>	Adjacent	Medium	100%	\$12,525
8	Sweet Gum, <i>Liquidambar styraciflua</i>	Adjacent	Medium	30%	\$2073
9	Silver Birch, <i>Betula pendula</i>	Under	Medium	100%	\$844
10	Silver Birch, <i>Betula pendula</i>	Adjacent	Medium	30%	\$1262

²⁰⁸ arborTrim, Amenity Tree Evaluation, SP AusNet, Distribution, May 2010.

²⁰⁹ arborTrim, Amenity Tree Evaluation, SP AusNet, Distribution, May 2010, p. 3.

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Tree #	Tree Name	Location of trunk in relationship to lines	Size	% Loss of Amenity	Loss of Monetary Value
11	Pin Oak, <i>Quercus palustris</i>	Under	Large	100%	\$24,859
12	English Oak, <i>Quercus robur</i>	Adjacent	Large	30%	\$14,217
13	English Oak, <i>Quercus robur</i>	Adjacent	Large	100%	\$168,058
14	Rough Tree Fern, <i>Cyathea australis</i>	Under/Adjacent	Large	100%	\$13,082

The number of vegetated spans and assessed number of trees per span are shown in the figure below.

Figure 7.5: Number of Vegetation Spans

HBRA	Vegetated Spans	Trees/Span
Northern Network (spans)	31,516	0.94
Central Network (spans)	28,729	4.31
Eastern Network (spans)	41,244	2.75
LBRA		
Northern Network (spans)	8,406	0.94
Central Network (spans)	36,540	4.31
Eastern Network (spans)	20,100	2.75
Total Vegetated Spans	166,536	
Total Spans	314,218	

These lost amenity values were then weighted to the number of trees per span²¹⁰, and the proportion of each species per span on SP AusNet's network.

The results of this analysis show that the total loss in value is \$13B. SP AusNet applied a sensitivity analysis to the consultants assessed lost amenity values to assume an overall 10% loss of amenity value. This still provides a lost amenity value of \$2.4B, which is still significantly more than the incremental cost of undertaking a more frequent inspection / pruning program. It is noted that SP AusNet is not surprised by this outcome, given the prima facie indications via customer complaints that customers place a significant value on the vegetation surrounding their properties.

Accordingly, Option 2 is not considered practicable or economic.

Details of these calculations accompany this Revised Proposal. Moreover, SP AusNet would welcome the opportunity to walk the AER (and ESV) through its underlying analysis.

7.6.34 Electricity Safety (Electric Line Clearance) Regulations – Clause 4 Habitat Trees

SP AusNet has not previously advised the AER of this additional cost.

The new regulations have included a requirement to:

²¹⁰Source: SP AusNet Vegetation Management System, Historical Program Data V2 plus Tree Inventory.xls

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- Identify ‘Habitat trees’ of threatened fauna, in accordance with section 10 of the Flora and Fauna Guarantee Act 1988, in addition to those that are listed on either the Threatened Invertebrate Fauna List or Threatened Vertebrate Fauna List; and
- Ensure cutting of such trees is undertaken outside the breeding season.

SP AusNet does not have any expertise with respect to this aspect of vegetation management and has therefore estimated that this additional work will require the equivalent resource utilised to undertake the annual vegetation clearing assessment. The focus of this group will be to identify, register and monitor all habitat trees within the scope of SP AusNet’s vegetation management activities. This resource requirement is estimated to be an additional 20 FTE’s.

Table 7.38: Incremental Cost to Manage Habitat Trees

(\$2010M)	2011	2012	2013	2014	2015
Manage Habitat Trees	1.94	1.98	2.03	2.09	2.14

Source: Opex Step Change_FINAL.xls

7.6.35 Clause 5 - Notification & Consultation

The AER concludes in their Draft Determination that²¹¹:

“The AER considers that the proposed Electricity Safety (Electric Line Clearance) Regulations 2010 will provide the DNSPs greater flexibility in how they notify land owners and occupiers of tree cutting and removal and should consequently reduce their vegetation management costs. Further, the AER considers that the consultation requirements of proposed regulations are very similar to those in the existing regulations and that the DNSPs vegetation management consultation costs should not, therefore, be increased by the proposed regulations.”

In support, the AER states, amongst other things, that²¹²:

“The RIS clearly identifies that the Victorian DNSPs notification costs will be reduced under the proposed Code of practice for electric line clearance.”

and

“The AER sought advice from ESV as to whether it considered that the proposed Code of practice for electric line clearance would increase the DNSPs’ notification and consultation costs. ESV confirmed the views outlined in the RIS. It confirmed that the proposed code of practice would not require DNSPs to attempt to notify land owners or occupiers in writing before publishing a notice in a newspaper. Further, it confirmed that the proposed code of practice would not impose significant new consultation requirements for cutting or pruning trees on private property compared to the existing code.”

²¹¹ Appendix L—Operating Expenditure Step Change, p. 164.

²¹² Ibid.

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In summary, SP AusNet’s accepts the assurances that have been provided by ESV that this will not require additional consultation, and therefore, it proposes no additional costs to undertake this work. However, for the avoidance of doubt, as SP AusNet proposes to maintain its current notification practices, it rejects the AER’s Draft Determination with regards to the assumed reduction in costs of \$441k per annum, as detailed in table L3²¹³.

In particular, SP AusNet considers the change to notification requirements reflects the current practice of municipalities in their undertaking of street tree pruning works. As the majority of pruning by DNSPs involves trees on a customers’ property, the provision of a written notification is currently provided in conjunction with the cyclic inspection. SP AusNet does not consider the assumed reduction in customer service levels regarding notification proposed by ESV is acceptable to customers, and therefore proposes to continue current service standard levels. Furthermore, SP AusNet considers that even if these requirements are less onerous, the NER operating expenditure objectives are to “maintain the reliability, safety and security of the distribution system through the supply of standard control services”. As such, SP AusNet considers its proposal to maintain existing levels of service to be consistent with the NERs.

Table 7.39: Incremental Cost to Undertake Additional Consultation

(\$2010M)	2011	2012	2013	2014	2015
Additional Consultation	0.00	0.00	0.00	0.00	0.00

Source: *Opex Step Change_FINAL.xls*

7.6.36 Clause 10 – Insulated Cables

The AER concludes in their Draft Determination that²¹⁴:

“The AER considers that prudent operators in the circumstances of the Victorian DNSPs will require additional opex, above that expended in the base year, to comply with the new requirements in the proposed Electricity Safety (Electric Line Clearance) Regulations 2010 relating to insulated cables. However, the AER considers that the DNSPs have not provided sufficient evidence to determine the quantum of opex required. Further, the AER notes that the revised regulations have not yet been finalised. For this draft decision, the AER considers that the estimated cost of maintaining the clearance space surrounding aerial bundled cables estimated by the ESV, and outlined in table L.5 above, is the amount that prudent operators in the circumstances of the Victorian DNSPs would require to comply with the requirements in the proposed Electricity Safety (Electric Line Clearance) Regulations 2010 relating to aerial bundled cables.”

In support, the AER states, amongst other things, that²¹⁵:

“The AER notes that ESV, in the RIS, stated that it considered that the removal of the exclusions for clearance space for insulated cables would require additional expenditure

²¹³ Appendix L—Operating Expenditure Step Change, p. 163.

²¹⁴ Ibid, p. 167.

²¹⁵ Ibid, p. 165.

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from the DNSPs, as outlined in table L.5, to establish the required clearance space around the insulated service cables over a five year cutting cycle.

However, it also noted that it did not consider that the regulatory change would change the DNSPs' ongoing costs since it considered that the DNSPs' current practices should be sufficient to maintain the clearance space"

In summary, SP AusNet considers that ESV has failed to reasonably consider the significant additional maintenance requirement in maintaining a clearance space that vegetation is naturally encouraged to re-grow into with increased vigour, relative to the current practice that requires occasional removal of hard foliage that may cause abrasive damage.

Moreover, as part of its response to the RIS, SP AusNet recommended to ESV that the previous provisions in fact be retained, as this provided higher benefit cost ratio to customers. The new regulations have been made with new provisions requiring the establishment and then maintenance of a clearance space around insulated cables.

The total number of service cables SP AusNet will have to manage vegetation around is 81,200 as accepted by ESV. The 64,960 services ESV calculated was derived by subtracting the number of service cables SP AusNet advised that it attended annually under the current practices (16,240). This is illustrated in the table below, as provided in Section 7 of SP AusNet's 'Incremental Opex Impact to 2009 Base Year' paper.

Table 7.40: Management of Vegetation Clearance to Insulated Cables (\$2009)

Item	Number of Services	Unit Cost	SPA Cost p.a (\$m)
Initial establishment of clearance space – annualised over 5 years	81,200	\$83.46	1.4
Annual trimming including re-visits	129,920	\$47.40	6.2
<i>less</i>			
Current annual cutting (5 year average cycle)	16,240	\$47.40	0.8
TOTAL			6.8

Whilst ESV is yet to agree to a transition period to achieve compliance, SP AusNet has planned the achievement of compliance by 2013, as shown in the table below. Recognising the possibility of double counting, it is estimated the program will establish clearance spaces around all 81,200 services by the end of 2012. Accordingly, only 24,360 will require re-visits in the first year ($40,600 \times 60\%$ ²¹⁶) and 48,720 in the second year ($81,200 \times 60\%$). Subsequent to this initial establishment,

²¹⁶ 60% is the proportion of LBRA spans that have regrowth within the clearance space between cycles.

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the annual pruning and re-visit for the remaining three years of the control period will be 129,920 (81,200 x 60%).

Accordingly the annual cost is shown in the table below.

Table 7.41: Incremental Costs to Clear & Maintain Insulated Service Cables (\$2009)

Item (\$2010M)	2011	2012	2013	2014	2015
Initial establishment cost	3.39	3.39	-	-	-
Annual trimming, including revisits	1.15	2.31	6.16	6.16	6.16
Less, current annual trimming	0.8	0.8	0.8	0.8	0.8
Total	3.74	4.9	5.36	5.36	5.36

SP AusNet has assumed a 12 month cyclic program as customers will be sensitive to a clearance space being established, that does not currently exist, and will not be receptive to SP AusNet establishing a clearance space greater than the minimum regulatory requirement. Similar to the same issue with maintaining the clearance space around overhead mains, SP AusNet currently experience 60% of the spans cut in low bushfire risk areas (LBRAs) that have vegetation regrowth within the regulated clearance space. Accordingly, this re-growth into the clearance space between pruning cycles has been applied to service cables.

ESV, in preparing the regulatory impact statement, incorrectly assumed that the incremental cost will be a once off cost and that maintenance of the new clearance space could be addressed within the current cyclic vegetation programs. ESV has failed to reasonably consider the significant additional maintenance requirement in maintaining a clearance space that vegetation is naturally encouraged to re-grow into with increased vigour, relative to the current practice that requires occasional removal of hard foliage that may cause abrasive damage. SP AusNet's incremental cost has been offset by the current cost for management of service cables. This was detailed in Section 7 of SP AusNet's 'Incremental Opex Impact to 2009 Base Year' paper.

Table 7.42: Service Cables

(\$2010M)	2011	2012	2013	2014	2015
Service Cables	3.96	5.29	5.97	6.17	6.32

Source: Opex Step Change_FINAL.xls

7.6.37 Additional ESMS Driven Costs

As of December 2009, the Electricity Safety Act places a **mandatory** requirement upon SP AusNet to develop an Electricity Safety Management Scheme (ESMS). An ESMS imposes a statutory obligation on electricity businesses to adopt a dynamic approach towards risk reduction or elimination. This supersedes what was a **voluntary** ESMS under the previous Electricity Safety Act.

The intended strategic purpose of this legislative change is to shift the focus from static, prescriptive regulation, toward a legislative framework that focuses on providing appropriate safety outcomes to the community. This intent has been reinforced by:

- making the ESMS mandatory, as opposed to the previous ESMS which was voluntary; and
- removing the Electricity Safety (Network Asset) Regulations that had previously imposed prescriptive requirements on businesses.

The objective of this regulatory philosophy is to place a statutory obligation on major electricity businesses to utilise asset management practices that continuously adapt to the dynamic environment faced by that business. This is based on the premise that a prudent asset manager will leverage off the benefits of new and emerging technology; lower input costs; increased knowledge and experience; and changing risk profiles to deliver enhanced safety outcomes.

Accordingly, under the outcome based approach to safety regulation, changes to prescriptive regulations are not the primary driver for changes to regulatory obligations concerning safety of the network; rather, the dynamic, ESMS facilitates the delivery of enhanced safety outcomes.

In accordance with Section 98 of the Electricity Safety Act, SP AusNet's expenditure proposals seek to minimise the safety and property risk associated with its network as far as *'practicable'*.

SP AusNet considers that as this statutory requirement is placed upon businesses, the AER must also have regard for the cost of delivering programs that are consistent with this statutory requirement to minimise risk as far as *'practicable'*. Without this, there is a disconnect between the statutory obligations placed upon businesses, and therefore, the outputs expected to be delivered by businesses; and the costs that are considered by the AER and subsequently recovered through the regulatory process.

This is clearly not the intent of the economic regulatory regime, given that one of the key revenue and pricing principles outlined in the NEL (Section 7A(2)) is that:

"A regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in.....providing direct control network services"

Moreover, a fundamental capital expenditure (6.5.7 (a)(2)) and operating expenditure (6.5.6 (a)(2)) objective is to:

"comply with all applicable regulatory obligations or requirements associated with the provision of standard control services".

Having regard to the above, SP AusNet notes that Section 98 (General duty of major electricity companies Electrical Safety Act) places the following statutory obligation on SP AusNet:

"A major electricity company must design, construct, operate, maintain and decommission its supply network to minimise as far as practicable-

- (a) the hazards and risks to the safety of any person arising from the supply network;*
and

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(b) *the hazards and risks of damage to the property of any person arising from the supply network*

The Electricity Safety Act defines ‘*practicable*’ as having regard to:

- (a) *the severity of the hazard or risk in question; and*
- (b) *the state of knowledge about the hazard or risk and any ways of removing or mitigating the hazard or risk; and*
- (c) *the availability and suitability of ways to remove or mitigate the hazard or risk; and*
- (d) *the cost of removing or mitigating the hazard or risk*

Accordingly, the legislative obligation under an ESMS is for SP AusNet to have systems and processes to continuously identify, monitor and ensure adequate risk control measures are in place to ensure that risks are managed as low as reasonably practicable (ALARP). SP AusNet has fulfilled this legislative obligation through the development of individual, detailed, bottom up asset management strategies, containing fault history, failure modes, consequences, costs and benefits in order to provide recommended actions to reduce risks as low as practicable.

Under Section 113 of the Electricity Safety Act, compliance to the ESMS is a legal defence:

“It is a defence to a prosecution of a person for an offence relating to a breach of a duty or obligation set out in Division 1 if the person has complied with the accepted ESMS in relation to that duty or obligation.”

The key philosophy of an ESMS is to ensure risks are managed ALARP. Simple measures used to defend against potential prosecution include the ability for SP AusNet to demonstrate that it has applied prudent management principles which include:

- Application of accepted industry standards,
- Application of accepted industry practice, and
- That the cost of eliminating or mitigating risk is reasonable.

Having regard to the above, SP AusNet proposes a number of additional measures, not included in its November 2009 Proposal, that it considers minimise risk as far as ‘*practicable*’, which it therefore considers is consistent with its obligations under its mandatory ESMS.

It is noted that both of these programs are function of new information attained post its November Proposal. Again, evolving asset management strategies in response to new and better information is entirely consistent with the underlying requirements of the ESMS, and to minimise risk as far as ‘*practicable*’.

Conductor Ties

In March 2010, SP AusNet provided the AER with additional information²¹⁷ on the cost associated with increasing the number of conductor ties it replaces over the forthcoming regulatory control period to reduce the community risk posed by bush fires.

To be clear, these additional costs have been proposed as a result of new information garnered from two separate audits:

²¹⁷ EDPR Additional Expenditures – Vegetation Compliance and Safety.

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- An independent contractor engaged by SP AusNet to audit its steel conductors, fittings and tie conditions; and
- Annual bushfire mitigation audit, conducted by ESV and its technical consultant, IJM Consulting.

The first audit was finished in January 2010 by an independent contractor. This involved an audit of the condition of statistically significant number of steel conductors, fittings and conductor ties on SP AusNet's rural distribution network. This audit concluded that whilst there is no immediate need to replace a large volume of steel conductor-ties, it may be prudent to progressively increase conductor-tie replacements on those lines where conductor replacement is not planned for the period 2011-2015.

In addition to the audit initiated by SP AusNet, Energy Safe Victoria and its technical consultant, IJM Consulting, also conducted its 2009/2010 annual bushfire mitigation audit and produced a report²¹⁸. Section 11 of the audit report provided fifteen recommendations, four of which concerned steel conductor tie condition and replacement as described below:

'SP AusNet Distribution re-assess the risk associated with carrying broken line ties into the Bushfire period given the changing climatic conditions – Long steel conductor spans, higher winds and temperatures.'

'SP AusNet Distribution re-assesses the Priority P912 (912 days) given for corroding steel line ties and the impact on future maintenance workloads given the widespread corrosion across the business.'

'SP AusNet Distribution develops a detailed strategy to replace corroding steel ties and conductor now widespread across the business.'

'SP AusNet Distribution investigates the extent that broken line ties and contaminated insulators (ferric oxide stains) from corroding steel line ties have in the ignition of pole top and crossarm fires.'

Having regard to the above recommendations, SP AusNet considers that a combination of conductor replacement (Capex) and conductor tie replacement (Opex) will address the network risks identified in an efficient and prudent manner such that it can minimise risk as far as 'practicable', as required under its ESMS.

More specifically, extrapolation of the independent audit findings to the entire steel conductor fleet reveals approximately 23,000 spans where steel conductor ties may have less than five years remaining life. SP AusNet's steel conductor replacement program for 2011-2015 identifies 1,770 km of deteriorated conductor for replacement. This re-conductoring will include the replacement of steel conductor ties on approximately 13,000 spans leaving 10,000 spans where steel conductor ties may have less than five years remaining life. Based on a unit rate of \$300²¹⁹ per span, replacement of deteriorated steel conductor ties over the period will cost \$3.4M (\$2010).

²¹⁸ IJM Consulting Pty Ltd, *Bushfire Mitigation SP AusNet Final Audit Report 2009*.

²¹⁹ 7 poles per day with 3 man G&B crew, EPV, construction truck, 10% traffic control, supervision.

Table 7.43: Conductor Ties

(\$2010M)	2011	2012	2013	2014	2015
Conductor Ties (\$2010M)	0.65	0.66	0.68	0.70	0.71
Volumes	2000	2000	2000	2000	2000

Source: *Opex Step Change_FINAL.xls*

Whilst SP AusNet proposes this program to comply with its statutory requirement to minimise risk as far as ‘practicable’, it also is cognisant of the fact that practical is a function of, amongst other things:

- the severity of the hazard or risk in question; and
- the cost of removing or mitigating the hazard or risk.

This quite rightfully, implies an assessment of the economic benefits and costs associated with the program to minimise that risk as far as ‘practicable’, although, SP AusNet notes that this statutory obligation does not solely rely on the rigid application of a economic cost benefit assessment tool.

Conductor tie failures are included under the range of conductor related failures that result in an average of seven²²⁰ fire ignitions per annum. A sample of the past 12 months conductor related fire incident data indicates conductor ties represent 16.6% of fire incidents attributed to conductor failure which therefore equates to 1.2 fire per annum

Application of the community cost of \$879,990²²¹ per fire incident establishes an annual community risk of \$1.06M. New assessment criteria have been established to objectively assess conductor tie condition and a subsequent replacement program initiated in 2010 to address this community risk. Continuation of this program through the next control period is expected to significantly reduce this risk.

Table 7.44: Conductor Ties

	2010	2011	2012	2013	2014	2015
Annual Fire Starts (Number)	1.2	0.96	0.72	0.54	0.42	0.3
Fire Start Benefit (\$2010M)		0.21	0.42	0.58	0.69	0.80

As can be seen above, SP AusNet considers that there are considerable economic benefits associated with undertaking such a program. Despite the benefit being marginally less than the

²²⁰ SP AusNet Enhanced Network Safety Strategy (AMS 20-13)

²²¹ SP AusNet ‘\Conductor PV Analysis’.xls

total costs, SP AusNet considers that such a program is clearly consistent with its statutory requirement to minimise risk as far as ‘*practicable*’.

Enhanced Asset Inspection Programs

SP AusNet adopted five and ten year ground based cyclic inspection intervals for timber and concrete poles respectively in 2000. Asset inspectors undertake intrusive testing and preservative treatment of timber poles during inspections together with a visual assessment of the pole top structure and fittings.

In 2007, SP AusNet developed and progressively commenced the trial of a number of technologies to enhance the accuracy of asset condition monitoring. These include:

- High resolution digital photography – hand held
- Elmast – telescopic mast with high resolution digital photography
- Unmanned aerial vehicle with high resolution digital photography
- Independent office based assessment of digital images of assets

These technologies are now part of SP AusNet’s standard ground based asset inspection program.

In 2009, SP AusNet developed and commenced the trial of helicopter mounted, high resolution digital photography with GPS tracking to overhead line assets. This resulted in the inspection of 15,500 poles and the subsequent detection of 1,092 asset maintenance and replacement items, additional to that of the ground based inspection program. The cost of this program was \$580k in the 2009 calendar year.

With a 7% detection rate, and having regard to the substantial net benefits of the program, SP AusNet’s Bushfire Mitigation Management Committee (BMMC) has subsequently endorsed this inspection process as an effective means of asset condition inspection and monitoring.

The new helicopter inspection program endorsed by the BMMC will involve a five year inspection interval, with a 2.5 year offset to that of the ground based five year inspection cycle. Accordingly, this results in a cyclic visual inspection interval for timber and concrete pole top structures on a 2.5 and 5 year interval respectively. Intrusive inspection and treatment of timber poles together with a range of inspection and maintenance activities undertaken through the ground based inspection cycle will require the ground based inspection program to be maintained.

In accordance with SP AusNet’s philosophy of condition based asset replacement, it has developed and implemented asset inspection technologies and methods at an incremental cost of \$6.22M (\$ real 2010) that will achieve legislative safety obligations to maintain or reduce risk as low as reasonably practicable.

The table below provides the incremental of cost relative to the 2009 base year for the helicopter inspection program from 2011 to 2015.

Table 7.45: Enhanced Asset Inspections

	2011	2012	2013	2014	2015
Incremental Cost above 2009 Base Year costs for Enhanced Asset Inspections (\$2010M)	1.19	1.21	1.24	1.28	1.31
Pole Inspection Numbers	45,000	45,000	45,000	45,000	45,000

Source: *Opex Step Change_FINAL.xls*

As discussed above, this inspection method has established a 7% detection rate for deteriorated assets requiring replacement. Key assets identified for increased replacement rates through this inspection method include:

- Crossarms replacement, and
- Pole top hardware maintenance & replacement
- Fuse maintenance & replacement

Key assets such as this that are in high bushfire risk areas (HBRA) have high failure consequences, therefore, a 'run to failure' philosophy is not acceptable. Accordingly, an alternative industry accepted management practice for addressing in-service failures is to adopt age based replacement. However, application of industry accepted end of life service ages for these asset types produces the following incremental asset replacement volumes for the next control period.

Assuming a weighted average cost of capital of 7.5%, this equates to an annualised cost of \$11.64M per annum which represents an incremental cost of \$9.96M²²² per annum over the recommended enhanced condition monitoring option.

Therefore, relative to the counterfactual – namely, age based replacement – increased asset inspections are considered economic, as well as consistent with SP AusNet's requirements under its ESMS to maintain or reduce risk as low as reasonably practicable.

²²² Annualised cost of capital (\$11.64M) less annual enhanced inspection cost of \$1.68M.

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Table 7.46: Incremental Capital Cost – Age Based over Enhanced Condition Monitoring

	Asset End Life (years)	Age Based Volume	SPA Condition Based Volume	Incremental Volume	Incremental Cost (\$2009M)
Crossarm/insulator (ea)	49	51,156	46,785	4,371	7
Pole top - Ties, conductor (km)	48	9,357	2,050	7,307	148.2
TOTAL					155.2

7.6.38 SP AusNet’s revised Step Changes and Other Costs

The table below shows SP AusNet’s revised step changes and other costs.

Table 7.47: Revised Step Changes and Other Costs

(\$2010M)	2011	2012	2013	2014	2015
Compliance	12.82	14.77	16.68	17.19	17.62
Changes in external environment	5.89	6.16	7.50	6.51	6.47
Safety driven	9.62	9.35	9.45	9.20	9.53
Customer driven	7.73	8.38	6.85	6.42	6.51
TOTAL	36.06	38.66	40.48	39.32	40.13

7.7 Self Insurance
7.7.1 Overview of SP AusNet’s Original Proposal

SP AusNet’s Original Proposal included a self-insurance allowance to compensate it for bearing certain risks that are not accounted for in the WACC, nor compensated for elsewhere in the Original Proposal.

SP AusNet noted that an allowance for self-insurance risk is supported by regulatory precedent. For example, the AER’s guidance to transmission businesses in January 2007 specifically allowed for the inclusion of a self-insurance risk premium, subject to certain conditions being met.

In its recent electricity transmission decision for SP AusNet, the AER allowed the inclusion of a self-insurance risk premium, and in doing so, stated:

“For risks associated with the provision of prescribed transmission services that are not compensated for through the WACC or elsewhere in its revenue proposal, a TNSP may propose to “self-insure”, and seek a self-insurance allowance for this purpose.”²²³

SP AusNet engaged an appropriately qualified actuary, AON²²⁴, to undertake a valuation of its self insured risks. In undertaking this quantification, SP AusNet provided a significant amount of data to AON in order to ensure that they were able to undertake a robust quantification. The self insurance costs assessed by AON were adjusted:

- to remove liabilities that are already included in SP AusNet’s base year; and
- to account for growth factors such as line length and customer numbers, which tend to increase the required level of self insurance.

SP AusNet proposed a total self-insurance allowance of \$20.9 million (in 2010 dollars) for the 5 year regulatory period. The self-insurance allowance covered the expected costs of risks associated with general liability, bushfire, poles and wires, insurer default, and fraud.

SP AusNet’s Original Proposal noted that the Board had resolved to self-insure these specified risks, and included the Board’s resolution as an Appendix to the Original Proposal.

7.7.2 AER’s Draft Determination

Page 262 of the Draft Determination stated:

“In addition to the opex factors, the AER considers that a forecast opex allowance inclusive of self insurance is consistent with a forecast opex allowance which achieves the opex objective regarding maintaining the reliability, safety and security of the distribution system through the supply of standard control services.”

Notwithstanding this statement, the Draft Determination rejected SP AusNet’s proposed allowance for self-insurance costs and adopted a total allowance of zero in relation to self-insurance.

The following sections examine the reasoning applied by the AER in its Draft Determination, and present SP AusNet’s responses on self-insurance provisions relating to liability (including bushfire) risk; poles and wires; fraud; and insurer’s credit risk.

7.7.3 SP AusNet’s response on liability self-insurance

The AER’s Draft Decision on liability risk is summarised in the following statement²²⁵:

“The historical losses are recurrent and have been included in the DNSPs’ base year opex. The AER does not consider it necessary to allow additional compensation for these risks. Accordingly, the AER rejects the general liability allowances for Powercor, SP AusNet and United Energy, and replaces them with \$0.

However, the AER notes that it will revisit the actual liability costs for 2009 arising from bushfire events for Powercor and SP AusNet and use these costs to determine an

²²³ AER 2008, Final Decision, *SP AusNet transmission determination 2008-09 to 2013-14*, January, p 137.

²²⁴ Appendix I – AON - *Self Insurance Risk Quantification SPI Electricity Pty Ltd – July 2010*

²²⁵ Appendix M - AER, *Draft Determination*, , p. 255.

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appropriate self insurance allowance (if any) to compensate for one in twenty year bushfire events".

The AER has effectively split the analysis of liability risk into two components, being:

- general liability risks (such as personal injury, property damage, etc.); and
- fire liability risks.

In relation to general liability risks, the Draft Determination states (on page 255 of Appendix M) that:

"for general liability, the AER notes that the incurred annual losses over the current regulatory control period (2006–10) that the DNSPs have covered through their opex allowance, are representative of future expected losses (apart from 2009 bushfire losses for Powercor and SP AusNet, which the AER will assess as part of its final distribution determination)".

The conceptual framework that the AER appears to have adopted in relation to the 'general liability' self insurance allowance is that if an event, or a set of events, related to a particular risk has occurred in the base year, then the expected costs of that risk must already be captured in that business' base year, and therefore, no further compensation for self-insurance need be provided for this risk. Erroneously, the AER adopted this approach, despite the fact that SP AusNet's Original Proposal explained clearly that the costs of such events had been excluded from the base year costs.

Moreover, the AER's approach incorrectly assumes that the one data point – represented by actual costs incurred in 2009 - is a better reflection of the future expected costs that a prudent and efficient service provider would incur over the forthcoming regulatory control period, than that which would be calculated through the use of a longer data series reflecting historical expenditures.

SP AusNet acknowledges that from a statistical perspective, there may be certain circumstances where using a truncated data set may be more appropriate than using the full data set available. For example, where there is a clear disconnection between historical circumstances affecting either the probability or consequence associated with a particular risk, historical outcomes will be less informative in estimating future outcomes. Additionally, where the underlying data exhibits very low levels of volatility, there is less 'risk' associated with utilising a smaller sample to derive long term forecasts.

However, SP AusNet does not consider this to be the case for liability risk. In particular, historical data show that the outturn costs for this risk are materially volatile (standard deviation (\$142.7k) / average (\$1200k) = 11.89%)²²⁶. This observation reinforces the need to adopt a statistically robust approach, which utilises as many data points as are reasonably available to derive a robust estimate of the self insurance allowance for this particular risk.

It appears that the AER itself considers that the use of a longer data set may in fact provide a better basis for estimating future expected costs, with the AER stating (on page 255 of Appendix M) that:

²²⁶ Derived from AON Report – Appendix I – Attachment 1.

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“the incurred annual losses over the current regulatory control period (2006–10) that the DNSPs have covered through their opex allowance, are representative of future expected losses”.

The apparent recognition in the above statement (that a longer data series from 2006-2010 is representative of future expected losses) conflicts with the AER’s final position (stated on page 255 of Appendix M), that:

“the historical losses are recurrent and have been included in the DNSPs’ base year opex. The AER does not consider it necessary to allow additional compensation for these risks.”

In addition to the above, SP AusNet also notes that:

- The AER has not explained why, from a statistical perspective, the use of one data point (2009) is considered to be a more robust predictor of the liability costs that a prudent and efficient distribution business would incur in the forthcoming regulatory control period in relation to liability risk.
- The AER has not provided any detailed analysis to refute the methodology utilised by AON to determine SP AusNet’s quantification, which is based on a robust actuarial approach to analysing what is, a much longer data series.

In the case of the latter point, SP AusNet has inferred from the absence of a critique of AON’s approach that the AER accepts AON’s methodology for calculating the self insurance allowance for this risk (except for the climate change adjustment).

In conclusion, even for high probability, lower consequence events, the use of one data point – namely the base year - will not be as statistically robust as an approach that uses a longer data series to determine the allowance for liability risk. Moreover, as already noted, the AER has not provided any critique refuting the methodology utilised by AON to determine SP AusNet’s quantification, which is based on a much longer data series, and robust actuarial techniques. Therefore, SP AusNet does not accept the AER’s Draft Determination. Again, the AER has failed to inform SP AusNet of the material issues it considered in making its determination in relation to this issue.

SP AusNet’s Revised Proposal includes an updated quantification of the expected cost of liability risk undertaken by AON (which excludes AON’s proposed climate change adjustment), taking into account the total liability-related costs in the 2009 base year. This is attached to this Revised Proposal. In accordance with the approach adopted in its Original Proposal, SP AusNet has also removed the 2009 actual liability costs from this calculation to ensure that there is no double counting.

In relation to fire liability risks, the Draft Determination states (on page 255 of Appendix M):

“that a ‘major’ fire event (that is, an event that may be described as a ‘one in twenty year’ event) has already occurred on SP AusNet’s network, in February 2009. The policy deductible for bushfire claims is \$10 million. Aon asserts that for a one in twenty year event, SP AusNet would incur that total cost of the deductible (that is, the liability would be beyond \$10 million). However, the AER notes that the liability quantified so far (as at July) for 2009 is only at \$1 963 637. The full cost of liabilities arising from the February 2009 bushfire event are yet to be quantified. The AER considers that the full costs should be representative of a major fire event and a forward looking self insurance allowance can be based on those losses. As a result, once costs have been quantified (the AER expects that this will happen as part of SP AusNet’s revised regulatory proposal, and as the actual costs for 2009 will form the base year for the purposes of

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forecasting opex over 2011–15), the AER can make an assessment of the actual cost impacts of such an event, and determine an appropriate self insurance allowance for the deductible (if any) to compensate for any future event".

The AER's statement suggests that SP AusNet will have access to information regarding the full costs associated with the 2009 bushfire for the purpose of preparing this Revised proposal. SP AusNet notes that information regarding the full costs of this event are unavailable at present. This situation is consistent with experience from other events of this magnitude (such as the Ash Wednesday and Canberra bushfires in relation to which it took up to 5 years to finalise matters arising from these events). Notwithstanding this, SP AusNet has, as part of this Revised Proposal, provided confidential information to the AER regarding the costs incurred so far in relation to the 2009 Bushfires, and writes against SP AusNet in relation to this event. SP AusNet considers that this approach will provide the AER with the best information available at this time regarding the known costs of this event. It is noted that all bushfire related costs have been treated as non-recurrent items, and therefore, removed from the Base Year.

Based on experience in other similar events (noted above) and the advice provided by AON, SP AusNet remains firmly of the view that AON has correctly concluded that the 2009 bushfire is a 1 in 20 year event that will breach SP AusNet's new insurance deductible of \$10 million²²⁷.

7.7.4 SP AusNet's response on poles and wires risk

The AER's Draft Determination in relation to poles and wires risk is summarised in the following statement:

"The Aon report for SP AusNet cited bushfire events in February 2009 as an example of damage to poles and wires. SP AusNet, in its regulatory proposal, states that it has removed poles and wires expenditure incurred in 2009 from its base year. Whilst the AER accepts that this may be the case (and acknowledges that these costs are not capitalised), the AER considers that they are relatively minor when compared to the upside risks faced by the DNSPs. That is, the upside risks would outweigh the negative risks, such that there is unlikely to be net asymmetric downside risk to be compensated by a self insurance allowance. The AER therefore rejects SP AusNet's proposed self insurance allowance for damage to poles and wires, and replaces it with an allowance of \$0".

SP AusNet does not accept the AER's reasoning and conclusions in relation to this component of the Draft Determination. In summary, SP AusNet:

- refutes the AER's assertion that "these costs are relatively minor"; and
- considers the AER's assertion that there will be "upside risks" to be both unrealistic, and unsubstantiated.

In assessing the reasonableness of the AER's statement that the downside risks are relatively minor, SP AusNet has considered the following data:

- The overall residual risk that was calculated by AON – being \$1.8 million per annum;
- The fact that SP AusNet has been exposed to events exceeding over \$1.6 million in expenditure in 3 of the last 7 years (see AON Report – Appendix 2); and

²²⁷ It is noted that the policy deductible has increased from \$5m to \$10m, with the latter forming the basis for the self insured risk quantification.

- The fact that SP AusNet has faced an individual event costing it \$8.6 million in an individual year (2009).

Having regard to the above information, SP AusNet considers that it is unreasonable to conclude that this exposure to be “relatively minor”, given the information presented above. Moreover, SP AusNet notes that the AER has not defined the criteria it has used to justify the assertion that these downside risk are ‘relatively minor’. This leads to an inconsistent treatment of self insurance claims, for example, the AER has allowed for a \$24 000 per year exposure to United Energy for asbestos liability, where that company has a maximum exposure of \$300,000 under its insurance policy with a probability of one claim every 12.5 years. This maximum exposure of \$300,000 is *lower* than the actual costs incurred by SP AusNet in relation to poles and wire risk for 6 out of the 8 years between 2000 and 2008. Additionally, SP AusNet notes that the poles and wires costs it incurred as a result of the 2009 bushfires (\$8.6 million) exceeds the AER’s proposed materiality threshold for cost pass through events. Therefore, SP AusNet considers that the AER’s unsubstantiated assertion that poles and wires expenditure is “relatively minor” is incorrect, when assessed at an individual event level, the overall quantification level, and relative to the allowances that the AER has accepted in relation to a number of other businesses’ self insured risks. On this basis, the AER’s characterisation of these downside risks as ‘relatively minor’ seems unreasonable and unjustifiable, and the maintenance of which, would be inconsistent with the Section 7A (2) of the NEL that requires “*a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in...providing direct control network services*”.

In addition to the above discussion, it is also noteworthy that the AER’s argument for exclusion appears to rely substantially on its assertion that the downside risks will be more than offset by “upside risks”. The AER has provided no quantitative evidence to support its assertion that the upside risks would outweigh the downside risks. Moreover, the AER has not even outlined at a qualitative level, what these upside risks may actually be. SP AusNet is unable to identify any ‘upside risks’ associated with this particular exposure.

On the basis of the analysis set out above, and given that the AER appears to have accepted AON’s quantification of this risk (excluding AON’s climate change adjustment), SP AusNet proposes to retain the quantification of poles and wires risk that was outlined in its Original Proposal (reduced for the removal of the climate change adjustment).

If the AER maintains its position that this self insurance risk allowance should be excluded, then the SP AusNet contends that the AER must increase SP AusNet’s base year expenditure by \$8.6 million (being the actual expenditure that was incurred in 2009 in relation to this risk), and, allow for the inclusion of the costs associated with external insurance, which SP AusNet notes is materially larger than this self insured amount²²⁸.

7.7.5 SP AusNet’s response on insurer credit risk

SP AusNet considers there are strong grounds for arguing that despite the existence of a cost pass through provision for certain events, the company may still face a downside asymmetric risk given the magnitude of the AER’s proposed cost pass through threshold (1% of revenue). In theory, the high threshold that must be met before costs can be passed through is likely to necessitate the inclusion of a self insured risk allowance. However, in the case of insurer default,

²²⁸ SP AusNet – Letter from Marsh, 18 June 2010.

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SP AusNet accepts the removal of this allowance as a result of the AER's inclusion of a pass through event for this risk. In saying this, SP AusNet has considered both:

- its proposed reduction in that threshold, which mitigates any residual asymmetric risk being held by the business for this exogenous event; and
- the fact that the scale of such an event is likely to lead to an exposure that exceeds not only SP AusNet's proposed cost pass through threshold, but also the AER's proposed threshold.

7.7.6 SP AusNet's response on fraud risk

SP AusNet accepts the AER's removal of this self-insured risk, on materiality grounds.

7.7.7 SP AusNet's revised assessment of the self insurance costs

On the basis of the responses set out above, the table below shows SP AusNet's revised self-insurance cost allowance.

Table 7.48: Revised Self Insurance Cost Allowance

(\$2010M)	2011	2012	2013	2014	2015
Liability	0.62	0.66	0.70	0.73	0.76
Poles and Wires	1.77	1.77	1.78	1.79	1.79
Insurers Default Risk	0.00	0.00	0.00	0.00	0.00
Fraud Risk	0.00	0.00	0.00	0.00	0.00
TOTAL	2.39	2.43	2.48	2.52	2.55

Source: AON; SPA_O&M Forecasts_FINAL1.xls

7.8 Debt Raising Costs

7.8.1 Overview of SP AusNet's Original Proposal

SP AusNet's Original Proposal explained that the magnitude of the financing or transactions costs associated with raising debt depend on market conditions. For many companies, including SP AusNet, the Global Financial Crisis has led to a cost increase as credit rating agencies have increased their focus on refinancing risk. In particular, credit rating agencies expect SP AusNet to have replacement funding in place at least 6 months prior to the maturity of the debt, which increases debt raising costs.

SP AusNet's Original Proposal explained that consultants CEG advised that a margin of 12 basis points (bp) per annum was appropriate for calculating direct debt raising costs for the forthcoming regulatory control period. In addition, a further margin of 16 bp per annum was included to account for the increased holding costs of early refinancing.

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Combining these margins resulted in a debt raising cost allowance of between \$3.45 million and \$4.52 million per annum, as shown in the table below.

Table 7.49: Original Proposal Debt Raising Costs

(\$2010M)	2011	2012	2013	2014	2015
Debt Raising Costs	1.1	1.2	1.3	1.4	1.5

7.8.2 AER's Draft Determination

The Draft Determination rejected the proposed benchmark debt raising costs on the basis that:

- the main arguments put forward by the Victorian DNSPs, including the basis of the CEG report and other reports, had been previously considered by the AER in the South Australian draft and final electricity distribution determinations; and
- the outcome of this analysis was to update of the selection of bonds as well as some refinements to the Allen Consulting Group (ACG) methodology.

The Draft Determination also rejected the proposed early debt raising costs on the basis that the allowance for (standard) direct debt raising costs already includes the efficient costs of a refinancing plan and that no increase in these costs is required.

The Draft Determination continued to apply the current regulatory approach based on the ACG methodology as it considered this produces the best estimate possible.

7.8.3 SP AusNet's response to the issues raised by the AER

SP AusNet accepts the Draft Determination.

7.8.4 SP AusNet's revised debt raising costs

The table below shows SP AusNet's revised debt raising cost forecasts.

Table 7.50: Revised Debt Raising Cost Forecasts

(\$2010M)	2011	2012	2013	2014	2015
Debt Raising Costs	1.11	1.18	1.30	1.41	1.50

7.9 GSL Costs

7.9.1 Overview of SP AusNet’s Original Proposal

SP AusNet’s Original Proposal explained its methodology for forecasting GSL costs as follows:

- apply a 3.2β threshold to SP AusNet’s faults history from 2004 to 2008;
- determine the number of GSL Payments that would have been made, if a 3.2β threshold had been in place for those years;
- multiply the number of payments that would have been made by the relevant penalty payments;
- escalate the GSL payments by the forecast increase in customer numbers over the forthcoming regulatory period; and
- adjust for the impact of climate change, consistent with the methodology outlined in section 4.4.2 of the Original Proposal.

The tables below shows the resulting GSL cost forecasts that were included in SP AusNet’s Original Proposal using a 3.2β threshold. It was noted that costs would be higher if the AER’s standard 2.5β threshold were adopted.

Table 7.51: Original Proposal GSL Cost Forecasts

(\$2010M)	2011	2012	2013	2014	2015
GSL Costs – 3.2β threshold (including climate change impact)	4.02	3.99	3.95	3.91	3.87

7.9.2 AER’s Draft Determination

As explained in Chapter 4, the Draft Determination has assumed the ESCV GSL scheme will continue to apply during the forthcoming regulatory period.

7.9.3 SP AusNet’s response to the issues raised by the AER

As stated in Chapter 4, SP AusNet has accepted the Draft Determination with respect to GSLs on the basis that the Victorian regime will continue to apply.

7.9.4 SP AusNet’s revised GSL costs

The table below shows SP AusNet’s revised GSL cost forecasts.

Table 7.52: Revised GSL Cost Forecasts

(Real 2010 \$M)	2011	2012	2013	2014	2015
GSL Costs	4.34	4.34	4.34	4.34	4.34

7.10 Demand Management Costs

As explained in Chapter 8 of this Revised Proposal, SP AusNet has not changed its forecast demand management programs given that they are efficient and the associated expenditure meets the requirements of the NER. The Draft Determination does not set out reasons to justify the AER's rejection of this expenditure. On the basis of the information presented in its Original Proposal, together with the lack of reasons provided by the AER in rejecting SP AusNet's proposals, SP AusNet considers these cost should be accepted in full. The revised DM opex forecast (excluding the DMIA) are reproduced in the table below.

Table 7.53: Revised Proposal Demand Management Costs

(\$2010M)	2011	2012	2013	2014	2015
Demand Management Costs	2.02	2.20	2.13	2.22	2.19

The proposed DM and non-network costs are for the delivery of specific functions and programs. For clarity, this opex is not a proposed increase to the DMIA under the DMIS but are forecast as ex ante opex. SP AusNet therefore urges the AER to specifically consider the forecast demand management opex in accordance with the NER.

The \$10.84 million of DM opex includes \$0.75 million per annum to comply with the National Framework for Distribution Planning and Expansion which imposes additional demand management-related regulatory obligations in the forthcoming regulatory control period including:

- regularly developing and publishing a Demand Side Engagement Facilitation Process Document;
- establishing and maintaining a public database of DM proposals/case studies;
- establishing and maintaining a Demand Side Engagement Register of all demand side option proponents; and
- engaging with DM proponents before a regulatory test process commences.

These new obligations are expected to commence by 2011 and will introduce permanent new costs. This component of the expenditure is therefore a "step change" in costs. For clarity, these opex costs are in addition to the \$2.09 million which the AER approved in the Draft Determination related to complying with network planning and reporting obligations also driven by the National Framework for Distribution Planning and Expansion.

7.11 S-Factor Adjustment

As explained in Chapter 4 of this Revised Proposal, SP AusNet has updated its S-factor adjustment costs in response to the Draft Determination. The revised costs are reproduced in the table below.

Table 7.54: Revised S-Factor Adjustment Costs

(\$2010M)	2011	2012	2013	2014	2015
S-Factor adjustment	19.49	2.24	-4.79	0.75	-41.15

7.12 Summary of revised operating expenditure forecasts

SP AusNet's forecast total opex in this Revised Proposal is \$936.61 million (real \$2010) for the forthcoming regulatory control period. This is an increase of \$42.41 million (real \$2010) or 4.7% from the \$894.2 million (real \$2010) that SP AusNet forecast in its Original Proposal. It is noted that this is included by the inclusion of the S-Factor adjustment.

SP AusNet's Revised Proposal has addressed the issues raised by the AER in its Draft Determination. However, SP AusNet remains of the view that an increase in opex is required in the forthcoming regulatory period principally to address:

- real increases in labour costs and costs associated with network and customer growth;
- the step changes and other costs, especially related to compliance and safety;
- the S-factor adjustment; and
- the additional costs of demand management programs.

The following table summarises SP AusNet's opex forecasts for the forthcoming regulatory control period.

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Table 7.55: Revised Operating Expenditure Forecast

(\$2010M)	2011	2012	2013	2014	2015	TOTAL
Operating						
Network operating costs#	68.93	53.37	49.65	55.77	15.35	243.07
Billing and revenue collection	1.69	1.72	1.75	1.78	1.80	8.74
Customer service	10.07	9.36	9.59	9.81	10.01	48.84
Advertising / marketing	2.27	2.39	2.52	2.59	2.67	12.44
Regulatory costs	1.02	1.05	0.93	0.98	1.02	5.00
Other network operating costs	27.60	28.40	28.83	31.13	30.62	146.58
Maintenance						
Routine maintenance	7.71	7.92	8.17	8.42	8.68	40.89
Condition-based maintenance	15.92	16.52	16.96	17.47	18.14	85.02
Emergency maintenance	19.65	20.43	21.44	22.49	23.51	107.51
Vegetation management	37.11	41.18	42.69	43.88	45.39	210.25
SCADA and network control	0.01	0.01	0.02	0.02	0.02	0.08
Other Maintenance	-	-	-	-	-	-
Other Costs						
GSL payments	4.34	\$4.34	4.34	4.34	4.34	21.70
Debt raising costs	1.11	1.18	1.30	1.41	1.5	6.50
Total opex	197.43	187.87	188.17	200.09	163.05	936.61

Source: SPA_O&M Forecasts_FINAL1.xls; #: This is affected by the S-factor adjustment year on year

For the reasons set out in this Chapter, SP AusNet considers that the above revised forecasts comply with Clauses 6.5.6 and S6.1.2 of the NER, and should be accepted by the AER in its final determination.

8 Demand Management

This chapter addresses the AER's Draft Determination in relation to SP AusNet's demand management (DM) and distributed generation (DG) initiatives for the forthcoming regulatory control period. These projects are reflected in SP AusNet's opex and capex forecasts and demonstrate that SP AusNet has considered efficient non-network alternatives in the development of its opex and capex forecasts.

The chapter is set out as follows:

- Section 8.1 summarises SP AusNet's original submission in relation to demand management and non-network alternatives;
- Section 8.2 sets out the key issues arising from the AER's Draft Determination;
- Section 8.3 sets out SP AusNet's response to the issues raised in the Draft Determination, and
- Section 8.4 presents SP AusNet's revised suite of DM and DG projects for approval in its revised 2011-15 opex and capex allowances.

8.1 Overview of SP AusNet's Original Proposal

SP AusNet's Original Proposal explained that SP AusNet's approach to demand management for the 2011-15 regulatory period focuses on four streams of engagement:

- implementing non-network solutions to efficiently defer capex;
- implementing demand management programs to efficiently manage peak demand in the network;
- undertaking broad-based trials to test solutions which could be used to effectively manage SP AusNet's distribution network in the long term; and
- introducing time of use tariffs and critical peak pricing in conjunction with advanced metering.

SP AusNet also explained that it must establish effective organisational arrangements to provide a DM and DG knowledge base and enable SP AusNet to develop and deliver non-network programs. A key part of these arrangements will be establishing a non-networks team to promote efficient non-network solutions. SP AusNet proposed additional expenditure to build the appropriate expertise in the forthcoming regulatory period.

SP AusNet's Original Proposal identified several locations where DM or DG could potentially be deployed to achieve capex deferral savings. In particular, six augmentation works totalling \$21.7 million on SP AusNet's long rural 22 kV or 66 kV networks have been identified as suitable for deferral through non-network solutions. SP AusNet also proposed to implement a DG solution to defer a \$7.4 million upgrade to the Benalla Zone Substation 22kV feeder. SP AusNet noted that further opportunities to defer capex were likely to eventuate, justifying a further modest opex allowance of \$1.3 million over the forthcoming regulatory period. In total, opex required to defer reinforcement capex totalled \$2.43 million.

Other DM and DG initiatives proposed by SP AusNet in its Original Proposal included:

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- An extension of SP AusNet’s hot water system load control program, which will deliver efficiency benefits by managing peak demand in constrained areas of the network and avoiding network augmentation;
- Direct load control on air conditioners to manage the impact of future expected growth of refrigerated air-conditioning in residential homes on its network;
- Non-network solution and technology trials to facilitate program refinement prior to full-scale implementation;
- Pilots to test and demonstrate different DG and energy storage solutions as an alternative to network augmentation solutions and to improve network stability and reduce losses;
- Smart network technology trials to allow SP AusNet to effectively manage load growth on the network; and
- Engagement with CSIRO to examine the integration of electric vehicles into the distribution network and customers’ homes to assist with carbon emission reduction.

In addition to these DM and DG measures, SP AusNet’s Original Proposal explained that the introduction of two new Distribution Use of System tariffs would use the functionality of AMI meters to provide cost reflective price signals to residential and small commercial customers, particularly during peak summer demand periods. SP AusNet proposed \$1.32 million in opex to provide:

- customer notification systems (SMS, pager, email) and one full time equivalent staff resource at the network operations centre to monitor and manage the notification process (totalling \$250,000 per annum); and
- resources to update and maintain additional tariff tables (PV2) (totalling approximately \$10,000 per annum).

Table 8.1: Original Proposal DM and DG Expenditure

Budget Item	Proposed Opex (\$ 2010 M)	Proposed Capex (\$ 2010 M)	Total (\$ 2010 M)
Establishing a non-networks team & attaining the necessary expertise & systems	3.80	0.00	3.80
Deferral of capex	2.43	0.00	2.43
DM programs	3.29	0.00	3.29
Trials	0.00	3.18	3.18
Tariffs	1.32	-	1.32
Total	10.84	3.18	14.02

8.2 AER's Draft Determination and SP AusNet's response

The AER's Draft Determination does not address SP AusNet's non-network expenditure forecast and appears to reject the total forecast without explanation. Given this, SP AusNet sought to clarify the AER's decision and received the following response:

"The AER considered SPA's request for \$3.1m in capex included in the reinforcement category. In determining its draft decision on reinforcement capex the AER applied its overall view to the sub category of reinforcement. The capex allowance includes therefore \$1.5m for DM but it is not separately discussed in the capex chapter.

SPA's proposed increase in opex allowance for DMIA of \$10.84m appears not to have been discussed in the draft decision.

As the AER's overarching obligation is to determine a total capex/opex allowance and not individual components we regard these items as rejected and therefore SPA should respond in your revised proposal on this basis.²²⁹

No further explanation was provided. It is evident from the AER's response that SP AusNet's DM and DG proposal has not been properly examined by the AER and has been rejected without due consideration. SP AusNet is extremely disappointed in this outcome, given the significant time and effort SP AusNet has made in developing its non-networks proposal and the emphasis placed on non-network alternatives in previous AER reviews and stakeholder submissions. The AER's apparent oversight in not examining SP AusNet's proposals for DM and DG solutions contrasts sharply with the recent media criticisms made by the AER:

"In rejecting \$500 million in proposed spending on new grid infrastructure, Mr Reeves says, the regulator has sometimes questioned whether distribution businesses have done enough work on assessing demand-management alternatives.

²²⁹ Email from AER to SP AusNet dated 21 June 2010 in response to SP AusNet's letter of 15 June 2010 requesting reasons in relation to specific categories of costs in the Draft Determination.

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...Mr Reeves says the AER is required to consider the efficiency of proposed network spending, which means the most cost-effective way of meeting customer needs. "If demand management is a cheaper solution than building grid, then demand management ought to be considered," he says."

In relation to SP AusNet's proposed capex for DM and DG, the AER's further explanation of its Draft Determination notes that a \$1.5 million allowance has been made for non-network capex. However, the AER has not provided any explanation regarding its rejection of the remaining \$1.7 million. SP AusNet's original Regulatory Proposal demonstrated that the entirety of the forecast capex is required to deliver the relevant DM, smart network and energy storage trials. It is therefore difficult to understand how the AER has determined that less than 50% of the proposed capex is required.²³⁰

In relation to SP AusNet's proposed opex for DM and DG, the AER has mischaracterised SP AusNet's submission. Rather than proposing an increase in the opex allowance for the AER's Demand Management Incentive Scheme (DMIS), SP AusNet's proposed opex is an integral part of its forecast opex the forthcoming regulatory period. Specifically, SP AusNet's \$10.84 million forecast opex relates to identified non-network projects for the forthcoming regulatory period, and should be accepted by the AER on an ex ante basis. It would be inappropriate for the proposed expenditure to be examined as part of the DMIS or subject to the ex post approval and the use-it-or-lose-it mechanism under the DMIS.

The forecast \$10.84 million of opex includes \$0.75 million per annum to establish non-networks planning and delivery resources. This team will work with the network planning teams to develop SP AusNet's Demand Side Engagement Strategy and administer its planning functions as well as deliver efficient non-network solutions. The need for these resources is driven by the National Framework for Distribution Planning and Expansion which imposes additional demand management-related regulatory obligations in the forthcoming regulatory control period including:

- regularly developing and publishing a Demand Side Engagement Facilitation Process Document;
- establishing and maintaining a public database of DM proposals/case studies;
- establishing and maintaining a Demand Side Engagement Register of all demand side option proponents; and
- engaging with DM proponents before a regulatory test process commences.

These new obligations are expected to commence by 2011 and will introduce permanent new costs. This particular expenditure is therefore a "step change" in costs, and should be considered in this context. This is reflected in Chapter 7 of this revised proposal.

For clarity, SP AusNet has separated these opex costs from those which the AER approved in the Draft Determination related to complying with network planning and reporting obligations also driven by the National Framework for Distribution Planning and Expansion, which require SP AusNet to:

- prepare a more detailed and onerous annual Distribution System Planning Report (DSPR);
- conducting and consulting on regulatory tests to be completed each year; and

²³⁰ Manning, P, *The Age*, "Energy regulator draws a surprise line in Victoria", 12 June 2010, <http://www.theage.com.au/business/energy-regulator-draws-a-surprise-line-in-victoria-20100611-y3qx.html>.

- increased workload stemming from more involved 'joint planning' for connection assets.

As such SP AusNet has not double counted the costs to meet its demand management related obligations.

SP AusNet notes that the AER is not focussed on funding individual programs but rather the Draft Determination seeks to determine an appropriate level of overall opex or capex. However the AER cannot assess SP AusNet's expenditure forecasts in accordance with clauses 6.5.6(c) and 6.5.7(c) of the NER without seeking to obtain a reasonable understanding of the individual elements which comprise the overall forecast.

SP AusNet considers that the NER require the AER's engagement at a more detailed project level, rather than the broad-brush assessment taken by the Draft Determination in relation to the total expenditure proposed. In particular, SP AusNet notes that clauses 6.5.6(e) and 6.5.7(e) requires the AER to consider a number of factors in assessing whether SP AusNet's forecast opex and capex should be accepted. These provisions state that the AER must consider the extent to which a DNSP has considered and made provision for non-network alternatives and whether there are opportunities for the substitution between capex and opex. SP AusNet does not consider that the AER can fulfil its obligations under the NER unless it fully considers SP AusNet's DG and DM proposals.

As explained in SP AusNet's Original Proposal, the AER must also recognise the inter-related nature of the proposed expenditures, which arise due to the substitution possibilities between capex and opex. Specifically, SP AusNet has proposed \$2.43 million in opex for non-network solutions to defer reinforcement projects. If the AER rejects the proposed opex for these non-network solutions, SP AusNet's reinforcement capex forecast will need to be increased by \$15.8 million to recognise specific reinforcement projects that would no longer be deferred.

In light of the above considerations, SP AusNet urges the AER to review SP AusNet's non-networks proposal as set out in Chapter 8 of its Original Proposal. SP AusNet considers it is inappropriate for the AER to reject the non-networks forecast without engaging in the detail of it, particularly in light of the requirements of the NER and the need for DNSPs to explore and take advantage of efficient non-network alternatives such as demand management, embedded generation and invest in smart networks. A failure by the AER to do so will necessarily result in a manifestly unreasonable outcome.

8.3 SP AusNet's revised demand management initiatives

In light of the AER's Draft Determination, SP AusNet has reviewed its original non-networks forecast. SP AusNet considers that its DM proposal is efficient and reasonable, and has not found any reason to revise its original forecast.

The table below shows SP AusNet's revised expenditure for DM and DG initiatives in the forthcoming regulatory period.

Table 8.2: Revised DM and DG Expenditure

Budget Item	Proposed Opex (\$2010M)	Proposed Capex (\$2010M)	Total (\$2010M)
Establishing a non-networks team & attaining the necessary expertise & systems	3.80	0.00	3.80
Deferral of capex	2.43	0.00	2.43
DM programs	3.29	0.00	3.29
Trials	0.00	3.18	3.18
Tariffs	1.32	-	1.32
Total	10.84	3.18	14.02

9 Efficiency Benefit Sharing Scheme

This chapter responds to the AER’s Draft Determination in relation to:

- SP AusNet’s calculations of the revenue increments / decrements for each year of the forthcoming regulatory control period arising from the application of the ESCV’s efficiency carryover mechanism during the current regulatory control period; and
- SP AusNet’s proposed approach to the Efficiency Benefit Sharing Scheme (EBSS) that will apply for the forthcoming regulatory control period.

The remainder of this chapter is structured as follows:

- Section 9.1 provides a summary of SP AusNet’s Original Proposal on the application of the ESCV’s efficiency carryover mechanism, and on the application of the EBSS in the forthcoming regulatory period;
- Section 9.2 outlines the issues raised in the AER’s Draft Determination;
- Section 9.3 sets out SP AusNet’s response to the AER’s Draft Determination; and
- Section 9.4 presents SP AusNet’s Revised Proposal on the calculation of the efficiency carryover amount and the operation of the EBSS in the forthcoming regulatory period.

9.1 Overview of SP AusNet’s Original Proposal

SP AusNet’s Original Proposal calculated the following efficiency carryover amounts for the forthcoming regulatory control period in accordance with the ESCV’s scheme set out in the 2006 EDPR Determination.

Table 9.1: Original Proposal Efficiency Carry Over Amounts

(Real 2010 \$M)	2011	2012	2013	2014	2015	Total
Efficiency Carryover Amount	13.8	-22.0	-5.0	2.1	0.0	-11.1

SP AusNet’s Original Proposal explained that a number of adjustments were made in the calculation of the above amounts to reflect the principles and intent of the ESCV’s scheme. In particular, downward adjustments were made to SP AusNet’s actual operating and maintenance expenditure for the 2009 year to remove the following non-recurrent costs:

- \$10.62 million (\$2009) for the incremental costs associated with the February 2009 bushfires,
- \$3.26 million (\$2009) for the costs that SP AusNet has paid to SPIMS for the actuarial adjustment pertaining to its defined benefits superannuation contribution, and
- \$0.038 (\$2009) to reflect a small margin that SP AusNet paid to a related party service provider in 2009 for maintenance services.

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SP AusNet's Original Proposal also noted that the carry over amounts calculated above assume that the efficiency gain for the last year of the current regulatory control period is zero. SP AusNet explained that this approach has been adopted by the ESCV in its previous regulatory decisions.

SP AusNet also explained that the EBSS will apply with respect to any efficiency gains achieved during the forthcoming regulatory period. The regulatory requirements that govern the EBSS are set out in:

- the NER; and
- the AER's Efficiency Benefit Sharing Scheme, published in June 2008.

In accordance with these provisions, SP AusNet proposed that the following operational aspects of the EBSS should apply for the forthcoming regulatory period:

- No adjustment should be made to the EBSS calculation to account for differences between actual and forecast energy or maximum demand;
- An adjustment should be made to account for the percentage difference between actual and forecast customer numbers in accordance with the following formula:

$$((\text{Actual Customer numbers})/(\text{Forecast customer numbers}))-1*0.41\%*37.45\%$$

- Opex should be adjusted to remove the following uncontrollable cost categories:
 - Liability Insurance premium, which is the liability premium included in the base year, plus SP AusNet's proposed Step change for its liability premium;
 - Self insurance allowance;
 - Debt raising costs;
 - Non network alternatives (demand management);
 - Cost pass through events;
 - Change in classification of a service; and
 - Adjustment for changes in responsibility.

9.2 AER's Draft Determination on Efficiency carryover amounts for 2006–10

Page 596 of the Draft Determination states that the AER has made adjustments to SP AusNet's proposed carryover amounts in relation to:

- ex post adjustments to the benchmark allowance associated with network growth;
- adjustments to the benchmark allowance and actual expenditure to ensure comparability between the benchmark allowance and actual expenditure;
- non-recurrent costs that occur in the base year; and
- other adjustments.

The Draft Determination's allowance for SP AusNet's efficiency carryover amounts for 2006–10 (in 2010 \$ million) are shown in the table below.

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Table 9.2: Draft Determination Efficiency Carry Over Amounts

(Real 2010 \$M)	2011	2012	2013	2014	Total
Efficiency Carryover Amount	-3.6	-23.3	-9.2	3.3	-32.8

9.3 SP AusNet’s response on Efficiency carryover amounts for 2006–10

9.3.1 Introduction

SP AusNet does not accept the AER’s Draft Determination in relation to the calculation of the efficiency carryover amounts for the 2006-2010 period. In particular, it does not accept:

- Indirect (Corporate) Overheads adjustment; and
- Changes to SP AusNet’s growth adjustment calculation.

These are discussed in order below.

9.3.2 Indirect (Corporate) Overheads

The AER has made a significant adjustment to the original ESCV benchmark allowances for SP AusNet to “ensure that the actual expenditure and the ESCV benchmark allowances are considered on a ‘like for like’ basis in measuring the carryover amounts for the 2006–10 regulatory control period”.²³¹

This appears to be based on one single statement in the 2006 EDPR Final Decision that:

*“SP AusNet and United Energy have expensed all of their indirect (corporate) overheads.”*²³²

The AER explains its approach to the efficiency carryover mechanism as follows:

“The ESCV stated in its 2006 EDPR that all of SP AusNet’s indirect overheads would be treated as operating expenditure (that is, there would be no capitalisation of indirect (corporate) overheads for the 2006–10 regulatory control period). SP AusNet has stated to the AER that there has been no change in its capitalisation policy in the current regulatory control period. The AER has reviewed SP AusNet’s capitalisation policy which indicates that SP AusNet does capitalise some of its indirect (corporate) overheads. The AER notes that SP AusNet has subsequently capitalised around \$108.8 million (\$2010) of indirect overheads over the current regulatory control period. In contrast as noted above the ESCV benchmark allowance assumed that all indirect overheads will be expensed (i.e. there would be no capitalisation of indirect overheads). In addition, the AER notes that SP AusNet has excluded the amount of indirect capitalised overheads in its regulatory proposal associated with new connection and augmentation services.

SP AusNet has confirmed that it has capitalised both direct and indirect corporate overheads for the current regulatory control period. That is, the amount of ‘indirect overheads’ reported by SP AusNet includes both direct and indirect overheads. SP AusNet has also advised that it is not able to identify the amount of direct and indirect overheads that have been capitalised over the 2006–10 regulatory control period. In the

²³¹ Victorian Distribution Draft Decision – 2011-15 – p. 585.

²³² ESCV, EDPR 2006–10: Volume 1, October 2006, p. 274.

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*absence of information from SP AusNet, the AER has assumed that 50 per cent of the total amount of 'indirect overheads' reported over the 2006–10 regulatory control period is attributable to indirect overheads. This adjustment is necessary to ensure a 'like for like' comparison between actual operating and maintenance expenditure and the ESCV benchmark allowance. The AER's adjustment to SP AusNet's capitalised overheads to calculate its carryover amounts for the forthcoming regulatory control period is provided in table 13.4. The AER will review SP AusNet's regulatory accounts for 2009 in its final decision regarding any changes to capitalisation of indirect overheads."*²³³

In response, SP AusNet emphasises that:

- The underlying definition of 'indirect (corporate) overheads' used by the AER in assessing this issue is materially different to the definition that underpinned the statement attributed to the ESCV in their Final Decision;
- There has been no change in SP AusNet's capitalisation policy since 2001; and
- The AER's RIN did not seek to capture information that would in fact allow it to make a 'like for like' comparison for the purposes of calculating carryover amounts for the 2006–10 regulatory control period, therefore, SP AusNet has not previously had the opportunity to provide any relevant information on this material issue.

These are discussed in more detail below.

ESCV's 2006 Final Decision – Definition of Indirect (Corporate) Overheads

The AER's comments in its Draft Determination continuously switch between using the term "Indirect Overheads" and "Indirect (Corporate) Overheads". Rather than being an oversight that has no impact on the assessment of this issue, SP AusNet considers this difference to be fundamental to understanding the meaning of the ESCV's original comments. In particular, SP AusNet notes that the ESCV stated that:

"SP AusNet have expensed all of their indirect (corporate) overheads"

It is noted that the ESCV did not state that SP AusNet has expensed all "indirect overheads". This distinction is important, given the context in which this statement was made. In particular, SP AusNet, in its response to the ESCV's 2006 EDPR Draft Decision, stated the following:

"In the 2004 regulatory accounts, SP AusNet capitalised \$26.8million of overheads (schedule A.1.10). This schedule is titled Indirect Overheads, which at the time of preparation of the regulatory accounts, was understood to include overheads from the Networks business that were not directly related to construction activities.

*SP AusNet also provided a schedule on 15 April 2005 that itemised SP AusNet overheads. In that template, the definition of indirect overheads was clarified to be "overheads incurred in the corporate or head office area". SP AusNet does not capitalise any overheads that meet that definition and therefore itemised all overheads as Direct."*²³⁴

SP AusNet goes on to state that:

²³³ OpCit.

²³⁴ SP AusNet, *Electricity Distribution Price Review 2006 – Response to the Essential Services Commission's Draft Decision*, 19 August 2005, p. 68.

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“Had the regulatory accounts used the same definition as that requested in the ESCV spreadsheet of 15 April, schedule A.1.10 would have totalled \$zero, as the costs incorporated in that schedule all originate from the network business”.

It is evident from the above explanation provided to the ESCV that:

- SP AusNet’s 2004 regulatory accounts include \$26.8million of capitalised overheads, with these being ‘notionally’ classified as direct overheads during the 2006 EDPR, after the ESC clarified its definition. These costs relate to ‘indirect costs from the Networks business that were not directly related to construction activities’. This includes, amongst other things, costs related to network management, HR, IT, payroll and finance; and
- The ESCV’s definition of “indirect (corporate) overheads” is a reference to non network corporate costs, which at the time was TXU’s Australian Head Office costs. This included other business divisions, including retail. SP AusNet clarified at the time that it does not capitalise these non network head office costs, therefore, in effect, it does not capitalise “indirect (corporate) overheads” as defined by the ESCV’s templates.

Having regard to the above, SP AusNet contends that the AER has made an error of fact in adjusting SP AusNet’s 2006 benchmark opex forecasts for “indirect (capitalised) overheads” to ascertain “a ‘like for like’ basis in measuring the carryover amounts”, as it has not considered the underlying ‘definition’ of “indirect (corporate) overheads” as provided by the ESCV at the time of the 2006 EDPR Final Decision, relative to SP AusNet’s capitalisation policy during the 2006-2010 period. This is further substantiated in later sections. SP AusNet submits that the AER rectify this error in its Final Determination.

No Change in Capitalisation Policy

SP AusNet reiterates that there has been no change in its capitalisation policy in either the 2001 to 2005 regulatory period or the 2006-2010 regulatory control period. To be absolutely clear, the policy and its application are the same today as they were in 2001 and have not been changed at anytime since 1995. In particular, SP AusNet has continued to capitalise ‘indirect costs from the Networks business that were not directly related to construction activities’, as identified by its Activity Based Costing approach.

It is also worth noting that the ESCV did not make any adjustments to SP AusNet’s Efficiency Carryover Mechanism as part of the 2006 EDPR Determination²³⁵. The ESCV therefore accepted that SP AusNet’s approach to capitalisation had not changed in the 2001 to 2005 regulatory control period.

Furthermore, it is also noted that in its response to the 2006 Draft Decision, SP AusNet stated that²³⁶:

“Overheads are capital costs incurred by the business that are not directly allocated to capital projects. In SP AusNet’s case these costs are identified by an Activity Based Costing approach that determines the driver of the cost”

This can be compared to the statement made by SP AusNet in response to a question by the AER as part of this review:

²³⁵ ESCV, *EDPR 2006–10: Volume 1*, October 2006, p. 338.

²³⁶ SP AusNet, *Electricity Distribution Price Review 2006 – Response to the Essential Services Commission’s Draft Decision*, 19 August 2005, p. 68.

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“All 'shared costs' from all parts of the business that are not directly attributed to O&M or Capex, are 'pooled' and a portion capitalised if advised through the ABC survey process (for further information on this, please see SP AusNet's draft CAM).”²³⁷

Again, these comments support SP AusNet's statement that there has been no change in its capitalisation policy.

SP AusNet also notes that a review of the historic capitalised overheads provided in SP AusNet's RIN Templates would have indicated that there has been no change in SP AusNet's capitalisation policy. In particular, SP AusNet's original RIN Templates showed that there has been only minor increases in the total amount of capitalised overheads, with the average amount of capitalised overheads between 2006-2010 regulatory control period being \$27.7m, as compared with the amount that has been included for the 2004 year (\$25.67m), which in turn is the year that underpinned the 2006 EDPR Submission and Final Decision.

In light of the information contained in the RIN templates and the evidence illustrating that SP AusNet's capitalisation policy has remained unchanged, SP AusNet considers that the AER's decision to adjust the ESCV's operating expenditure benchmarks by approximately \$15 million per annum for the purposes of determining a 'like for like' basis for calculating the carryover amounts is based on an error of fact, and moreover, the AER has incorrectly exercised its discretion in making this substantial adjustment, given the evidence at hand at the time of the decision.

AER's Definition of Indirect versus Direct Overheads

Finally, it is noted that at no stage throughout this regulatory process did the AER provide a definition of Indirect versus Direct overheads. For example, SP AusNet stated this in its response to the AER on 30th March, 2009, that:

“As noted in previous correspondence, SP AusNet does not capture, or classify, overhead costs as 'direct' or 'indirect'. All 'shared costs' from all parts of the business that are not directly attributed to O&M or Capex, are 'pooled' and a portion capitalised if advised through the ABC survey process (for further information on this, please see SP AusNet's draft CAM).”

Moreover, it is noted that neither the EIG3 nor the GIG17 makes the distinction between 'direct' and 'indirect' overheads - just overheads. Therefore, neither guideline provides any guidance or definition on this issue. Furthermore:

The electricity and gas regulatory account templates seek disclosure of only capitalised overheads - not 'direct' or 'indirect' overheads. As such, SP AusNet has never developed a framework, methodology, systems etc to make this split, as no-one either internal or external to the business has ever considered it important enough to ask for it; and

During the RIN process, no definitions were provided by the AER to inform this requested disclosure between 'direct' and 'indirect' overheads, and moreover, it was SP AusNet's understanding that it could disclose the information that it had, and explain where it didn't have certain information (which it has done).

Therefore, in summary, when preparing its Proposal, SP AusNet didn't have at its disposal a split of its overheads between 'indirect' and 'direct' overheads, nor did it seek to develop a methodology to split overheads between these two categories for the purposes of populating the RIN. Therefore, throughout this regulatory process,

²³⁷ Q&A Response – Overheads_30 March 2010.doc – submitted to the AER on 30 march, 2009.

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SP AusNet has only ever disclosed 'Total Overheads', with these arbitrarily being placed into the 'indirect overhead' rows within the RIN."²³⁸

Therefore, SP AusNet notes that:

- The AER did not inform SP AusNet of this material issue under consideration, namely the definition of what was a 'direct' versus an 'indirect' overhead, as required under Section 16 (1)(b)(i) of the NEL;
- Even if the AER did include the term "indirect (corporate) overheads" in their RIN template heading, SP AusNet would still not have been able to provide any meaningful information to allow the AER to determine a "like-for-like" basis for calculating the efficiency carryover amount, without a clear definition of the term "corporate"; and
- If the AER had provided the underlying definition of "indirect (corporate) overheads", as provided by the ESC in 2006, then SP AusNet's capitalised "indirect (corporate) overhead" amount would have been zero for this period, because it incurred no non network head office (corporate) costs.

Concluding comments

The AER has made an error of fact in relation to its interpretation of the ESC's comment on this issue in the 2006 EDPR Final Decision.

SP AusNet accepts that the ESCV's statement is open to misinterpretation, and that the treatment of overheads can be a confusing and complex matter. However, in this Revised Proposal SP AusNet has provided further background information to explain the origins of the ESCV's statement which will allow the AER to appropriately re-consider this matter. In addition, SP AusNet has reiterated that its capitalisation policy has remained unchanged since 2001. An examination of the RIN template information would also confirm that the amount of capitalised overheads remains very similar to the amount that applied in 2004.

SP AusNet would welcome further dialogue with the AER if it continues to consider that an adjustment to the ESCV's benchmarks is warranted.

9.3.3 Growth adjustment calculation

The AER has stated that it has applied the adjustment mechanism outlined by the ESCV in the 2006 EDPR Final Decision. This mechanism adjusts the expenditure benchmarks for differences between actual and forecast growth when calculating the efficiency carryover amounts for the forthcoming regulatory control period.

The ESCV's growth adjustment methodology is reproduced below:

$$\begin{aligned} \text{Growth adjustment} &= \text{PFP coefficient weightings} \times \% \text{ change in growth} \\ &= 0.431(\log \text{ natural change in customers}) + 0.272 (\log \text{ natural change in peak demand}) + \\ &0.296(\log \text{ natural change in consumption}) \end{aligned}$$

Where:

0.431 is the PFP coefficient weighting associated with customer numbers

0.272 is the PFP coefficient weighting associated with peak demand

²³⁸ Ibid.

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0.296 is the PFP coefficient weighting associated with consumption. ²³⁹

In the Draft Determination, the AER state that they have reviewed the growth adjustment proposed by the Victorian DNSPs and have identified that all DNSPs applied an incorrect growth averaging formula, as the impact of growth was not compounded for each year of the current regulatory control period.

Before discussing this issue in detail, SP AusNet notes that whilst the ESCV did specify the above algorithm, it also provides the AER with some discretion regarding its application, via the inclusion of the following statement:

“In considering this growth adjustment coefficient for use in the calculation of future efficiency carryover amounts, the Commission is cognisant of the fact that the future necessarily involves uncertainty and that it is neither prudent nor possible to make permanent now the future application of this aspect of the efficiency carryover mechanism. This coefficient therefore represents a guide to inform future debate and decisions on this issue and give greater certainty as to the merit assessment made during this review.” ²⁴⁰

Whilst the AER acknowledge the above statement its Draft Determination, they do not outline in detail how they have specifically had regard for that statement, for example, whether they have exercised any discretion in the specific application of the ESCV’s algorithm, and if so, what that discretion entailed; whether they considered the ESCV’s algorithm fit-for purpose; and more broadly, what their overarching objective was when assessing whether or not they should adjust the ESCV’s algorithm.

Notwithstanding this, SP AusNet considers it non-contentious to assume that the overarching objective underpinning the adoption of a growth adjustment within the efficiency carryover calculation is to allow the derivation of a ‘new’ O&M benchmark for each year of the previous regulatory control period, with this ‘new’ O&M benchmark including appropriate adjustments to reflect differences between the actual and forecast outputs for that year.

Given this overarching objective, SP AusNet considers that the growth adjustment algorithm should, first and foremost, lead to:

- an increase in the O&M benchmark for a given year when actual outputs for that year are greater than forecast outputs for that year, and
- a reduction in the O&M benchmark for a given year when actual outputs for that year are less than forecast outputs for that year.

In addition, SP AusNet considers that it would be reasonable to assume that the AER’s interpretation of the ESCV’s growth adjustment algorithm should also lead to growth adjustments that are:

- Mathematically robust; and
- Consistent with the methodology used by the ESCV to derive the O&M benchmarks contained in the 2006 Final Decision.

Having regard to the above, SP AusNet considers that the AER’s interpretation of the ESCV’s growth adjustment algorithm leads to outcomes that are inconsistent with all of the aforementioned objectives. In particular, SP AusNet considers that the AER’s model:

²³⁹ ESCV, *EDPR 2006–10: Volume 1*, October 2006, pp. 435-436.

²⁴⁰ *ibid.*, p. 436.

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- Leads to outcomes that are ‘intuitively incorrect’, with a negative growth adjustment being calculated even when actual outputs exceed forecast outputs in each year of the 2006-2010 regulatory period;
- Disregards the timing of growth within the regulatory period, thus, the ‘new’ O&M benchmark calculated by the AER for any given year bears no relationship to that which would have been derived by the ESCV, had it known the actual outputs at the time of the 2006 Final Decision;
- Is inconsistent with the modelling approach utilised by the ESCV to derive SP AusNet’s benchmark O&M allowances in the 2006 Final Decision;
- Leads to a systematic underestimation of the growth adjustment by linking the growth adjustment to actual 2005 outcomes, instead of forecast 2005 outcomes; and
- Treats 2010 data in an inconsistent manner within the efficiency carryover calculation, with 2010 forecasts materially impacting the growth adjustment calculation, yet they are effectively excluded from all other aspects of the EBSS calculation.

These are discussed in more detail below.

Intuitively incorrect outcomes

Even a cursory assessment of the AER’s model indicates that it produces results that are intuitively incorrect. In particular, the AER’s model produces negative growth adjustments, even when actual outputs have been greater than forecast outputs for each year of the 2006-2010 period.

For example, SP AusNet’s actual customer numbers have exceeded the 2006 EDPR forecast number of customers in each year of the 2006-2010 period. As such, it would be expected that the benchmarks would be adjusted upwards to reflect the increased costs associated with delivering services to those additional customers.

Table 9.3: Forecast versus Actual Customer Numbers

	Actual	Forecast	Difference
2005	573,445	567,635	5,809
2006	582,744	578,028	4,716
2007	592,278	588,383	3,894
2008	601,848	599,514	2,333
2009	611,994	610,696	1,297
2010	622,862	622,258	605

Source: SP AusNet_EBSS_Draft Decision.xls

However, the AER’s interpretation of the ESCV’s algorithm in fact leads to a **negative growth adjustment for SP AusNet’s customer number parameter**. This results in a reduction in SP AusNet’s benchmark OPEX figures for every year of the 2006-2010 period under the AER’s growth adjustment methodology, which in turn reduces SP AusNet’s efficiency carryover calculation.

SP AusNet considers that the application of a negative growth adjustment when it has in fact delivered more outputs than forecast is clearly inconsistent with the overarching objective for undertaking this calculation, which, as stated previously, would see O&M benchmarks increase when actual outputs are greater than forecast outputs.

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Table 9.4: Customer Number Impact on EBSS Growth Adjustment

Methodology	EBSS Calculation Growth Adjustment		
AER - Draft Decision	-\$	32.88	-0.11%
AER - no growth	-\$	31.70	0.00%
AER - Customer Number only	-\$	32.50	-0.08%

SP AusNet considers that this result stems from a number of underlying problems with the AER's interpretation of the ESCV's formula, a detailed critique of which is contained in the following sections. Notwithstanding this, SP AusNet considers the above mentioned outcome provides prime facie evidence that the AER's interpretation of the ESCV's growth adjustment formula must be incorrect, and therefore, their model is not 'fit-for-purpose'. SP AusNet submits that the AER should address and rectify this matter in its final determination.

Timing of growth does not impact the carryover calculation

The AER's growth adjustment calculation is invariant to the timing of growth. Using the AER's own model, it can be seen that the AER's model produces exactly the same result, no matter what values are adopted for 2006, 2007, 2008 and 2009. As such, it is not sensitive at all to the actual timing of growth within the regulatory period, relative to the assumed timing of growth within the period.

The reason for this is that the AER's methodology calculates a single growth adjustment for the entire 5 year regulatory period, rather than calculating an adjustment for each year of the regulatory period. As such, it is effectively only reliant on two data points – 2005 and 2010.

More specifically, using the AER's model, it can be seen that SP AusNet's growth adjustment is -0.11% for each year of the 2006-2010 period. That is, the O&M benchmarks used to calculate the efficiency carryover amount are 0.11% lower than the 2006 Final Decision benchmarks in each year.

Table 9.5: AER EBSS Growth Adjustment

	Date	Customers	LNTCust	% Ch	Peak Demand	LNTPeak	% Ch	Volume	% Ch	% Ch YNDX
PPP coefficient weightings		0.431			0.272			0.296		
EDPR 2006-10 Forecasts										
	2005	567,635	5.75407		1,777	3.24980		7,180		
	2006	578,028	5.76195	1.81%	1,846	3.26623	3.78%	7,374	2.68%	2.60%
	2007	598,383	5.76966	1.78%	1,922	3.28371	4.02%	7,588	2.86%	2.71%
	2008	599,514	5.77780	1.87%	1,987	3.29819	3.33%	7,784	2.55%	2.47%
	2009	610,696	5.78583	1.85%	2,050	3.31177	3.13%	7,967	2.32%	2.33%
	2010	622,258	5.79397	1.88%	2,120	3.32625	3.33%	8,174	2.56%	2.47%
	Average									2.52%
Actuals \ Estimates										
	2005	573,445	5.75849		1,830	3.26250		7,063		
	2006	582,744	5.76548	1.61%	1,943	3.28855	6.00%	7,403	4.70%	3.72%
	2007	592,278	5.77253	1.62%	1,971	3.29462	1.40%	7,520	1.57%	1.54%
	2008	601,848	5.77949	1.60%	2,076	3.31721	5.20%	7,731	2.77%	2.93%
	2009	611,994	5.78675	1.67%	2,234	3.34902	7.32%	7,756	0.33%	2.81%
	2010	622,862	5.79439	1.76%	2,188	3.34010	-2.05%	7,977	2.80%	1.03%
	Average									2.41%
Impact of Growth - Incremental adjustment										-0.11%

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However, as demonstrated below, if actual outputs did not vary between 2006 and 2009, but the 2010 forecasts remained the same, then the AER’s model would still calculate exactly the same growth adjustment (-0.11%).

Table 9.6: AER EBSS Growth Adjustment Different Timing Example

	Date	Customers	LNTCust	% Ch	Peak Demand	LNTPeak	% Ch	Volume	% Ch	% Ch YNDX
PFPP coefficient weightings		0.431			0.272			0.296		
EDPR 2006-10 Forecasts	2005	567,635	5.75407		1,777	3.24980		7,180		
	2006	578,028	5.76195	1.81%	1,846	3.26623	3.78%	7,374	2.68%	2.60%
	2007	588,383	5.76966	1.78%	1,922	3.28371	4.02%	7,588	2.86%	2.71%
	2008	599,514	5.77780	1.87%	1,987	3.29819	3.33%	7,784	2.55%	2.47%
	2009	610,696	5.78583	1.85%	2,050	3.31177	3.13%	7,967	2.32%	2.33%
	2010	622,258	5.79397	1.88%	2,120	3.32625	3.33%	8,174	2.56%	2.47%
	Average									2.52%
Actuals \ Estimates	2005	573,445	5.75849		1,830	3.26250		7,063		
	2006	573,445	5.75849	0.00%	1,830	3.26250	0.00%	7,063	0.00%	0.00%
	2007	573,445	5.75849	0.00%	1,830	3.26250	0.00%	7,063	0.00%	0.00%
	2008	573,445	5.75849	0.00%	1,830	3.26250	0.00%	7,063	0.00%	0.00%
	2009	573,445	5.75849	0.00%	1,830	3.26250	0.00%	7,063	0.00%	0.00%
	2010	622,862	5.79439	8.27%	2,188	3.34010	17.87%	7,977	12.17%	12.03%
	Average									2.41%
Impact of Growth - Incremental adjustment										-0.11%

Again, SP AusNet considers this outcome to be intuitively incorrect, as it results in the model outputs having no regard for the timing of growth within the period. This means that for any given year, the AER’s ‘new’ O&M benchmark will bear no relationship to that which would have been calculated by the ESCV for that year, if it had known the actual outputs when making the 2006 Final Decision.

SP AusNet considers that this occurs as a result of the AER taking a simple average of the different growth rates over the entire period, rather than having regard to the difference between the year on year actual growth rates and the growth rate used by the ESCV to calculate SP AusNet’s rate of change for that year (2.55% per annum).

SP AusNet contends that the AER’s approach results in a significant disconnect between the model outcomes, and the intent of the adjustment, namely to adjust benchmarks to account for the difference between forecast outputs and actual outputs in each year.

Inconsistent with 2006 Final Decision

SP AusNet considers that the AER’s methodology should be clearly linked back to the ESCV’s 2006 Final Decision. The NER contemplates that in this transitional period, this would occur and SP AusNet had also formed a reasonable expectation that this would occur and has relied on this reasonable expectation.

To do this, one first must assess exactly how the ESCV utilised the 2.55% growth adjustment in their Final Decision model.

The following is a direct extract from SP AusNet’s 2006 Final Decision model.

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Table 9.7: Extract from ESCV Final Decision Model

SP AusNet							
O&M EXPENDITURE							
(\$m 1/7/2004)	2004	2005	2006	2007	2008	2009	2010
Operating & maintenance costs							
Base O&M	92.44	92.16	92.16	92.16	92.16	92.16	92.16
Rate of change			0.59%	0.59%	0.59%	0.59%	0.59%
			0.54	1.08	1.63	2.18	2.73
Impact of growth			2.55%	2.55%	2.55%	2.55%	2.55%
			2.35	4.75	7.22	9.75	12.34
Step Up			11.65	11.40	11.30	11.05	11.05
Total operating & maintenance costs			106.69	109.39	112.30	115.13	118.28

Source: SP AusNet Financial Model Final Decision

It can be seen from the above that the 2.55% growth rate is compounded yearly, with each year's OPEX being the 'Base O&M' plus the cumulative growth related OPEX from previous years ('Impact of growth').

Utilising the above information, SP AusNet has calculated the underlying 'Base O&M' benchmark for each year in the table below. This benchmark only includes the 'Impact of growth' adjustment (that is, it excludes 'Step changes' and 'Rate of Change' amounts).

SP AusNet has also shown these amounts in \$2010 using a 1.186 CPI conversion factor (as has been utilised by the AER).

Table 9.8: 'Base' OPEX Benchmarks

Base O&M (\$2004)	92.16	94.50	96.91	99.37	101.90	104.50
Base O&M (\$2010)	109.34	112.13	114.98	117.91	120.91	123.98

If, instead of a 2.55% 'impact of growth' factor, the difference in actual growth rates for each year of the regulatory control period was included in the ESCV's Final Decision model, the following would be calculated.

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Table 9.11: AER Growth Adjustment

EFFICIENCY CARRYOVER GROWTH ADJUSTMENT	2006	2007	2008	2009	2010
Base O&M (\$m Real 2010)	109.3	109.3	109.3	109.3	109.3
Impact of Growth - Incremental adjustment	-0.11%	-0.11%	-0.11%	-0.11%	-0.11%
Adjustment to O&M benchmark for actual Growth	-0.12	-0.25	-0.37	-0.49	-0.61

Source: SP AusNet EBSS Draft Decision.xls

As such, SP AusNet considers that the AER's methodology is in fact inconsistent with methodology used by the ESCV when formulating the 2006 Final Decision, as it produces substantially different results than if the year on year growth rates were inputted into the ESCV's own Final Decision model.

SP AusNet considers that the AER should adopt the ESCV 2006 Final Decision modelling approach to calculate the growth adjustment. This would involve inputting each year's actual growth rates into the ESCV's model to determine the difference between the 2006 benchmark and the 'new' benchmark for each year of the regulatory control period. This difference would then become the growth adjustment for that year in the efficiency carryover model.

Actual 2005 outcomes should not be included in the model

It is noted that the AER's current approach to calculating the growth adjustment effectively takes the difference between the 2010 forecast and the 2005 forecast, and compares this to the difference between the 2010 actual figure (which is, in fact, a forecast) and the 2005 actual figure.

The fact that the 2005 actual figures are materially higher than the 2005 forecasts figures for peak demands and customer numbers results in a systematic underestimate of the overall growth adjustment calculated for the 2006-2010 period, as these higher 2005 actual outputs in effect, discount the entire growth adjustment calculated for the 2006-2010 period.

The following example – taken directly from the AER's Draft Determination - uses customer numbers to illustrate this issue. In particular, it shows that the difference between 2006 and 2005 forecast customer numbers is 1.81%, whilst the difference in 2006 and 2005 actual customer numbers is 1.61%.

Table 9.12: Customer Growth 'Forecast'

	Date	Customers	LNTCust	% Ch
PFM coefficient weightings		0.431		
EDPR 2006-10 Forecasts	2005	567,635	5.75407	
	2006	578,028	5.76195	1.81%

Source: AER EBSS Model

Table 9.13: Customer Growth 'Actual'

	Date	Customers	LNTCust	% Ch
Actuals \ Estimates	2005	573,445	5.75849	
	2006	582,744	5.76548	1.61%

Source: AER EBSS Model

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Taken in isolation, this creates a negative overall growth adjustment using the AER's method, because the forecast growth rate of 1.81% is greater than the actual growth rate of 1.61%. This in turn reduces SP AusNet's O&M benchmarks. This is despite the fact that actual customer numbers were around 4500 more in 2006 than the forecast adopted by the ESC in the 2006 EDPR. This comes about as a result of the fact that 2005 actual figures were higher than forecast at the time of the Final Decision.

SP AusNet considers that reducing SP AusNet's 2006 O&M benchmark, despite it providing services to more customers than forecast at the time of the 2006 EDPR, is intuitively incorrect.

Having regard to the above, SP AusNet considers that the growth adjustment should instead be based on the difference between 2006 actuals and 2005 forecasts – not 2006 actuals and 2005 actuals. SP AusNet considers this approach to be correct for two reasons:

- It leads to 'intuitively correct' results, as it removes the scenario whereby a negative growth adjustment is applied to a business' O&M benchmarks, despite 2006 actual outputs being greater than 2006 forecast outputs; and
- It is theoretically correct, given how the ESCV in fact calculated their growth adjustment. In particular, SP AusNet notes that the ESCV's 2.55% per annum growth adjustment²⁴¹ for SP AusNet reflects the difference between the 2006 forecast and the 2005 forecast. Therefore, to establish a like-for-like comparison between what the benchmark was and what it should have been would require the same base figure (2005 forecast) to be utilised. Put another way, given that the 2005 actual figures were irrelevant in developing the 2006 benchmarks, they are also irrelevant for the derivation of the growth adjustment.

Use of 2010 Data

SP AusNet notes that the growth adjustments applied by the AER to the 2006-2009 benchmark O&M amounts are materially influenced by the 2010 forecast outcomes, yet forecast 2010 figures are effectively excluded from all other aspects of the calculation. Moreover, SP AusNet notes that:

- It is anomalous that the growth adjustment rates applied to years 2006-2009 are materially impacted by the "forecast outcomes" for the year following the end of that period (2010); and
- It is inconsistent with the methodology used by the ESCV as part of the 2006 Final decision, as the growth adjustment calculated for the 2005 year not only had no impact on the carryover calculation in totality, but also, it had no impact on the growth adjustments for preceding years (2001-2004).

As such, SP AusNet considers that the 2010 forecasts should be excluded from the derivation of the growth adjustments that are applied to the 2006-2009 period.

²⁴¹ It is noted that whilst the ESCV state the use of the log normal function to calculate this growth assumption, a back working of this calculation indicates that to derive the 2.55%, the ESC must of, in fact, used a simple growth rate, not a log normal growth rate.

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Conclusion

SP AusNet rejects the use of the AER’s growth adjustment formula, on the basis that it:

- Leads to both intuitive and theoretically incorrect outcomes;
- Does not reflect the modelling approach adopted by the ESCV to derive the O&M benchmarks included in the 2006 Final Decision; and
- Does not reflect the actual impact of growth on SP AusNet’s costs within the regulatory control period.

Moreover, SP AusNet considers that the AER has made an error of fact in its assessment of the ESCV’s model, and given the materiality of the modelling result changes, SP AusNet considers that the AER’s methodology is inconsistent with the requirements outlined in Section 7A of the NEL, in particular, the requirement “*a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in...providing direct control network services*”.

In conclusion, SP AusNet proposes the following changes to the AER’s interpretation of the ESCV’s formula:

- 2005 forecasts should be used instead of 2005 actuals;
- The growth adjustment should be calculated for each individual year of the regulatory control period, instead of the AER’s current approach of calculating an average over the 5 years and applying that average across every year of the regulatory control period; and
- The year on year actual changes in growth should be modelled on the same basis as the 2006 Final Decision to determine the ‘new’ O&M benchmarks, which in turn allows the derivation of the growth adjustment amount for inclusion in the efficiency carryover calculation.

SP AusNet’s proposed growth adjustment calculation accompanies this Revised Proposal.

9.4 SP AusNet’s revised Efficiency carryover amounts for 2006–10

On the basis of the response (set out above) SP AusNet’s efficiency carry over amounts for the purpose of this Revised Proposal are set out in the table below.

It is noted that consistent with the AER’s requirements for other aspects of this Revised Proposal and other aspects of this building block component, SP AusNet considers that this carryover calculation should be updated with the most up to date information for inclusion in the Final Decision. This would include, amongst other things, the AER’s Final Decision on SP AusNet’s non-recurrent opex in its 2009 Base Year, which, as per the Draft Determination, should be deducted from the actual 2009 costs for the purposes of calculating the final carryover amount.

Table 9.3: Revised Efficiency Carry Over Amounts

(Real 2010 \$M)	2011	2012	2013	2014	Total
Efficiency Carryover Amount	14.6	-23.1	-4.3	3.7	-9.0

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9.5 AER's Draft Determination on the EBSS

Clause 3.3.1 of the Draft Determination for SP AusNet sets out the EBSS that is to apply, as follows:

The EBSS to apply to SP AusNet for the forthcoming regulatory control period is the AER's *Electricity distribution network service providers, Efficiency benefit sharing scheme, June 2008*. Under the scheme, the excluded cost categories for SP AusNet are:

- debt raising costs
- self insurance costs
- superannuation costs for defined benefits and retirement schemes
- the DMIA
- GSL payments.

These excluded costs will be recognised in addition to the adjustments set out in section 2.3.2 of the EBSS.

For the purpose of calculating carryover amounts, forecast opex will be adjusted for the actual growth in line length, the number of distribution transformers and zone substations, and customer numbers experienced over the forthcoming regulatory control period using the scale escalation method described in Appendix J of the Draft Determination. The Draft Determination on controllable opex for the EBSS is set out in table 6 below (which is an excerpt from the Draft Determination).

Table 6 AER draft determination on forecast controllable opex for EBSS purposes for SP AusNet (\$'m, 2010)

	2011	2012	2013	2014	2015	Total
Total forecast opex	130.39	131.60	134.01	136.95	138.85	671.79
Adjustment for debt raising costs	-1.11	-1.14	-1.19	-1.23	-1.29	-5.96
Adjustment for self insurance	-	-	-	-	-	-
Adjustment for superannuation ^a	-	-	-	-	-	-
Adjustment for non-network alternatives ^a	-	-	-	-	-	-
Adjustment for DMIA	-0.60	-0.60	-0.60	-0.60	-0.60	-3.00
Adjustment for GSL payments	-4.34	-4.34	-4.34	-4.34	-4.34	-21.70
Forecast opex for EBSS purposes	124.34	125.52	127.89	130.77	132.62	641.14

Note: Totals may not add up due to rounding.

- (a) In its regulatory proposal SP AusNet did not provide sufficient information to identify the amount of opex expended on non-network alternatives and superannuation in the base year. Consequently the AER has been unable to determine the level of opex included in SP AusNet's opex allowance for these costs. This amount will be identified in the AER's final decision.

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9.6 SP AusNet's response on the EBSS

There are two components of the AER's Draft Determination that affect the operation of the EBSS in the forthcoming regulatory control period, namely:

- Growth adjustments; and
- Excluded Cost Categories.

In relation to the first issue, the AER's has incorrectly stated that SP AusNet's growth adjustment method for the purpose of calculating EBSS carryover amounts for the forthcoming regulatory control period is "not consistent with the approach SP AusNet has proposed to account for growth in its opex forecasts, which is discussed in appendix J". SP AusNet's proposed formula reflected its proposed scale escalation formula, except that it quite rightfully excluded lagged line length from the growth adjustment. In removing this from its calculation, SP AusNet notes that this is a known variable that does not change in the forthcoming regulatory control period, therefore, OPEX benchmarks do not need to be adjusted up or down to reflect the difference between forecast and actual lagged line length.

Notwithstanding this, SP AusNet supports the adoption of a specific growth adjustment that reflects the scale escalation modelling underpinning the Final Decision. Although, in saying this, it alerts the AER to the above error, such that if lagged drivers are assumed in the Final Decision, then they should be excluded from the EBSS adjustment, as they are known variables that cannot change in the forthcoming regulatory control period.

In relation to the second point, SP AusNet accepts the AER's Draft Determination in relation to its excluded cost categories.

9.7 SP AusNet's revised EBSS

SP AusNet accepts the AER's Draft Determination, subject to updating the growth adjustment algorithm for the scale escalation factor accepted in the Final Decision.

10 Opening Regulatory Asset Base

This chapter responds to the AER's Draft Determination in relation to the calculation of the opening RAB and its roll forward for the forthcoming regulatory period. The RAB calculation is highly relevant to the calculation of the return on capital and depreciation elements of the building block proposal.

The remainder of this chapter is structured as follows:

- Section 10.1 recaps on SP AusNet's derivation of the RAB value as at 1 January 2011, as presented in its Original Proposal;
- Section 10.2 outlines the issues raised in the AER's Draft Determination;
- Section 10.3 sets out SP AusNet's response to the AER's Draft Determination; and
- Section 10.4 presents SP AusNet's revised opening RAB, which addresses the matters raised by the AER.

10.1 Overview of SP AusNet's Original Proposal

SP AusNet's Original Proposal explained that Clause S6.2.1 of Schedule 6.2 of the NER established a value for SP AusNet's RAB of \$1,307.2 million (as at 1 January 2006 in July 2004 dollars). Clause S6.2.1(c)(2) requires this value to be adjusted for any difference between the estimated and actual capital expenditure for the previous regulatory control period. This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual expenditure.

The NER requires that the opening RAB value must be:

- increased by the amount of actual and forecast capital expenditure incurred during the previous control period and allocated properly in accordance with the DNSP's approved cost allocation methodology (Clauses S6.2.1(e)(1), (2) and (4));
- reduced by the amount of the depreciation of the RAB during the previous regulatory control period calculated in accordance with the previous determination (Clause S6.2.1(e)(5));
- reduced by the disposal value of any asset disposed of in the previous control period (Clause S6.2.1(e)(6)); and
- reduced where an asset that previously provided standard control services no longer does so or increased where an asset that did not provide standard control services now does so, due to a change of classification (Clauses S6.2.1(e)(7), (8) and (f)).

In its Original Proposal, SP AusNet explained that in calculating its opening RAB it had assumed that net capex for 2009 and 2010 would be \$260 million and \$256 million, respectively. SP AusNet also provided a roll-forward model illustrating the details, amounts, calculations and other inputs used to establish the RAB for each regulatory year of the relevant regulatory control period. The derivation of SP AusNet's RAB as at 1 January 2011, is summarised in the table below.

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Table 10.1: Original Proposal Asset Base Roll Forward, 2006 to 2010

(Nominal \$M)	2006	2007	2008	2009	2010
Opening RAB	1,372.1	1,456.6	1,556.1	1,679.3	1,920.4
Net capex	118.0	128.1	187.3	260.5	256.1
Economic Depreciation	-33.5	-28.6	-64.2	-19.4	-85.6
Closing RAB	1,456.6	1,556.1	1,679.3	1,920.4	2,090.9
Foregone return (2005)					16.5
RAB as at 1 Jan 2011					2,107.3

10.2 AER's Draft Determination

In its Draft Determination, the AER reduced SP AusNet's 1 January 2010 opening RAB to account for changes to the escalation rate applied in the roll forward of the RAB from 2005 to the end of 2010. The AER explains that this change is necessary in order to reflect the underlying models used by the ESCV in making the 2006 EDPR Final Decision:

*"all data in the 2006 EDPR were expressed in real 2004 dollars. The expression of data as at '1 July 2004' in the ESCV's 2006 EDPR reflects the fact that cashflows are assumed to be incurred evenly throughout the year (approximated by a mid year value assumption) and does not imply that data was literally valued as at 1 July 2004. While this is somewhat confusing, the AER has examined the ESCVs' models and confirms that costs prior to 2004 were escalated by the annual CPI as per the control mechanism, which used a September CPI value. In other words, to maintain consistency with the lagged September CPI data used in the control mechanism, this September CPI was used to approximate middle of the year (1 July) values."*²⁴²

The AER's adjustment has the following two effects:

- expenditure benchmarks set in the 2006 EDPR Final Decision are reduced, which changes the calculation of the financing cost for the 2005 capex overspend; and
- the 2005 opening RAB value is not escalated for the six months from 1 July to 31 December 2005.

In addition, the AER modified the formula to calculate the financing costs for the 2005 capex overspend. No explanation of this adjustment is provided in the text of the Draft Determination.

The AER has also proposed that it should apply its standard higher powered incentive to the capex programs for the forthcoming regulatory period. Under this approach, actual depreciation on capex will be used to establish the opening RAB at the next review.

²⁴²

ibid, page 448.

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10.3 SP AusNet’s response to the issues raised by the AER

10.3.1 Corrected capex and disposals

The Draft Determination states that the AER has accepted the capex data included in the Roll Forward Model submitted with the Original Proposal²⁴³. However, the AER model appears to contain incorrect capex numbers for these years. For the Revised Proposal the correct capex numbers have been used.

In addition, SP AusNet incorrectly included the value of assets being disposed of at cost in the original Roll Forward Model rather than the written down cost. For the Revised Proposal the correct written down disposal values have been used.

10.3.2 Updated 2009 and 2010 capex

SP AusNet has updated the roll forward for actual 2009 capex. Forecasts of 2010 capex remain unchanged. The table below shows the changes to these numbers from the Original Proposal.

Table 10.2: Updated 2009 capex

(Nominal \$M)	Forecast 2009	Actual 2009
Subtransmission	32.6	28.7
Distribution	195.1	181.1
SCADA	0.0	1.7
Non-network IT	29.4	24.5
Non-network General	3.6	3.4
Total Capex	260.7	239.5
Disposals	0.2	0.03
Total Net Capex	260.5	239.4

10.3.3 CPI Escalation

SP AusNet accepts the Draft Determination characterisation of the ESCV CPI modelling underlying the 2006 EDPR Final Decision and has modified its modelling accordingly.

²⁴³ AER, *Draft Determination*, p. 445.

10.3.4 Adjustment to the financing costs for the 2005 capex overspend

While the AER does not provide any explanation of its adjustment in the Draft Determination there appears to be two differences compared to the formula and methodology used by SP AusNet to calculate the foregone financing costs of its 2005 capex overspend. Those differences are:

- the use of real rather than nominal WACC to calculate the foregone return; and
- the removal of financing costs incurred over the 2005 year from the capital overspend. That is, the AER includes only financing costs incurred in the 2006 to 2010 calendar years.

SP AusNet accepts the Draft Determination with respect to the first adjustment.

However, SP AusNet does not accept the Draft Determination with respect to the second adjustment. This adjustment would be sound if the same methodology to calculate the return on capital was used by the ESCV in the Victorian regime as that used for AER's regulatory regime (and embedded in the PTRM). However, the ESCV used a different methodology to the AER in calculating the financing costs of the 2005 over spend and the AER's calculation does not account for this.

Under the PTRM approach a return on capital is earned only on the opening asset base, and capital expenditure in a given year is not rolled into the RAB until the end of the year. The PTRM assumes implicitly that all capex occurs in the middle of each year, and so the amount of capex rolled into the RAB at the end of each year includes the cost of financing that capex for six months. Importantly, return on capital payments to the business only start the year after the capex is spent (which would be 2006 for the issue on question).

Under the ESCV approach the opening and closing RAB is averaged and return on capital is earned on the average RAB thus compensating the business for return on capital payments on the capex spent in the year that the capex is spent (which is 2005 for the issue in question).

Under the ESCV regime SP AusNet incurs six months of financing costs on the difference between benchmark and actual capex. Therefore, the AER has made a material error in removing the capex financing costs incurred during the 2005 year. An example to illustrate this point is provided in the table below.

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Table 10.3: ESCV versus AER methodology

Assumptions (comparison performed on a real basis)							
Real WACC	5.00%						
Asset life Capex	10 years						
	Year 1						
Capex	20.00						
Capex with 1/2 WACC capitalised	20.49						
ESCV Methodology		2005	2006	2007	2008	2009	2010
Opening RAB		0.0	20.0	18.0	16.0	14.0	12.0
+ Capex		20.0	0.0	0.0	0.0	0.0	0.0
- Depreciation		0.0	2.0	2.0	2.0	2.0	2.0
Closing RAB		20.0	18.0	16.0	14.0	12.0	10.0
Average RAB for Return Purposes		10.0	19.0	17.0	15.0	13.0	11.0
Return		0.50	0.95	0.85	0.75	0.65	0.55
NPV of Return		4.45					
AER Methodology		2005	2006	2007	2008	2009	2010
Opening RAB		0.0	20.5	18.4	16.4	14.3	12.3
+ Capex		20.5	0.0	0.0	0.0	0.0	0.0
- Depreciation		0.0	2.0	2.0	2.0	2.0	2.0
Closing RAB		20.5	18.4	16.4	14.3	12.3	10.2
Opening RAB for Return Purposes		0.0	20.5	18.4	16.4	14.3	12.3
Return		0.0	1.02	0.92	0.82	0.72	0.61
NPV of Return		4.45					

Foregone return in 2005 in ESCV methodology but not AER methodology

Under Clause S6.2.1(c)(2), the AER must compensate SP AusNet for any differences between:

- any estimated capital expenditure that is included in the 1 January 2006 RAB value (specified in clause S6.2.1(c)(1) for any part of a previous regulatory control period; and
- the actual capital expenditure for that part of the previous regulatory control period.

As noted above, such differences exist in relation to the 2005 year, and the adjustment to the 1 January 2006 RAB value should be given effect by applying the ESCV calculation approach, not the AER's PTRM approach. Accordingly, SP AusNet has reinstated the correct formula to calculate the financing costs for the 2005 capex overspend for this Revised Proposal.

10.3.5 Applying actual or forecast depreciation at the next review

The proposed regime places a stronger incentive on capex efficiency than that applied by the ESCV in the current regulatory control period. Generally, SP AusNet supports a strengthened capex efficiency regime. However, by including depreciation in the capex efficiency calculation the power of the incentive is dramatically increased for short lived assets relative to longer lived assets. This effect is explicitly raised as a concern by the AER in its Draft Determination in discussing depreciation lives for the various asset categories:

"In considering the proposed asset lives the AER notes the potential exists for DNSPs to gain by proposing capital expenditure allowances for short lived asset categories but then actually spend capex on long lived assets. This would have the effect of increasing the regulatory depreciation allowance set on a prospective basis, but having a lower amount

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of actual depreciation incurred, and increasing the overall value of assets that is ultimately rolled into the RAB.”²⁴⁴

SP AusNet notes that the AER’s concerns are even more pertinent if the AER provides an inadequate capex allowance for short-lived assets. In particular, if a business overspends compared to the AER’s IT capex allowance (where the asset life is five years) in the first year of the regulatory period, the entire capital value is written off and not recovered (100% of the capex is lost) whereas, if the distribution system capex allowance (asset life of 50 years) is overspent in the first year of the regulatory period only 10% of the capital value is lost.

This issue is particularly relevant to SP AusNet in the forthcoming regulatory period because the AER has proposed large reductions in SP AusNet’s proposed IT and non-network general capex. While the AER explains that the capex allowance approved for a business should not be seen as limiting the business to expenditure in particular categories (that is it is for the business to decide where best to spend capex once the allowance is set), the commercial reality is quite different:

“Although DNSPs have prepared their forecasts at the function code level, the AER’s assessments and decision ultimately relate to a total forecast capex allowance. Within the approved total capex allowance, each DNSP retains discretion regarding the allocation and expenditure of capital. The AER expects each DNSP to be responsive to changing conditions in order to meet customer requirements while managing and operating the network in accordance with good electricity industry practice. If any matter arises which requires a DNSP to reorder its priorities then it is appropriate for the DNSP to do so.”²⁴⁵

The high power of the incentive regime that applies to IT and non-network general capex effectively precludes a privately owned business from spending more than the AER’s allowance regardless of the capex savings that are made elsewhere. Furthermore, as the AER’s capex forecasting approach appears to be increasingly focused on historic expenditure, deficiencies in the capex allowance are likely to be sustained for a number of regulatory periods.

To address these concerns, SP AusNet proposes that the capex efficiency regime to be applied to SP AusNet’s IT and non-network general capex excludes a return of capital component and retains only the return on capital component. Whilst this approach provides weaker incentives to deliver capex savings relative to the AER’s benchmark allowance, it imposes less severe penalties for capex overspending.

10.4 SP AusNet’s revised opening RAB

In light of the updated information presented in section 10.3, SP AusNet’s revised opening RAB roll forward calculation is set out in the table below.

²⁴⁴ Ibid, p. 461.

²⁴⁵ Ibid, p. 343.

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Table 10.4: Revised Asset Base Roll Forward, 2006 to 2010

(Nominal \$M)	2006	2007	2008	2009	2010
Opening RAB	1,337.6	1,423.4	1,522.1	1,646.0	1,865.0
Net capex	120.0	128.1	188.2	239.4	256.1
Economic Depreciation	-34.1	-29.4	-64.3	-20.4	-85.7
Closing RAB	1,423.4	1,522.1	1,646.0	1,865.0	2,035.4
Difference between actual and forecast capex					27.8
Foregone return (2005)					16.4
RAB as at 1 Jan 2011					2,079.6

11 Depreciation

This chapter responds to the AER's Draft Determination in relation to regulatory depreciation. SP AusNet's Original Proposal explained that SP AusNet adopted different depreciation schedules to reflect the remaining lives of its existing assets and the standard lives that should be applied for new capital additions. The remainder of this chapter is therefore structured as follows:

- Section 11.1 summarises SP AusNet's Original Proposal on the remaining lives for the existing asset base; the proposed standard lives for new capital additions; and the resulting depreciation allowance proposed by SP AusNet for the forthcoming regulatory period;
- Section 11.2 outlines the issues raised in the AER's Draft Determination;
- Section 11.3 sets out SP AusNet's response to the AER's Draft Determination; and
- Section 11.4 presents SP AusNet's revised asset lives and the resulting depreciation allowance.

11.1 Overview of SP AusNet's Original Proposal

SP AusNet's Original Proposal explained that the 2006 EDPR Determination established the remaining asset class lives for SP AusNet, and employed these lives to determine SP AusNet's forecast depreciation allowance. The ESC described its approach to depreciation as 'hands off' in the sense that it provided the businesses with significant flexibility to choose their preferred depreciation schedule. In contrast to the ESC's flexible approach, the NER sets out specific requirements for regulatory depreciation which provide for limited flexibility. SP AusNet's Original Proposal argued that its approach to depreciation should have regard to the approach previously adopted by the ESC, whilst also satisfying the requirements of the NER.

For capital additions in the forthcoming regulatory period, SP AusNet proposed standard lives for each asset class. These standard lives were derived from a range of reasonable lives based on financial and engineering information systems, and external benchmarks. SP AusNet provided supporting information to demonstrate that the proposed standard lives for new assets satisfied the requirements of Clause 6.5.5(b)(1) of the NER.

For the existing (or "sunk") assets as at 1 January 2011, SP AusNet proposed to continue to apply the remaining lives specified in the 2006 EDPR Determination (adjusted for the elapsed time since 1 January 2006). SP AusNet noted that these remaining lives were also consistent with the reasonable range of standard lives developed by SP AusNet for new capital additions. As such, SP AusNet's proposed treatment of existing assets and new capital additions was consistent with the requirements of the NER. The proposed remaining lives for existing assets and the standard lives for capital additions are set out in the table below.

Table 11.1: Original Proposal Remaining Lives and Standard Lives For New Capex

Asset Class	Remaining Life for Existing Assets	Standard Life for New Capex
Sub-transmission	29.2	45
Distribution	29.1	50
SCADA	n.a.	5
Non System – IT	3.8	5
Non System – General	0.5	1

The table below shows the depreciation allowances calculated by SP AusNet in its Original Proposal. These depreciation allowances assumed that the net capex for 2009 and 2010 would be \$260 million and \$256 million, respectively.

Table 11.2: Original Proposal Nominal Economic Depreciation, 2011 to 2015

(Nominal \$M)	2011	2012	2013	2014	2015
Nominal Depreciation	146.5	117.7	131.4	141.5	137.6

11.2 AER's Draft Determination

Page 471 of the Draft Determination stated:

“The AER considers SP AusNet's proposed asset lives for new capex for subtransmission and distribution system assets is more consistent with the technical lives for these assets and are comparable to the asset lives proposed by the other DNSPs. The AER accepts SP AusNet's proposed standard asset lives for new capex for subtransmission and distribution system assets.”

The Draft Determination then proceeded to note that:

“The AER considers that SP AusNet's proposed standard life for 'non general assets other' of one year is inconsistent with the proposed standard lives of the other Victorian DNSPs which range from 7.5 years to 18.9 years.”

The AER's conclusions regarding standard lives for non-network general assets (other) are set out in Table 10.12 on page 473 of the Draft Determination, a copy of which is provided below.

Table 10.12 AER conclusion on standard life for non-network general assets—other

Asset sub category	Expected life (years)	Capex (\$'m)	Weighted average life (years)
General property works (excludes property purchases)	10	11.3	3.2
Communications	6	2.0	0.3
Tools and equipment (excludes fleet)	2	18.0	1.0
Specific expenditure	2	3.8	0.2
Total		35.0	4.8

Note: Totals may not add due to rounding.

The AER's overall conclusions on SP AusNet's asset lives for the purpose of calculating depreciation are set out in Table 10.13 (page 474) of the Draft Determination as follows.

Table 10.13 AER conclusion on asset lives for SP AusNet (years)

Asset category	2011–15 standard asset lives for new capex	2011–15 remaining asset lives
Subtransmission	45.0	29.5
Distribution system assets	50.0	29.1
Standard metering	N/A	1.0
Public lighting	N/A	N/A
SCADA/Network control	5.0	N/A
Non-network general assets—IT	5.0	3.6
Non-network general assets—other	5.0	1.0

11.3 SP AusNet's response to the issues raised by the AER

SP AusNet will adopt the asset lives set out in Table 10.13 (page 474) of the Draft Determination for the purpose of calculating depreciation.

11.4 SP AusNet's revised depreciation allowance

SP AusNet has calculated its revised depreciation allowance using the asset lives specified in the Draft Determination, and applying the updated opening RAB value and capex forecasts set out in chapters 10 and 6 (respectively) of this Revised Proposal. On this basis, SP AusNet's revised depreciation allowances for the forthcoming regulatory period are set out in the table below.

Table 11.3: Revised Nominal Economic Depreciation, 2011 to 2015

(Nominal \$M)	2011	2012	2013	2014	2015
Nominal Depreciation	91.9	51.2	62.2	58.2	55.9

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SP AusNet's Original Proposal emphasised the importance to SP AusNet and its customers of an adequate return on capital (weighted average cost of capital, or WACC). In particular, SP AusNet noted that a failure to provide an adequate post-tax return will damage incentives for investment, and will ultimately deny customers the economic benefits that flow from distribution network investment, thereby undermining the achievement of the National Electricity Objective due to the failure to promote efficient investment in electricity services. This, in turn, will adversely impact the long term interests of consumers.

This chapter sets out SP AusNet's response to the AER's Draft Determination in relation to the WACC. The remainder of this chapter is structured as follows:

- Section 12.1 provides a high level summary of SP AusNet's Original Proposal on the WACC and the allowance for the cost of corporate tax;
- Sections 12.2 to 12.8 discuss each of the WACC parameters in detail, providing an overview of the Original Proposal and the issues raised by the AER's Draft Determination, and SP AusNet's response;
- Section 12.9 revisits the allowance for corporate tax, and responds in particular to the Draft Determination in relation to the value of imputation credits (gamma); and
- Section 12.10 concludes the chapter by providing a summary of SP AusNet's Revised Proposal in relation to the WACC parameter values and the value of gamma for setting a benchmark allowance for corporate tax.

12.1 Original Proposal WACC Parameter Values

SP AusNet's Original Proposal provided a detailed explanation of the NER provisions relating to the setting of the WACC parameters. In particular, Clause 6.5.4 provides for certain matters relating to the WACC to be reviewed periodically by the AER. Following such a review, the AER must issue a Statement of Regulatory Intent (SORI) setting out the values, methods and credit rating levels to be applied in the determination of a WACC for Distribution Network Service Providers. The AER issued its first SORI on 1 May 2009.

The NER provisions accommodate the adoption of values other than those set out in the SORI, where such a departure will ensure the adoption of appropriate WACC parameter values, having regard to the requirements of the NEO. SP AusNet commented in its Original Proposal that a high standard should be satisfied in order for a value, method or credit rating level set out in the SORI to be deemed to be inappropriate. Accordingly, in its Original Proposal SP AusNet interpreted the NER provisions as follows:

- Where SP AusNet proposes to adopt a value, method or credit rating level other than the one set out in the SORI, SP AusNet must identify the material change in circumstance that has occurred since the publication of the SORI, which demonstrates that a value, method or credit rating level set out in the SORI is now inappropriate;
- The provisions do not envisage the re-litigation of arguments already addressed in the SORI; and

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- In effect, the provisions require SP AusNet to identify evidence which has become available since the publication of the SORI, and which (if available during the WACC review) would have led to a different decision being made by the AER in relation to a value, method or credit rating level set in the SORI.

SP AusNet’s proposed WACC – including those parameters where SP AusNet proposes to depart from the values specified in the SORI – were assessed by SP AusNet in accordance with the above principles. The following table summarises the WACC parameters in the SORI and the WACC parameters submitted by SP AusNet in its Original Proposal.

Table 12.1: WACC Parameters set out in the SORI and SP AusNet’s Original Proposal

	AER SORI Parameters, May 2009	SP AusNet’s Original Proposal
Gearing	60%	60%
Nominal Risk Free Rate	10 year CGS	10 year CGS
Market Risk Premium	6.5%	8%
Equity Beta	0.8	0.8
Credit Rating	BBB+	BBB+
Gamma	0.65	0.5
Debt Risk Premium	N/A	4.71%
Nominal “Vanilla” WACC	N/A	10.86%

SP AusNet provided detailed substantiation of its proposal for the market risk premium and gamma, being the two areas where SP AusNet considers it appropriate to depart from the SORI parameter values.

12.2 Gearing Level

In accordance with Clause 3.6 of the SORI, SP AusNet’s Original Proposal submitted a gearing level (that is, the value of debt as a proportion of the value of equity plus debt) of 0.6. In its Draft Determination, the AER accepted SP AusNet’s proposed benchmark gearing, and therefore no further submission regarding this issue is provided in this Revised Proposal.

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12.3 Equity Beta

Notwithstanding SP AusNet's view that there is strong evidence²⁴⁶ to support the continued application of an equity beta value of 1.0, SP AusNet's Original Proposal submitted an equity beta of 0.8, consistent with the value specified in Clause 3.4 of the SORI. In its Draft Determination, the AER accepted SP AusNet's proposed equity beta, and therefore no further submission regarding this issue is provided in this Revised Proposal.

12.4 Market Risk Premium

12.4.1 Overview of Original Proposal

SP AusNet's Original Proposal argued that there is persuasive evidence to demonstrate that a value of 6.5% for the MRP is inappropriate and that a departure from the MRP value specified in the SORI is therefore justified. SP AusNet provided detailed information and analysis in relation to:

- the on-going uncertainty regarding the outlook for global economic and capital market conditions in the context of the global financial crisis;
- new evidence regarding investors' forward-looking required rates of return in the present environment of uncertainty; and
- SP AusNet's contention that under these circumstances, applying the MRP value specified in the SORI would deliver an outcome that is inconsistent with the NEO and the Revenue and Pricing Principles set out in the National Electricity Law.

SP AusNet commissioned an expert report from Bishop and Officer²⁴⁷, which examined the volatility implicit in the pricing of options on the ASX 200 index and the current high spreads in yields on corporate debt. In their report, Bishop and Officer:

- developed a measure of implied volatility based on the S&P/ASX 200 index options with a three month horizon;
- demonstrated that there is a sufficiently strong relationship between their measure of the implied volatility of the stock market and realised volatility, as well as between realised volatility and realised market return; and
- applied the required rate of return per unit of risk implied from the relationship between realised volatility and realised market return²⁴⁸, to the measure of implied volatility to derive a forward-looking MRP.

Based on this analysis, Bishop and Officer estimated that the implied MRP is currently 12.2 per cent per annum, which is substantially above the long term historical average MRP of 7.0 per cent per annum.²⁴⁹ However, they acknowledge that the MRP is not stationary and changes

²⁴⁶ Refer, for instance to the Joint Network Industry Submission: AER Proposed Determination - Review of the Weighted Average Cost of Capital (WACC) parameters for electricity transmission and distribution, February 2009.

²⁴⁷ Appendix J - Dr. S Bishop and Professor R Officer (Value Adviser Associates), Market Risk Premium, Estimate for 2011-2015, October 2009

²⁴⁸ The analysis necessarily requires the use of constant required rate of return per unit of risk. Bishop and Officer (2009) estimate this rate to be about 50 basis points.

²⁴⁹ Bishop & Officer (2009) p. 10.

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over time. Further analysis conducted by Bishop and Officer (and set out in their report, which was appended to SP AusNet's Original Proposal) led them to recommend an MRP of 8.0 per cent for the forthcoming regulatory period.

SP AusNet's Original Proposal noted that the AER is obliged to provide SP AusNet with a rate of return that reflects market conditions at the time of its determination. SP AusNet explained that the new evidence justifies a departure from the MRP value of 6.5 per cent specified in the SORI. SP AusNet argued that adopting an MRP of 8 per cent for the forthcoming regulatory period would be consistent with the long term interests of consumers and the achievement of the NEO.

12.4.2 Draft Determination on the Market Risk Premium

Page 503 of the Draft Determination summarises the AER's conclusions on the MRP as follows:

"The AER considers that the Victorian DNSPs' proposals do not represent persuasive evidence justifying a departure from the 6.5 per cent MRP in the SORI. The AER considers:

- *commentary on financial markets indicates clear signs of stabilisation since the time of the AER's SORI and its decision to increase the MRP to 6.5 per cent*
- *Officer and Bishop's implied volatility and glide path analysis is subject to limitations as addressed by the AER in previous regulatory determinations*
- *no persuasive evidence exists to support a long term historical average of 7 per cent for the MRP as assumed by Officer and Bishop*
- *Officer and Bishop have not adequately demonstrated that the current level of credit spreads are explained by movements in the MRP*
- *the AER considers that a MRP of 6.5 per cent may be considered conservative when accounting for current prevailing conditions."*

12.4.3 SP AusNet's Revised Proposal on the Market Risk Premium

The Victorian DNSPs retained Officer and Bishop to review the AER's Draft Determination on the MRP, and to provide a detailed response.

Officer and Bishop's paper²⁵⁰:

- provides the most recent evidence, comments upon and clarifies a number of matters raised by the AER in its commentary on Officer and Bishop's approach as presented in both the Victorian Draft Determination and in the AER's final decision for South Australian electricity distribution in May 2010;
- reiterates Officer and Bishop's view that an MRP for the regulatory period from 2011 to 2015 of 8% reflects current circumstances and a reasonable view as to what will prevail over the regulatory period;
- demonstrates that it is clear that under current market conditions investors require a higher MRP than the long term historical average, estimated by Officer and Bishop as 7%.

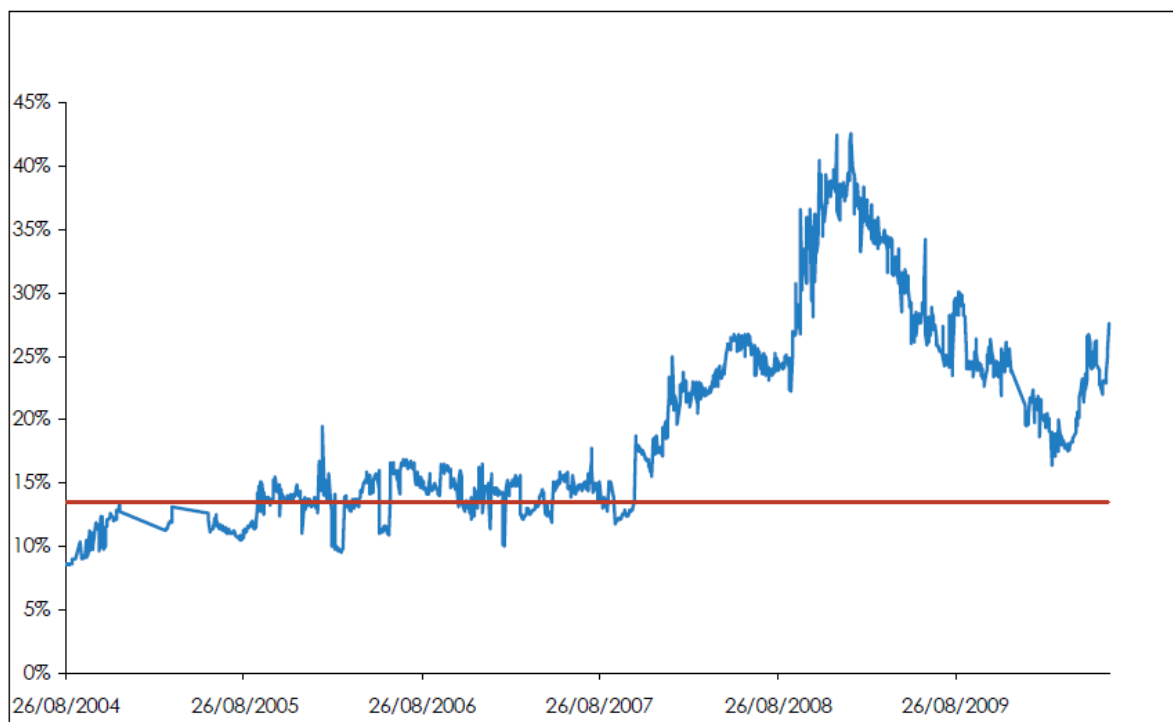
²⁵⁰ Professor Bob Officer & Dr Steven Bishop, Market Risk Premium: Comments on the AER Draft Distribution Determination for Victorian Electricity Distribution Network Service Providers, July 2010

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Officer and Bishop explain that a key driver of the MRP is underlying volatility in the stock market. They present updated evidence demonstrating that current levels of volatility remain well above the historical average.

In contrast to the AER's view that "a MRP of 6.5 per cent may be considered conservative when accounting for current prevailing conditions", the latest data shows that the higher-than-average volatility experienced during the peak of the Global Financial Crisis diminished recently but has since rebounded. The graph below (Figure 1 from Officer and Bishop's July 2010 report) presents the implied volatility for the history of close-to-the-money 12 month maturing options on the ASX200. Each observation reflects a forward view of the volatility over the ensuing 12 months of the market at that time. This data shows clearly the recent rebound in volatility.

Figure 12.1: Implied Volatility of 12 Month Option on ASX 200



Source: Officer and Bishop

Officer and Bishop note that forward looking volatility is currently around 76% above both the pre-crash average volatility and the long term average historical volatility of the market (shown as the red horizontal line in the above chart).

Using this view of volatility, combined with a long term average of the historical MRP, Officer and Bishop estimate that:

- a one year forward view of the MRP is 11.9%; and
- the average forward view over the period from 2011 to 2015 is 8%.

On 16 February 2010, the Victorian DNSPs lodged a submission to the AER in response to the Draft Determination on electricity distribution in South Australia. That submission noted that in relation to the MRP, contrary to the AER's assertion that market volatility "appears to be reverting to pre-GFC levels" there is ample evidence available which demonstrates that::

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- volatility and uncertainty continue to pervade capital markets; and
- the outlook for the global economy and capital markets remains very fragile, which places upward pressure on the MRP.

Since early 2010, global concerns regarding sovereign debt risk have persisted. Commenting in June of this year on recent developments in the global economy and financial markets, the Reserve Bank Governor Glenn Stevens noted that:

“Wider effects [of concerns over European sovereign risk] were observed in May as global investors became more cautious. Uncertainty over the nature of the policy response, and fears that it could be un-coordinated across countries, saw a marked increase in volatility in share prices and exchange rates. Our own markets have been affected along with everyone else’s.

Qualitatively, some of the market events had a little of the flavour of September and October 2008 about them. Quantitatively, however, they have, at this point, been nothing like as pronounced. Indicators of stress in markets have not, to date, signalled anything like the problems of late 2008 when interbank and capital markets seized up. But of course the episode is not yet over, and the issues will continue to need careful handling by all concerned and close monitoring by the rest of us...

Of course much detail remains to be set out as to how the mechanics of the [support package proposed by European authorities] will work. At this stage any assessment about the impact of these events on the economies of Europe and on those further afield is very preliminary...

The world economy has to date staged a stronger recovery than most thought likely a year ago, albeit one that is uneven across regions. Looking ahead, it has to be expected that the unfolding situation in Europe, which is going to result in earlier fiscal tightening than had been assumed by forecasters until now, will weigh somewhat on global growth in 2011. But the overall outcome will depend on what else happens and judgements about all that at this stage can only be preliminary. It cannot be denied that the potential for further financial turmoil exists, but to date the stresses have not been of the order of magnitude we saw a year and a half ago. Much still hinges, however, on the way European policy makers craft their ongoing response to a complex problem.”²⁵¹

The recent commentary of the Reserve Bank Governor, together with the updated empirical analysis presented by Bishop and Officer point to on-going uncertainty regarding the outlook for the global economy and financial markets, and on-going levels of volatility in financial markets that are well above average. This most recent evidence does not support the AER’s contention that “a MRP of 6.5 per cent may be considered conservative when accounting for current prevailing conditions.”

On the contrary, SP AusNet considers that the latest available evidence continues to support the application of an MRP value of no less than the value specified in the SORI.

For the purpose of this Revised Proposal, SP AusNet has adopted a value of 6.5% for the MRP.

²⁵¹ Glen Stephens, RBA Governor, Address to Western Sydney Business Connection Sydney, 9 June 2010. <http://www.rba.gov.au/speeches/2010/sp-gov-090610.html>.

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12.5 Measurement Period for Nominal Risk Free Rate and Debt Risk Premium

For the purpose of its Original Proposal, a 15 business day measurement period commencing on 1 October 2009 and ending on 21 October 2009 was adopted to enable the calculation of the WACC. In its Original Proposal, SP AusNet explained that it had submitted a confidential letter setting out the start date and the end date of the proposed measurement period for the purpose of the AER's final decision. On page 488 of the Draft Determination, the AER states that it has accepted SP AusNet's proposed averaging period.

In this Revised Proposal, a 30 business day measurement period commencing on 19 April and ending on 31 May 2010 is adopted for the purpose of calculating the WACC.

12.6 Nominal Risk Free Rate

Adopting the measurement period specified above, and applying the relevant regulatory provisions²⁵², SP AusNet has determined that the nominal risk free rate for the purpose of this Revised Proposal is 5.65%.

As noted above, for the purpose of the AER's final decision, the nominal risk free rate will be re-calculated over the measurement period proposed by SP AusNet and accepted by the AER.

12.7 Inflation Forecast

12.7.1 Overview of Original Proposal

SP AusNet's Original Proposal explained that Clause 6.4.2(b)(1) of the NER requires the adoption of a forecasting method that the AER determines is likely to result in the best estimates of expected inflation. SP AusNet noted that in recent determinations the AER has adopted a 10-year forecast of inflation based on an average of the RBA's short-term inflation forecasts (which usually cover no more than a 2 year horizon) and the mid-point of the RBA's target inflation band (for the remaining years in the 10-year forecast period).

In its Original Proposal, SP AusNet applied this methodology to estimate an inflation rate of 2.40% as shown in the table below.

Table 12.2: Original Proposal Forecast Inflation

Year ending	Dec 2010	Dec 2011	Dec 2012	Dec 2013	Dec 2014	Dec 2015	Dec 2016	Dec 2017	Dec 2018	Dec 2019	Geometric Mean
Forecast inflation	2.0%	2.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.40%

Source: RBA Statement on Monetary Policy, 7 August 2009, p. 75.

²⁵² NER Clauses 6.5.2(c) and (d); SORI Clauses 3.2(a) and 3.3.

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SP AusNet noted that when this expected inflation rate is combined with the nominal risk free rate it produces a real risk free rate of 3.0%, which is consistent with the observed real yield on 10 year Commonwealth capital indexed bonds.

12.7.2 Draft Determination on the inflation forecast

Page 525 of the Draft Determination states:

“For this draft decision, the AER considers that the most reliable 10 year inflation forecast is a geometric average of the RBA short term forecasts (currently extending out two years) and the mid-point of the RBA’s target inflation range for the remaining years in the 10 year period. The AER observes only Jemena used the correct values and methodology to calculate the forecast inflation figure in its regulatory proposal. That said, the AER considers errors made by the other DNSPs were inadvertent. Based on this approach and using the latest RBA forecasts, an inflation forecast of 2.57 per cent produces the best estimate for a 10 year period.”

The Draft Determination (page 525) also explained the AER will update the inflation forecast to reflect the latest available RBA forecast available at the time of the final decision.

12.7.3 SP AusNet’s Revised Proposal on the inflation forecast

SP AusNet has accepted the Draft Determination for the purpose of preparing this Revised Proposal. An inflation forecast of 2.57% is adopted in this Revised Proposal.

12.8 Debt Risk Premium

12.8.1 Overview of Original Proposal

SP AusNet’s Original Proposal explained that the Victorian distributors commissioned PricewaterhouseCoopers (PwC) to:

- test whether the Bloomberg fair yield curves that the AER has relied on in previous determinations reasonably meets the legislative requirements;
- propose an alternative methodology for calculating the DRP that best meets the legislative requirements; and
- apply the Bloomberg test and the alternative methodology during the first 15 business days in October 2009 (being the measurement period nominated by SP AusNet for the purpose of the Original Proposal).

The PwC report concluded that the Bloomberg fair value curves provided a reliable basis for deriving a benchmark cost of debt for regulated businesses prior to the onset of the global financial crisis (GFC), and a better benchmark than the main alternative (namely the CBA Spectrum service). However, PwC also concluded that the Bloomberg method has not performed well since the onset of the crisis and, has materially understated the fair yield on corporate bonds during this period.

From these findings, PwC derived a series of tests or indicators for use in assessing whether (or, more relevantly, when) Bloomberg may once again be used for the purpose of estimating the DRP. As a result of applying these tests, PwC finds that Bloomberg only produces a fair value curve out to a 7 year term to maturity for BBB (as well as A and AA) corporate bonds. PwC therefore recommend using a linear extrapolation of the Bloomberg BBB credit margins between

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the 5 and 7 years to derive an implied BBB+ credit margin for a 10 year bond as required by the NER.

Based on the analysis set out in the PwC report, SP AusNet's Original Proposal adopted a value of 4.71 per cent for the debt risk premium. As noted in section 12.5, SP AusNet submitted a confidential letter to the AER setting out the start date and the end date of the proposed measurement period for the risk free rate and debt risk premium to be applied for the purpose of the final decision. SP AusNet proposed that the methodology set out in the PwC report be applied to determine the DRP for the purpose of the final decision.

12.8.2 Draft Determination on the debt risk premium

Pages 522 and 523 of the Draft Determination summarise the AER's draft decision as follows:

"The credit rating level of BBB+ proposed by the Victorian DNSPs is as specified in the SORI and is accepted by the AER in accordance with clause 6.5.4(g) of the NER.

With respect to the supporting information (PwC report) provided by the Victorian DNSPs, the AER considers:

- *it is appropriate to consider both Bloomberg and CBA Spectrum as data service providers for consideration in the calculation of the DRP*
- *its approach to testing both CBA Spectrum and Bloomberg data is appropriate and has been affirmed by the Australian Competition Tribunal*
- *PwC's linear extrapolation methodology is inappropriate, and considers that a proxy extrapolation using AAA fair yields would better estimate the 10 year BBB+ cost of debt.*

Regarding the measurement of the DRP for clause 6.5.2(e) of the NER, the AER considers that the use of CBASpectrum's BBB+ fair value curve provides the best available prediction of observed yields for the purposes of determining the yield on the benchmark BBB+ 10 year corporate bond. Unlike the Victorian DNSPs' proposed use of Bloomberg data, CBASpectrum's BBB+ fair value curve meets the need for the return on debt to reflect the current cost of borrowings for comparable debt.

This conclusion is based on a comparative analysis of the fair yield estimates of both data service providers against market data relevant to the benchmark corporate bond over the indicative averaging period of 15 days ended 19 March 2010. The DRP estimated using this process for the purposes of this draft decision is 3.25 per cent.

The DRP will be updated for the AER's final determination on the basis of data and analysis relating to the averaging periods accepted by the AER."

12.8.3 Overview of SP AusNet's Revised Proposal on the debt risk premium

SP AusNet, along with the other Victorian DNSPs commissioned two pieces of independent expert advice in relation to the AER's Draft Determination on the debt risk premium:

- CEG was commissioned to provide an independent critique of the AER's methodology for testing whether the CBASpectrum BBB+ fair value curve or the Bloomberg BBB fair value curve provides a better basis for arriving at an estimate of the yield on BBB+ bonds with 10 years to maturity.²⁵³

²⁵³ Appendix K - Tom Hird, CEG, *Testing the accuracy of Bloomberg vs CBASpectrum Fair Value Estimates: A report for Victorian Electricity DBs*, July 2010.

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- PriceWaterhouse Coopers (PwC) was commissioned to review the AER's Draft Determination for the Victorian DNSPs the final decision for ActewAGL and the final decision for Jemena Gas Networks on the debt risk premium. PwC was also asked to review its November 2009 debt risk premium report in light of the AER's Draft Determination and the two final decisions identified above.²⁵⁴

These independent expert reports are submitted along with this Revised Proposal, and they form part of this Revised Proposal.

On the basis of the independent expert advice it has received, SP AusNet has adopted a debt risk premium of 428 basis points in this Revised Proposal.

Section 12.8.4 below provides a summary of CEG's critique of the AER's methodology for estimating the debt risk premium. CEG finds that the AER's methodology contains a number of errors, and when these errors are corrected the methodology would unambiguously determine that the Bloomberg fair value curve presently provides the more accurate estimate of the ten year NER cost of debt in the relevant period of analysis.

Section 12.8.5 sets out a summary of the PwC report. PwC finds that the Bloomberg BBB fair value curve provides a more accurate prediction of the estimates from different providers of the yields of Australian BBB+ corporate bonds than the alternatives that the AER employs. PwC also finds that the AER's estimation of the debt risk premium suffers from a number of important errors, including: excluding the DBCT bond as an outlier; not testing how the debt risk premium should increase beyond 5 or 6 years; not testing whether the predicted yield is downwardly biased; and failing to consider a wider range of sources of information.

12.8.4 CEG's review of AER's methodology to estimate debt risk premium

CEG's review finds that:

- The methodology set out in the Draft Determination fails to result in the most accurate estimate of the NER cost of debt²⁵⁵.
- The methodology in the Draft Decision does not, and will not, deliver a NER cost of debt that, when put into the weighted average cost of capital (WACC) formula, will provide a service provider with a rate of return equivalent to that required by investors in a commercial enterprise with a similar nature and degree of non-diversifiable risk as that faced by the distribution business of the provider.
- The AER's methodology does not provide a forward-looking rate of return that is commensurate with prevailing conditions in the market for funds and the risks involved in providing standard control services.
- In the specific circumstances that it was applied in the Draft Determination the effect of the AER's methodology is to underestimate the NER cost of debt.

The analysis, main findings and conclusions of CEG's review are summarised under separate headings below.

²⁵⁴ Appendix L - PriceWaterhouse Coopers, *Methodology for the calculation of debt risk premium*, 19 July 2010

²⁵⁵ The term "NER cost of debt" refers to the benchmark 10 year yield for BBB+ rated Australian corporate debt determined in accordance with the requirements set out in the NER.

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“Wrong question” and “non corresponding data set” errors

The methodology adopted by the AER in the Draft Decision attempts to test which of the Bloomberg or the CBASpectrum BBB+ fair value curves better fits the available estimates of bond yields. The AER uses a small sample of only five bonds with an average maturity of just 3.6 years to maturity to perform this test (with individual bonds maturities ranging from 2.2 to 5.4 years). Once the AER has determined which of the fair value curves it considers to be a better fit to the available data the AER then uses the 10 year fair value estimate from that curve to determine the NER cost of debt.

In CEG’s view, this involves an important error in that the AER methodology is not attempting to answer the correct question (the ‘wrong question error’). Specifically, the correct question is which of the fair value curves best estimates the 10 year BBB+ cost of debt. However, by applying the AER’s test to the AER’s sample of bond yields it has effectively asked which curve best estimates the cost of debt for maturity of around 3.6 years.

It is important to note that the AER is not, in a sense, compelled to ask the wrong question because of data limitation. There is a great deal of data available that is relevant to answering the right question but to which the AER has not had regard. There is a great deal of relevant data to which the AER has not had regard.

The primary reason the AER test is run with a sample of only 5 bonds is that the AER arbitrarily establishes criteria for sample selection that excludes information relating to:

- the estimated yields bonds that are covered by one or two of UBS, CBASpectrum or Bloomberg but not all three;
- the estimated yields on BBB+ floating rate bonds (once swapped into an equivalent fixed rate yield);
- the estimated yields on bonds that do not have a BBB+ rating (such as BBB or A- rated bonds)
- the estimated yields on bonds that are issued in Australia by foreign companies.

These exclusions are not justified in the Draft Determination and, in CEG’s view, are not capable of justification in the current circumstances. It is conceivable that these exclusions would not materially harm the analysis if they nonetheless left a large sample of bonds with maturities close to 10 years. However, in the current circumstances this is not the case.

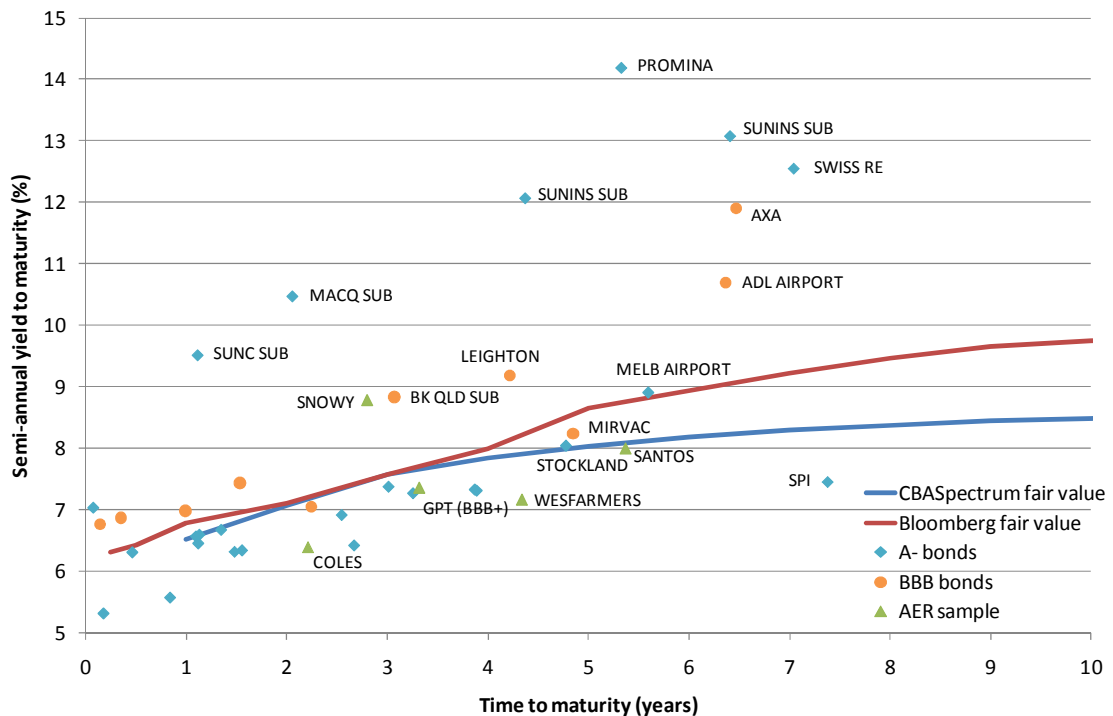
One relevant effect of the exclusion is that the AER sample does not include a BBB+ fixed rate bond issued DB RReef which only has a yield available from UBS in the period of 19 April 2010 to 31 May 2010 – being the period in which the analysis for this report focuses. This bond has a longer maturity than any bond in the AER sample (6.9 years) and has a yield that is slightly above the CBASpectrum fair value curve at that maturity (and below the Bloomberg fair value curve).

However, the AER’s criteria also exclude a great number of other bond yield data as is demonstrated in the two figures below.

The first figure shows UBS estimated yields on all five BBB+ fixed bonds in the AER sample as green triangles. (It should be noted that the GPT bond from the AER sample was rerated to A- during the averaging period. The figures shown below are the average only for the days on which it was rated BBB+.) It also shows BBB and A- rated fixed bonds as orange dots and blue triangles respectively. Superimposed on these bond yield data are the fair value curves derived from Bloomberg and CBASpectrum.

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Figure 12.2: BBB and A- fixed rate bonds



Source: UBS, CEG analysis

The following observations are clear from the above figure.

- The two fair value curves are very similar below five year maturity and only materially depart at 5 years and beyond. Beyond five years maturity there is only one bond in the AER's sample (Santos with a maturity of 5.4 years). This demonstrates the inability of the AER sample to accurately answer the right question, namely, what is the best estimate of the cost of BBB+ debt at 10 years.
- If one also has regard to yields on BBB and A- rated fixed rate bonds then there are seven additional bonds with maturity of greater than five years. Six out of these seven have yields in excess of the Bloomberg fair value and only one has a lower estimate. Moreover, of those six bonds with higher yields four are rated at A- - which suggests that, if anything, both fair value curves are too low at long maturities (noting that a BBB+ fair value curve would, other things being equal, be expected to pass above the yields on A-rated bonds).

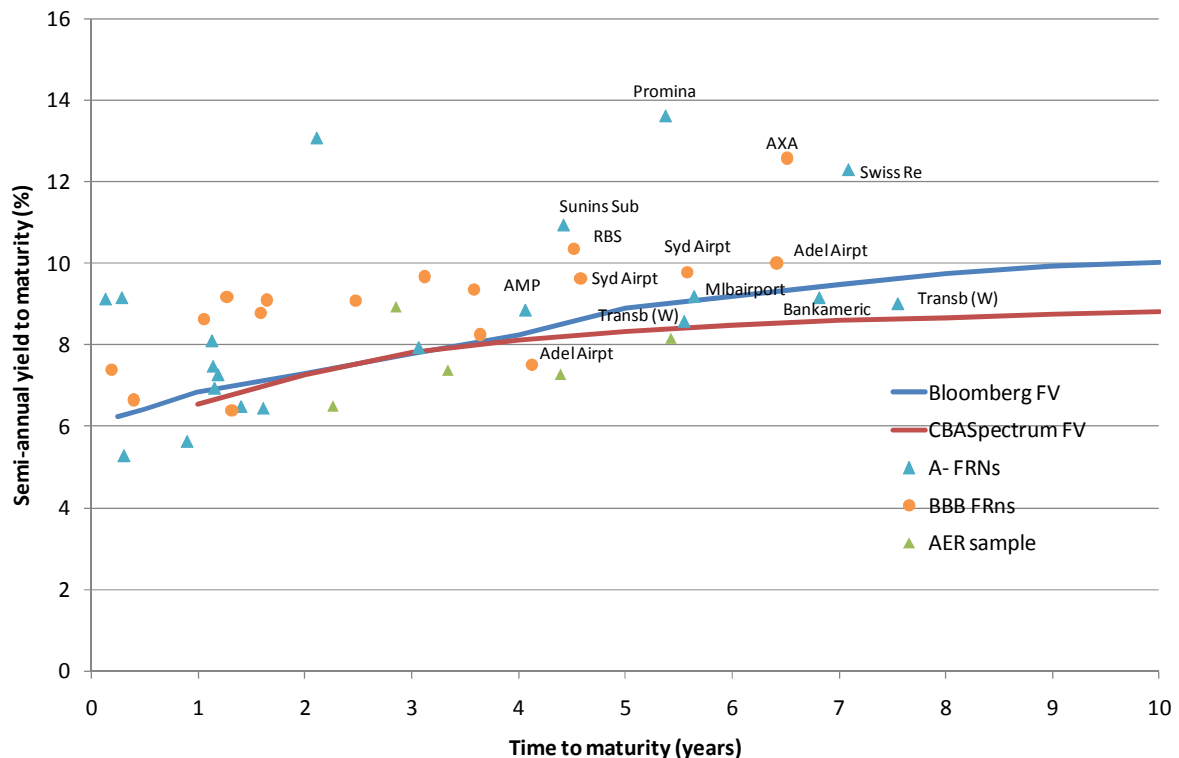
This information is clearly relevant to any assessment of the correct question, namely, what is the best estimate of the BBB+ cost of debt at 10 years. While the long maturity BBB and A- bonds are not BBB+ rated they are rated very close to BBB+ and they have the vital advantage of providing information on bond yields at much closer to 10 years than in the AER sample (which although being BBB+ rated do not have maturities close to 10 years). The information on long maturity bonds clearly supports the selection of the fair value curve that is highest at 10 years (ie, the Bloomberg fair value curve).

This conclusion is strongly supported if regard is had to the yields on BBB and A- rated floating rate bonds as described in the below figure. A floating rate bond is one whose interest rate is

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updated every 3 months based on the prevailing bank bill swap rate (BBSW). However, a relatively simple calculation can be performed using market data to derive the equivalent fixed rate yield on the bond. The yields shown in the figure below are the equivalent fixed rate yields for floating rate bonds as estimated by UBS.

Figure 12.3: BBB and A- floating rate bonds



Source, UBS and CEG analysis.

It is clear that the data on long dated bonds strongly supports the selection of the Bloomberg fair value curve. The most important observation to come from having regard to the BBB and A- floating rate bonds is that all of the observations for maturities of greater than four years are above the CBASpectrum BBB+ fair value curve. Moreover, the great majority are above the Bloomberg fair value curve – including most of the A- rated bonds. Only four out of the 14 bonds with a maturity of greater than four years fall in between the two fair value curves and all of these are rated A- (ie, rated higher than BBB+ and therefore expected to have a lower yield than the benchmark BBB+ yield). This strongly suggests that the higher Bloomberg fair value curve is the better predictor of long maturity yields for both A- and BBB rated bonds.

Given that BBB+ rated bonds will, other things equal, tend to have a yield between BBB and A- bonds the same conclusion must hold BBB+ bonds. That is, in the absence of long dated BBB+ bonds it is still possible to meaningfully estimate the required yields on long dated BBB+ bonds from the yields on long dated A- and BBB bonds. When estimating the NER cost of debt, which is a 10 year cost of debt, it is an error not to have regard to these yields in the absence yield estimates for long dated BBB+ bonds.

The only reason for preferring the CBASpectrum estimate based on the above data would be a conclusion that the benchmark BBB+ cost of debt would be lower than the cost of debt for A-

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rated issuers such as Melbourne Airport, AMP, Transurban and Bank of America. This would be an unreasonable conclusion. A more reasonable conclusion based on the above data would be that the BBB+ cost of debt fell somewhere lower than the BBB cost of debt for Sydney Airport, RBS and Adelaide Airport and somewhere above the cost of debt for the A- rated issuers (ie, Melbourne Airport, AMP, Transurban and Bank of America). Given that this is where the Bloomberg fair value curve sits, the appropriate conclusion based on this data is that the Bloomberg fair value curve is a better predictor of the cost of debt for maturities at longer maturities.

The AER methodology's failure to have regard to this data can be termed *a non corresponding data set error*. That is, the AER fails to have regard to the most relevant information required to answer the correct question. SP AusNet submits that this constitutes a material error and that the AER should address and rectify this issue in the final determination.

Exclusion of outliers

Notwithstanding the above errors, the AER methodology (if correctly applied) would have identified the Bloomberg fair value curve as the most accurate fair value curve had the AER not made further errors by excluding as an outlier the longest dated BBB+ fixed bond (the DBCT bond) from its already limited sample.

In purporting to apply its methodology and reducing the sample size, the AER makes at least the following errors:

- The incorrect selection of the period over which to test for outliers;
- Failure to use the relevant sample;
- Failure to adjust for maturity;
- The incorrect use of the Chow test.

Each of these errors is discussed in further detail below.

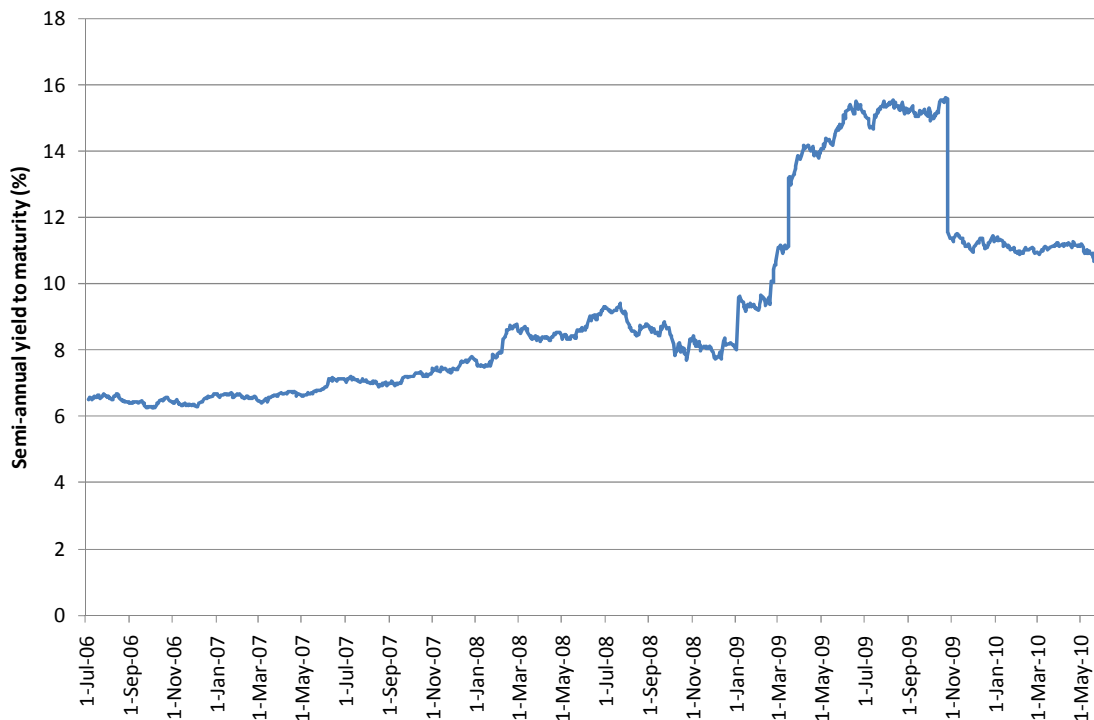
The incorrect period error

The AER incorrectly assesses whether the current yield on the DBCT bond is an outlier by comparing its average yield since January 2009 with the average yields of the other bonds in the sample. The only correct test of whether the DBCT yield is currently an outlier is a test applied to the current yield. By contrast, the AER's test is equivalent to testing whether a river is currently in flood by looking at the average level of the river over the last year. If the river was in flood in the first half of the year then the AER test would be prone to determining that it is still in flood even if it currently has below average water flow.

This is precisely what the AER test does in the case of the DBCT bond as can be seen from the below graph.

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Figure 12.4: UBS yield estimates for DBCT



Source: UBS

As can be seen, the DBCT yield estimated by UBS declined significantly in October 2009. By averaging over the period from January 2009 (before this structural break) the AER derives an upward biased estimate of the current yield – with the effect that its test cannot be used to reliably say anything about whether the current DBCT yield is an outlier.

The failure to use the right sample error

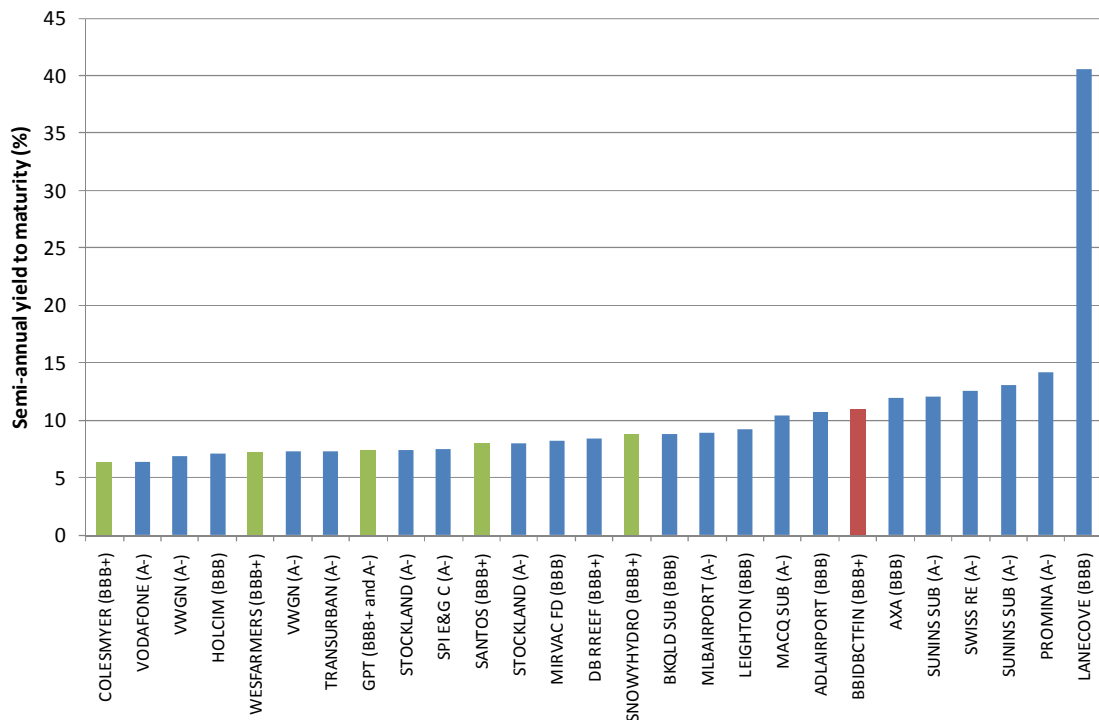
The AER test also commits an error by comparing the DBCT yield to the yield on only the other five bonds in its sample. The AER sample of fixed coupon BBB+ bonds is so small that one cannot be statistically confident that a difference between the yield on the DBCT bond and AER sample is due to something abnormal about the DBCT bond or something abnormal about the AER sample.

More data is required to undertake this assessment. In particular, a relevant source of such data is BBB and A- rated fixed coupon bonds of which there are 17 additional bonds not in the AER sample for which UBS has yield estimates. If the DBCT yield is not unusual relative to this wider set of bonds then one cannot reasonably conclude that the DBCT bond is an outlier.

The figure below shows the DBCT yield (coloured red) relative to the yield on all 23 fixed coupon bonds rated BBB to A- (with the credit rating of each bond shown on the graph). It also shows the yield on the five bonds in the AER sample (coloured green). It is clear that the yield on the DBCT bond is higher than any bond in the AER sample of five. However, what this figure also makes clear is that the five bonds in the AER sample are all drawn from the bottom half of the wider sample. That is, the five bonds in the AER sample are unrepresentative of the wider sample.

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Figure 12.5: BBB to A- rated fixed bonds only with maturity greater than 2 years



Source: UBS

It can be seen that the DBCT bond (coloured red) has a yield that lies above, but not materially so, the average. DBCT's yield is 11.0% while the sample mean including the Lane Cove bond is 10.2%. The sample mean excluding the Lane Cove bond is 9.0%. It is obvious that relative to this sample of bonds the DBCT yield is not an outlier and all of the three statistical tests confirm this.

It is also relevant to note that the bond with the next lowest yields compared to DBCT (first bond to the left of the DBCT bond in the figure) is a BBB rated bond issued by the fellow infrastructure owner Adelaide Airport (DBCT is a sea port operator). There is also an A- rated bond issued by another airport infrastructure owner, Melbourne Airport, four bonds to the left.

Both of these bonds have very similar maturities to the DBCT bond (5.6 and 6.4 years versus DBCT's 6.1 years maturity). In fact, the Melbourne Airport and Adelaide Airport bonds along with Sunnins Sub and AXA, have the closest maturities to the DBCT bond of all bonds in the sample.

This makes these bonds highly suitable for a comparison to the DBCT bond as they have the same average credit rating (two are BBB and two are A-) and they have almost identical average maturity to the DBCT bond. Notably, they also have similar average yields of 11.1%. Unless all of these bonds are also outliers then the DBCT bond cannot reasonably be identified as an outlier.

As described in the body to the report, the above conclusions are strengthened when yields on floating rate bonds are also included in the analysis and even when only A- bond yields are considered (ie, not BBB bonds).

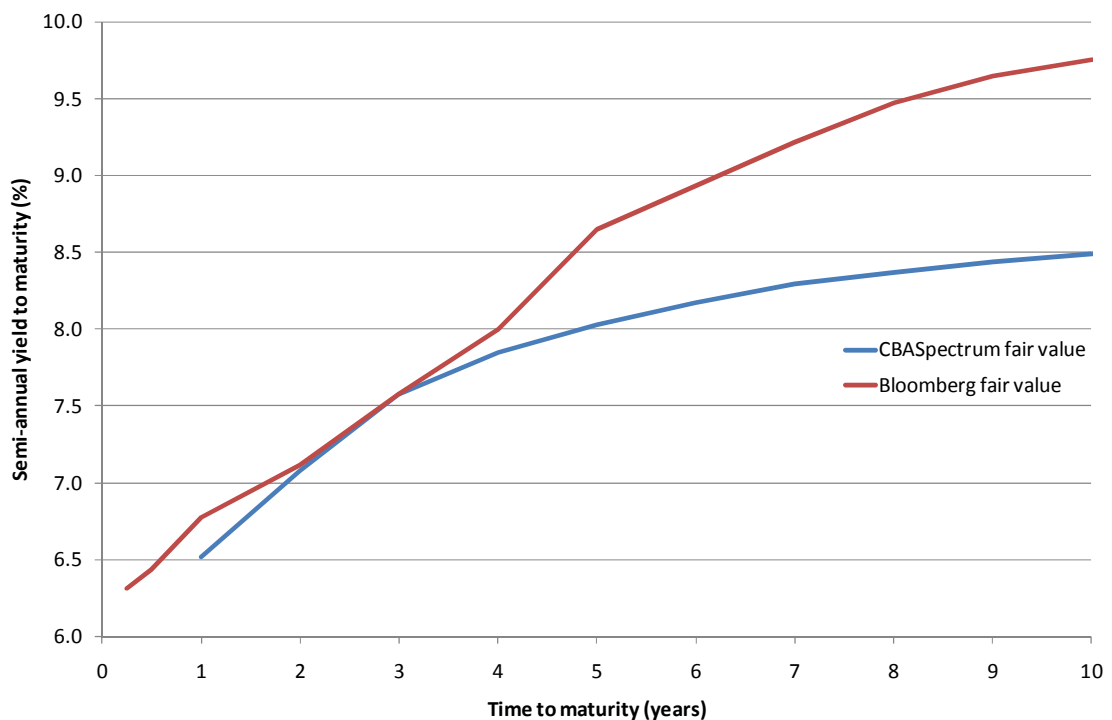
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The failure to adjust for maturity

The fact that the DBCT bond has a yield that is above average in the above sample is entirely to be expected given that it has a maturity that is above average in the sample. Out of 27 bonds it has the seventh highest maturity and this maturity is 36% higher than the average maturity.

It is well understood that yields tend to increase with maturity of a bond. Therefore, it is not surprising that the DBCT bond has an above average yield (because its maturity is above the sample average). Moreover, it is not surprising that the DBCT bond has the highest yield in the AER sample because it also has the longest maturity. The tendency for yields to increase with the maturity is demonstrated by the fact that both Bloomberg and CBASpectrum predict rising fair value yields as maturity increases, as shown below.

Figure 12.6: Fair value yields plotted against maturity



Source: Bloomberg and CBASpectrum for fair value curves.

Testing for an outlier on the basis of differences in yields results in a serious potential error because the yield on a bond is made up of two components:

- the 'normal' or 'benchmark' cost of debt for a BBB+ bond at that maturity and credit rating; plus or minus
- the effect of characteristics of that bond that result in its yield departing from the 'normal' or 'benchmark' yield.

The purpose of an outlier test in the context of attempting to select a fair value curve is to examine whether the influence of the second factor is so great that the bond can be identified as an outlier. It is an error to apply the test to yields of bonds in a sample because the longest dated bond is likely to be incorrectly identified as an outlier just because no account has been taken of the fact that such a bond is expected to have the highest yield in the sample.

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This is particularly relevant because the Draft Determination identifies the longest dated bond in the AER sample (the DBCT bond) as an outlier. In order to correct for this, one must test for abnormal differences between a bond's absolute yield and the 'benchmark' yield at that maturity. The AER has available two sources of estimates for the 'benchmark' yield, namely, CBASpectrum and Bloomberg fair value.

Given that these are the alternative sources of 'benchmark' yields that the AER is attempting to choose between, it is appropriate that the AER adopt an average of the two as the benchmark DRP for this purpose.²⁵⁶ When this is done, then even using the AER's limited sample, the DBCT bond yield is not identified as an outlier using the appropriate tests.

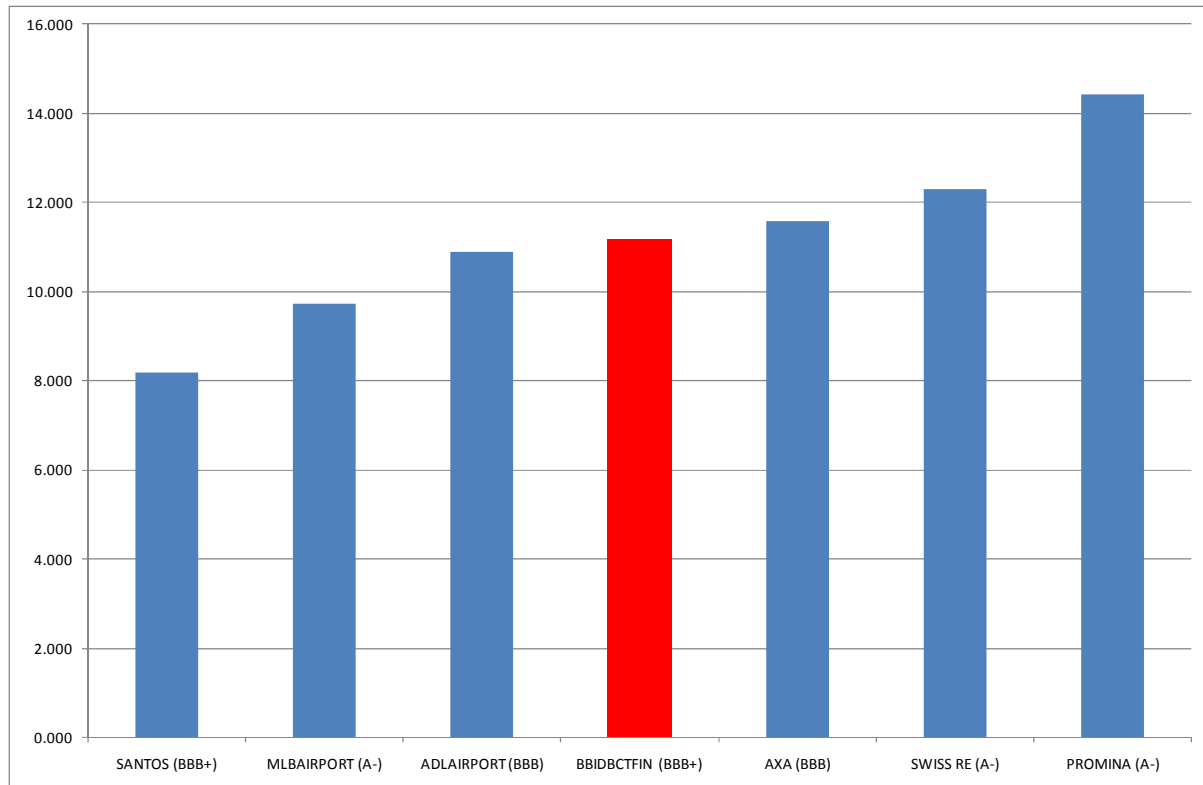
In summary, recall from the above analysis that the DBCT yield (even when unadjusted for its relatively long maturity) is clearly not an outlier when compared with wider relevant sample than just the AER's five bonds. However, even when one restricts the analysis to the AER sample and properly adjusts for maturity the DBCT bond is not identified as an outlier.

Another way of demonstrating the AER's failure to adjust for maturity error is to compare the DBCT yield estimate with the yield estimate for other bonds that have maturity one year either side of the DBCT maturity (ie, between 5.1 and 7.1 years maturity). When this is done for fixed coupon bonds only, the DBCT bond yield of 11.0% is found to be the same as both the median and the mean of the sample of 9 bonds with this maturity range. Obviously, as shown in the chart below, the DBCT yield is not an outlier for fixed coupon bonds of its maturity.

²⁵⁶ Choosing one or the other as the benchmark would amount to prejudging the outcome of the exercise the AER is embarking on in the first place.

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Figure 12.7: Yields on fixed coupon bonds with maturity within 1 year of 6.1 years and rated from BBB to A-



Source: UBS, CEG analysis

The incorrect use of the Chow test

The Draft Determination uses the Chow test to test for outliers. However, a Chow test only tests whether there has been a structural break in a bond's yield or debt risk premium. It does not test whether the structural break has made the bond an outlier.

For example, if all bonds have the same structural break it does not make all bonds outliers – it simply means that underlying conditions in the bond market have changed. This is particularly relevant in the light of the global financial crisis (GFC), as there was a clear change of circumstances between late 2008 and early 2009. The Chow test is therefore not considered to be a useful test for outliers. Indeed, all of the bond yields in the AER sample exhibit a structural break during the GFC. That is, there is nothing unusual about the AER finding that the DBCT bond yield exhibited a structural break in this period given that all the bonds in its sample also exhibited structural breaks. Accordingly, the AER has made a material error by adopting an inappropriate test in the current circumstances.

12.8.5 PwC estimate of debt risk premium

The analysis, main findings and conclusions of PwC's review are summarised under separate headings below.

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Analytical approach and summary of findings

PwC recommends a debt risk premium of **428 basis points** for an Australian BBB+ bond during the reference period covering 30 business days from 19 April to 31 May, 2010 inclusive. This estimate is based upon the estimate of the debt risk premium that is provided by the Bloomberg BBB band²⁵⁷ fair value curve at 6 years, and then extended beyond that point using the change in the debt risk premium that was observed under the Bloomberg AAA fair value curve between 6 and 10 years. PwC has only used the Bloomberg BBB band fair value curve out to 6 years because that it is the limit to which the accuracy of that curve currently can be tested against the BBB+ Australian corporate bonds that are currently on issue.

PwC finds that the Bloomberg BBB band fair value curve provides a more accurate prediction of the estimates from different providers of the yields of Australian BBB+ corporate bonds than the alternatives that the AER offers (namely the CBASpectrum BBB+ fair value curve and average of the Bloomberg BBB band and CBASpectrum curves).

PwC also finds that the tests that PwC applied in its November 2009 report for the internal integrity of the Bloomberg estimation process continue to be passed. PwC conclude that the problems that beset the Bloomberg service during the worst of the Global Financial Crisis are no longer present. In contrast, PwC's tests show that CBASpectrum's estimates of the yields for some of the bonds currently on issue are some distance from the opinions of other financial institutions, which leads PwC to conclude that CBASpectrum's fair value curve should not be used to set a debt risk premium for regulatory purposes.

As implied by the discussion above, PwC have used the AER's preferred method to extrapolate the debt risk premium beyond the 'useable' part of the relevant fair value curve, which is to rely upon the Bloomberg AAA fair value curve, which produced debt risk premium estimates out to 10 years during the reference period. While PwC does not agree in total with the AER's analysis, PwC notes that the choice is not economically material at the current time, and PwC notes that its extrapolation method contained shortcomings (PwC previously recommended extrapolating the Bloomberg BBB band debt risk premium from 7 years using the change between the 7 and 5 year premiums to derive the slope of the debt risk premium function – however, this makes the extrapolation sensitive to the exact shape of the Bloomberg BBB band fair value curve between the 5 and 7 year points).

PwC notes that Bloomberg ceased producing a fair value curve for the AAA credit rating after 22 June 2010, although it is possible that the curve may once again be produced. In light of this, PwC recommend that:

- if a Bloomberg AAA fair value curve is available during the relevant distribution business's averaging period that the AAA curve during the averaging period be used to perform the extrapolation; but
- if the Bloomberg AAA fair value curve is not available during the relevant distribution business's averaging period, then the latest available AAA curve (averaged over an appropriate period, for example 20 days) be used to perform the extrapolation.

As implied by the discussion above, PwC has applied the following methodology to reach its conclusions:

- *Step one: test the integrity of the fair value curves to the extent possible* – PwC considers it important to test the integrity of the method and inputs underlying the construction of the

²⁵⁷ This band denotes the range of predicted fair yields of bonds rated from BBB minus to BBB plus.

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Bloomberg and CBASpectrum fair value curves. This is an application of the tests PwC devised for its November 2009 report, which examined whether the integrity of the data and method underlying the Bloomberg fair value curves was sufficiently robust as to allow reliance to be placed on the results.

- *Step two: test the predictive accuracy of the fair value curves* – PwC applies the average error test and the weighted sum of squared errors test, to examine whether the Bloomberg or CBA Spectrum fair value curves respectively provide estimates that are statistically unbiased, and represent a good fit to the underlying yield data.
- *Step three: test the extrapolation of the curve beyond the data points* – Since there are no BBB+ Australian corporate bonds currently on issue that have a term beyond a term of 6 years (assuming the DBCT bond is included in the sample – 5 years otherwise), it is impossible to test the accuracy of any fair value curves beyond this point. It is essential, therefore, to draw upon other information to test the reasonableness of the extrapolation of the fair value curve beyond this point, noting that the target of the exercise is a debt risk premium for 10 year BBB+ Australian corporate bonds.
- *Step four: draw on other information as a cross-check* – The final component of PwC's methodology is to cross-check the results against other market evidence to the extent possible, which may include the yields on floating rate note yields (adjusted to a fixed rate equivalent yield), evidence from other bond ratings and other estimates of fair value yield curves. Further evidence that PwC considered to cross-check its estimates is summarised below.

Comment on the AER Draft Determination (and other decisions)

In its Draft Determination, the AER has tested the accuracy of the three potential sources for a 10 year BBB+ Australian corporate bond debt risk premium, which are:

- The CBASpectrum BBB+ fair value curve;
- The Bloomberg BBB band fair value curve – as this curve extends out only to 7 years, the AER has extrapolated the debt risk premium from 7 years to 10 years using the change in the debt risk premium that was implied by the Bloomberg AAA-band debt risk premium; and
- A simple average of the two curves.

The AER tested the relative accuracy of the two curves by comparing the predicted yields from the curves against the estimates of the yields on Australian BBB+ corporate bonds (with the sample restricted to bonds with a remaining term of more than 2 years). The important features of its testing process were that:

- when establishing its pool of available bonds, the AER excludes the DBCT bond on the basis that it is considered to be an outlier;
- the AER has not tested in any way whether its assumption is reasonable about how much the debt risk premium would increase beyond the region where it is able to test the curves – the longest term bond in the AER's sample is only 5 years, and so the AER's method cannot test how the debt risk premium would increase between 5 and 10 years;
- the AER has tested the accuracy of the three curves that it has tested by observing which curve minimises the average of the squared differences between the predicted yield for each BBB+ corporate bond in the sample and the estimates of the actual yield of the bond (with these yield estimates being obtained from Bloomberg, CBASpectrum and UBS); and

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- the AER has restricted its attention only to the sources listed above – it has not sought further estimates of yields for the bonds on issue, it has not sought alternative estimates of fair value curves for Australian corporate bonds and it has ignored information from bonds that have other credit ratings and from floating rate notes (converted into an equivalent fixed rate yield).

Applying its approach, the AER found the CBASpectrum curve to be the most accurate. As such, it used the debt risk premium that CBASpectrum predicted for 10 year BBB+ Australian corporate bonds as its debt risk premium.

In PwC's view, the AER analysis suffers from a number of important errors, which are summarised below.

- *Exclusion of the DBCT bond as an outlier* – In the Draft decision the AER excluded the DBCT bond on grounds that it is an outlier. PwC disagrees with the AER on this point. A fundamental question is the choice of the pool of bonds that is used to estimate the DRP of the BBB+ bond at a term of 10 years. PwC has examined a sample of 5 BBB+ bonds with more than 2 years to maturity. Unlike the AER, PwC has included the DBCT bond due to:
 - its importance as the longest dated bond in this rating category (which should raise the standard of proof to reject it);
 - the AER's reasons for rejecting the DBCT bond as an outlier are not persuasive (for example, the AER does not know where a bond with DBCT's characteristics should be trading in the current market);
 - recent pronouncements by Standard & Poor's confirm its BBB+ rating; and,
 - while the DBCT bond is only followed by a fewer institutions, this should not, without more evidence, invalidate its inclusion.
- *Focussing only on squared errors, not testing whether the predicted yield is downward biased* – the AER's measure of the relative accuracy of the different fair value curves that it examines (that is, the one that minimises squared errors) does not provide information on whether the relevant fair value curve may systematically under- or over-estimate the underlying yield data. Thus, by directing its attention only to this measure of accuracy, the AER has not tested whether there is a material bias in its estimate of the debt risk premium. PwC finds that when the DBCT bond is included in the sample, all curves systematically understate the observed debt margins (with the degree of downward bias greatest for CBASpectrum) and even if DBCT is excluded the CBASpectrum curve systematically understates the debt risk premium when the Bloomberg and CBASpectrum yield estimates are used. An allowed debt risk premium that systematically understates the required premium would not meet the requirements of the National Electricity Rules and National Electricity Law in that it would not generate a return that is 'commensurate with prevailing conditions in the market' and not permit the businesses to have the opportunity to recover 'at least' efficient cost.
- *Not testing how the debt risk premium should increase beyond 5 or 6 years* – At best, the AER has only tested the respective fair value curves up to a term of 5 years (the longest dated bond if the DBCT bond is excluded). It has merely assumed that the debt risk premiums predicted by the CBASpectrum service beyond this point are also 'accurate'. However, the AER has acknowledged that it does not know how the CBASpectrum service predicts yields for bonds at terms that are beyond its input data (due to their proprietary nature, many aspects of the CBASpectrum and Bloomberg methodologies are

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not known). It is highly inappropriate, therefore, merely to assume that CBASpectrum's extrapolation method is correct. In addition, the AER has not tested whether the increase in the debt risk premium between 5 and 10 years predicted by CBASpectrum is reasonable against other evidence. PwC finds that during the reference period, the CBASpectrum BBB+ debt risk premium increased by only 21 basis points between 5 and 10 years. This compares to the Bloomberg AAA band debt risk premium, which increased by 83 basis points. PwC also observes that two Telstra A rated bonds with 5 and 10 year terms currently exhibit a change in the debt risk premium of 56 to 84 basis points (depending on data source). Against these benchmarks, CBASpectrum's prediction of a 21 basis point increase in the debt risk premium between 5 and 10 years is implausibly low.

- *Failure to consider a wider range of sources of information* – by restricting its attention only to the Bloomberg and CBASpectrum fair value curves and the limited number of BBB+ rated Australian corporate bonds on issue, the AER has ignored other potentially useful sources of information that may assist in improving the estimate of the debt risk premium that is 'commensurate with prevailing conditions in the market' for a 10 year BBB+ Australian corporate (fixed rate) bond. Its sole focus on Bloomberg and CBASpectrum is difficult to justify given the lack of transparency with which each of the services establish their debt risk premiums, explicit disclaimers associated with their estimates and for CBASpectrum a statement that it draws upon historical information and is focussed mainly on producing relative yield estimates and hence is not 'fit for purpose'. As PwC has stated previously, given the very limited number of BBB+ Australian corporate bonds on issue and the fact that none extend beyond a 6 year term PwC considers it appropriate to have regard to the debt risk premiums for bonds with other credit ratings, as well as floating rate bonds (converted to a fixed rate equivalent) in order to refine the estimate of the current required debt risk premium for a 10 year BBB+ Australian corporate (fixed rate) bond. In addition, PwC also considers it appropriate to have regard to other estimates of 'fair value' curves for Australian corporate bonds, and preferably one that is more transparent and fit for purpose.

Regarding alternative estimates of fair value curves, PwC attaches to its report a report from Mr. Terry Toohey who is the Managing Director of Australian Indices. Mr. Toohey routinely produces fair value curves for Australian corporate bonds, which he uses to advise investors (including financial institutions) with respect to the valuation of their bond portfolios. His data source comprises bond prices that are provided by five banks on a daily basis. Applying his methodology he has independently estimated the debt risk premium for BBB+ 10 year Australian corporate bond at **405 basis points**. PwC notes that this is marginally lower – but not materially different – to its recommended value.

12.9 Estimated Cost of Corporate Tax

12.9.1 Overview of Original Proposal

SP AusNet's Original Proposal argued that there is new persuasive evidence to justify the adoption of 0.5 as the assumed utilisation of imputation credits (γ or γ) instead of the SORI value of 0.65.

The Original Proposal recapped that γ is defined by Monkhouse as the product of:

- the "imputation credit payout ratio" (denoted as F); and

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- the “utilisation rate”, or the market value of imputation credits actually distributed (denoted as θ , or theta).

Despite concerns that the true value of F must logically be lower than 1.0, SP AusNet adopted a value for F of 1.0 for the purpose of its Original Proposal. SP AusNet’s Original Proposal therefore concentrated on the value of theta.

SP AusNet explained that the AER determined the value of theta of 0.65 as the midpoint between:

- a lower bound estimate is 0.57, based on the AER’s estimate of theta inferred from market prices; and
- an upper bound estimate is 0.74 is based on the AER’s estimate of theta from tax statistics.

In determining that the lower bound of theta (and therefore gamma) is 0.57, the WACC Final Decision stated²⁵⁸:

“Based on the empirical evidence available, the AER considers that the 2006 Beggs and Skeels study provides the most comprehensive, reliable and robust estimate of theta inferred from market prices in the post-2000 period. Accordingly the AER has placed significant weight on the 2001-2004 estimate of theta from this study, of 0.57.”

Following the publication of the WACC Final Decision, the Victorian and South Australian electricity distributors commissioned Associate Professor Skeels (through solicitors Gilbert and Tobin) to provide an independent review²⁵⁹ of matters relating to the estimation of the value of theta. SP AusNet’s Original Proposal summarised and explained the content of this independent report, in which Associate Professor Skeels concluded:

“I find that the results presented in Appendix I constitute an empirically valid study of the dividend drop-off problem for Australia and that the SFG estimate of theta of 0.23 represents the most accurate estimate currently available.

It is clear that the more recent data used in the SFG results presented in Appendix I favour an estimate of theta that is lower than that of 0.57 which was obtained by Beggs and Skeels on the basis of less recent data. However, it might be argued that the minor methodological differences that remain between the methodology of Beggs and Skeels (2006) and that of SFG bias their estimate of theta downwards. (This is not a position to which I subscribe and I present it only in the garb of a devil’s advocate.) Were such a position to be taken then, in my opinion, a compelling case can be made that the empirical evidence overwhelmingly supports the notion that the true value of theta lies between the SFG estimate of 0.23 and the Beggs and Skeels (2006) estimate of 0.57, and that in all probability it lies closer to 0.23 than 0.57.”

SP AusNet’s Original Proposal argued that the evidence presented in Associate Professor Skeels’ independent report is new evidence that was not taken into account by the AER in its recent WACC review. Furthermore, if this evidence had been available at the time of its WACC Final Decision, the AER would have determined that the correct lower bound estimate of theta is 0.23, and not 0.57.

²⁵⁸ AER, *Final Decision: Review of the WACC Parameters*, May 2009, p. xix.

²⁵⁹ Christopher L Skeels, *A Review of the SFG Dividend Drop-Off Study: A Report prepared for Gilbert and Tobin*, 28 August 2009.

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In its Original Proposal, SP AusNet preserved the AER’s methodology in the WACC Final Decision for estimating gamma by taking the midpoint between:

- the correct lower bound theta value of 0.23;
- the upper bound theta value of 0.74.

SP AusNet’s Original Proposal therefore proposed that a gamma value of 0.5 should be adopted for the forthcoming regulatory period, being the product of:

- the imputation credit payout ratio (F), which is assumed to be 1.0; and
- the market value of imputation credits actually distributed (theta), which is 0.5.

SP AusNet’s Original Proposal included an allowance for corporate tax based on a gamma of 0.5, as shown in the table below.

Table 12.3: Original Proposal Allowance for Corporate Tax, 2011 to 2015

(\$ million)	2011	2012	2013	2014	2015
Tax Allowance	13.9	3.6	6.9	9.4	11.3

12.9.2 Draft Determination on the Estimated Cost of Corporate Tax

The AER has made three changes to SP AusNet’s Original Proposal in relation to:

- the value of gamma;
- the treatment of depreciation for tax purposes;
- reducing the company tax rate on the basis of recommendations contained in the Henry Tax Review.

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These are summarised in the table below.

Table 12.4: Summary of AER’s Draft Decision on Estimated Cost of Corporate Tax

Element	AER’s Draft Determination
Gamma	The AER considers that the value of 0.65 is the most appropriate estimate of gamma based on the evidence currently available and that the Victorian DNSPs have not demonstrated a material change in circumstances to justify a departure from this value.
Tax depreciation	The AER accounted for 2009 amendments to Division 40 of the Income Tax Assessment Act 1997 that increased the deductions for the decline in value of depreciating assets. The AER amended the DNSPs’ tax roll forward calculations to reflect this change.
Henry Tax Review	The AER has assumed cuts to the corporate tax rate for the forthcoming regulatory control period. The Draft Determination states ²⁶⁰ : <i>“The AER also notes more recent changes to corporate taxation arrangements announced by the Commonwealth Government on 11 May 2010, arising out of the Henry Review. Specifically, the Commonwealth Government will reduce the corporate tax rate to 29 per cent for the 2013–14 financial year and to 28 per cent from the 2014–15 financial year. The AER has determined that these changes should be reflected in the expected statutory corporate income tax rate under 6.5.3 of the NER and have been applied in the AER’s modelling of the DNSPs’ tax building block.”</i>

In rejecting SP AusNet’s proposal for a departure from the SORI value of 0.65, the Draft Determination drew on two new reports commissioned by the AER:

- A report by Associate Professor John Handley of the University of Melbourne (**Handley Report**),²⁶¹ and
- A report by Professor Michael McKenzie and Associate Professor Graham Partington on behalf of the Securities Industry Research Centre of Asia-Pacific (**McKenzie and Partington**).²⁶²

In relation to the payout ratio, the AER stated that the evidence²⁶³ referred to by SP AusNet in its Original Proposal had already been considered as part of the WACC review. The AER repeated its contention that a payout ratio of 100 per cent is consistent with the Officer WACC framework,

²⁶⁰ AER, *Draft Determination*, p. 555.

²⁶¹ Associate Professor John Handley, *Report prepared for the AER on the estimation of gamma*, 19 March 2010.

²⁶² Professor Michael McKenzie and Associate Professor Graham Partington, *Evidence and submissions on gamma*, 25 March 2010.

²⁶³ Peter Feros – Tax Partner, Gilbert and Tobin, *Review of WACC parameters: Gamma - ETSA Price Reset*, 22 June 2009.

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which assumes that cash flows occur in perpetuity and are therefore fully distributed at the end of each period.

The AER also asserted that even where imputation credits are retained, they will still hold value. The AER noted and agreed with the advice of its experts (including McKenzie and Partington) that the actual payout ratio is likely to be between 70 per cent and 100 per cent. Nonetheless, the AER adopted a value at the top of this range, noting that “the assumption of a 100 per cent payout ratio simplifies the framework for estimating gamma”.²⁶⁴

In relation to theta, the AER stated in its Draft Determination that it does not consider the report by Professor Skeels to represent persuasive evidence. The AER noted that although Professor Skeels appeared to address a number of the AER’s concerns with the SFG study, there were still a significant number of issues which demonstrated that SFG’s estimates were likely to be unreliable.

In its Draft Determination the AER relied heavily on the two new reports on gamma which it had commissioned. On the basis of these reports the AER expressed the following concerns:

- McKenzie and Partington’s analysis demonstrates that SFG’s regression results are likely to be affected by multicollinearity and as a result the values of imputation credits are likely to be downwardly biased²⁶⁵;
- the SFG study has problems with consistency in parameter estimation and data reliability remains an issue;
- Based on McKenzie and Partington’s advice, SFG’s use of the Cook’s D-statistic is likely to be less reliable than the filtering methodology used by Beggs and Skeels (2006)²⁶⁶;
- the number of zero and negative drop-offs in SFG’s data set is abnormally high;
- the AER notes the conclusions of the Handley Report that taxation studies may provide a reasonable estimate of the upper bound for theta.

12.9.3 Overview of SP AusNet’s response on the value of gamma

SP AusNet considers that there is no reasonable basis for continuing to adopt a value of gamma of 0.65. The AER’s reasoning in support of the adoption of gamma value of 0.65 is deficient in a number of areas:

- The AER has ignored the weight of empirical evidence which demonstrates that the imputation credit payout ratio is not 100%, and is in fact likely to be around 70%. This evidence includes the expert reports commissioned by the AER itself which acknowledge that the payout ratio is below 100%.
- The AER continues to assert incorrectly that a 100% imputation credit payout ratio is consistent with the Officer WACC framework, even though this has been refuted by Professor Officer himself.
- The AER has relied on a study of tax statistics by Handley and Maheswaran (2008) to derive an “upper bound” for theta, despite apparent deficiencies in this study. The AER

²⁶⁴ AER, *Draft Determination*, p. 537.

²⁶⁵ *Ibid*, pp. 542-545.

²⁶⁶ *Ibid*, p. 548.

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also appears to have misinterpreted the results of this study in deriving an “upper bound” for the value of theta.

- The AER has relied on just one dividend drop-off study to estimate theta, notwithstanding the advice of its own experts to take a more “balanced approach” and to consider evidence from multiple sources, including the results of multiple studies of the same type. The AER continues to disregard the more recent SFG (2009) study, despite expert evidence provided by Skeels which concludes that this study is at least as reliable as the Beggs and Skeels (2006) study.

A balanced and reasonable assessment of all of the available information indicates that there is persuasive evidence justifying a departure from the gamma value of 0.65 specified in the SORI.

For the purpose of this revised proposal, SP AusNet has adopted a gamma value of 0.5.

Sections 12.9.4 to 12.9.8 below provide further details of SP AusNet’s responses on specific matters relating the estimation of the value of gamma, as follows:

- Section 12.9.4 provides detailed comments on the imputation credit payout ratio.
- Section 12.9.5 sets out comments on estimating the value of theta.
- Section 12.9.6 addresses the use of taxation studies in the estimation of theta.
- Section 12.9.7 addresses the use of dividend drop-off studies to estimate theta.
- Section 12.9.8 comments on the need for consistency in the parameter estimates adopted by the AER.
- Section 12.9.9 comments on methodological issues in deriving a point estimate for theta.

12.9.4 Imputation credit payout ratio (F)

There is now a considerable volume of persuasive evidence before the AER that would justify a departure from the assumption of a 100 per cent payout ratio. In addition to the evidence already presented to the AER (in particular the expert evidence of Professor Officer²⁶⁷ and Mr Feros²⁶⁸ and the findings of the Officer and Hathaway (2004) study²⁶⁹), there is also new evidence from the AER’s own expert advisors which demonstrates that the payout ratio is less than 100 per cent.

McKenzie and Partington refer to the actual payout ratio as being “about 70%”²⁷⁰ in line with the findings of Officer and Hathaway (2004) and more recently NERA (2010).²⁷¹ McKenzie and Partington go on to conclude that the appropriate payout ratio for the purposes of estimating gamma should lie between 70 per cent and 100 per cent, since undistributed credits will have at least some value. It is noted that the AER implicitly assumes that either there is 100 per cent

²⁶⁷ Robert R. Officer, *Estimating the Distribution Rate of Imputation Tax Credits: Questions Raised by ETSA’s Advisers*, 23 June 2009.

²⁶⁸ Peter Feros, Review of WACC parameters: Gamma, ETSA Price Reset, 22 June 2009.

²⁶⁹ N. Hathaway and B. Officer, *The Value of Imputation Tax Credits – Update 2004*, Capital Research Pty Ltd, November 2004, pp.13 & 24.

²⁷⁰ McKenzie and Partington, p.27.

²⁷¹ NERA, *Payout ratio of regulated firms*, report for Gilbert and Tobin, 5 January 2010.

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payout (an assumption which McKenzie and Partington consider to be unrealistic) or undistributed credits have the same value as distributed credits.²⁷²

“The AER makes the assumption that there is a 100 percent payout of imputation credits. Taken literally, this is clearly incorrect. However, we view the 100 percent payout assumption as simply a convenient step designed to allow for the value of undistributed franking credits when computing gamma. It is equivalent to saying that undistributed franking credits have the same value as distributed franking credits. In principle, this is likely to overstate the value of the undistributed credits, but it is not clear by how much.”

McKenzie and Partington also consider the assumption that undistributed and distributed credits hold the same value to be unrealistic. They note that:²⁷³

“Clearly, undistributed credits will be discounted relative to distributed credits...”

The Handley Report reaches a similar conclusion that the payout ratio lies between 70 per cent and 100 per cent. Professor Handley also considers the AER’s assumption of full payout to be unrealistic, given the empirical evidence which demonstrates substantially lower payout, and the fact that investors are likely to discount the value of undistributed credits. Professor Handley notes:²⁷⁴

“An assumption that all credits are distributed in the period in which they are created will likely overstate the value of gamma.”

Thus the AER’s own expert advisors would appear to agree that:

- the payout ratio is less than 100 per cent; and hence
- assuming 100 per cent payout would lead to an overstatement of gamma.

The only issue in the minds of these experts is the extent to which the payout ratio should be below 100 per cent, to reflect the lower value of undistributed credits. For the reasons set out below, SP AusNet considers that little value should be assigned to undistributed credits and hence the payout ratio should be significantly below 100 per cent.

The adoption by the AER of a payout ratio (or distribution rate) of 100 per cent is based on two implicit assumptions:

- that undistributed credits will eventually be distributed; and
- there is no difference in value between distributed and undistributed credits.

In relation to the first assumption, the expert evidence of Mr Feros demonstrates that there are a number of legal and regulatory impediments to distribution of retained credits.²⁷⁵ Additionally, there will be practical impediments to distribution since companies will build up large amounts of retained credits as they only distribute, on average, around 70 per cent of those created in each year. Over time, companies will need to distribute more credits than are actually created in order to distribute retained credits. That the 70 per cent figure is an average and that over time businesses do not generally distribute more credits than are actually created is obvious from the large amounts of retained credits revealed in the Australian Taxation Office statistics – the Handley Report notes that the aggregate balance of retained imputation credits at the end of

²⁷² McKenzie and Partington, p.26.

²⁷³ Ibid, p.25.

²⁷⁴ Handley Report, p.33.

²⁷⁵ Peter Feros, Review of WACC parameters: Gamma, ETSA Price Reset, 22 June 2009.

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June 2007 totalled almost \$150 billion.²⁷⁶ It would also explain the tendency for franking account balances to rise over time, as noted by McKenzie and Partington.²⁷⁷

The AER does not have any empirical evidence to support its assumption that retained credits will be distributed soon after retention and SP AusNet contends that this assumption is incorrect. The AER says it is uncertain as to how long firms are likely to retain credits and says it is not aware of any empirical research on the retention period.²⁷⁸ The AER simply assumes that retained credits will be paid out within a one to five year period, when there is in fact no reason to believe that the payout period would necessarily match the regulatory period. The AER also ignores the evidence referred to above which demonstrates the significant constraints on the ability of companies to distribute retained credits in a timely manner.

It is argued by Professor Handley that there are ways in which the value of retained credits may be “unlocked”, including through off-market buy-backs and dividend re-investment plans. However, the use of such mechanisms is likely to be relatively limited and will not significantly affect the overall balance of retained imputation credits. In any case, the use of such mechanisms will already be reflected in the distribution rate studies, including those of Officer and Hathaway (2004) and NERA (2010). These studies consider the total amount of credits distributed by *any* means (including those referred to by Professor Handley) as a share of credits created.

With respect to the second assumption made by the AER (that there is no difference in value between distributed and undistributed credits), there appears to be general recognition including among the AER’s experts that investors will discount the value of undistributed credits. The extent to which discounting occurs will depend on investors’ discount rates and the time it takes for retained credits to be distributed (discussed above). Even where the discount rate is low, the discounted value of retained credits will be very small if it takes a long time for retained credits to be distributed.

Given the evidence relating to the rate of retention of credits by companies and the constraints on distribution once these credits are retained, SP AusNet considers it likely that investors would heavily discount the value of retained credits. Therefore, the payout ratio should closely reflect the actual distribution rate of 70 per cent which is supported by the empirical evidence and recognised by the AER’s expert advisors.

The Victorian DNSPs commissioned Dr Neville Hathaway to provide an independent report addressing, among other matters, the AER’s assumed payout ratio of 100%. Dr Hathaway’s report concluded:

“The assertion that the ultimate distribution of franking credits will be close to 100% over a five year period is incorrect. It is contrary to all the evidence. The explanation of how companies are going to achieve this 100% payout is weak. Companies are struggling to maintain their historical payout ratios of just 70%. It has now dropped to 68% under the new Simplified Tax System (STS) with its new rules for crediting the Franking Account Balance (FAB). The suggested activities to achieve this 100% payout are already being practised and they are not delivering 70% payout, let alone 100% payout. If companies paid out the average of 68% for four years and then paid out all the retained credits at year 5, they would need to payout profits in year 5 at 228%. They must payout all retained profits over the last five years as an excessively large dividend in order to meet

²⁷⁶ Handley Report, p. 36.

²⁷⁷ McKenzie and Partington, p. 27.

²⁷⁸ AER, *Draft Determination*, p. 537.

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this 100% distribution of all credits. This is totally unrealistic. The retained profits will not be available for this payout and so the credits will not be 100% distributed.

The related logic that “retained credits” have value is wrong. No matter what value one might put on these credits, it has to be multiplied by the probability of ever realising that value. For all practical reasons, that probability is zero. Unless the existing annual distribution of credits can be boosted to at least 100% per annum, the potential credits in the FAB will never be accessed and are effectively worthless.”²⁷⁹

In another independent report commissioned by the Victorian DNSPs, Strategic Finance Group (SFG)²⁸⁰ examines the two reasons provided by the AER to support its assumption of a 100% payout ratio. SFG concludes that the AER’s assumptions are inconsistent with one another, noting that:

“The AER suggests that it must impose a distribution rate of 100% to be consistent with the perpetuity assumption of Officer (1994). However, economic models are designed to be calibrated to real-world data, not to have theoretical assumptions imposed on them, and this is exactly what Officer himself shows in the Appendix to his [2004] paper.

The AER suggests that it must impose a distribution rate of 100% to be consistent with the perpetuities used in the post-tax revenue model (PTRM). However, none of the cash flows in the PTRM are perpetuities”²⁸¹

In relation to the AER’s assertion regarding the consistency between a 100% payout ratio and the Officer WACC model, Hathaway concludes:

“The assertion that the WACC models must assume 100% payout is wrong. I consider the whole conceptual argument promulgated by the AER and its consultants is most misleading in asserting that just because Prof Officer developed his models in a highly restrictive form that these models are condemned to only be used in that narrow form.”²⁸²

SP AusNet concurs with the expert advice of Hathaway and SFG. In particular, a payout ratio below 100 per cent would not be inconsistent with the Officer CAPM framework as the AER claims in its Draft Determination. Professor Officer himself has stated that the Officer framework says nothing about the payout ratio, other than to make a simplifying assumption.²⁸³ Such simplifying assumptions are common in academic analysis and are not necessarily intended to reflect reality.

The SFG report (at page 3) also makes the following concluding observations regarding the AER’s estimate of the payout ratio:

“The AER suggests that retained credits are just as valuable to shareholders as those that have been distributed. This would require that they are distributed a short time after being retained. But the mechanisms by which the AER suggests this can be accomplished are already included in the empirical estimate of 71%. Consequently, the distribution of retained credits would require the development of new mechanisms and is

²⁷⁹ Appendix M - Neville Hathaway, *Practical Issues in the AER Draft Determination*, July 2010, p. 4. Hathaway’s report is submitted along with this Revised Proposal, and forms part of this Revised Proposal.

²⁸⁰ Appendix N - SFG, *Issues relating to the estimation of gamma*, 10 July 2010. SFG’s report is submitted along with this Revised Proposal, and forms part of this Revised Proposal.

²⁸¹ *Ibid.*, p. 3.

²⁸² Neville Hathaway, *Practical Issues in the AER Draft Determination*, July 2010, p. 4.

²⁸³ Robert R. Officer, *Estimating the Distribution Rate of Imputation Tax Credits: Questions Raised by ETSA’s Advisers*, 23 June 2009.

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inconsistent with observed practice. This would also be inconsistent with the fact that the balance of retained credits has already grown to over \$150 billion.

Submissions before the AER on the logical impossibility of routinely distributing retained credits in a timely manner have not been addressed by the AER. The SFG Report of 7 December 2009 shows that retained credits can only be distributed if Australian firms on average distribute more than 100% of their earnings as dividends, which is not logically possible. The AER has not addressed this point or explained how it maintains its assumption about the routine distribution of retained credits in light of it.”

SP AusNet notes that there is now a considerable volume of persuasive evidence before the AER – including evidence provided by its own independent experts – that justifies a departure from the assumption of a 100 per cent payout ratio, and which demonstrates that the payout ratio is considerably less than 100 per cent. SP AusNet submits that the AER has made a material error by not considering this evidence and that the AER should review and rectify this in the final determination.

12.9.5 Theta

In relation to theta, the AER’s consultants have noted the limitations of empirical studies generally, not just the SFG (2009) study of which the AER is critical in the Draft Determination. In light of these limitations, McKenzie and Partington recommend a balanced approach to the evidence on theta, taking into account all available sources of information. McKenzie and Partington state (emphasis added):

*“Ex-dividend studies and taxation studies however, both have limitations. Ex-dividend studies have substantial measurement and estimation issues and they involve analysis of trades in a restricted window. Taxation studies present results that apply across a broad sweep of investors, but they are subject to measurement problems (this has proven to be less of an issue since the introduction of the simplified tax system). Furthermore, the link between taxation statistics and the market value of imputation credits remains indirect. Therefore, neither type of study is likely to provide an accurate and definitive estimate of gamma on its own. **Given the uncertainty surrounding the estimates of gamma, we argue that it is preferable to consider evidence from multiple sources. This means considering results from both types of study and, where multiple studies of the same type are available, considering the results across these studies.**”²⁸⁴*

McKenzie and Partington summarised this advice, which the AER did not follow in its Draft Determination, in even more explicit terms as follows (emphasis added):

*“Given the problems inherent in estimating gamma using either taxation or ex-dividend studies, we argue in favour of a balanced approach. Since the best estimation techniques are beset with problems, the most logical approach is to consider the evidence on balance across all available sources. In this respect, the AER’s approach of considering both ex-dividend and taxation statistics has merit, but **we would recommend a broader range of studies to triangulate the evidence considered by the AER.**”²⁸⁵*

As noted above, in making its Draft Determination, the AER appears to have largely ignored this advice from its own consultants. In any fair and reasonable administrative process, the decision-maker cannot selectively pick evidence, assumptions and other information to make its decision without having a rational basis on which to do so. The AER has relied on just one dividend drop-

²⁸⁴ McKenzie and Partington, pp. 9-10.

²⁸⁵ Ibid, p. 3.

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off (ex-dividend) study in Beggs and Skeels (2006) and ignored the more recent SFG (2009) study. Moreover, the AER appears to have ignored the limitations of the only tax study it relies on (Handley and Maheswaran (2008)). The limitations of this taxation study and the AER's specific concerns with the SFG (2009) study are addressed in more detail in the section below.

Use of taxation studies in the estimation of theta

SP AusNet considers that tax studies should not be used to calculate the value of theta, since these studies provide no indication as to the value of imputation credits to investors, only the extent to which they are used. However, if the AER is inclined to use tax studies, the findings of these studies should be interpreted with care, given the apparent problems with data used, as noted in further detail below.

Appropriateness of using tax studies

The tax studies relied on by the AER estimate the extent to which imputation credits are used by investors. These studies provide information in the form of a ratio of credits redeemed in a given year to the number of credits created in that year. These studies provide limited information on the value of imputation credits to those investors that redeem them and therefore should not be used to calculate theta.

Tax studies would only be relevant to the value of theta if one assumed that the value of redeemed credits was equal to 100 per cent of their face value. If the value of these credits to redeeming investors was 50 per cent of their face value, then theta would be 50 per cent of the redemption rate.

It is not claimed by the AER's expert advisors that the tax studies provide a reliable estimate of theta, only that these studies provide a reasonable upper bound – in other words theta will be no higher than the estimates produced by the tax studies, but could be significantly lower. The Handley Report refers to the results of tax studies as an "upper bound" for theta²⁸⁶, noting that this term is used in the sense of a theoretical maximum, rather than in a statistical confidence interval sense. McKenzie and Partington note that:²⁸⁷

"...the link between taxation statistics and the market value of imputation credits remains indirect."

These comments by the AER's expert advisors appear to reflect a recognition that the redemption rate of imputation credits will only reflect their value to investors if it is assumed that redeemed credits are fully valued. In practice this may not be a realistic assumption.

In order to avoid a material error, SP AusNet considers that the AER should not take into account these "upper bound" estimates from tax studies which are at best indirectly linked to the value of imputation credits. In calculating theta, it is inappropriate to average these theoretical maximum values with the point estimates produced by the dividend drop-off studies.

Risks associated with using tax studies

Notwithstanding the arguments against the use of tax studies (outlined above) if the AER maintains its view that these studies should be used, it should interpret their results with

²⁸⁶ Handley Report, p. 15.

²⁸⁷ McKenzie and Partington, p. 9.

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considerable caution. There are a number of issues with both the theoretical bases for these studies and the econometric techniques used.

The study relied on by the AER to derive its “point estimate”²⁸⁸ for theta from tax statistics contains various qualifications and assumptions which should induce caution in interpretation. The study by Handley and Maheswaran (2008) produces an imputation credit redemption range of 0.67 to 0.81, from which the AER takes a mid-point of 0.74.²⁸⁹ However, Handley and Maheswaran (2008) make a number of assumptions and qualifications in their study, which are not interrogated by the AER.

Most obviously, Handley and Maheswaran (2008) do not empirically estimate the redemption rate for imputation credits for the post-2000 period. The authors in fact assume that all credits will be redeemed by individuals and funds over this period, while estimating the redemption rate for non-residents.²⁹⁰ The basis for this assumption is not apparent, besides mere “investor rationality”.²⁹¹ Nevertheless, it is clear that the estimate of redemption rates for this period cannot be relied on by the AER since it is based on assumption rather than empirical analysis. The use of this assumption in the post-2000 period may explain why the estimate produced by Handley and Maheswaran (2008) is substantially higher for 2001-2004, compared to the previous decade (0.81 compared to 0.67).

Further problems are identified by Dr Neville Hathaway²⁹² in his expert report on the Handley and Maheswaran (2008) study. Dr Hathaway concludes that the results of the Handley and Maheswaran (2008) should not be applied to corporate and regulatory issues in Australia²⁹³. Dr Hathaway proceeds to note (on page 3 of his report) that some of the key limitations of the Handley and Maheswaran (2008) study include:

- the results appear to be contrived as they are based on analyses of data that the authors themselves have created by their assumptions;
- data has been averaged over periods of materially different tax regimes, potentially distorting the results; and
- the methodology used to combine data for different groups introduces the risk of double counting.

In a separate report²⁹⁴, Dr Hathaway finds that the taxation data relied on by Handley and Maheswaran appears to be highly unreliable. Dr Hathaway notes that there are significant unexplained discrepancies in the taxation data and he concludes that these data should not be

²⁸⁸ As noted above, it is incorrect to interpret this as a point estimate for theta, since the tax studies at best provide an upper bound.

²⁸⁹ John C Handley and Krishnan Maheswaran, ‘A measure of the efficacy of the Australian imputation tax system’, *The Economic Record*, volume 84, number 264, March 2008.

²⁹⁰ Handley and Maheswaran (2008), p. 90 – in the bottom panel of Table 4, the utilisation rate is set to 1 for individuals and funds for each of the years 2001-2004 (for earlier years this takes a lower value).

²⁹¹ Handley and Maheswaran (2008), p 86.

²⁹² Appendix O - Neville Hathaway, *Comment on: “A Measure of the Efficacy of the Australian Imputation Tax System” by John Handley and Krishan Maheswaran*, July 2008. Dr Hathaway’s report is submitted along with this Revised Proposal and it forms part of this Revised Proposal.

²⁹³ *Ibid*, p. 3.

²⁹⁴ Appendix P - Neville Hathaway, *Imputation Credit Redemption: ATO data 1988-2008*, July 2010. Dr Hathaway’s report is submitted along with this Revised Proposal and forms part of this Revised Proposal.

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relied on for making conclusions as to the value of theta. Dr Hathaway's conclusions are set out on page iv of his report as follows:

"I conclude that the ATO statistics cannot be relied upon for making conclusions about gamma and theta.

The ATO publishes data of taxation statistics which are a component of the filings by companies which are in turn calculated from the reported profit & loss of companies. After changes that were introduced from 1 July 2002, the income reported by companies now explicitly includes franking credits as well as cash dividend income. Companies receive a tax credit for the tax arising from their franking credit income. These data about franking credits flowing between companies are now visible whereas before they were hidden and this visibility is very helpful in understanding the overall flow of franking credits.

The ATO also publish data about company financials, this data is also reported on the Company Tax Form. Companies report their payments to investors of franked and unfranked dividends as well as the franking credits issued along with the franked dividends.

These two sets of data, taxation and financial, do not reconcile to the amount of \$42.6 billion of franking credits over the period 2004-2008. In context, this is 27% of the reported distribution of \$149 billion of credits.

I have explored the obvious sources for the discrepancy, such as non-resident investors and conclude that they are adequately accounted for in the reported data. Hence they are unlikely to be the source of the problem with the data. I have explored other issues such as under-estimates arising from zero tax companies. These are too small to account for this error.

Until that reconciliation has occurred or it can be explained to me how to account for those credits, I urge all caution in using ATO statistics for any estimates of parameters concerned with franking credits."

Given the limitations identified by Dr Hathaway in both of the reports cited above, the results of the Handley and Maheswaran (2008) study should be treated with extreme caution by the AER if it continues to use tax studies as a basis for deriving an estimate of the value of theta.

Use of dividend drop-off studies to estimate theta

SP AusNet agrees with the recommendation made by McKenzie and Partington for a more "balanced approach" to the evidence from the available dividend drop-off studies. In particular, it is unreasonable for the AER to place so much weight on the findings of Beggs and Skeels (2006), whilst ignoring the more recent evidence from SFG (2009). Although the AER has expressed several concerns with the SFG (2009) study, these concerns are unfounded.

The AER's specific concerns in relation to the SFG (2009) study are addressed below. Following thus, further more detailed comments are set out in relation to the issue of multicollinearity in dividend drop off studies.

Response to the AER's concerns regarding the SFG (2009) study

As already noted, the Victorian DNSPs commissioned SFG to provide an independent report²⁹⁵ on matters relating to gamma, in response to the AER's Draft Determination. In relation to the

²⁹⁵ SFG, *Issues relating to the estimation of gamma*, 10 July 2010.

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AER's concerns regarding SFG's earlier (2009) dividend drop-off study, the conclusions of SFG's July 2010 report are set out on pages 3 and 4 of that report as follows:

"The AER has used Beggs and Skeels (2006) as its only dividend drop-off estimate of theta, placing zero weight on the SFG estimate. During the course of this regulatory process, the AER has raised various concerns with the data. Each time, the concern has been addressed by SFG either by removing any observations in question or by conducting a sensitivity analysis to demonstrate that the results are robust. In reviewing the SFG work, Skeels himself concludes that many of the criticisms raised by the AER were little more than allusions to potential problems with the SFG analysis and that in some cases the allusions were ill-founded and readily dismissed. Skeels then concluded that the SFG estimate is the best that is currently available.

In each subsequent determination, the AER has set out a new set of concerns with the SFG study. The QLD and SA Final Decisions now set out two reasons for the AER's rejection of the SFG study:

- a. *The AER concludes that "within the same sub-sample period of 1 July 2000 to 1 May 2004, the SFG study produces significantly different results to the Beggs and Skeels (2006) study. For this reason the AER considers that either the SFG study's methodology is likely to materially differ substantially from Beggs and Skeels' (2006) methodology." However,*
 - i. *The SFG report of 1 February 2009 shows that the SFG estimates of theta and the value of cash dividends are not statistically significantly different from the corresponding estimates in Beggs and Skeels (2006);*
 - ii. *There is no need for the AER to infer anything about the methodology employed in the SFG study. The AER has been supplied with all of the computer code used in the SFG study and has had this reviewed by its consultants. Moreover, Skeels himself has attested to the robustness of the SFG work;*
 - iii. *Even if the SFG results were different from the Beggs and Skeels results, this does not, in itself, imply that the SFG results should be given no weight. The Beggs and Skeels data and computer code have not been reviewed by anyone (including any journal referee) whereas every data point and all of the computer code for the SFG study has been made available to the AER.*
- b. *The AER cites a new set of empirical issues raised in a new report by McKenzie and Partington. Our conclusions in relation to those issues are:*
 - i. *There is no need to make any adjustment to the SFG data set in relation to zero drop-off observations unless those observations are shown to be erroneous;*
 - ii. *It would be wrong to make any adjustment in relation to negative drop-off observations as this would introduce a statistical bias;*
 - iii. *The AER's interpretation of the audit of the SFG data is wrong;*
 - iv. *Mackenzie and Partington draw attention to negative regression intercepts. None of these apply to the post-2000 period and are therefore irrelevant;*
 - v. *A joint confidence interval is the appropriate way to deal with possible multicollinearity. This shows all the pairs of the estimate of the value of cash dividends and theta that fit the data equally well. Whichever pair of estimates is selected should be used consistently throughout the determination."*

SFG's July 2010 report presents a comprehensive and well substantiated response on all the concerns expressed by the AER in relation to the SFG (2009) study, including amongst other matters: the reliability and robustness of the data employed in the SFG study; the use of Cook's D

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Statistic; the presence of negative and zero drop-off observations in the SFG study; and multicollinearity²⁹⁶.

As noted above, the SFG study has been subject to a much higher degree of scrutiny than the Beggs and Skeels (2006) study. Unlike the Beggs and Skeels (2006) study, the SFG data has been made available for comment and SFG have responded to all concerns of the AER. There has been no such interrogation of the Beggs and Skeels study notwithstanding that the paper was peer reviewed. It is also relevant that the Beggs and Skeels paper was written to examine structural breaks in the tax system, not to give an estimate for theta *per se*. Even Skeels himself has stated that in his opinion the SFG estimate is currently the best estimate available.²⁹⁷

For all of these reasons, SP AusNet considers that the AER must place considerable weight on the SFG (2009) study.

Multicollinearity

The AER has argued that multicollinearity remains an issue in dividend drop off studies. However, the AER has failed to acknowledge that multicollinearity is no more of an issue for SFG than it is for Beggs and Skeels (2006). McKenzie and Partington's criticisms are generic to dividend drop off studies as a whole and not unique to SFG.

McKenzie and Partington note that multicollinearity is a problem for dividend drop-off studies generally and therefore emphasise the importance of taking a balanced approach to the evidence:

*"The final area of concern for dividend drop off studies relates to the econometric issues surrounding the estimation of the regression equations. In particular, the issue of multicollinearity dominates as there is a perfect linear relationship between the size of the cash dividend and the franking credit... We conclude that the problems inherent to dividend drop off studies only serve to reinforce our view that a logical approach to estimating gamma is to consider the evidence on balance across all available sources and not rely on any one individual source."*²⁹⁸

Despite this clear advice from McKenzie and Partington, the AER has relied on just one dividend drop off study, presumably on the erroneous assumption that this study is not affected by the same econometric issues as it perceives in the SFG (2009) study. However, the expert report commissioned by the AER demonstrates that this is clearly not the case.

The July 2010 SFG report addresses in detail issues relating to multicollinearity in dividend drop off studies. Paragraphs 103 to 110 of the SFG report state:

"One possibility is to use an approach that does not require the combined value to be disaggregated. Such an approach has been developed by Dempsey and Partington (2008). If the combined value is set to \$1.00 and undistributed credits are assumed to have negligible value, the Dempsey and Partington approach is equivalent to setting gamma to 0 in the standard approach. If retained franking credits are considered to have significant value the Dempsey and Partington approach requires a different return on retained earnings than on new equity and a revision to the RAB to the extent that any earnings are retained."

²⁹⁶ Further detailed commentary on the issue of multicollinearity in dividend drop off studies is set out in the section immediately below.

²⁹⁷ Christopher L Skeels, *A Review of the SFG Dividend Drop-Off Study – A Report prepared for Gilbert and Tobin*, 28 August 2009, p 31.

²⁹⁸ McKenzie and Partington, p5

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The alternative approach is to select separate values for α [the relative amount of the price change that can be attributed to the cash dividend] and θ . SFG has provided a joint confidence interval for α and θ showing all of the pairs of these values that fit the data equally well, applying the usual standards of statistical significance. This joint confidence interval is also reliably estimated as it is based on the combined value of the dividend and franking credit.

Statistically speaking, any pair of parameter estimates from within this confidence interval is as good as any other. But there are two additional considerations:

a. The pair of values that is selected must not violate common sense. For example, Handley (p.31) suggests that one might consider an estimate of 0.72 for cash dividends and 0.78 for franking credits. It cannot possibly be the case that franking credits are more valuable than cash dividends for any investor, so this pairing is simply infeasible; and

b. The pair of values that is selected must be used consistently throughout the WACC estimation process. That is, it would be inconsistent and wrong to use one pair of values in one part of the WACC formula and another pair of values in a different place in the same WACC formula.

This still leaves a number of viable combinations. In cases such as this, it is common to look for other (exogenous) evidence to guide the choice about which pair of estimates to select. In the case at hand, two proposals have been put forward:

a. SFG suggests that we might fix the value of cash dividends to be 100 cents per dollar on the basis that:

- i. This is what is done when using the standard CAPM to estimate the cost of equity in another part of the WACC formula; and
- ii. There is some empirical evidence from US drop-off studies (where there are no franking credits, so we have a direct estimate of the value of the cash dividend) that cash dividends are fully valued; and

b. The AER prefers to adopt a value of 80 cents for the value of cash dividends on the basis that:

- i. This is the value reported by Beggs and Skeels (albeit potentially affected by multicollinearity); and
- ii. There is other evidence from US drop-off studies to suggest that cash dividends are less than fully valued.

Either of these approaches is justified given the data that is available. The key point, however, is that whatever pair of parameter values is selected must be applied consistently throughout the WACC estimation process. It would be inconsistent and wrong to use one pair of values in one part of the WACC formula and another pair of values in a different place in the same WACC formula.

If multicollinearity is a concern for the SFG study it is equally a concern for the Beggs and Skeels study as both use the same econometric procedure applied to the same type of data.

The AER concludes that “the only reason perfect multicollinearity does not occur in SFG’s dataset is because of changes in corporate tax rates and regimes.” This is clearly wrong. There are no changes in tax rates in our data set at all. The AER has previously decided that only post July 2000 data is relevant, so that is what we have used. Over the entire period, the corporate tax rate was 30%.

Rather, perfect multicollinearity is broken by the inclusion of partially-franked and unfranked dividends. Consequently it is irrelevant to estimate the correlation between

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cash dividends and franking credits for the sub-sample of fully-franked dividends, as the AER does to support its conclusion that multicollinearity is a concern. This would be like an anti-discrimination commissioner consciously selecting a sub-sample of male workers in a firm, and then concluding that discrimination is occurring because female workers were under-represented.”

12.9.6 Inconsistency in AER parameter estimation

As noted in the July 2010 SFG report, the AER has failed to address the two inconsistent assumptions it makes when deriving the return on capital:²⁹⁹

- the AER’s empirical estimates of theta (and consequently gamma) are conditional on an estimated value of cash dividends of 80 cents per dollar; and
- the AER’s estimate of the required return on equity using the CAPM is conditional on cash dividends being valued at 100 cents per dollar.

It is inconsistent and materially incorrect to use two different values (as the AER has done) for the same parameter when estimating the return on capital. The Australian Competition Tribunal has previously recognised the importance of maintaining the mathematical integrity of the CAPM when estimating the WACC in the *GasNet* decision.³⁰⁰ The AER must address this issue to rectify its previous approach in violation of the *GasNet* principle.

12.9.7 SP AusNet’s response regarding tax depreciation

SP AusNet agrees with the AER that the 2009 amendments to Division 40 of the Income Tax Assessment Act 1997 should be accounted for in the tax roll forward calculations. Therefore this aspect of the Draft Determination has been accepted and implemented in SP AusNet’s revised proposal.

12.9.8 SP AusNet’s response regarding the Henry Tax Review

During the period prior to the publication of the AER’s Draft Determination, the then Prime Minister (Rudd) announced proposals regarding the imposition of a new “resource super profits tax” and reduction of the company tax rate to 28%. The Draft Determination calculated the estimated cost of corporate tax for the forthcoming regulatory period by applying the proposed new company tax rates.

The inclusion in the Draft Determination of the broader tax changes associated with the proposed resource super profits tax was speculative and unjustifiable at the time, given the uncertainty surrounding:

- the proposed resource super profits tax itself (the proceeds from which were to be used to fund the proposed reductions in the company tax rate);
- the passing of enabling legislation to give effect to the Governments’ proposals; and
- the outcome of the forthcoming federal election.

Following the publication of the Draft Determination, the new Prime Minister (Gillard) announced significant changes to the Government’s mining and company tax reform proposals. In particular, the proposed reduction in the company tax rate to 28% has been abandoned and replaced with a

²⁹⁹ SFG, *Issues relating to the estimation of gamma*, 10 July 2010, pages 5 and 36.

³⁰⁰ *Application by GasNet Australia (Operations) Pty Ltd [2003] ACompT 6*

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new proposal to reduce the company tax rate to 29%. The proposed changes will not be introduced until after the next federal election, and only if the ALP is returned to Government.

The significant changes in the Government’s proposed company tax reforms in recent weeks highlight the uncertainty surrounding the question of future company tax rates. It is both inappropriate and unnecessary for the AER to make any assumptions regarding this matter because the NER has in place mechanisms to deal with changes in tax during a regulatory control period. In particular, a corporate tax change event constitutes a tax change event under the relevant definitions in Chapter 10 of the NER and is best dealt with through the intended mechanisms set out in chapter 6 of the NER.

Given these considerations, SP AusNet’s revised proposal utilises a corporate tax rate of 30% for the purpose of calculating the allowance for corporate tax.

12.9.9 Revised Value for Gamma and Estimated Cost of Corporate Tax

In light of SP AusNet’s response to the Draft Determination above, SP AusNet proposes that a value for gamma of 0.5 should be adopted for the forthcoming regulatory period. SP AusNet’s taxation allowance based on this gamma value is shown in the table below.

Table 12.5: Revised Proposal Allowance for Corporate Tax, 2011 to 2015

(Nominal \$M)	2011	2012	2013	2014	2015
Tax Allowance	6.0	0.0	0.0	0.0	0.0

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12.10 Summary of Revised WACC Parameter Values

For the reasons presented in this chapter, the table below sets out SP AusNet’s revised WACC parameter values in response to the matters raised in the Draft Determination.

Table 12.6: Revised WACC Parameter Values

Parameter	Value/Methodology
Gearing	60% debt to total assets
Beta	0.8
MRP	6.5%
Measurement period for the nominal risk free rate and Debt Risk Premium	<p>The 30 business day period commencing on 19 April ending on 31 May 2010, for the purpose of this Revised Proposal.</p> <p>The measurement period to be applied in the final determination has been proposed by SP AusNet in accordance with the provisions set out in Clause 6.5.2(c)(2)(iii).</p>
Nominal Risk Free Rate	5.65%
Expected inflation	2.57%
Real Risk Free Rate	3.00%
Debt Risk Premium	4.28%
Gamma	0.5
Nominal pre-tax return on debt	9.93%
Nominal post-tax return on equity	10.85%
Nominal vanilla WACC	10.29%

13 Cost Pass Through Provisions

This chapter responds to the AER's Draft Determination in relation to cost pass through arrangements, including the definition of cost pass through events and their associated thresholds.

This chapter is structured as follows:

- Section 13.1 provides a summary of the cost pass through arrangements set out in SP AusNet's Original Proposal;
- Section 13.2 outlines the issues raised in the AER's Draft Determination;
- Section 13.3 sets out SP AusNet's response to the AER's Draft Determination; and
- Section 13.4 presents SP AusNet's revised proposal on cost pass through arrangements.

13.1 Overview of SP AusNet's Original Proposal

SP AusNet proposed that the following thresholds be adopted for the purpose of assessing cost pass through events:

- a \$250,000 threshold for all nominated pass through events;
- a \$250,000 threshold for all pass through events defined in the NER; and
- \$1 million threshold for any event that meets the definition of "general nominated pass through event" proposed by SP AusNet (which is broadly consistent with that which was implemented by the AER in its 2009 NSW Final Decision along with recent QLD and SA Final Decisions).

In the case of the first two categories, SP AusNet proposed that the full amount of the event should be able to be passed through, as these events are beyond the control of the business, and the business has virtually no ability to mitigate the impacts of such events.

In the case of the third category, SP AusNet proposed that only the incremental costs above the threshold for that event should be recovered through the cost pass through mechanism, as long as these materiality thresholds are adopted.

Table 13.1 below sets out a summary of the Cost Pass Through provisions proposed by SP AusNet.

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Table 13.1: Original Proposal Cost Pass Through Provisions

Cost Pass Through Event	Definition	Materiality Threshold	Positive and Negative Pass Through Events?	Recovered Through Any Other Mechanism?
Carbon pollution reduction scheme event	<p>An event that results in the imposition of legal obligations on a DNSP arising from the introduction or operation of a carbon emissions trading scheme imposed by the Commonwealth or Victorian Governments during the course of the next regulatory control period and which:</p> <ul style="list-style-type: none"> • falls within no other category of pass through event; and • materially increases the costs of providing direct control services. 	\$250,000	Yes	No
Forced load shedding event	<p>As defined in AER's Service Target Performance Incentive Scheme³⁰¹.</p> <p>The costs to SP AusNet of the event are to be calculated in the following manner:</p> <p>Residential and Small Commercial Customers: Expected revenue per customer per minute for summer peak, summer shoulder, winter peak and off peak period assumed in SP AusNet's Pricing Proposal * minutes off supply * number of affected customers in each of those time periods</p> <p>Large Customers: Revenue generated using average maximum kVA for days where no load shedding occurred, less actual revenue generated (using 5 nominated day average, inclusive of load shedding event/s).</p>	\$250,000	Yes	No

³⁰¹Service Target Performance Incentive Scheme – Final Decision – May 2009 – page 12.

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Cost Pass Through Event	Definition	Materiality Threshold	Positive and Negative Pass Through Events?	Recovered Through Any Other Mechanism?
Legal liability above insurance cap event	Subject to any materiality threshold approved by the AER as part of its Final Decision, SP AusNet shall be able to pass through to customers any costs that it incurs during the 2011-2015 regulatory control period that result from an event that leads to costs that exceed SP AusNet's insurance limits for that event, that would, except for the existence of the insurance cap, have been covered by SP AusNet's insurance policies that were in existence at the time of the event.	\$250,000	Yes	No
Premium Feed In Tariffs	SP AusNet is able to pass through to customers the total costs associated with providing credits to Retailers under the Victorian Government's 'Electricity Industry Amendment (Premium Solar Feed-In Tariff) legislation 2009'.	\$250,000	Yes	No
S-Factor Payout event	SP AusNet proposes that a pass-through mechanism be used to adjust prices for the difference between the original and post 2010 calculations for SP AusNet's S-Factor payout contained within this Proposal.	\$0	Yes	No
A regulatory change event	As defined in Chapter 10 of the NER ³⁰²	\$250,000	Yes	No
A service standard event	As defined in Chapter 10 of the NER ³⁰³	\$250,000	Yes	No

³⁰²National Electricity Rules, Version 31, page 1009.

³⁰³Ibid., pg. 1021.

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Cost Pass Through Event	Definition	Materiality Threshold	Positive and Negative Pass Through Events?	Recovered Through Any Other Mechanism?
A tax change event	As defined in Chapter 10 of the NER ³⁰⁴	\$250,000	Yes	No
A terrorism event	As defined in Chapter 10 of the NER ³⁰⁵	\$250,000	Yes	No
General nominated pass through event	<p>As per the definition contained in the AER's 2009 NSW Final Decision, except for the following:</p> <p>Removal of the reference to the 'specific nominated pass through events' that were approved by the AER in relation to the NSW DNSPs (smart meter event, aviation hazards event), and inserting the relevant cost pass through events proposed by SP AusNet;</p> <p>Changing the definition of materiality to \$1 million, instead of the current 1% of revenue; and</p> <p>Altering the definition to allow the "estimated reduction in the revenue as a result of the event" to be included in the pass through amount, in addition to the costs of such events.</p>	\$1 million	Yes	No

13.2 AER's Draft Determination

Section 16.6 (commencing on page 726) of the Draft Determination sets out the AER's conclusions regarding cost pass through arrangements. The Draft Determination concludes that the following are pass through events for the forthcoming regulatory control period:

- a regulatory change event;
- a service standard event;

³⁰⁴Ibid., pg. 1027-1028.

³⁰⁵Ibid., pg. 1028.

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- a tax change event; and
- a terrorism event.

The AER will determine throughout the forthcoming regulatory control period upon application by a DNSP, whether such an event has occurred.

The Draft Determination also accepts the following pass through events for the 2011-2015 regulatory control period for the Victorian DNSPs, in accordance with Rule 6.12.1(14):

- a declared retailer of last resort event;
- insurer credit risk event;
- an insurance event; and
- a natural disaster event.

These events are defined in section 4 of the AER's Draft Determination for SP AusNet.

In previous determinations the AER adopted a materiality threshold for specific nominated events to reflect the administrative costs of assessing a pass through application. However, in the Draft Determination the AER explained that this approach would be unlikely to meet the ordinary meaning of the word 'materially', which is contained in the definition of a 'positive change event' in the NER. This potentially creates a situation where the event meets the relevant materiality threshold of the additional pass through event in the distribution determination, but cannot, upon its occurrence, be passed through to customers as it does not qualify as a positive change event (as it does not 'materially' increase costs).

The AER considers it appropriate to reduce any potential for such a situation to occur. Accordingly, the AER will align the materiality threshold contained for additional pass through events that meets the ordinary meaning of the word 'materially'.

The AER further notes it is appropriate to apply the same materiality threshold to all of the Victorian DNSPs, for consistency. Therefore, the materiality threshold for the Victorian DNSPs will be a percentage of revenue. The AER considers that a threshold of one per cent of the smoothed forecast revenue is not substantially different from the \$5 million materiality threshold proposed by CitiPower and Powercor, or the \$1 million materiality threshold proposed by Jemena.

The AER also notes that a one percent threshold has been applied to the general nominated pass through event in previous distribution determinations. In addition, for transmission cost pass throughs, the materiality threshold is prescribed under the NER, and is set at one percent of the TNSP's maximum allowed revenue (MAR). The AER considers that without a good reason for differences, consistency between transmission and distribution regulation is desirable.

13.3 SP AusNet's response on pass-through events

SP AusNet does not accept the AER's Draft Determination in relation to the events that are captured under the cost pass through provisions. In particular, SP AusNet:

- Rejects the exclusion clause contained within the AER's proposed definition of an "insurance event";
- Proposes a number of changes to the AER's definition of an "insurers credit risk event";

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- Proposes the inclusion of a specific “Victorian Bushfire Royal Commission” nominated cost pass through event; and
- Proposes the inclusion of “the financial failure of a retailer” as a nominated cost pass through event.

These are outlined in more detail below.

13.3.1 Insurance Event

The AER defines an ‘insurance event’ as:

“An event that would be covered by an insurance policy but for the amount that materially exceeds the policy limit, and as a result the DNSP must bear the amount of that excess loss. For the purposes of this pass through event, the relevant policy limit is the greater of the actual limit from time to time and the limit under the DNSP’s insurance cover at the time of making this regulatory proposal. This event excludes all costs incurred beyond an insurance cap that are due to the DNSP’s negligence, fault, lack of care. This also excludes all liability arising from the DNSP’s unlawful conduct, and excludes all liability and damages arising from actions or conduct expected or intended by the DNSP.”

SP AusNet considers that the exclusion provisions contained in the above definition – particularly the reference to “*the DNSP’s negligence, fault, lack of care*” – in effect, negate the entire pass through event clause. In particular, the AER must understand that liability policies are in fact designed to cover claims where SP AusNet is deemed to be negligent, therefore, but for the limits within a policy, events where SP AusNet is deemed to be negligent would in fact be covered by SP AusNet’s insurance policies - yet these are the very events that are excluded under the AER’s proposed definition. To be clear, a claim against SP AusNet would be unlikely to be successful if the opposing party was unable to establish wrong doing or negligence. Hence in this case, SP AusNet’s insurance coverage would not be invoked, and therefore, the pass through provision would not be invoked either.

Notwithstanding this, it is noted that an insurance policy would not cover an illegal or grossly reckless act or omission, therefore, SP AusNet acknowledges and agrees that it is entirely reasonable that the AER should not allow a pass through for liability arising from any such act or omission of this nature.

In summary, SP AusNet contends that the exclusion provisions outlined in the AER’s above definition should be removed, with the possible exception of liability arising from a DNSP’s unlawful conduct, although SP AusNet considers even this to be superfluous, because the AER’s definition already refers to “would be covered by an insurance policy but for the amount that materially exceeds the policy limit”. This statement in effect provides the appropriate linkage between the exclusion provisions contained within the underlying insurance policy – which SP AusNet notes reflects the fact that insurers have every incentive to put in place appropriate exclusions provisions - and the pass through event clause, therefore, ensuring that:

- There is no ‘gap’ between what would, except for the existence of insurance limit, have been covered by the insurance policy, and the pass through event provisions; and
- Only events that would have been covered by the insurer (except for the existence of the insurance policy) are eligible to be passed through.

SP AusNet notes that this approach is consistent with its Original Proposal, which included the following definition:

“Subject to any materiality threshold approved by the AER as part of its Final Decision, SP AusNet shall be able to pass through to customers any costs that it incurs during the

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2011-2015 regulatory control period that result from an event that leads to costs that exceed SP AusNet's insurance limits for that event, that would, except for the existence of the insurance cap, have been covered by SP AusNet's insurance policies that were in existence at the time of the event."

If the AER were to reject the removal of the exclusion provision from its definition, then SP AusNet would propose that the AER instead, mirror the exclusion provisions outlined in SP AusNet's insurance policies in their pass through event definition. This would effectively include a reference to 'gross negligence', in place of '*negligence, fault, lack of care*', with all other exclusion provisions also being removed from the pass through definition. This would also reflect the coverage a prudent operator is able to obtain in the market place.

Finally, SP AusNet notes that if it were not found to be negligent, any action taken may be subject to appeal and this begs the question of how the AER will fund any pass through of this nature if the eventual outcome and impact will be subject to review over a period of several years. Fault based pass through gives rise to an uncertainty that was never intended under the principles enunciated in Chapter 6 and would expose the relevant DNSP to an additional risk premium over and above that granted to other DNSPs.

In conclusion, in the absence of any of the above changes being made, SP AusNet contends that the AER's current definition will leave SP AusNet unfunded for liability events that "would be covered by an insurance policy except for the existence of the insurance cap", which in turn is inconsistent with the requirements under Section 7A (2) for the NEL, which requires that "*a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in... providing direct control network services*".

SP AusNet considers this risk mitigation mechanism to be a fundamental component of a prudent and efficient DNSP's overall risk mitigation strategies. As such, SP AusNet seeks the opportunity to further discuss its proposed change to the insurance event definition with the AER in person.

13.3.2 Insurers Credit Risks Event

The AER defines an 'insurer's credit risk event' as:

"An event where the insolvency of the nominated insurers of the DNSP, as a result of which the DNSP:

- a) incurs materially higher or lower costs for insurance premiums than those allowed for in the distribution determination; or*
- b) in respect of a claim for a risk that would have been insured by DNSP's insurers, is subject to materially higher or lower claim limit or a materially higher or lower deductible than would have applied under that policy"*

SP AusNet is concerned by the inclusion of the term 'nominated insurers'. It is unclear what the term 'nominated' means; how SP AusNet would 'nominate' an insurer; the timing of making this nomination; or what criteria would be used by the AER to determine whether they accept a business' 'nominated' insurer. SP AusNet considers that the term 'nominated' is unnecessary and should be removed, with the definition instead referring to '*the insolvency of a DNSP's insurer...*'. The term DNSP is defined in the NEL, and therefore, there is no conjecture around who constitutes a DNSP, and moreover, the term insurer can take on its ordinary meaning.

In addition to the above, SP AusNet considers that the pass through event should be extended to cover SP AusNet in the event that the insolvency of one of its insurers results in that insurer not being able to payout under an insurance policy that SP AusNet has (or had) with that insurer. For example, if SP AusNet made a claim upon one of its insurers, who subsequently became

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insolvent, then SP AusNet is exposed to this residual financial risk, up to the value of the insurance claim made (or would have been made) upon that insolvent insurer.

As such, SP AusNet proposes the following change to the ‘insurer’s credit risk event’ definition:

“c) incurs additional costs associated with self funding an insurance claim, which, would have otherwise been covered by the insolvent insurer.”

In conclusion, SP AusNet considers that without both of the above changes being made, SP AusNet risks being unfunded in the event that one of its insurer’s becomes insolvent, which in turn is inconsistent with the requirements under Section 7A (2) for the NEL, which requires that “a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in... providing direct control network services”.

13.3.3 Victorian Bushfire Royal Commission

SP AusNet notes the AER’s rejection of Powercor’s proposed nominated cost pass through for recommendations arising from the Victorian Bushfire Royal Commission on the basis that it could relate to possible new, changed or removed regulatory obligations, that in turn would be within the scope of either the ‘regulatory change event’ or ‘service standard event’.

Whilst SP AusNet did not propose this pass through event in its Original Proposal for the same reasons postulated by the AER for rejecting this event in its Draft Determination, subsequent discussions with key stakeholders indicate that the reliance on the two NER cost pass through provisions creates significant uncertainty for investors and other stakeholders alike, therefore, SP AusNet now considers it necessary to include such a pass through event in order to minimise the effect of their concerns.

In particular, as the Royal Commission has not yet made its recommendations following its inquiry in the Victorian Bushfires, it is not clear what form those recommendations will take and what steps Victorian DNSPs will be required to take as a result of those recommendations. Therefore, there is a level of uncertainty as to whether the recommendations arising from the Royal Commission will fall within the category of regulatory change event or service standard event, which in turn results in there being significant uncertainty as to whether these costs can in fact be passed through during the next regulatory control period.

SP AusNet’s discussions with investors and other key stakeholders has highlighted that such uncertainty translates into investors placing a significant risk premium on any investment in the Victorian electricity industry, which increases the cost of funding investments in such businesses. This impinges on SP AusNet’s ability to continue to efficiently fund investments in its electricity distribution network, as the formulation of the AERs decision will precede any findings made. SP AusNet considers that this outcome is clearly at odds with the NEO to:

‘promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to–

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system’

Moreover, SP AusNet considers that this also conflicts with Section 7A (6) of the NEL, that requires that:

Regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in, as the case requires, a distribution system or transmission system with which the operator provides direct control network services.

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In addition, it is clear that a pass through for recommendations arising from the Victorian Bushfires Royal Commission will assist in ensuring that SP AusNet is provided with a reasonable opportunity to recover its efficient costs, as required by Section 7A(2) of the NEL. It is also arguable that the recommendations made will set the level of 'prudent operator' that the AER should apply for Victorian DNSPs.

Finally, the inclusion of such an event also satisfies the AER's criteria for a nominated pass through event. Specifically, SP AusNet observes that:

- there is no certainty that the event is already provided for in the defined event definitions in the NERs;
- the event is foreseeable in that the nature of the event can clearly identified;
- the event is uncontrollable;
- the event cannot be self-insured;
- the party who is in the best position to manage the risk is bearing the risk; and
- the pass through of the costs associated with the event would not undermine the incentive arrangements within the regulatory regime.

Having regard to the above, SP AusNet considers that the AER applying its own principles cannot reasonably refuse to accept a pass through for expenditure increases required following the recommendations arising from the Victorian Bushfires Royal Commission, given the requirements placed upon the AER by the NEL.

13.3.4 Financial Failure of a Retailer

The AER rejected the financial failure of a retailer event on the basis that the appropriate method to mitigate against the risk of a retailer failure event is through the prudential requirements contained in clause 6.21.1 of the Rules.

However, it not possible for Victorian DNSPs to do this because they are constrained by their distribution licences to implement in the default Use of Systems Agreement (UoSA) provisions that reflect the credit support arrangements in the ESCV's decision on credit support of 1 October 2006 (ESCV Credit Decision). These credit support arrangements do not fully compensate distributors for retailer failure.

Therefore, the specification of a retailer failure event as a nominated pass through event is consistent with the requirements of the NEL and NER and should be accepted by the AER. In particular, the inclusion of this event is consistent with the Section 7A(2) of the NEL that "*a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in.... providing direct control network services*".

SP AusNet also considers that the financial failure of a retailer event satisfies all of the AER's criteria for nominating pass though events. Specifically, SP AusNet observes that:

- the event is not already defined in the NERs or compensated for elsewhere;
- the event is foreseeable in that the nature of the event can be clearly identified;
- the event is uncontrollable;
- the event cannot be self-insured;
- the party who is in the best position to manage the risk is bearing the risk; and

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- the passing through of the costs associated with the event would not undermine the incentive arrangements within the regulatory regime.

Based on the constraints imposed by the Victorian DNSPs licence requirements, SP AusNet would further submit that the threshold applied to any event of this nature should materially reflect the environment in which the DNSP operates. SP AusNet contends that a lower threshold for these type of events must be accepted by the AER based on the constraints that only the Victorian DNSPs are exposed too. This is discussed in further detail in the next section.

13.4 SP AusNet's response on the materiality threshold

SP AusNet considers that the exercise of the AER's discretion was incorrect, having regard to the Revenue and Pricing Principles outlined in the NEL, and moreover, having regard to the specific circumstances affecting Victorian DNSPs.

Therefore, SP AusNet rejects the AER's Draft Determination in relation to the AER's proposed threshold of 1% of revenue.

The following sections critique the AER's proposed pass through threshold against the relevant sections of the NEL.

NEO contained in section 7 of the NEL

SP AusNet notes the following statement made by the AER in its Draft Determination:

"The AER considers that its conceptual approach to the treatment of pass through events results in outcomes that are consistent with the NEO contained in section 7 of the NEL"

"The AER considers that its treatment of pass through events will promote the long terms interest of consumers by ensuring that prices are reflective of network operating costs, and that, to the extent that extra costs are passed through in the regulatory control period, those costs are beyond the control of the DNSP".

SP AusNet does not consider the AER's proposed approach to be consistent with the NEO, as it does not provide SP AusNet with a 'reasonable opportunity to recover at least the efficient costs the operator incurs in ... providing direct control services' (see later sections of this Chapter for SP AusNet's rationale for taking this view) which, in the long term, diminishes a business' ability to continue to efficiently invest in providing electricity services to its customers. Moreover, SP AusNet considers that by adopting a threshold that exceeds the administrative costs associated with assessing cost pass through applications, businesses may be incentivised to "over insure" to reduce their overall financial risk, which is inconsistent with the requirements of the NEL, particularly 7A(3), which requires that businesses be provided with incentives to efficiently provide network services.

Both outcomes are clearly inconsistent with 'the long terms interest of consumers'.

Section 7A (3) of the NEL

SP AusNet notes the following statement by the AER in its Draft Determination on page 718 that:

"In relation to section 7A(3) of the NEL, the AER notes that DNSPs should be provided with incentives to efficiently provide network services. To promote this objective, the AER has included in its pass through event assessment criteria, the requirement that pass through events are beyond the control of the DNSPs."

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The AER goes on to state that:

“The AER considers that restricting pass throughs to events that are beyond the control of the DNSPs will not affect the incentives for the DNSP to mitigate (and reduce the cost impact of) these events given they are beyond the DNSP’s control.”

SP AusNet disagrees with the AER’s reasoning behind the exercise of its discretion. If the AER limits the application of cost pass through events to events that are beyond the control of DNSP’s, then businesses will not be ‘provided with incentives to efficiently provide network services’, as the AER has ignored the impact of other criteria, namely the impact that their proposed materiality threshold will have on this business’ incentive to take out insurance for such events. The AER’s proposed ‘natural disaster’ cost pass through event is an example whereby a business may take out external insurance to protect itself against the consequences associated with a qualifying natural disaster event. In such a scenario, the level at which the cost pass through threshold is set affects the incentives for businesses to take out insurance, with excessive cost pass through thresholds incentivising a business to take out insurance with a lower deductible than may otherwise be taken out by a prudent and efficient operator. This outcome occurs as businesses seek to protect themselves from the financial consequences of events that don’t otherwise breach the 1% of revenue cost pass through threshold.

In addition, limiting cost pass through events to only ‘uncontrollable’ events results in there being no efficiency benefit associated with adopting a threshold that is greater than the administrative costs associated with dealing with the pass through event itself. The reason being is that the AER has removed any ‘moral hazard’ risk, as the AER itself states that DNSP’s are “unable to affect the costs associated with dealing with these events anyway”. Therefore, the threshold itself will not impact on the way a business directly manages these risks, as they are outside of their control. Therefore, a threshold above the administrative costs of dealing with pass through event applications does not assist in achieving the requirements of Section 7A (3) of the NEL.

Section 7A (2) of the NEL

Consistent with SP AusNet’s Original Proposal, SP AusNet considers that a 1% of revenue threshold is inconsistent with the requirements of the Section 7A(2) of the NEL, which requires that “a regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in ... providing direct control services”. In stating this, SP AusNet has also given due consideration to the following statement made by the AER that:

“Sections 7A (2)(a) and (b) of the NEL provide that DNSPs should be able to recover at least the efficient costs the operator incurs in providing direct control network services and complying with regulatory obligations or requirements. The AER notes that costs that are uncontrollable (or controllable but of a high magnitude) are only passed through where they are not recoverable elsewhere in the regulatory regime and to do otherwise would allow DNSPs to recover above the efficient costs of delivering direct control services. The AER acknowledges the need for DNSPs to recover the efficient costs associated with meeting regulatory obligations or requirements that are not recovered elsewhere. The AER considers that the appropriate mechanism for the recovery of these costs is through the pass through events contained in the NEL. This will necessarily align the policy intent of the NEL with the provisions of the NEL.”

The inference from the above statement is that the mere existence of a cost pass through event for uncontrollable events is the only necessary pre-requisite required in order to satisfy the requirements of Section 7A(2) of the NEL. This is a simplistic assessment, at best.

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An example of this - at an individual event level - is the recovery of a declared retailer of last resort event. As previously advised, the licence requirements for Victorian DNSPs prevent those DNSPs from obtaining credit support from retailers and as such prevents them from being secured in the event a retailer of last resort event occurs. Applying the materiality threshold of 1% of smoothed revenue to this event, SP AusNet would have to lose at least \$4 million dollars before being able to recover, despite the existence of a pass through event for this risk.

At a holistic level, the realities are that a business' ability to 'recover at least the efficient costs' for certain events not recovered elsewhere within the regulatory framework will also be a function of whether the cost pass through regime leads to symmetric or asymmetric financial outcomes in totality (ie: in combination, is the pass through regime expected to lead to net financial outflows, inflows, or is it neutral).

Again, SP AusNet reiterates the key points of its Original Proposal, namely that the:

- The expected cash outflows associated with negative pass through events under the threshold will be greater than the expected cash inflows that would be generated from any positive events under the threshold, therefore leading to the pass through mechanism leading to asymmetric financial outcomes. This reflects the fact that the defined pass through events are disproportionately weighted towards exposing the regulated business to downside risk. For example, the "mean" financial outcome of an event such as a "service standard event" is negative, despite the mechanism being 'symmetric'. This reflects that fact that majority of "service standard events" will in fact lead to increased costs, not decreased costs, because the majority of service standard changes are increases in service standards, not decreases. SP AusNet contends that it is also reasonable to assume that the consequences of those events are also likely to be skewed, as any service standard reduction is likely to be marginal, and therefore, it will only have minor impacts on costs, whereas, any increases are more likely to be major changes, and therefore, have larger impacts. This asymmetry applies to virtually all of the events that would be captured under the pass through mechanism (eg: natural disaster, terrorism, insurers credit risk, declared retailer of last resort event, an insurance event); and
- Therefore, the threshold needs to be set at a level equivalent to the administrative costs associated with dealing with such events, otherwise, businesses will not be provided with an opportunity to 'recover at least the efficient costs' of events that even the AER has stated businesses have no control over the costs.

13.4.1 Other Issues

The AER, in their Draft Determination, mentions the need to adopt a consistent approach to this issue. SP AusNet supports the adoption of a "consistent" approach, if, and only if, it also involves delivering outcomes that are consistent with the NEL's Revenue and Pricing Principles. Therefore, SP AusNet considers that consistency is a second order condition, after the derivation of a threshold that is consistent with the requirements of the NEL. Moreover, consistent treatment across DNSPs requires consideration of all the circumstances, and specifically given consideration of the jurisdiction's operating requirements.

The AER also mentions that the "word 'material' or 'materially' is not defined in the NEL and must therefore be interpreted in accordance with its *"plain and ordinary meaning"*. SP AusNet considers that the NEL provides discretion in how the AER interprets the word material. In such circumstances, Section 16(2)(i) of the NEL requires that the AER must take into account the revenue and pricing principles when exercising a discretion in making those parts of a distribution

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determination or transmission determination relating to direct control network services. As stated previously, SP AusNet considers that the adoption of such a decision making framework would not lead to the adoption of a 1% of revenue threshold, rather it requires the adoption of a pass through threshold that equates to the administrative costs of assessing that threshold.

13.4.2 Conclusion

In summary, SP AusNet is proposing a \$250,000 pass through threshold, which equates to the administrative costs associated with dealing with these cost pass through events. The basis for this \$250,000 is outlined in SP AusNet's Original Proposal.

SP AusNet considers that any threshold that exceeds the administrative costs is inconsistent with the NEL. In particular:

- By restricting pass through events to events that are 'beyond the control' of DNSP's, the AER has removed any 'moral hazard' risk, as, the AER itself states that DNSP's are "unable to affect the costs associated with dealing with these events anyway". Therefore, the threshold itself will not impact on the way a business directly manages these risks, as they are outside of their control. Therefore, a threshold above the administrative costs of dealing with pass through event applications does not assist in achieving the requirements of Section 7A (3) of the NEL.
- The events captured under the cost pass through regime will lead to a net financial outflow being incurred by the business, as the defined pass through events are disproportionately weighted towards exposing the regulated business to downside risk, therefore, the financial outcomes are asymmetric. The irrefutable by product of this is that any threshold level that is greater than the administrative costs associated with dealing with such events will be inconsistent with the requirement that business be provided with an reasonable opportunity to 'recover at least the efficient costs' of these events that even the AER has stated businesses have no control over the costs.

SP AusNet notes that this proposal differs slightly to its Original Proposal, in that SP AusNet originally proposed a \$1m threshold for the general nominated cost pass through, and \$250k for nominated cost pass through events and those defined in the NEL, with the former structured in a similar manner to an insurance deductible, with SP AusNet bearing the cost of any general nominated cost pass through event up to the threshold, with all costs above the threshold being able to be passed through.

SP AusNet's revised proposal reflects the clear statement by the AER that only uncontrollable events will be eligible to be passed through. As such, not only is the insurance deductible aspect of SP AusNet's original proposed threshold no longer relevant, as there is no moral hazard issue to counteract, SP AusNet considers that the threshold must reflect the estimated administrative costs associated with dealing with these events, otherwise a number of requirements outlined in the NEL will not be met, including that it will leave businesses unable to 'recover at least the efficient costs' of running their businesses.

Finally, SP AusNet notes that if the AER does not approve such a threshold, the AER must:

- Provide an insurance allowance to enable SP AusNet to insure against all of its exposure to non-recoverable costs under the cost pass through mechanism; or
- Provide a building block allowance to enable SP AusNet to self-insure against this exposure.

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13.5 SP AusNet's revised cost pass through arrangements

Based on reasoning set out above, SP AusNet proposes the following changes to the AER's proposed cost pass through regime:

- Changes to the AER's definition of an "insurance event";
- Changes to the AER's definition of an "insurers credit risk event";
- The inclusion of a specific "Victorian Bushfire Royal Commission" nominated cost pass through event; and
- The inclusion of a "financial failure of a retailer" as a nominated cost pass through event.

Based on the reasoning set out in section 13.4 above, SP AusNet's Revised Proposal includes a lower cost pass through threshold of \$250,000 for all events.

14 Revenue Requirement

This chapter details the calculation of SP AusNet’s revised annual revenue requirement in response to the AER’s Draft Determination, in accordance with the building block approach outlined in the NER and the AER’s PTRM. A summary of the building block components, the unsmoothed and smoothed revenue for each year of the forthcoming regulatory control period is presented.

The remainder of this chapter is structured as follows:

- Section 14.1 summarises the revenue requirement that was set out in SP AusNet’s Original Proposal;
- Section 14.2 summarises the AER’s Draft Determination;
- Section 14.3 presents a summary of SP AusNet’s revised revenue requirement, which reflects its response to the Draft Determination (as detailed in the preceding chapters of this revised proposal);
- Section 14.4 presents a summary of the revised building block components of the revised revenue requirement;
- Section 14.5 presents a summary of SP AusNet’s revised unsmoothed revenue requirement for each year of the forthcoming regulatory period;
- Section 14.6 presents SP AusNet’s revised smoothed revenue requirement for each year of the forthcoming regulatory period, including a description of the X factors adopted; and
- Section 14.7 describes the revenue requirement adjustments that may occur in the forthcoming regulatory control period.

14.1 Original Proposal Revenue Requirement

The following table summarises SP AusNet’s revenue requirements, based on the detailed inputs described and calculated in the Original Proposal.

Table 14.1: Revenue Requirement set out in the Original Proposal

(Nominal \$M)	2011	2012	2013	2014	2015
Unsmoothed Revenue Requirement	525.2	476.3	541.9	591.2	615.5
Smoothed Revenue Requirement	516.3	517.4	527.2	566.2	618.6

Both the unsmoothed and smoothed revenue requirements shown above equate to a present value amount of \$2,018 million.

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14.2 AER's Draft Determination on SP AusNet's revenue and X factor

Table 18.28 (on page 770 of the Draft Determination) sets out the AER's conclusion on SP AusNet's revenue requirements and X factors as follows:

**Table 18.28 AER conclusion on SP AusNet's revenue requirements and X factors
(S'm, nominal)**

	2010	2011	2012	2013	2014	2015
Regulatory depreciation		202.7	212.3	226.9	242.0	258.6
Return on capital		90.9	47.3	53.8	49.3	40.1
Operating expenditure		133.7	138.5	144.6	151.6	157.7
Efficiency carryover amounts		-3.7	-24.6	-9.9	3.6	0.0
S factor amounts		20.5	2.5	-5.5	0.9	-53.1
Tax allowance		8.2	3.5	4.4	4.3	3.8
Annual revenue requirements		452.2	379.4	414.2	451.7	407.1
Expected revenues	379.5	382.2	400.1	422.1	448.7	475.1
Forecast CPI (per cent)		2.57	2.57	2.57	2.57	2.57
X factors (per cent)		4.46	0.00	0.00	0.00	0.00

Note: Positive values for X indicate real price decreases under the CPI-X formula.

Source: PTRM

14.3 Summary of SP AusNet's revised revenue requirement

Based on the detailed inputs described and calculated in this Revised Proposal, the following table summarises SP AusNet's revised revenue requirements.

Table 14.2: Revised Revenue Requirement

(Nominal \$M)	2011	2012	2013	2014	2015
Unsmoothed Revenue Requirement	534.5	465.8	532.4	586.0	571.4
Smoothed Revenue Requirement	488.4	514.0	537.2	563.0	594.5

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Both the unsmoothed and smoothed revised revenue requirements shown above equate to a present value amount of \$2,010.4 million.

14.4 Building block components of the revised revenue requirement

The building block components and their calculated values are described in the sections below.

14.4.1 Revised Regulatory Asset Base

SP AusNet's revised RAB has been calculated in accordance with the requirements of Clause 6.4.3(1) and Schedule 6.2 of the NER. It reflects the revised capex forecasts set out in Chapter 5 of this revised proposal. The table below sets out a summary of the derivation of SP AusNet's revised RAB for the forthcoming regulatory control period.

Table 14.3: Revised Regulatory Asset Base for the Forthcoming Regulatory

(Nominal \$M)	2011	2012	2013	2014	2015
Opening RAB	2079.6	2292.7	2588.4	2882.3	3155.1
Net capex	305.0	346.8	356.1	331.0	374.6
Economic Depreciation	-91.9	-51.2	-62.2	-58.2	-55.9
Closing RAB	2292.7	2588.4	2882.3	3155.1	3473.8

14.4.2 Revised Return on Capital

Consistent with the requirements of Clause 6.4.3(2) of the NER, and in accordance with the AER's PTRM, the revised return on capital is calculated by applying the post tax nominal vanilla WACC to the revised RAB for each year of the regulatory control period. The table below illustrates the calculation of the revised return on capital building block. The revised WACC used in this calculation was determined in accordance with the provisions set out in Clause 6.5.2 of the NER, and the SORI published by the AER on 1 May 2009. Full details of the revised WACC calculation are set out in Chapter 11 of this revised proposal.

Table 14.4: Revised Return on Capital for the Forthcoming Regulatory Control Period

(Nominal \$M)	2011	2012	2013	2014	2015
RAB	2079.6	2292.7	2588.4	2882.3	3155.1
Return on Capital	214.1	236.0	266.5	296.7	324.8

14.4.3 Revised Depreciation

The calculation of revised regulatory depreciation was carried out in accordance with the AER's PTRM and Clause 6.5.5 of the NER, and is detailed in Chapter 10 of this revised proposal. Consistent with the requirements of Clause 6.4.3(3) of the NER, SP AusNet has incorporated an allowance for depreciation in its building block revenue requirement. The table below lists the revised regulatory depreciation building blocks for each year of the forthcoming regulatory control period.

Table 14.5: Revised Depreciation for the Forthcoming Regulatory Control

(Nominal \$M)	2011	2012	2013	2014	2015
Nominal Depreciation	145.3	110.1	128.7	132.3	137.0
Less Indexation	-53.5	-58.9	-66.5	-74.1	-81.1
Economic Depreciation	91.9	51.2	62.2	58.2	55.9

14.4.4 Revised Benchmark Tax Liability

Consistent with the requirements of Clause 6.4.3(4) of the NER, SP AusNet has incorporated an allowance for its benchmark tax liability into its building block allowance. The detailed calculation of the cost of tax was presented in Chapter 11 of this revised proposal. The cost of tax calculation accords with the requirements of Clause 6.5.3 of the NER, and is summarised in the table below.

Table 14.6: Revised Benchmark Tax Liability for the Forthcoming Regulatory Period

(Nominal \$M)	2011	2012	2013	2014	2015
Tax Payable	12.0	0.0	0.0	0.0	0.0
Less Value of Imputation Credits	-6.0	0.0	0.0	0.0	0.0
Benchmark Tax Liability	6.0	0.0	0.0	0.0	0.0

14.4.5 Revised Revenue Associated with Incentive Schemes

Consistent with the requirements of Clause 6.4.3(5), SP AusNet has incorporated the amounts that have been determined under the efficiency carryover mechanism, the S-Factor scheme and its demand management innovation allowance, into its building block allowance. The detailed calculation of each of these building blocks was undertaken in accordance with all applicable provisions of the NER, as explained in the relevant chapters of this revised proposal. The building block costs are listed in the table below.

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Table 14.7: Revised EBSS, STPIS and DMIA for the Forthcoming Regulatory Period

(Nominal \$M)	2011	2012	2013	2014	2015
Efficiency Carry-over	15.0	-24.3	-4.6	4.1	0.0
S-Factor Carry-over	20.0	2.4	-5.2	0.8	-46.7
Total Carry-over	35.0	-21.9	-9.8	5.0	-46.7
DMIA*	0.6	0.6	0.6	0.7	0.7

Note: the AER PTRM includes the DMIA in the opex building block.

14.4.6 Revised Operating Expenditure

Consistent with the requirements of Clause 6.4.3(6) of the NER, SP AusNet has included a revised forecast of opex in its building block allowance. As explained in Chapter 6 of this revised proposal, the revised opex forecast has been prepared in accordance with all applicable requirements of the NER and the RIN. The revised opex forecast, excluding the amounts shown in the table above is summarised in the table below.

Table 14.8: Revised Operating Expenditure for the Forthcoming Regulatory

(Nominal \$M)	2011	2012	2013	2014	2015
Operating Expenditure	187.6	200.5	213.5	226.1	237.4

Note: the AER PTRM includes the DMIA in the opex building block.

14.5 Revised Unsmoothed Annual Revenue Requirement

The unsmoothed revised annual revenue requirement for each year of the forthcoming regulatory control period is calculated as the sum of the building block components described above. The addition of these building block components is depicted in the table below.

Table 14.9: Revised Unsmoothed Annual Revenue Requirements for the Forthcoming Regulatory Control Period

(Nominal \$M)	2011	2012	2013	2014	2015
Return on Capital	214.1	236.0	266.5	296.7	324.8
Depreciation	91.9	51.2	62.2	58.2	55.9
Operating and Maintenance Expenditure	187.6	200.5	213.5	226.1	237.4
Carry-over amount	35.0	-21.9	-9.8	5.0	-46.7
Benchmark Tax Liability	6.0	0.0	0.0	0.0	0.0
Unsmoothed Revenue Requirement	534.5	465.8	532.4	586.0	571.4

Note: the AER PTRM includes the DMIA in the opex building block.

14.6 Revised Smoothed Annual Revenue Requirement

SP AusNet has calculated a revised smoothed revenue requirement by applying an X factor for each year of the forthcoming regulatory control period as described in the sections below.

14.6.1 X-Factor

The revised X factor presented in the table below meet the requirements set out in Clause 6.5.9 of the NER. In particular, SP AusNet has calculated the revised X factor so that it:

- minimises the variance between the revised annual revenue requirement in the final year of the forthcoming regulatory control period and the revised building block revenue requirement for that year; and
- equalises, in net present value terms, SP AusNet's total revised revenue requirement for the forthcoming regulatory control period with the revised expected smoothed revenue requirement.

Within these constraints, SP AusNet has front ended revenue in the regulatory control period. Primarily, this is because SP AusNet's credit metrics are more stressed at the start of the regulatory control period than at the end. This is not unexpected given the lingering effects of the global financial crisis over 2011 and 2012 are likely to result in higher than average funding costs at the start of the period. In addition, immediate step changes in opex related to bushfire mitigation further increase underlying costs at the start of the period. The AER has indicated in previous determinations it considers such profiling to be legitimate. The recent final determination for Jemena Gas Networks states:

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"... there is merit in a large real P0 adjustment if the service provider is expected to face a similar large step change in costs incurred in delivering the reference services"³⁰⁶

Reviewing previous Decisions there appears to be a tolerance of up to +/-3.8% with respect to minimising the variance between the revised annual revenue requirement in the final year of the forthcoming regulatory control period and the revised building block revenue requirement for that year. Therefore, SP AusNet has ensured revenue in the final year is within that tolerance.

SP AusNet proposes that regardless of the Final Determination revenue outcome, the AER also front end revenue to the proposed tolerance.

The table below presents SP AusNet's revised X factors for the forthcoming regulatory control period.

Table 14.10: SP AusNet's revised proposed X-Factor for the Forthcoming Regulatory Control Period

%	2011	2012	2013	2014	2015
X-Factor	-25.08%	-1.90%	-1.90%	-1.90%	-1.90%

14.6.2 Revised Smoothed Annual Revenue Requirement

The application of SP AusNet's revised X factor in conjunction with SP AusNet's revised 'Unsmoothed Revenue Requirement' produces the following revised 'Smoothed Revenue Requirement'.

Table 14.11: Revised Smoothed Revenue Requirement for the Forthcoming Regulatory Control Period

(Nominal \$M)	2011	2012	2013	2014	2015
Smoothed Revenue Requirement	488.4	514.0	537.2	563.0	594.5

The revised expected 'smoothed' revenue in the final year of the forthcoming regulatory control period is close to the revised unsmoothed revenue requirement for the same year (see Table 14.9), in accordance with the requirements of Clause 6.5.9(b)(2). Furthermore, the AER's PTRM attached to this revised proposal demonstrates that the smoothed and unsmoothed revenue requirements are equal in net present value terms in accordance with the requirements of Clause 6.5.9(b)(2) of the NER. The revised smoothed revenue for each year is also net of estimated non-tariff revenue from alternative control services.

³⁰⁶ Page 354, AER Final Decision Jemena Gas Networks Access arrangement proposal for the NSW gas networks 1 July 2010 – 30 June 2015

14.7 Revenue Requirement Adjustment in Forthcoming Regulatory Period

The revised revenue requirement set out in this chapter will be subject to adjustments in accordance with the control mechanism (set out in Chapter 14 of this Revised Proposal) to account for:

- The actual CPI, in accordance with the provisions set out in Clause 6.2.6(a) of the NER;
- SP AusNet's actual service standard performance, relative to its service standard targets, under the Service Target Performance Incentive Scheme; and
- Any deemed cost pass through event, as nominated in Chapter 12 of this revised proposal along with those pass through events specified in Cause 6.6.1 of the NER.

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15 Tariffs and Control Mechanisms for Direct Control Services

This chapter outlines SP AusNet's revised proposal for tariffs for direct control services that will apply for the forthcoming regulatory control period.

The remainder of this chapter is structured as follows:

- Section 15.1 summarises SP AusNet's Original Proposal in relation to tariffs, control mechanisms and indicative prices for direct control services;
- Section 15.2 sets out the key aspects of the AER's Draft Determination and SP AusNet's response to that Determination; and
- Section 15.3 presents SP AusNet's revised proposal on tariffs and control mechanisms for direct control services.

15.1 Overview of SP AusNet's Original Proposal

In its Original Proposal, SP AusNet supported the AER's decision to adopt a weighted average price cap form of price control to apply to direct control services. This form of control is consistent with the control that applies for the current regulatory period. SP AusNet also provided information on its indicative tariffs for direct control services, as required by the clause 6.8.2(c)(4) of the NER.

SP AusNet also proposed to continue to apply the existing network tariff price control formula (specified in the 2006 EDPR Determination) to govern the pass through of transmission charges in distribution network tariffs. This arrangement would be consistent with the apparent intent of the transmission cost recovery provisions contained in Clause 6.18.7 of the NER.

In terms of tariff design, SP AusNet proposed the introduction of

- an energy based Time of Use tariff for residential and small commercial customers from 2010; and
- a Critical Peak Demand Tariff to replace SP AusNet's current 'anytime' demand tariff, for Large LV, HV and Sub transmission customers, from 2011.

SP AusNet noted that the proposed tariff changes are aimed at encouraging more efficient use of energy, particularly at peak times. SP AusNet's proposed tariff structure considered the practical issue of providing effective price signals to customers, in addition to satisfying the pricing principles in Clause 6.18.5 of the NER. In particular:

- the proposed energy based Time of Use tariff would adopt a pricing structure designed to best reflect the system utilisation during peak periods, without having to disaggregate that price signal by either peak day demand, or by location.
- for the Critical Peak Demand Tariff customers SP AusNet proposed to provide customers with advanced notice of critical peak demand days.

It should also be noted that SP AusNet's demand and energy forecasts in its Original Proposal reflected the impact of these tariff initiatives, and these forecasts were also taken into account in preparing SP AusNet's opex and capex forecasts.

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15.2 AER's Draft Determination and SP AusNet's response

The AER has raised a number of issues in their Draft Determination in relation to the Price Control Mechanism that should apply to SP AusNet throughout the forthcoming regulatory control period. These are:

- Licence Factor adjustment;
- Changes to tariff structures;
- Assigning customers to tariff classes;
- Recovery of Transmission tariffs
- Side constraints; and
- Formula issues.

These are discussed in detail below.

15.2.1 Licence Factor Adjustment

SP AusNet accepts the Licence Fee factor proposed by the AER.

15.2.2 Changes to tariff structures

When a DNSP proposes a change to its tariff structure, the values of the parameters in the weighted average price cap (WAPC) and side constraints formulas applying to the control mechanism require adjustments for those tariffs are also subject to a change in structure.

Appendix E (Distribution Tariffs) of the AER's Draft Determination sets out the AER's decision with regards to the approach to estimating the historical quantity weights and the substitute values.

SP AusNet notes the AER is proposing to place two key requirements on businesses when developing historical quantities. These are³⁰⁷:

"The only customers who would have moved to the new network tariff/tariff component in year $t-2$ did so due to a change in tariff structures initiated by the DNSP and as permitted under the customers' network connection contract. This means that no new customers are included in the estimate, and nor are customers who request to change tariff either voluntarily, or through the actions of a retailer"

and

"Customers have the same consumption and load profile on the new tariff/tariff component as they did on the origin tariff/tariff component. This implies that the sum of the reasonable estimates for year $t-2$ for each unit of measure on the new tariff/tariff component plus the reasonable estimates for year $t-2$ for each unit of measure on the origin tariff/tariff component, equals the actual audited quantities that occurred for the origin tariff/tariff component in year $t-2$ ".

³⁰⁷ Ibid

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SP AusNet fully supports the AER's focus on getting the t-2 volumes 'correct', and in saying this, SP AusNet agrees with the AER's overarching objective as outlined on page 8 of the Draft Determination that³⁰⁸:

"In order to incorporate new tariff structures in the WAPC and the side constraints, the AER requires reasonable estimates to be submitted by the DNSP, based on the quantities that would have been sold if the new tariff/tariff components had been introduced in year 't-2'."

However, SP AusNet is concerned that the AER's proposed constraints do not in fact reflect their stated intention to allow the inclusion of reasonable estimates of the quantities that "would have been sold if the new tariff/tariff components had been introduced in year 't-2'". The reason being is that the AER's proposed derivation of q-2 quantities must "equal the actual audited quantities that occurred for the origin tariff/tariff component in year t-2", which means that business are unable to take into account the elasticity of demand impacts associated with the adoption of any new tariff. This results in SP AusNet bearing significant risk in relation to tariff reassignments, particularly in the context of customers transferring from a flat tariff to a ToU tariff, which is likely to be a significant issue over the forthcoming regulatory control period.

In particular, SP AusNet notes that despite its ToU tariff structure reflecting the Long Run Marginal Cost of Supply – as is required by the NERs – it would lose revenue under the current price control formula when customers transfer from a flat tariff to a ToU tariff, relative to its benchmarks, with this revenue reduction not being offset by a commensurate reduction in costs in that year.

The above outcomes result from the fact that:

- Different ToU components (peak, shoulder, off peak) have different elasticity of demands; and
- Prices are based on the LRMC, not the SRMC.

In the case of the former, higher priced products (eg: peak and shoulder periods) inevitably have higher elasticity of demands, which in turn causes lower consumption relative to that which is embedded within the WAPC calculation. This leads to lower revenue outcomes, relative to forecasts. This lower revenue is not offset by higher revenues caused by increased consumption of the product that has had its price reduced (off peak), because it will have a lower (zero) elasticity of demand. Thus, there is an overall reduction in net revenue.

This is demonstrated in the following, simplistic example, which involves moving customers from a flat tariff to a ToU tariff. The numbers are dummy numbers, although, they are primarily based on the example provided by the AER in their Appendix.

³⁰⁸ Ibid, page 8

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Table 15.1: Notional Revenue in WAPC (Denominator)

Notional Revenue (Denominator of WAPC)		
Flat Tariff (c/kWH)	Quantities (t-2)	Revenue
0.04	25000	\$ 1,000,000
0.04	20000	\$ 800,000
0.04	25000	\$ 1,000,000
	70000	\$ 2,800,000

The above table outlines the quantities and revenues that would become the denominator in the price control under the AER's current approach. These are based on applying the existing flat rate tariff revenues to the quantities that are assumed to "transfer" across to each ToU pricing category.

Table 15.2: Notional Revenue in WAPC (Numerator)

Notional Revenue (Numerator of WAPC)		
Flat Tariff (c/kWH)	Quantities (t-2)	Revenue
0.07	25000	\$ 1,750,000
0.04	20000	\$ 800,000
0.01	25000	\$ 250,000
	70000	\$ 2,800,000

The above table outlines the quantities and revenues that become the numerator in the price control formula under the AER's proposed approach, if the ToU tariff was set at a level that achieves "notional" revenue neutrality. These are based on applying the proposed ToU tariffs to each of the quantities assumed to be consumed in each ToU pricing category (eg: 0.07 = Peak; 0.04 = Shoulder; 0.01 = Off Peak).

Table 15.3: Expected Quantities and Revenues

Expected Quantities and Revenues		
Flat Tariff (c/kWH)	Actual Quantities	Revenue
0.07	22187.5	\$ 1,553,125
0.04	20000	\$ 800,000
0.01	25000	\$ 250,000
		\$ 2,603,125

The above table outlines the quantities that are actually expected to be sold and therefore, the expected revenues from each ToU pricing category. In this example, the above quantities reflect the expectation that customers will respond to the peak tariff by lowering their consumption (NOTE: The assumed elasticity for this example is -0.15), but that they will not change their behaviour in the shoulder time period (because there is no change in price in this scenario), nor in the off peak period (because it is perfectly inelastic).

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As is illustrated above, the actual revenues generated from the imposition of a ToU tariff on those affected customers can lead to lower overall revenues, if certain reasonable assumptions around the elasticity of demand apply. If these lower revenues have not already been factored into the P0 adjustment (by making assumptions around the impact that the role out of ToU tariffs will have on energy consumption), then businesses will be worse off, from a revenue perspective, relative to the benchmarks underpinning the P0 adjustment.

Additionally, SP AusNet notes that even if a business' ToU tariff is cost reflective, the cost reductions flowing through to the business from this change in consumption behaviour is unlikely to be commensurate with the expected reduction in revenues outlined in the above example (ie: costs will not reduce by \$2.8m - \$2.6m = \$0.2m). This is because the variable price driving the reduction in revenue represents an estimate of the LRMC, which means that any capex deferral resulting from the lower energy consumption during the peak period may only manifest itself in future regulatory periods (eg: the LRMC may signal augmentations in future regulatory periods, therefore, any deferment of these augmentation projects will flow through to future regulatory period's capital expenditure forecasts, not this period's program). In this scenario, the benefit of any deferment of capital expenditure in future regulatory periods flows directly through to customers through lower capital expenditure forecasts, which means businesses cannot internalise the cost reductions in order to offset their revenue reductions.

Given the above, SP AusNet considers that the price control methodology outlined by the AER only works if:

- SP AusNet were to set prices at the SRMC of supply, as opposed to LRMC, so that the cost reduction associated with a customer moving from a flat rate to a ToU tariff is commensurate with the revenue reduction that will ensue;
- SP AusNet is compensated through the P0 adjustment for customers moving from a flat tariff to ToU tariffs; or
- If it were to be changed such that the derivation of t-2 quantities for the numerator component of the price control formula were actually based on "reasonable estimates...of the quantities that would have been sold if the new tariff/tariff components had been introduced in year 't-2'", as opposed to constraining the quantities to those that were sold on the origin tariff, which is likely to have been a completely different tariff structure.

Using our previous example, it can be seen that if the expected actual revenue of \$2.6m (Table 15.3) became the 'notional revenue' in the numerator in the price control mechanism formula, which in turn reflected the fact that lower quantities are expected to be sold with the adoption of the ToU tariff, then the reduced revenue from this tariff reassignment can be recovered from other tariffs within the overall WAPC constraint, thus retaining the incentive to actually set cost reflective ToU tariffs. It is noted that this approach does not lead to any double counting, if the AER does not assume this tariff reassignment in the calculation of their P0 adjustment, which is consistent with their Draft Determination³⁰⁹. Also, as the 'notional revenue' reflects the expected revenue from the adoption of the ToU tariff in that year, the business does not attain any additional revenue, relative to its benchmark allowance.

In conclusion, the AER's Draft Determination is likely to result in businesses:

³⁰⁹ Victorian Draft Distribution Determination — Draft Decision — Page 756

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- Constraining their ToU tariffs such that there is only minimal difference between peak, shoulder and off peak prices, in order to limit the revenue at risk associated with the transfer of customers from flat rate tariff structures to ToU tariff structure, which is likely to conflict with Clause 6.18.5 (b) (1) of the NER;
- “Inverting” their ToU tariffs, such that they lower the price on the ToU component with the highest elasticity of demand, and increase the price of the ToU component with the lower (zero) elasticity, in order to increase their outturn revenues relative to forecast;
- Moving to SRMC pricing, which again, is likely to conflict with Clause 6.18.5 (b) (1) of the NER; or
- Being limited in their ability to ‘recover at least the efficient costs’ of providing distribution services, as required by Section 7A(2) of the NEL.

Another issue that SP AusNet considers material is the potential to interpret the AER’s constraint as requiring the business to use the origin tariff’s “average consumption profile” for customers that are transferring from a flat tariff to a ToU tariff. If the take up of the ToU tariff is voluntary, the customers that convert to a ToU tariff are more likely to be customers that:

- Benefit from the tariff, even without having to make changes to their consumption profile, therefore, SP AusNet’s revenue would be lower under the ToU tariff than is estimated via the adoption of an average consumption profile; and
- Are better able to respond to the price signal, which means that they have a higher elasticity of demand, which magnifies the differences between the notional revenue calculated under the AER’s proposed approach, and outturn revenues.

Therefore, SP AusNet considers that the AER needs to explicitly state that their reference to customers having “the same consumption and load profile on the new tariff/tariff component as they did on the origin tariff/tariff component” does not prescribe the use of the origin tariffs average consumption profile, rather, it allows specific consumption profiles to be developed for those customers that are expected to transfer across.

This issue is illustrated in the Table below, where the quantities are assumed to reflect a different profile to the origin tariff (see previous tables). In particular, the profile of customers that transfer to the ToU are assumed to exhibit lower volumes in the peak period, with this being offset by higher volumes in the off peak period. As a result of the price differential, the business generates lower overall revenues (\$2.5m compared to \$2.8m, as outlined in Table 15.2). The only way that this can be mitigated is if the notional revenues in the numerator includes the expected profiles of the customers switching, not the average profile of the customers within the origin tariff.

Table 15.4: Impact of Non Average Profile of Transferring Customers

Notional Revenue (Numerator of WAPC)		
Flat Tariff (c/kWH)	Actual Quantities	Revenue
0.07	20000	\$ 1,400,000
0.04	20000	\$ 800,000
0.01	30000	\$ 300,000
	70000	\$ 2,500,000

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Lastly, SP AusNet considers that the AER's proposed constraint that "customers who request to change tariff either voluntarily, or through the actions of a retailer" inhibits SP AusNet's ability to provide incentives to customers to transfer off closed tariffs, as any transfer to a lower revenue generating tariff flows directly through to SP AusNet's bottom line, as it is not compensated for in the price control formula. Again, it is noted that any assumption that a transfer such as this translates into lower costs being incurred by the business within the regulatory period is likely to be inconsistent with the basis for setting prices - LRM.

15.2.3 Assigning Customer to Tariff Classes / Tariff Reassignment

SP AusNet considers that the AER's proposed Tariff Reassignment Procedures and Obligations place additional, onerous and unnecessary requirements on distributors to make a potentially costly objection process available to customers. In particular, SP AusNet has concerns with the additional obligation to notify customers and the introduction of the Energy and Water Ombudsman to the role of first level of objection. Moreover, SP AusNet has concerns with the restrictive nature of the tariff reassignment process.

These are discussed in more detail below.

Obligation to Notify Customers

The current distributor obligation to provide notification of tariff reassignments is as follows³¹⁰:

"The distribution business must notify the distribution customer concerned in writing of the distribution tariff to which the distribution customer has been reassigned, prior to the reassignment occurring."

The current obligation pertains only to those situations where a customer's tariff is reassigned. In practice, Victorian distributors have complied with this requirement by providing the required written notification to the customer's retailer. This has been a practical approach, as under current Victorian rules, retailers are not required to unbundle a small customers' electricity tariff. It is a retailer's option to retain the existing retail tariff following the reassignment, in which case there may be no impact on the customer.

In Appendix G the AER draft decision states³¹¹:

"A Victorian DNSP must notify the customer concerned in writing of the tariff class to which the customer has been assigned or reassigned by it, prior to the assignment or reassignment occurring"

This clause gives effect to an additional distributor obligation to notify a customer in writing on assignment as well as re-assignment. As a result, each year, SP AusNet will be required to make around 130,000 notifications of tariff assignments when customers occupy new premises or there is a change of occupant in an existing premise that were not previously required. The costs of this are outlined in the Step change section of this Revised Proposal.

SP AusNet does not have a direct contractual relationship with these customers and therefore any notification that may be provided can only be of a very general nature. Customers using less than 160MWh of electricity a year are not required to be provided with unbundled rates by their retailers, therefore the network tariff assignment has little meaning to these customers and may

³¹⁰ Electricity distribution Price Review 2006-10, Final Decision Volume 2 Price Determination Clause 2.1.20, Page 6

³¹¹ Victorian Draft Distribution Determination—Draft Decision – Appendices Page 20

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lead to confusion rather than clarification. Furthermore, because current metering provisions determine tariff assignment there are very few instances where the assignment can differ from that which the site has been established for or was in place for the previous occupant.

SP AusNet contends that the AER should rewrite this obligation so that it removes any inference that a written notice should be provided for every instance that a connection is made and should clarify that in instances where a notification is required the procedure should be for it to be provided to the customer's retailer and not directly to the customer. SP AusNet proposes the following clause:

“A Victorian DNSP must notify the distribution customer's retailer in writing of the distribution tariff to which the distribution customer has been reassigned, prior to the reassignment occurring.”

Objection Procedure

The existing process for a customer objecting to a tariff reassignment requires the customer to provide written notice of their objection to both the distribution business and the AER, previously the ESCV. The AER must then rule on the appropriateness of the re-assignment taking account of the customers load and connection characteristics, metering installation, and the tariffs applied to similar customers. The process proposed by the AER has the additional step that:

“if the objection is not resolved to the satisfaction of the customer under the DNSP's internal review system, then to the extent that resolution of such disputes are within the jurisdiction of the Energy and Water Ombudsman (Victoria) the customer is entitled to escalate the matter to such a body”

SP AusNet contends that by including this step in the process for resolving disputes of this nature, the AER is abrogating its responsibility as an economic regulator and denying the role it plays in the approval of tariffs, and tariff structures. Furthermore, SP AusNet considers the inclusion of EWOV directly in this process will result in a substantial cost impost on the distribution businesses. Each time a dispute is referred to the EWOV, the distributor will incur a fee of \$790. As almost 100% of customers will be subject to a reassignment following the rollout of Advanced Interval Metering Infrastructure SP AusNet anticipates that there will be many objections raised that are of a frivolous nature. As a result, if 10% of customers refer a complaint to EWOV the cost impost to SP AusNet could be as high as \$47M over the regulatory period and for no valid purpose. SP AusNet has not included this cost as a 'Step change', as it strongly considers that it is unreasonable for the AER to include this step into the process, given the significant costs that it is likely to impose. SP AusNet however notes that if this step is retained, then SP AusNet will not be provided *“with a reasonable opportunity to recover at least the efficient costs the operator incurs in ...providing direct control network services”*, as required by Section 7A (2) of the NEL. As such, if SP AusNet's proposed change is not accepted by the AER, it proposes to formally seek the inclusion of these costs in the Final Decision.

In conclusion, SP AusNet proposes that this step be removed from the process, and instead, the objective test of load & connection characteristics included in the previous ESCV determination for 2006-10 be included. SP AusNet therefore proposes the following clauses for this purpose:

x.x.x If a distribution customer disagrees with the distribution tariff to which that distribution customer has been assigned, then that distribution customer may give a written notice to the AER and the distribution business requesting that the reassignment be reviewed..

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- x.x.x (i) If the AER receives a notice under clause x.x.x, then it must decide which of the distribution business's distribution tariffs the distribution customer giving the notice under clause x.x.x should be assigned to, taking into account:*
- (a) the distribution customer's load and connection characteristics;*
 - (b) whether the distribution customer has an interval meter installed; and*
 - (c) the distribution tariffs to which other distribution customers with the same or materially similar load and connection characteristics, and the same or materially similar meter, have been assigned.*
- (ii) The AER must notify the distribution customer giving the notice under clause x.x.x and the distribution business concerned in writing of its decision and the date from which its decision should be applied.*
- x.x.x If the AER does not give a written notice under clause x.x.x(ii) within 30 business days of receiving the relevant notice under clause x.x.x, then the AER is to be regarded as having decided that the distribution customer giving the relevant notice under clause x.x.x should be reassigned.*
- x.x.x A distribution business must comply with a decision by the AER under clause x.x.x in relation to a distribution customer.*

Tariff Reassignment

SP AusNet considers that the AER's proposed arrangements do not appear to support the transfer of customers to new, innovative tariffs, in the forthcoming regulatory control period (outside of ToU tariffs).

In particular, SP AusNet considers that the tariff reassignment procedures should be constructed such that they promote the achievement of the NEO, in addition to having regard for the specific requirements in the NER. This would entail allowing customers to be transferred to new tariffs, if those new tariffs are reasonably likely to lead to outcomes that better "*promote efficient operation and use of electricity services*".

The AER's Draft Determination places significant limitations on tariff reassignments. For example, the AER requires that for³¹²:

"Each customer who was a customer of a Victorian DNSP prior to 1 January 2011, and who continues to be a customer of a Victorian DNSP as at 1 January 2011, will be taken to be 'assigned' to the same tariff class which the Victorian DNSP was using to charge that customer immediately prior to 1 January 2011."

and

"If a Victorian DNSP believes that an existing customer's load characteristics or connection characteristics (or both) have changed such that it is no longer appropriate for that customer to be assigned to the tariff class to which the customer is currently assigned or a customer no longer has the same or materially similar load or connection characteristics as other customers on the customer's existing tariff class, then it may reassign that customer to another tariff class."

SP AusNet reaffirms its proposal to adopt a new Critical Peak Demand tariff as of the 1st of January 2011. However, the current reassignment arrangements appear to preclude it from being

³¹² Ibid pg 20

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able to transfer any customer on to this tariff, as this tariff reassignment could not be justified as being as a result of a change in a customer’s “load characteristics or connection characteristics (or both)”, and moreover, there is no exception to the requirement that customers must retain exactly the same tariff as they are currently on as at the 1 January, 2011. SP AusNet considers such an outcome would be in conflict with the NEO.

Therefore, SP AusNet proposes that the AER refine its tariff reassignment rules such that it explicitly provides businesses with the flexibility to adopt new, innovative tariffs, in the 2011 to 2015 regulatory control period. In doing this, the AER should explicitly reference the need to develop prices that are consistent with the Pricing Principles – that is, reassignment should be able to occur if a proposed charge better reflects the Pricing Principles set out in Clause 6.18.5 of the NER. Under this scenario, a mandatory reassignment should be provided for. Without this, there is the potential to ‘lock in’ sub-optimum tariff structures, as any evolution in tariff design is inhibited by the fact that existing customers can only be reassigned to a new tariff class during the forthcoming regulatory control period if a customer’s load characteristics or connection characteristics (or both) have changed.

15.2.4 Recovery of Transmission Charges

The AER has made decisions on a number of related issues related to the recovery of transmission tariffs. These include:

- PFIT;
- Transmission Connection Charges;
- Inter DNSP charges; and
- Avoided TuOS and DuOS charge.

PFIT

As the Rule Change has been passed, SP AusNet accepts the AER’s Draft Determination.

Transmission Connection Charges / Inter DNSP Charges / Avoided ToUS

The AER is in effect, waiting for the outcome of the AEMC’s deliberations on the draft rule change that would enable the recovery of these charges under 6.18.7 of the NER. Whilst this is reasonable, SP AusNet reiterates that if this is not finalised by the time of the Final Decision, then the AER will need to adopt an alternative position.

Given that the AER has explicitly stated that these cannot be passed through under the current NER Clause 6.18.7, SP AusNet considers that a cost pass through mechanism is the appropriate methodology, if the AER reduces its threshold to SP AusNet’s proposed level.

If not, SP AusNet proposes to provide the AER with the most up-to-date estimate of each of these expenditures between this Revised Proposal and the Final Decision for review and subsequent inclusion in the Final Decision. It is noted that based on initial analysis, the average per annum value of these components over the forthcoming regulatory period will be in the order of: \$16.5m for Transmission connection; \$1.7m for Inter DNSP’s and \$9.9m for Avoided TuOS.

In the absence of any of the above recovery mechanisms, SP AusNet considers that its would not be provided “with a reasonable opportunity to recover at least the efficient costs the operator incurs in...providing direct control network services”, as required under Section 7A (2) of the NEL.

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15.2.5 Side Constraints

SP AusNet accepts the AER's Draft Determination with regards to Side Constraints, as outlined on page 60 of their Draft Determination, although it notes the AER's side constraint formula (as outlined in section 4.6.2 of the Draft Determination) appears to conflict with the conclusions drawn on page 60 of the Draft Determination. In particular, the AER states in their Draft Determination that³¹³:

"The side constraints to apply to tariff classes related to the provision of standard control services....."

The above confirms that the AER is applying side constraints to "tariff classes", whereas the AER's proposed Side Constraint formula appears to place the constraint at the tariff component level.

Moreover, Clause 6.18.6 (a) of the NERs – which applies to "Side constraints on tariffs for standard control services" – requires that³¹⁴:

"This clause applies only to tariff classes related to the provision of standard control services."

As such, SP AusNet considers that the determination of the Side Constraint formula (as outlined in section 4.6.2 of the Draft Determination) was made in error and as such needs to be changed to reflect the AER's stated intention for this constraint to be placed on the tariff class, and not the tariff component, which in turn is consistent with the NERs.

SP AusNet's proposed formula change is outlined in the next section of this Revised Proposal.

15.2.6 Detailed Formula Issues

General Issues

SP AusNet wishes to highlight three general issues in relation to the WAPC formula, namely:

- Derivation of quantities;
- Rounding; and
- The inclusion of a PuOS (or Pass through) tariff.

In relation to the first point, as discussed previously, SP AusNet considers that the quantities that are used to derive the notional revenue captured in the numerator should be adjusted so that they actually reflect "reasonable estimates...of the quantities that would have been sold if the new tariff/tariff components had been introduced in year "t-2"". This has been discussed in detail in previous sections, and therefore, will not be repeated.

In relation to the second point, SP AusNet considers that the AER's requirement that "each of the relevant percentage factors (for example, CPlt) must be rounded to two decimal places before being applied in the WAPC and side constraints formulas"³¹⁵ is inconsistent with common practice

³¹³ Victorian Draft Distribution Determination — Draft Decision – Page 60

³¹⁴ NER, cl. 6.18.6 (a).

³¹⁵ OpCit, pg 69

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and is not therefore reasonable in the circumstances, which traditionally entails rounding the results of the algorithm, as opposed to the inputs into the algorithm. SP AusNet considers there is no demonstrable additional administrative costs associated with dealing with actual, as opposed to rounded, input numbers, and therefore, there is no reason to place this limitation on the inputs into the WAPC calculation.

In relation to the third point, SP AusNet considers there to be benefits in the AER using its discretion to adopt a new PuOS tariff (Pass Through tariff), which captures all of the costs that are to be passed through to customers. This control mechanism will allow all pass through amounts to be recovered from separate tariffs to the Distribution Use of System (DUoS) tariffs. Under this proposal Network Use of System tariffs would equate to DUoS tariffs Plus Pass through tariffs.

The revenue control on pass through tariffs is proposed to be similar to that described in clause F.2, Appendix F of the AER draft decision, where MTR is substituted with MPR. Note that as this formula is capable of including all pass through costs there is no need for a separate Transmission tariff and pass through tariff formulas.

SP AusNet considers that there is no impediment to the AER adopting such a control mechanism. In particular, it notes that this is not a change to the “distribution” price control mechanism, which, is effectively precluded by the requirements of Clause 6.12.1 (11) of the NER, which states that it must be “in accordance with the relevant Framework and Approach paper”.

Moreover, SP AusNet considers that the PuOS has a number of other advantages (over the inclusion of a ‘P’ factor in the distribution price control mechanism), including:

- Making the pass through cost recovery process more transparent;
- Avoiding adding complexity to the DuOS tariff calculation, in particular the DUoS side constraint calculation;
- Year-on-year truing up ensures that there is no under or over recovery as a result of deviations in actual volumes relative to forecast volumes;
- Alleviating the significant adverse impacts on a business’ cashflows that would stem from large scale known pass through events (eg: VBRC costs), by allowing estimated costs for the following year to be included (as opposed to costs incurred in the previous year), with the aforementioned truing up process ensuring no over or under recovery; and
- Avoids the compounding affects associated with having a ‘P’ factor in the DoUS price control mechanism.

Moreover, it allows the transparent demonstration of compliance with Clause 6.18.5 of the NER.

Having regard to the above, SP AusNet considers that the inclusion of a ‘PuOS’ tariff, instead of a ‘P’ factor in the distribution price control, will support the achievement of the overarching NEO, along with the Revenue and Pricing Principles outlined in Section 7A of the NEL. In particular, Section 7A (6) requires that “*regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in, as the case requires, a distribution system or transmission system with which the operator provides direct control network services*”. SP AusNet considers that by allowing forecasts costs to be included for known events, the PuOS factor mitigates the cashflow affects to the business of large scale outflows on known pass through events.

Moreover, it is consistent with Section 7A (2) of the NEL, that requires that “*the regulated network service provider should be provided with a reasonable opportunity to recover at least the efficient*

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costs the operator incurs in...providing direct control network services". Notwithstanding the fact that the AER's proposed pass through factor in theory should do this, the potential for significant costs associated with the VBRC being passed through during the regulatory control period exacerbates the volumetric risk associated with utilising a factor in the distribution price control, with no true up process, as opposed to an option such as the PuOS factor.

The details of this are outlined in more detail below.

Weighted average price cap formula

The formula for the control mechanism for standard control services should be as follows:

$$\frac{\sum_{i=1}^n \sum_{j=1}^m p_{t,ij} q_{t-2,ij}}{\sum_{g=1}^n \sum_{h=1}^m \sum_{i=1}^n \sum_{j=1}^m p_{t-1,ghij} q_{t-2,ghij}} \leq (1 + \text{CPI}_t) (1 - X_t) (1 + S_t) (1 + L_t)$$

where a DNSP has n distribution tariffs, which each have up to m distribution tariff components, and where:

regulatory year "t" is the regulatory year in respect of which the calculation is being made;

regulatory year "t-1" is the regulatory year immediately preceding regulatory year "t";

regulatory year "t-2" is the regulatory year immediately preceding regulatory year "t-1";

tariff i and component j represent the proposed pricing segment in regulatory year t; tariff g and component h represent the source pricing segment from regulatory year t-1 that has been mapped to tariff i and component j. There are n tariffs and up to m tariff components in total;

p_{ijt} is the proposed distribution price for component j of distribution tariff i in regulatory year t;

q_{ijt-2} is the audited quantity from regulatory year t-2 that is mapped to component j of distribution tariff i in regulatory year t. (Note that this quantity may have actually been delivered to other tariffs than i and components than j in regulatory year t-2);

p_{ghijt-1} is the distribution price that was charged in regulatory year t-1 for the subset of component j of distribution tariff i that was mapped from the source component h of source tariff g. (Note that p_{ghijt-1} = p_{ght-1} for all destination tariffs i and components j. If there is no tariff reassignment then g=i and h=j, and p_{ghijt-1} = p_{ijt-1});

q_{ghijt-2} is the audited quantity from regulatory year t-2 for the subset of component j of distribution tariff i that was mapped from source component h of source tariff g. (If there is no tariff reassignment then g=i and h=j);

CPI_t is calculated as follows:

The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the September Quarter immediately preceding the start of regulatory year t;

divided by

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The Consumer Price Index, All Groups Index Number (weighted average of eight capital cities) published by the Australia Bureau of Statistics for the September Quarter immediately preceding the start of regulatory year $t-1$;

minus one.

X_t is the value of X for regulatory year t of the regulatory control period as determined by the AER;

S_t is the Service Target Performance Incentive Scheme factor to be applied in regulatory year t ;

L_t is the licence fee pass through adjustment to be applied in regulatory year t as determined in accordance with Appendix X;

Side Constraint Formula

The Side Constraint formula proposed by the AER in Section 4.6.2 of the Draft Determination explicitly places the side constraint at the tariff component level, not at the tariff class level, as required by Clause 6.18.6 (a) of the NERs. Apart from being inconsistent with the NERs as previously outlined, specifying that the side constraint be applied at the component level significantly limits a DNSP's ability to refine their tariffs within the regulatory control period, such that they can continue to align tariffs with the Pricing Principles outlined in Clause 6.18.5 of the NERs.

SP AusNet proposes the following revision to that formula:

$$\frac{\sum_{i=1}^{n^c} \sum_{j=1}^{m^c} p_t^{cij} q_{t-2}^{cij}}{\sum_{g=1}^n \sum_{h=1}^m \sum_{i=1}^{n^c} \sum_{j=1}^{m^c} p_{t-1}^{ghcij} q_{t-2}^{ghcij}} \leq (1 + CPI_t)(1 - X_t)(1 + S_t)(1 + L_t)(1 + 0.02)$$

Where,

regulatory year "t" is the regulatory year in respect of which the calculation is being Made;

regulatory year "t-1" is the regulatory year immediately preceding regulatory year "t";

regulatory year "t-2" is the regulatory year immediately preceding regulatory year "t-1";

for each tariff class c ,

tariff i and component j represent the proposed pricing segment in year t ; tariff g and component h represent the source pricing segment from year $t-1$ that has been mapped to tariff i and component j . Each tariff class c has n^c tariffs, with up to m^c components. Note that tariff g and component h are not necessarily of the same tariff as tariff i and component j , if reassignment between tariffs occurs; Note: source tariff g and h are summed over all tariff and components from all classes.

p_t^{cij} is the proposed distribution price for component j of distribution tariff i in regulatory year t ;

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q_{t-2}^{cij} is the audited quantity from regulatory year t-2 that is mapped to component j of distribution tariff i in regulatory year t. (Note that this quantity may have actually been delivered to other tariffs than i and components than j in year t-2);

p_{t-1}^{ghcij} is the distribution price that was charged in regulatory year t-1 for the subset of component j of distribution tariff i that was mapped from the source component h of source tariff g. (Note that $p_{t-1}^{ghcij} = p_{t-1}^{gh}$ for all destination tariffs i and components j. If there is no tariff reassignment then g=i and h=j, and $p_{t-1}^{ghcij} = p_{t-1}^{cij}$);

q_{t-2}^{ghcij} is the audited quantity from regulatory year t-2 for the subset of component j of distribution tariff i that was mapped from source component h of source tariff g. (If there is no tariff reassignment then g=i and h=j). Note that source tariff g and source component h are not necessarily of class c;

X_t is the value of X for year t of the regulatory control period as determined by the AER. If $X > 0$, then X will be set equal to zero for the purposes of the side constraint formula;

S_t is the Service Target Performance Incentive Scheme factor to be applied in regulatory year t;

L_t is defined as set out in the WAPC formula;

CPI_t is defined as set out in the WAPC formula;

Pass-through tariff

This option treats the pass through amounts as separate tariffs to the Distribution Use of System tariffs and generates a rate that works in similar manner to the current Transmission Tariffs. Under this option, Network Use of system tariffs are DUoS tariffs in addition to Pass-through tariffs. If the transmission rule change is passed then Transmission Connection, Transmission Use etc become a summed amount that is allowed for pass through. This option allows for a different rate to be determined for each tariff and enables rates to be applied to multiple tariff components.

Maximum Pass through Revenue (MPR_t)

MPR_t is expressed by the formula as set out below:

$$MPR_t = PC_t - K_t$$

Where:

MPR_t (in ϕ) is the maximum revenue a distribution business is allowed to receive from its pass through tariffs from all distribution customers for the calendar year t;

PC_t (in ϕ) is the aggregate amount of all positive and negative change events approved for pass through which the distribution business forecasts will be payable or

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receivable in year t where amounts comply with any relevant guidance in force from time to time or are required under any jurisdictional legislation or regulation;

K_t (in ¢) is determined in accordance with clauses x.x.3.

Correction Factor K

- (i) K_t is a correction factor to account for any under or over recovery of actual pass through revenue in relation to approved pass through event revenue.
- (ii) K_t is determined by reference to the formula set out below. The formula may be amended by the AER but only for the purpose of correcting manifest errors and/or omissions and only after consulting with relevant stakeholders.

$$K_t = (K_{y_t} + K_{z_t} + K_{t-1})(1 + CPI_t)(1 + \text{pretaxWACC}_D)$$

where:

K_{y_t} (in ¢) is calculated in accordance with clause x.x.4;

K_{z_t} (in ¢) is calculated in accordance with clause x.x.5;

K_{t-1} (in ¢) is the figure calculated for K_t for calendar year $t - 1$;

CPI_t is CPI for calendar year t , as set out in Attachment; and

pretax $WACC_D$ is as set out in Attachment.

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Calculation of Ky_t

Ky_t is a correction factor determined with reference to the formula in this clause. The formula may be amended by the AER but only for the purpose of correcting manifest errors and/or omissions and only after consulting with relevant stakeholders.

$$Ky_t = PR_{t-1} - PC_{t-1}$$

where;

PR_{t-1} (in ϕ) is the total revenue which it is estimated the distribution business will earn from its pass through tariffs in respect of all distribution customers in calendar year $t-1$; and

PC_{t-1} (in ϕ) is the aggregate amount of all positive and negative change events approved for pass through which the distribution business estimates will be payable or receivable in year $t-1$ where amounts comply with any relevant guidance in force from time to time or are required under any jurisdictional legislation or regulation;

Calculation of Kz_t

Kz_t is a correction factor for the difference between the estimates made in clause x.x.4 in calendar year $t-1$ and actual audited values and is expressed by the formula in this clause. The formula may be amended by the AER but only for the purpose of correcting manifest errors and/or omissions and only after consulting with relevant stakeholders.

$$Kz_t = \{(PRa_{t-2} - PRe_{t-2}) - (PCa_{t-2} - PCE_{t-2})\} * (1 + pretaxWACC_D) * (1 + CPI_{t-1})$$

where:

PRa_{t-2} (in ϕ) is the actual audited total revenue earned by the distribution business from pass through tariffs in respect of all distribution customers in calendar year $t-2$;

PRe_{t-2} (in ϕ) is the figure used for PR_{t-1} when calculating Ky_t for calendar year $t-1$ under clause x.x.4;

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PCa_{t-2} (in ϕ) is the audited aggregate amount of all positive and negative change events approved for pass through which were payable or receivable by the distribution business during calendar year $t-2$, where amounts comply with any relevant guidance in force from time to time or are required under any jurisdictional legislation or regulation;

PCe_{t-2} (in ϕ) is the figure used for PC_{t-1} when calculating Ky_t for calendar year $t-1$ under clause x.x.4;

CPI is the CPI for calendar year $t-1$, as set out in Attachment; and

pretax $WACC_D$ is as set out in Attachment.

Under this option the revenue control on pass-through tariffs is the same as that proposed for Transmission tariffs where MTR is substituted with MPR. Note that as this formula is capable of including all distribution and transmission related charges therefore there is no need for a separate Transmission tariff and transmission tariff formula. The revenue control for 2011 will need to redefine MTR_{t-1} as MPR_{t-1} , through the revenue control individual tariff rates are established and the rates are not required to be the same across each tariff so long as the MPR is met and the rebalancing rules complied with.

15.3 SP AusNet's Revised Proposal on tariffs for direct control services,

The above sections outline SP AusNet's response to the AER's Draft Determination in relation to price control mechanisms, and tariff reassignment requirements.

It is noted that indicative prices associated with this Revised Proposal are provided in PTRM model that accompanies this Revised Proposal.

16 Alternative Control Services and Negotiated Services

This chapter outlines SP AusNet’s Revised Proposal regarding Negotiated and Alternative Control Services.

The remainder of this chapter is structured as follows:

- Section 16.1 provides an overview of SP AusNet’s Original Proposal for Alternative Control Services and Negotiated Services;
- Section 16.2 outlines the issues raised in the AER’s Draft Determination;
- Section 16.3 sets out SP AusNet’s response to the AER’s Draft Determination;
- Section 16.4 presents SP AusNet’s revised proposal on Alternative Control Services; and
- Section 16.5 presents SP AusNet’s revised proposal on Negotiated Services.

16.1 Overview of SP AusNet’s Original Proposal

SP AusNet’s Original Proposal identified nine Alternative Control Services, five of which should be charged on a fee basis and the remaining four charged on a quote basis. The tables below provide a description of each Alternative Control Service.

Table 16.1: Alternative Control (Fee Based) Services as set out in SP AusNet’s Original Proposal

Service	Description
Connection of New Premises	SP AusNet provides connection services to customers making connection of a new premise to the network. This service includes the provision of a service cable in areas with overhead supply and making a connection in a pit for customers in underground supply areas or where a customer requests an underground connection in an overhead supply area.
Field Officer Visit	Field Officer visits are provided to customers, retailers and other parties seeking the following range of Services: <ul style="list-style-type: none"> • Reconnection (Fuse Insertion New Customer); • Customer Transfer; • Fuse Removal (for any purpose as requested by the customer, the customer’s retailer, or electrical contractor); and • General information on the nature of a customer’s usage (eg: residential, small commercial).

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Service	Description
Service Truck Visit	<p>Service Truck visits are provided to customers, retailers and other parties seeking the following range of Services:</p> <ul style="list-style-type: none"> • Supply alterations, additions and upgrades to service and installation assets. • Fuse removal/insertion where supply is greater than 100 amps.
Meter Equipment Test	<p>Where metering data is in dispute SP AusNet will conduct an “in situ” test of the meter. Where the meter is found to be faulty, the prepaid charge will be refunded and a replacement meter installed at no charge to the customer.</p>
Public Lighting	<p>Public Lighting Services are provided in accordance with the Victorian Public Lighting Code. Under this code the services include:</p> <ul style="list-style-type: none"> • Contestable construction of New Public Lighting assets; • Contestable augmentation and relocation of existing Public Lighting Assets; • Fee Based Alternative Control service provision of Operations, maintenance and end of life replacement of SP AusNet owned public lighting assets.

Table 16.2: Proposed Alternative Control (Quoted) Services as set out in SP AusNet’s Original Proposal

Service	Description
Temporary Cover of LV Mains	<p>SP AusNet provides temporary covers for mains and services to ensure a safe working environment for those required to work in close proximity to overhead power lines.</p>
Elective Underground Servicing	<p>SP AusNet provides underground services to customers in Overhead Supply areas where requested to do so by the customer. This service involves installing cable down an appropriate pole, trenching to a suitable location for an underground pit, and installing an underground pit.</p>
Service Cable Pulled Down by High Loads	<p>From time to time, SP AusNet is required to re-instate overhead lines that are pulled down by high loads. Where the party responsible for the damage is identified SP AusNet will recover the costs to re-instate the line from the party concerned.</p>
Recoverable Works	<p>Various recoverable works services (eg: emergency works where customer is at fault and immediate action needs to be taken by the DNSP; Supply enhancement at customer request; auditing of design and construction; and specification and design enquiry fees).</p>

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In relation to the form of control for Alternative Control Services, SP AusNet proposed the adoption of a 1% X factor, in conjunction with the Price Control Mechanism outlined in the AER's Framework and Approach Paper.

SP AusNet's Original Proposal followed the AER's Framework and Approach Paper in classifying the following two services as negotiated services:

- New public lighting assets; and
- Alteration and relocation of existing DNSP public lighting assets.

SP AusNet included its proposed negotiating framework as Appendix O in its Original Proposal.

16.2 AER's Draft Determination

The AER accepted SP AusNet's proposed prices for fixed fee alternative control service (excluding public lighting), except for:

- applying new labour escalators, as outlined in appendix K of the Draft Determination, to SP AusNet's price models for field officer visits, new connections and service vehicle visits;
- after hours service truck visits, where the AER requested further information from SP AusNet on the costs of providing this service as part of its Revised Proposal, so that a cost build up using Impaq's recommended labour charge out rates and times can be undertaken; and
- requesting that SP AusNet submit proposed prices for new connection services where SP AusNet is not the responsible person for metering, for application in 2014 and 2015.

In addition to the changes outlined above, it appears that the AER has also imposed two other unexplained changes to SP AusNet's proposed Alternative Control Service Fees. These are a:

- 38% reduction on SP AusNet's proposed fee for Multi Ø Overhead - CT Connected Meter - After Hours; and
- 6% reduction in SP AusNet's proposed fee for Overhead Supply—Coincident Disconnection (Truck visit)—AH.

The AER accepted SP AusNet's proposed quoted service rates, but has adopted a price path that is linked to the outsourced labour escalation rates it has approved for SP AusNet's standard control services.

SP AusNet's responses to these issues are outlined in the section below.

16.3 SP AusNet's response to the issues raised by the AER

16.3.1 Fixed fee services

SP AusNet's response to the AER's Draft Determination with regard to public lighting is set out separately in chapter 17 of this revised proposal.

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Prior to outlining its response to the AER's Draft Determination, SP AusNet notes that subsequent to SP AusNet's November Proposal, it discovered a minor error in its description of a its 'New Connections' service.

In particular, SP AusNet confirms that only a connection of 100AMPS is a standard service, with any connection greater than 100 AMPS being a quoted service, as these will involve higher costs and greater variability from job to job. It is noted that this is consistent with SP AusNet service classification description contained in its Original Proposal, namely that³¹⁶:

“SP AusNet intends to classify and treat all standard connection services as an alternative control service based on a fixed fee approach for customers up to 100 amps and as a quoted service for customers above 100 amps”.

More broadly, SP AusNet accepts the AER's Draft Determination with regard to Alternative Control Services (Fixed Fee Services), with the exception of the following three elements:

- SP AusNet does not accept the inclusion of Access Economics' revised labour escalators;
- SP AusNet does not consider that the AER's proposed 38% reduction in SP AusNet's proposed fee for Multi Ø Overhead - CT Connected Meter - After Hours is justified; and
- SP AusNet does not accept the AER's proposed 6% reduction in SP AusNet's proposed fee for Overhead Supply—Coincident Disconnection (Truck visit)—AH.

In relation to the first of these elements, the opex chapter in this Revised Proposal explains that Access Economics' forecasts of labour cost escalation are not consistent with the expected labour costs that SP AusNet, its related parties and its outsourced service providers will incur in the forthcoming regulatory control period. For the reasons set out in the opex chapter, SP AusNet has applied a forecast of labour cost escalation based on expert advice and analysis provided by BIS Shrapnel. Furthermore, for the reasons set out in the opex chapter, SP AusNet believes that its forecast should be applied in order to promote the quality and security of electricity supply, consistent with the achievement of the NEO.

In relation to the second issue identified above, SP AusNet does not accept the AER's Draft Determination to reduce SP AusNet's proposed fee for Multi Ø Overhead - CT Connected Meter – After Hours by 38%, as the proposed reduction would lead to inappropriate charges being levied for this service, as the fee for the after-hours service (\$324.48) would be equivalent to the normal-hours service. It is unrealistic for the Draft Determination to assume that SP AusNet will incur the same costs for the provision of these services, whether delivered in normal hours or after hours, given that:

- the Draft Determination acknowledges that there are differences between normal hour labour rates and after-hours labour rates (for example, Table O lists different Quoted Service labour rates for Citipower between normal hours and after hours); and
- the Draft Determination has approved higher fees for other Fixed Fee Services provided by SP AusNet after hours, relative to business hours (eg: Multi Ø Overhead—Direct Connected Meter—BH; Field Officer Visits)

³¹⁶ SP AusNet Regulatory Proposal, November, 2009 – page 31

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SP AusNet considers that the Draft Determination has not demonstrated why a 38% reduction in Multi Ø Overhead—CT Connected Meter—AH is appropriate, given the significantly different labour rates applicable to after-hours and normal-hours work.

In relation to the third element, SP AusNet does not accept the 6% reduction in SP AusNet's proposed fee for Overhead Supply—Coincident Disconnection (Truck visit)—AH. In particular, SP AusNet considers that the AER has not explained why:

- A higher reduction has been imposed on this fee, relative to all other fees;
- Its model of approved Alternative Control Service fees includes a price of \$548.94, whereas, the AER's draft decision adopts a price of for this charge \$538.99.

SP AusNet considers its proposed forecast more reasonably reflects the costs incurred in the market place and is more consistent with the approved Alternative Control Services model, updated for SP AusNet's proposed labour cost escalators.

16.3.2 New connections services where SP AusNet is not responsible for metering

In accordance with the requirements of the Draft Determination, SP AusNet has included proposed prices for new connections services where SP AusNet is not the responsible person for metering, for application in 2014 and 2015. These are set out in the next section.

It is noted that SP AusNet's proposed price for new connection services, where it is not the responsible person for metering, is exactly the same as the price it proposes to charge a customer when SP AusNet is the responsible person for metering. There is no material difference in the cost for SP AusNet to connect a customer, regardless of whether or not SP AusNet is the responsible person for metering. SP AusNet's charges for these services are consistent with the requirements of the Order-In-Council for the AMI rollout, the scope of which includes the costs for meters installed on new premises up to 2015.

16.3.3 After hours truck visits

In accordance with the requirements of the Draft Determination, SP AusNet provides the information set out below regarding the methodology utilised to derive its proposed price for after hours service truck visits, and the cost information utilised to develop this price.

As explained in the Original Proposal, SP AusNet considers that the proposed price for this service is consistent with the costs that an efficient service provider would incur in providing the service. The methodology used to develop the price for this service is the same as the one that was used to develop SP AusNet's other fee based service prices, which the AER has accepted (but for adjusting labour escalation rates). Namely, contractor rates, along with workload escalators for different regions, have been applied to determine the proposed price.

There is insufficient detailed information available to enable the assessment (envisaged in the Draft Determination) of SP AusNet's proposed charges using Impaq's recommended labour charge-out rates and times. In this regard, it is noted that care must be taken when assessing the charges for this particular service, as the fee charged to SP AusNet by its service provider incorporates work done after hours on a weekday as well as work done on weekends. More specifically, the work can be on a single-phase or Multi-phase premise; the work could involve electrical and/or structural alterations to the installation; Replacement of metering equipment, or the re-fitting of existing metering; replacement of overhead service cables if required. It also involves the supply of all hardware and materials.

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16.3.4 Quoted services

SP AusNet accepts the Draft Determination regarding the company's proposed quoted service fees. SP AusNet also accepts the Draft Determination (at page 894) regarding the escalation of the quoted services labour rate by the outsourced labour escalation rate approved by the AER for SP AusNet's standard control services.

In accepting this aspect of the Draft Determination, SP AusNet notes its understanding that the AER will update this price path as part of its Final Decision, to reflect the outsourced labour escalators accepted as part of the Final Decision. For the avoidance of doubt, SP AusNet wishes to emphasise that its acceptance of this particular aspect of the Draft Determination does not reflect SP AusNet's acceptance of the 'outsourced labour escalators' proposed by the AER for any purpose other than the formulation of the price path for quoted services over the period from 2012 to 2015.

16.4 SP AusNet's revised proposal on Alternative Control Services

The following tables outline SP AusNet's proposed Alternative Control Service Fixed Fees.

Table 16.3: Proposed Fees

Proposed Prices for 2011 (real 2010 \$)	Revised Fee	
	<i>Normal Hours</i>	<i>After Hours</i>
<ul style="list-style-type: none"> • Field Officer Visit 	\$15.68	\$109.81
<ul style="list-style-type: none"> • Service Truck Visit • Wasted Truck Visit (NH) • After Hours Truck by Appointment 	\$235.85 \$119.51 -	\$310.58 - \$935.4

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Proposed Prices for 2011 (real 2010 \$)	Revised Fee	
<ul style="list-style-type: none"> • Single Ø Overhead • Single Ø Underground • Multi Ø Overhead – Direct Connected • Multi Ø Overhead – CT Connected • Multi Phase Underground - Direct Connected • Multi Phase Underground - CT Connected • Overhead Supply - Coincident Disconnection 	\$197.12 \$159.97 \$275.24 \$335.96 \$205.51 \$286.08 \$367.6	\$271.85 \$219.52 \$368.66 \$521.07 \$277.9 \$443.71 \$570.15

Source: SP AusNet – ACS prices – SP AusNet RevisedV1.xls

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Table 16.4: New Connection service (SP AusNet not responsible for metering)

Proposed Prices for 2011 (real 2010 \$)	Revised Fee	
• Single Ø Overhead	\$197.12	\$271.85
• Single Ø Underground	\$159.97	\$219.52
• Multi Ø Overhead – Direct Connected	\$275.24	\$368.66
• Multi Ø Overhead – CT Connected	\$335.96	\$521.07
• Multi Phase Underground - Direct Connected	\$205.51	\$277.9
• Multi Phase Underground - CT Connected	\$286.08	\$443.71
• Overhead Supply - Coincident Disconnection	\$367.6	\$570.15

Source: SP AusNet – ACS prices – SP AusNet RevisedV1.xls

16.5 SP AusNet's revised proposal on Negotiated Services

SP AusNet accepts the Draft Determination and has made the appropriate drafting changes to its negotiating framework.

SP AusNet's revised proposed negotiating framework is attached as an Appendix to this Proposal.

17 Public lighting

SP AusNet agrees with the majority of issues determined by the AER in relation to public lighting but notes that further consideration is required in order to ensure that the DNSP is provided with adequate opportunity to recover all the costs.

The chapter is structured along similar lines to chapter 19 of the Draft Decision, which addresses matters relating to public lighting in considerable detail.

The remainder of this chapter is structured as follows:

- Section 17.1 provides SP AusNet's response on regulatory requirements;
- Section 17.2 provides SP AusNet's response on the AER's framework and approach;
- Section 17.3 sets out SP AusNet's response on energy efficient lighting;
- Section 17.4 presents SP AusNet's response on Labour Rates;
- Section 17.5 sets out SP AusNet's response on motor vehicle and plant rates;
- Section 17.6 provides SP AusNet's response on other costs for North & East Regions;
- Section 17.7 sets out SP AusNet's response on transitional adjustment;
- Section 17.8 sets out SP AusNet's response on failure rates;
- Section 17.9 presents SP AusNet's response on capex forecasts for 2011-15;
- Section 17.10 sets out SP AusNet's responses on other matters.

17.1 SP AusNet response on Regulatory Requirements

SP AusNet notes that under section 19.2 of the Draft Decision the AER has made reference to the options for pricing under the NER and referenced clause 6.2.5 (d) (2) of the rules as providing the option of a cap on prices of individual services. SP AusNet agrees that this option is available to the AER and that for Public Lighting Services it is the appropriate option, however the reference to the NER should be 6.2.5 (b) (2).

Clause 6.2.5.(d) (2) is also relevant in that it requires the AER to have regard to the possible effects of the control mechanism on administrative costs of the *AER*, the *Distribution Network Service Provider* and users or potential users.

17.2 SP AusNet Response on Framework and Approach

SP AusNet agrees with the AERs draft decision on Public Lighting assets with respect to:

- the appropriate classification of the Services regarding the Operation Maintenance and Replacement (OM&R) of Public Lighting assets for Public Lighting customers as defined by the Public Lighting Code is as an Alternative Control Service;
- the form of price control that the AER applies should be a price cap utilising a limited building block approach; and

- the application of a CPI-X approach to the establishment of initial prices and a price path for the regulatory period.

However the AER has noted that “...after the construction and commissioning of the assets, ownership of the assets will transfer to the DNSP. Where such an agreement is made, the assets become subject to the applicable provisions of the Code. If no agreement is reached, asset ownership remains with the public lighting customer and are not subject to regulation under the Code.” This assumption is incorrect.

The majority of these assets are constructed by third party land developers as part of an overall low voltage subdivision development and as such are at no stage the property of the public lighting customer, they are directly connected to other assets that are vested in the distribution company at the time they are connected to the upstream network. Therefore it is SP AusNet’s view that in order to avoid uncertainty about ownership and responsibility for operation and maintenance of new public lights the default arrangement should be to continue the practice of vesting ownership in the distributor at the time of connection. Any decisions made by the AER based on this error should also be reviewed.

17.3 SP AusNet response on Energy efficient lighting

17.3.1 *Energy Efficient Lighting*

The AER has acknowledged that SP AusNet has installed some energy efficient T5 lights in 2009³¹⁷. It should also note that these lights have not been the subject of a changeover program, but are lights that have been installed as new light installations following the technical approval of these lights for the network.

17.3.2 *Funding of MV80 Replacement with T5 Energy efficient Lighting*

SP AusNet does not accept the Draft Decision’s statement that including the proposed Capital Expenditure on T5 lighting is a “...significant exception”³¹⁸ to its consistency with the AER Framework and Approach paper.

In establishing the amount to be funded SP AusNet has had regard to the following factors:

- Customer requirements – in negotiations with customers it has been evident that they do not have the financial capacity to fully fund the capital cost of the change over and they prefer an arrangement whereby a portion of the cost is funded by the distributor and payment made over time due to the fact that ownership of the assets themselves ultimately vests in the distributor. SP AusNet’s contribution in this regard is a matter of timing and cash flow and not a cross subsidy issue as purported by the AER.
- SP AusNet carries a future obligation to replace the MV80 lamps at the end of their life. The costs for the end of life replacement would rightfully be added to the asset base and recovered over the life of the replacement lamps. The partial funding that has been based on the bring forward cost of this obligation should be treated in the same manner.

317 Victorian electricity distribution network service providers Distribution Draft Determination 2011–2015, June 2010, p. 788

³¹⁸ Ibid.

- The AER’s final decision on Energy Efficient Public Lighting Charges in February 2009 included the obligation that:

“...the net difference between the written down value and avoided costs associated with replacement of existing distributor owned MV80 luminaires with T5 luminaires before the end of their 20 year economic life, are payable by public lighting customers to distributors upfront.”³¹⁹

The majority of SP AusNet’s MV80 luminaires are gifted assets having been constructed by developers as part of the low voltage network in new development areas or funded by public lighting customers as minor lighting schemes and therefore have no written down value. The only time SP AusNet has funded these lights has been at the time of their replacement due to damage, faults or the end of their physical life. SP AusNet has no records available to separately identify those individual lights that may have been replaced in this way. As this decision required that the public lighting customer’s payment of the WDV be included as a customer contribution against the capital cost, any payment made by the distributor with respect to the avoided costs must also be treated as a capital expense.

17.4 SP AusNet Response on Labour Rates

SP AusNet did not provide any labour rate indexation in the initial submission by omission. This was an oversight at the time of the submission and the labour escalation rates applied to SP AusNet’s Alternative Control Services should be applied to Public lighting services as well. The rates that SP AusNet will be applying are:

Table 17.1: Labour Rates

	2011	2012	2013	2014	2015
Labour escalation rate	1.41%	1.9%	2.7%	2.6%	2.4%

SP AusNet agrees with the general approach to the Impaq Consulting review of Labour rates. However, it is SP AusNet’s view that any review of this nature should be taken by the AER as the basis of establishing a view on the fairness and reasonableness of the proposed amounts and not an absolute determination of the value to be allowed. There are a number of errors of fact contained within the Impaq review that the AER should also address. Specifically:

- The view that the competencies required to repair, maintain and replace public lighting assets are limited to that of a distribution line worker is erroneous. This concept makes no provision for the diversity of skill sets that any group or team of line workers will have or for the supervision of the crew.

³¹⁹ Energy Efficient Public Lighting Charges – Victoria: Final Decision, February 2009, p. 6.

- Impaq has failed to take account of the most recent Enterprise Bargain Agreement for line workers has reduced the working hours per day from 8.33 to 8.00 over a nine day fortnight or 7.2 over a ten day fortnight³²⁰.
- SP AusNet's labour rates were based on the actual rates provided by the primary contractor providing the resource for the Public Lighting repair and maintenance activities.

On page 800 of the AER Draft Decision the Table 19.32 has been presented with reference to a report by Impaq Consulting titled *Reasonableness of electricity industry labour rates for public lighting services*, March 2010. The AER has not provided this report for the distributors to review and as such SP AusNet was not able to determine the reasoning behind the imposition of the rate in question.

Table 19.32 Impaq assessment findings, total margin above direct cost (per cent)

Item	Low case	High case
On costs	18	26
Overheads	7	25
Profit margin	3	8
Total	28	59

Source: Impaq Consulting, *Reasonableness of electricity industry labour rates for public lighting services*, March 2010, p. 27.

The table is similar to the one in the Impaq report titled *Review of Distributors Proposed Rates in ACS Charges, Revision 1.3*, 25 May 2010. In this report Impaq have the following table labelled Table 12 on page 37:

Item	Total Margin - Low Case	Total Margin - High Case
On costs	18%	22%
Overheads	20%	31%
Profit Margin	3%	8%
Total	41%	61%

Table 12 – Total margin above direct cost

In this table Impaq have allowed for an Overhead of 20% for the low case and 31% for the high case. No logical explanation has been provided in the draft decision for the inconsistency between the review of labour rates for Alternative Control services other than Public lighting and

³²⁰ SPI PowerNet and SPI Electricity – ETU – EBA Section 9, p. 8.

the review of labour rates for Public Lighting particularly for items such as the On Costs or Overhead Rates.

SP AusNet believes that the Labour rates accepted by the AER as reasonable for all other Alternative Control Services should also apply to Public Lighting Services as there is no reason to differentiate between the two and to do so is unreasonable. The direct labour engaged in providing both service types is very similar. In particular, SP AusNet refers the AER back to the previous comment that the skill set required for the Public Lighting crew is not limited to that of a “basic distribution line worker.” Therefore, SP AusNet believes that the Labour rate Inputs including escalation that the AER adopts for SP AusNet’s Public Lighting should be adjusted to:

Table 17.2: Labour Rate Inputs

	2010	2011	2012	2013	2014	2015
Labour rate (per hour)	\$76.33	\$77.40	\$78.87	\$81.00	\$83.10	\$85.10
Labour rate for night patrols (per hour)	\$95.41	\$96.75	\$98.59	\$101.25	\$103.88	\$106.37

These rates are the same as those that have been accepted for Alternative Control Services, Quoted Services, where the skill set of the crew involved is of a similar nature, ie overhead line worker. For the night patrols SP AusNet has applied the same factor to the Normal Hour rate as the AER has applied to After Hours workers for other Victorian DNSPs.

17.5 SP AusNet Response on Motor Vehicle and Plant rates

In the Draft Decision the AER has stated “...the AER proposes to adopt the platform vehicle rates of \$10.00 per hour, as established in the 2009 final decision.” This statement is incorrect, the rates for vehicles that were approved in the 2009 final decision were:

- Light Elevated Platform Vehicle (urban use) \$35.00
- Heavy Elevated Platform Vehicle (rural and remote use) \$45.00
- Patrol Vehicle (night patrols) \$10.00

The AER has not provided any basis, description or supporting evidence for rejecting SP AusNet’s submitted charges except for the reference to the 2009 Final Decision which was made in error.

These rates were actually originally established in the 2004 review of public lighting OM&R rates carried out by the Essential Services Commission. They have not been adjusted since that determination. Accordingly, SP AusNet does not believe it is appropriate to apply 2004 rates for 2011 and beyond. SP AusNet proposed rates that were established by reference to rates charged by contractors for each of the above vehicle types for the 2010 financial. SP AusNet therefore proposes that the appropriate rates are those originally submitted:

- Light Elevated Platform Vehicle (urban use) \$40.00
- Heavy Elevated Platform Vehicle (rural and remote use) \$72.28

- Patrol Vehicle (night patrols) \$27.40

17.6 SP AusNet Response on Other Costs for North & East Regions

SP AusNet does not agree with the AER's Draft Decision in respect to Other Costs for North and East Region. The AER incorrectly stated that SP AusNet receives a 5% premium in costs for rural areas. The AER also incorrectly stated that SP AusNet did not explain what these additional costs were for. The 5% premium that is applied to Rural and remote lights is applied to material costs to cover the additional transport and handling costs for materials delivered to sites in these areas. The premium is only applied to materials and does not cover any of the other costs associated with servicing lights in these areas.

The additional costs claimed cover requirements of a Living away from home allowance. SP AusNet is obliged to pay crews working on public lighting in rural and remote areas an allowance to cover the costs of accommodation and meals when they are required to stay overnight in an area rather than return to the depot and then back to the same or similar location the following day. SP AusNet would submit that based on market practices this is not a cost specific to SP AusNet but rather, a cost that would be expected to be incurred in the efficient operation of the network. SP AusNet established this cost as \$120 per crew member paid out on 75 events in each region a year and allocated between MV80 lanterns and T5 lanterns on the basis of the number that each light type represents in the North and East areas.

17.7 SP AusNet Response on Transitional Adjustment

SP AusNet proposed a 100% transitional adjustment in 2011, the AER model provided the option of making this adjustment as any value from 100% in the first year to 100% in the last year. All options give the same result over the five year regulatory period, the only difference being whether the prices have some volatility or are smoothed over the period.

SP AusNet did not consider that the level of volatility was unreasonable when establishing the adjustment as 100%. In its considerations on this matter the AER notes that "...the transitional adjustment methodology to be adopted should provide for smoothing of public lighting charges..."³²¹ This being the case, the AER should not have made this adjustment optional in the model but applied a hard coded smoothed adjustment. SP AusNet has altered the proposed transitional adjustment to 20% in each year to smooth the prices as the AER has required.

17.8 SP AusNet Response on Failure Rates

SP AusNet did not propose any change to the failure rates that are utilised in the model, however it is worth noting that a review of the failure rates reported on the SP AusNet Public Lighting web site would support the view held by United Energy in this regard more so than the amounts

³²¹ Victorian electricity distribution network service providers Distribution Draft Determination 2011–2015, June 2010, p. 809.

contained in the model. Each distributor is required to maintain a web site for public lighting customers to access information regarding the lights provided by the distributor for their area. As part of this web site, performance reports are published that relate to the Distributors Public lighting system, therefore there is some information in the public domain that the AER could use to corroborate distributor claims with respect to light failures. The table below sets out the failure rates for all types of lamps across the SP AusNet network over the past six years.

Table 17.3: Failure Rates

Year	2004	2005	2006	2007	2008	2009
Total Failures per year	12,187	13,148	10,384	12,488	11,496	9,909
Total Lamps at year end	103,598	105,082	106,772	110,300	111,797	117,878
% Failed	11.76%	12.51%	9.73%	11.32%	10.28%	8.41%
Failures Between Bulk Change	47.04%	50.04%	38.92%	45.28%	41.12%	33.64%

More than 80% of the SP AusNet light population is made up of Mercury Vapour lamps therefore the above failure rates are indicative of the rates that apply to this light type.

When assessing light failures the AER and formerly the Essential Services Commission have relied predominately on manufactures claims in respect to failures. As was pointed out by Jemena in their submission these statistics fail to account for failures that are not lamp related, such as PE cells, the luminaire, wiring and in addition to these accidents and vandalism. A recent sample of data indicated that about 60% of light failures attended involved the failure of the lamp and 40% all other reasons. The above statistics relate to all failure types and therefore provide a fairer representation of the in service failure rates. As these other factors are unlikely to vary greatly from light type to light type SP AusNet proposes that as a minimum the T5 failure rate be adjusted to include allowance for the 40% failures that are not lamp related, this raises the failure rate to 18.7%.

17.9 SP AusNet Response on Capex forecasts for 2011-15

17.9.1 Labour and elevated Platform vehicle rates

SP AusNet has responded to the AER's comments regarding the input costs including the labour rate and the elevated platform vehicle rates in sections 4 and 5 above.

17.9.2 Forecast volumes for replacement of luminaires, poles and brackets

Luminaires

SP AusNet accepts the ESCV determinations on public lighting prices and the AER determination on prices for the energy efficient light types. With respect to setting prices SP AusNet believes that there is little difference between prices that are established using a model that is based on a distributor funding the initial installation plus the recovery of operating and maintenance costs or

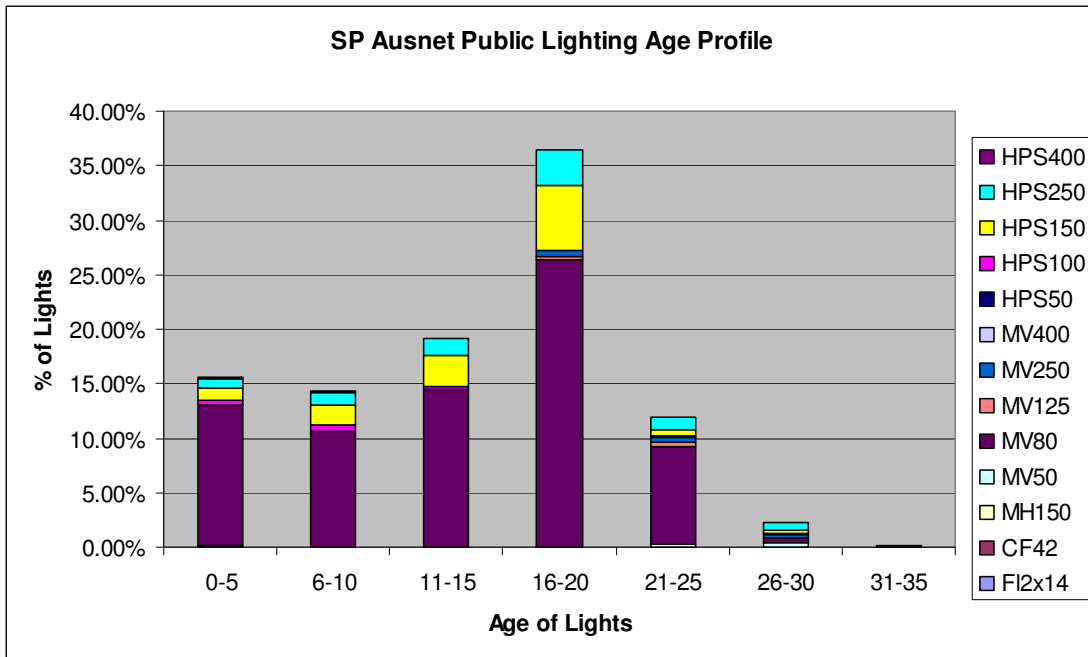
the customer/third party funding the initial installation and the distributor recovering the operating and maintenance costs plus the capital to fund the outturn of the light at the end of its life. Provided the former pricing model recognises a notional capital and not actual capital where the practice follows the latter approach prices will be similar under either option. However, where the practice follows the latter approach the use of the distributor's asset base to determine written down values and replacement costs of the assets is flawed. The assets on a distributors register will not be representative of the entire population, rather it represents that small portion that has been funded by the distributor as a result of replacement due assets reaching the end of their physical life, damage by accident or vandalism, or partial funding of small schemes where the installation cost exceeds the quoted price. Therefore, it is SP AusNet's view that the AER's determination with respect to the written down value in their determination on energy efficient lights and subsequently used as a customer contribution offset in the proposed pricing model is not correct.

In SP AusNet's submission the proposal to contribute towards the replacement of the MV80 luminaires based on the present value of the obligation to replace the lights more accurately represents the current industry practice with respect to public lighting. As previously stated, this amount would be capitalised when the work is carried out in the normal replacement cycle and should therefore be allowed as a replacement when undertaken in advance of it being due as an efficient operating cost.

Poles and brackets

SP AusNet's submission was based on the expectation that a large number of poles and brackets are reaching the end of their physical life during the regulatory period as illustrated in the chart below. These assets have an economic life of 30 years and therefore at a minimum an average of 3% of the population will require replacement each year. The AER's Draft Decision only allows for half of these poles and brackets to be replaced. SP AusNet is concerned that the current replacement cycle is based on recognised industry practice and that a deviation from this practice would expose the company to inefficient operation.

The following chart sets out the age profile of SP AusNet's Public Lighting assets. The chart shows clearly that more than 50% of lighting assets are approaching or greater than 20 years. As the luminaire has an economic life of 20 years and the poles and brackets have economic lives of 30 years many of these assets will require replacement in this and the next regulatory period.



When poles are brackets are looked at in isolation to the luminaire there are currently around 4% of the population that currently exceed the 30 year economic life. A further 10% will pass their economic life during the regulatory period; therefore SP AusNet believes that the proposal for the replacement of 3% of poles and brackets each year, or a total replacement of 15% during the regulatory period, is reasonable. However, as indicated above SP AusNet has accepted the AER's approach and reduced the number of replacements to 1.5%.

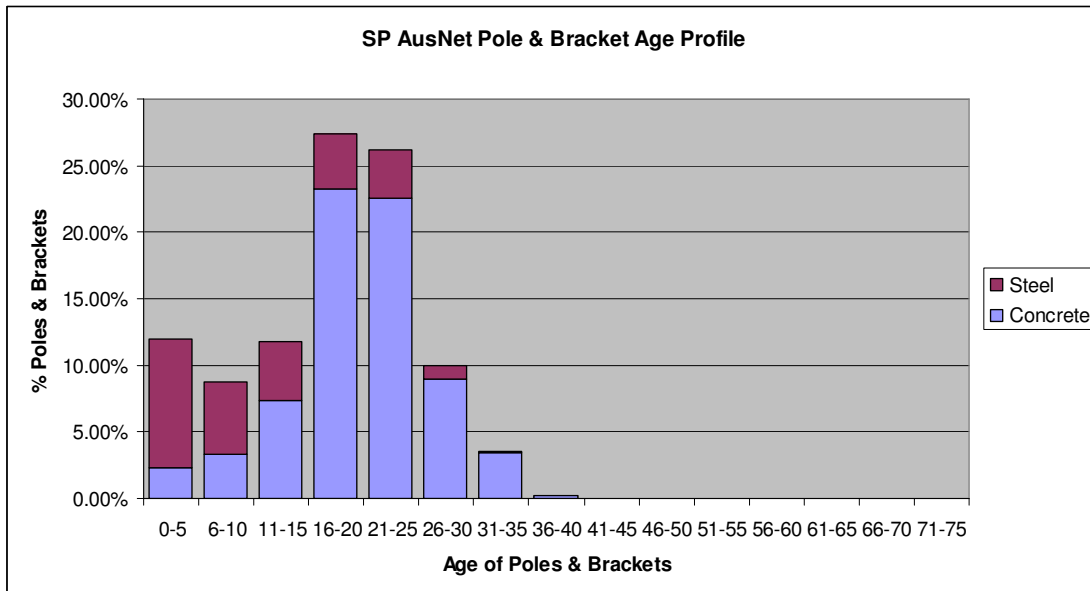
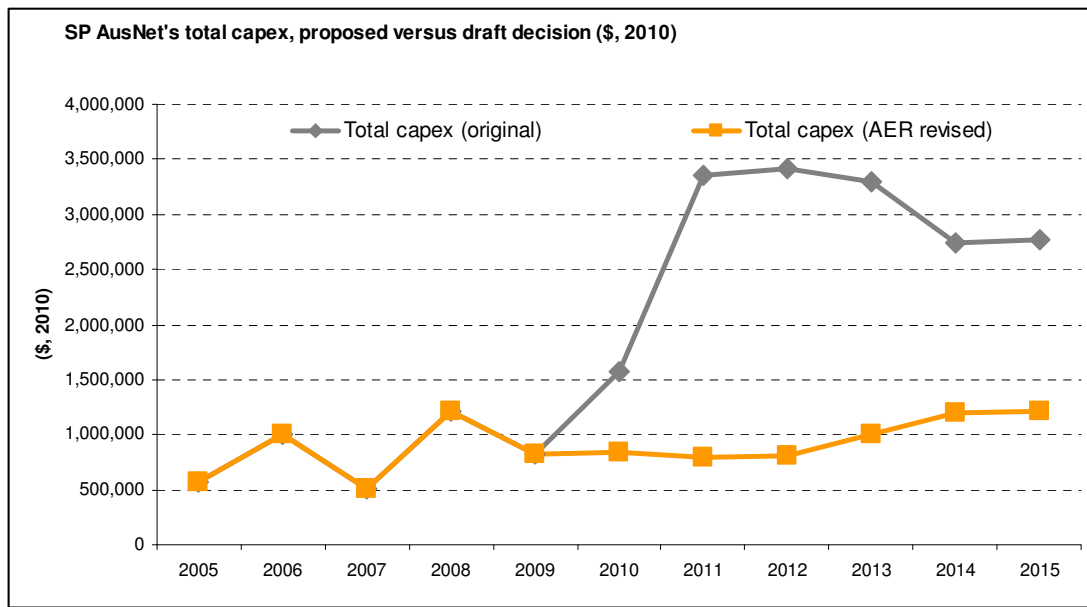
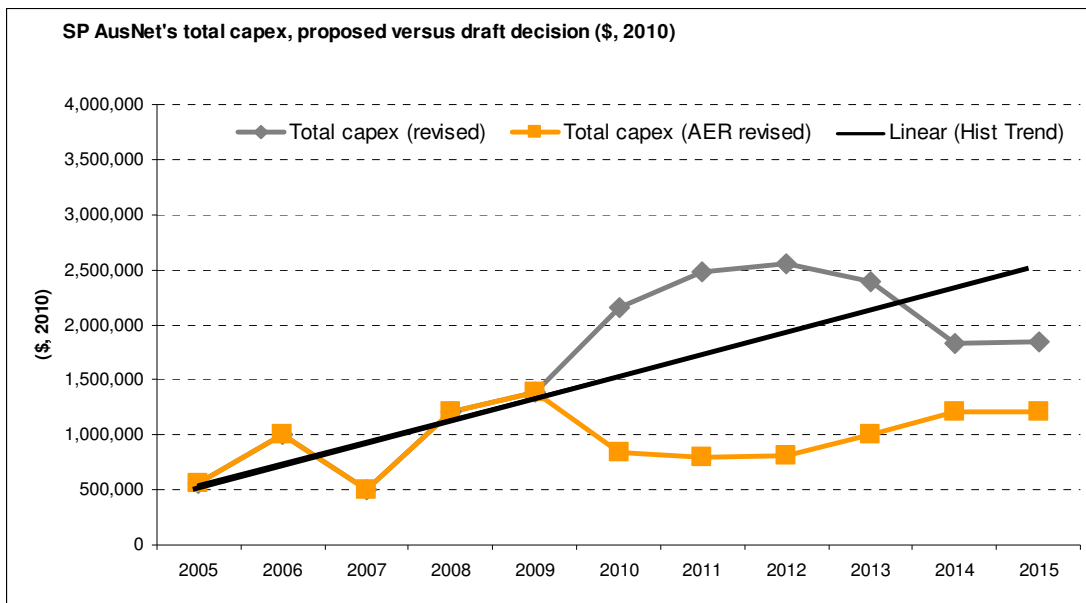


Figure 19.7 of the Draft Determination graphed SP AusNet's actual and proposed capital compared to the actual and draft approval capital. The graph has used SP AusNet's forecast for

2010` rather than the draft value for 2010 that excludes the proposed capitalisation of contributions to the MV80/T5 lamp replacement program. The graph in accordance with the Draft decision is produced below:



The capex allowed for in the draft decision is substantially less than the five year trend from the past regulatory period even though the same factors were applied in determining when assets should be replaced. Therefore the capital funding provided in the draft decision leaves SP AusNet unable to maintain the public lighting system in its existing state and makes no allowance for the obligations relating to the increasing number of luminaires or poles and brackets requiring replacement during this regulatory period. The Draft Decision therefore fails to promote the long term interests of consumers and will merely delay the costs of replacement to the next regulatory period at an escalated rate rather than spreading the costs over both. The following graph demonstrates the amount of capital that has not been allowed for based on the actual historical trend from 2005 to 2009.



The capital required to maintain the historical trend alone is \$6,520,000 as set out in the following table.

Table 17.5: Capex Forecast (\$, nominal)

	2011	2012	2013	2014	2015
Capital Required to Maintain	1,700,000	1,930,000	2,140,000	2,340,000	2,550,000

17.10 SP AusNet Responses on Other Matters

17.10.1 Introduction of New Light Types

SP AusNet operates its public lighting as a single system across its distribution area and across all light types. The differences between the systems are in respect to the different types of poles that are available not the light types utilised.

Any decision that treats different light types in a different manner has the effect of undermining the existing public lighting system; this in turn will lead to additional costs for all light types as separate systems are established to capture and record data for the different light types.

Given that this is not the status quo each DNSP would need to reassess the costs that would be incurred in this regard. SP AusNet is disappointed that the AER has chosen an approach that in time will lead to the fragmentation of the public lighting system. SP AusNet is concerned that the continued fragmentation of the system will lead to even higher costs for the provision of the Public Lighting services moving forward.

17.10.2 Ownership of public lighting assets

SP AusNet agrees with the Draft Determination with regard to the ownership of existing lights. However, SP AusNet notes the incorrect assumption made by the AER in relation to ownership. SP AusNet understands that where new lights are constructed by other parties and connected to the SP AusNet distribution network and no explicit statement is made by a public lighting customer as to the ownership of the lights, they must default to the distributor and not to the public lighting customer. If another approach was taken to the current practice it is SP AusNet's view that the inevitable outcome of any other approach will result in increased costs to the provision of public lighting services as the system becomes more and more fragmented and the fixed costs of all operators are recovered over fewer lights.

17.10.3 Contestability of public lighting

SP AusNet agrees with statements made in the Draft Decision with respect to the contestability of public lighting and notes that they are consistent with the Victorian Public Lighting Code.

17.10.4 Compliance with price control mechanism

SP AusNet agrees with the Draft Decision's proposal with respect to Compliance with the price control mechanism.

17.10.5 Information Requirements

The requirement to establish separate records and reporting processes for energy efficient lights has been the subject of previous decisions and has now been established. SP AusNet believes that this will lead to additional costs for which no allowance has been made. The additional costs are the result of having to establish systems:

- to capture separately the costs for the different light types;
- establish and maintain recording systems for the different light types;
- establish and maintain reporting systems for the different light types.

For example in this regard work crews currently work on a range of light types throughout the day, their costs are captured and recorded according to their time being spent on public lighting capital works or maintenance works. In future they will be required to allocate their time between capital works for energy efficient lights or others light types, maintenance for energy efficient lights or other light types. Vehicles used will need to be allocated throughout the day as the crew changes from one light type to another.

17.11 SP AusNet Revised Prices

SP AusNet's revised pricing proposal for Public lighting services is set out in the following tables.

Table 17.5: SP AusNet—current and proposed public lighting charges (\$, nominal)
Central Region

Lighting Service	Current	Proposed				
	2010	2011	2012	2013	2014	2015
Mercury Vapour 80W	\$ 30.78	\$38.28	\$41.14	\$43.82	\$46.46	\$49.14
HP Sodium 150W	\$ 57.01	\$84.04	\$88.86	\$93.80	\$98.65	\$103.55
HP Sodium 250W	\$ 57.07	\$86.30	\$91.22	\$96.26	\$101.20	\$106.20
Mercury Vapour 50W	\$ 47.09	\$58.56	\$62.94	\$67.05	\$71.09	\$75.18
Mercury Vapour 125W	\$ 45.25	\$56.27	\$60.47	\$64.42	\$68.30	\$72.23
Mercury Vapour 250W	\$ 59.92	\$90.62	\$95.79	\$101.08	\$106.26	\$111.51
Mercury Vapour 400W	\$ 62.21	\$94.07	\$99.44	\$104.93	\$110.31	\$115.76
HP Sodium 100W	\$ 61.00	\$89.92	\$95.09	\$100.37	\$105.55	\$110.80
HP Sodium 400W	\$ 81.04	\$122.55	\$129.54	\$136.69	\$143.70	\$150.80
HP Sodium 50W	\$ 29.57	\$43.70	\$46.21	\$48.78	\$51.30	\$53.85
T5 2X14W	\$ 28.74	\$43.62	\$46.19	\$47.53	\$49.63	\$50.90
T5 2X24W	\$ 30.90	\$48.00	\$50.80	\$52.24	\$54.48	\$55.78

North and East regions

Lighting Service	Current	Proposed				
	2010	2011	2012	2013	2014	2015
Mercury Vapour 80W	\$ 33.53	\$44.56	\$47.76	\$50.80	\$53.76	\$56.76
HP Sodium 150W	\$ 66.32	\$95.04	\$100.41	\$105.96	\$111.40	\$116.90
HP Sodium 250W	\$ 68.38	\$95.52	\$100.89	\$106.44	\$111.87	\$117.37
Mercury Vapour 50W	\$ 49.62	\$65.95	\$70.68	\$75.19	\$79.57	\$84.00
Mercury Vapour 125W	\$ 49.62	\$65.95	\$70.68	\$75.19	\$79.57	\$84.00
Mercury Vapour 250W	\$ 71.12	\$99.34	\$104.92	\$110.70	\$116.34	\$122.06
Mercury Vapour 400W	\$ 73.17	\$102.20	\$107.95	\$113.89	\$119.70	\$125.58
HP Sodium 100W	\$ 70.96	\$101.70	\$107.44	\$113.38	\$119.19	\$125.08
HP Sodium 400W	\$ 97.10	\$135.63	\$143.26	\$151.15	\$158.85	\$166.66
HP Sodium 50W	\$ 32.22	\$49.42	\$52.21	\$55.10	\$57.93	\$60.79
T5 2X14W	\$ 31.48	\$49.62	\$52.38	\$53.93	\$56.25	\$57.73
T5 2X24W	\$ 33.69	\$54.06	\$57.05	\$58.70	\$61.16	\$62.69