

Submission to the Australian Energy Regulator (AER)

Consumer Challenge Panel Sub Panel 3 (CCP3)

Response to proposals from Victorian electricity distribution network service providers for a revenue reset for the 2016-2020 regulatory period

Sub Panel CCP3

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1. Introduction

The purpose of this document is to deliver the views to the Australian Energy Regulator (AER) of the Consumer Challenge Panel (CCP) charged with providing input into the revenue reset for the 2016-2020 regulatory period for the five Victorian electricity distribution network service providers (DNSPs):

- AusNet Services (AusNet);
- CitiPower (CP);
- Jemena Electricity Network (JEN);
- Powercor (PC); and
- United Energy (UE).

CCP Sub Panel 3 (CCP3) has carried out this review. CCP3 comprises David Headberry, Beverley Hughson and David Prins.

CCP3 has only provided input in passing regarding those aspects of the review where the AER has typically carried out its own detailed assessment. Such issues include the approach to the roll forward of the regulatory asset base, escalation and growth factors, and other areas where the AER has what could almost be termed automatic processes.

CCP3 has instead focused on aspects of the proposals where it considers that there are significant issues to be addressed that will have considerable impact on the outturn assessments made by the AER in its role of establishing a “bucket of money” sufficient for the efficient benchmark distribution network services provider to deliver the services required by consumers.

The DNSPs have included in their proposals significant variations to the guidelines developed by the AER as part of the Better Regulation program that arose from changes to the National Electricity Rules. It concerns CCP3 that the DNSPs have not provided clear reasons why the proposed changes will provide an outcome that will be more in the long term interests of consumers than would result from application of the guidelines. Rather, they have tended to relate their proposed changes back to the detailed structure of the Rules. By doing so, they have based their arguments on more legal interpretations of the Rules, rather than how their proposed changes will provide a long term benefit to consumers from the resultant increases in revenues payable to the DNSPs, and/or the reduction in risks faced by the DNSPs.

To assist the AER, CCP3 has included an Attachment to this submission that is specifically addressing the rate of return assessment. It is in this area that the DNSPs have introduced the most significant variations from the AER’s Guidelines, and these variations will have relatively large impact on the network revenues and prices.

In its review of the DNSPs' proposals, the AER should focus on determining a revenue reset that does provide long term benefits to consumers, while of course acting within the requirements of the Rules.

2. Consumer Engagement

The CCP as a whole has provided general advice to the AER Board on consumer engagement.¹

In its *Preliminary Advice on the Effectiveness of Consumer Engagement by Network Businesses* dated 16 July 2014, the CCP raised the following issues:

1. **Tools:** The Panel recommended that the AER should arrange an evaluation of the approaches undertaken by network businesses on consumer engagement, to provide insights on those activities that were more effective than others.
2. **Process:** The Panel is extremely concerned about what it considers to be the inappropriate use of Willingness To Pay (WTP) surveys to justify specific business expenditure proposals. The Panel believes that evidence of the WTP by consumers can provide useful insights on consumer preferences about competing priorities, but only where there is a legitimate business case for the expenditure in the first instance.
3. **Participation:** The Panel advised on where consumer engagement sat on the International Association for Public Participation (IAP2) spectrum.
4. **Content:** The Panel stated that it believed that many network businesses are not providing consumers with sufficient and relevant information as part of their consumer engagement activities.
5. **Measurement:** The Panel supported the development of Key Performance Indicators (KPIs) for energy network consumer engagement, and stated its belief that these KPIs should be framed in the context of the purpose of the engagement.

Each of these points was discussed in substantially more detail in the Panel's Preliminary Advice.

The Panel foreshadowed that it would be maintaining its focus on consumer engagement throughout the period of its engagement and anticipated that businesses too would adopt a 'continuous improvement' attitude to consumer engagement.

In its *Further Advice on the Effectiveness of Consumer Engagement by Network Businesses* dated 30 October 2014, the Panel identified several high-level themes that flowed from its review of the consumer engagement activities that had occurred in determination processes that were current at that time:

- Cost and price implications are not adequately being conveyed;
- The methodologies of the majority of willingness to pay survey are inappropriate;

¹ See <https://www.aer.gov.au/about-us/consumer-challenge-panel/statements-advice>

- Measurement indicators are seriously lacking;
- Inadequate attention is being paid to thorough stakeholder mapping and recruitment;
- Network service providers (NSPs) are to be encouraged to work towards creating an environment for in depth discussions with consumers; and
- It is inappropriate for NSPs to claim increased revenues or continued high revenue allowances based on the current consumer engagement outcomes.

In its letter to the AER dated 23 May 2014, CCP3 stated that it was most concerned that the consumer engagement conducted by the DNSPs should be meaningful, and focus on the key challenge of ensuring consumers understand both the costs and the benefits of the DNSPs' expenditure proposals. CCP3 stated that it would be closely monitoring the DNSPs' consumer engagement approach and material in order to form a view on the effectiveness of this aspect of consumer engagement. CCP3 considered that the AER should include in its preliminary position on the Framework and Approach for the Victorian revenue determination a statement that this is what both it and CCP3 would be doing.

CCP3 has since had the opportunity to observe at first hand the consumer engagement activities that have been undertaken by some of the DNSPs. CCP3 members thank the DNSPs for this opportunity. CCP3 observations show that concerns previously raised still remain as issues.

CCP3 has focused on the consumer engagement activities of one DNSP, along with some participation in other DNSPs' consumer engagement activities as well. CCP3 members have thereby seen the entire suite of consumer engagement activities at first hand.

CCP3 review of the consumer engagement activities of the various DBs shows that they fall into five categories:

- Workshops on particular aspects;
- Focus group meetings;
- Community meetings, which are general in nature, where consumers attend because of their interest in what their DNSP is doing;
- Specific consumer consultative group meetings; and
- Surveys (web based and telephone contact).

CCP3 accepts that different DNSPs might have different approaches to consumer engagement, and therefore what one DNSP does might not be reflective of the entire approach of all DNSPs.

In all of the various approaches except for the consumer consultative group meetings, much of the time is devoted to introductory explanations such as what the DNSP is, where it fits in the electricity supply chain, and how its costs are controlled. This takes up a considerable part of the time provided for the interface. Even where there is a repeat representation of consumers (e.g. at workshops), there are still representatives who have not had the benefit of previous workshops. Time is still needed to acquaint those present with general information about the DNSP.

Thus, there is a limited time window to address the main issues driving what the DNSP wants and needs to hear from consumers, other than with consumer consultative groups which are allocated more time and have the necessary continuity.

In the case of workshops, focus groups and surveys, the information flow is controlled by the DNSP (or its representative), and so the information provided is potentially open to bias and control of the direction of questioning by the DNSP. At workshops, this bias can be alleviated to some extent by those present as they have decided to attend because of their interest in the topic under discussion, and therefore are better acquainted with the issues to be discussed. Consultative councils should have both sufficient time and knowledge to be able to offset any bias, although the agenda is still mainly controlled by the DNSP. Some of the consultative councils are independently chaired, while others are chaired by the DNSP.

The major point of concern identified is that of the context which the DNSP or its representative provides. At no point in the provision of information provided have we observed the full context of any issue being provided. For example, when assessing an issue for Willingness To Pay, the information provided did not include information such as:

- What is included already in the current costs;
- What changes have occurred that impact the future costs (except in very broad terms);
- Who should take the risks involved (discussion might include why electricity users should pay rather than other beneficiaries of the proposed change);
- Have there been funds provided from other sources in the past, and why are these no longer available;
- A long term trend of the actual costs involved;
- How the future costs were developed;
- The form in which the increased costs will be recovered (e.g. is the cost a once-off increase; is it a fixed cost forever; does the cost ratchet each year; how long the costs will impact tariffs);

- Why the apparent cost impact does not impact consumers now (e.g. because the cost of capital is currently low);
- What the cost will be when the cost of capital returns to long term settings;
- What reliability was delivered in previous years, and for what cost;
- What reliability will actually be delivered in future years and at what cost; and
- Where the loss of reliability is actually incurred in a network, and the fact that all will pay for improvement in a locality remote from the respondent.

We consider that without this knowledge and understanding, it is very difficult for a consumer to evaluate properly the information in full context. It is asserted by firms offering consumer engagement services that their systems provide accurate and detailed analysis of consumer responses. While this might be true for simplistic issues (where consumers have significant prior knowledge of the issues such as political assessments), the electricity supply chain is complex. The trade-offs required in assessing cost versus reliability are especially complex.

Reliability can only be measured as a unique experience by individuals. Each person has very little understanding of the reliability they have actually received, and even less of the reliability actually experienced by others (this information can only be anecdotal), or even how reliability is measured and assessed. This means that consumers (especially in a focus group, in surveys, and even at workshops) cannot really provide a view on reliability across a network, as their assessments can only be made in the light of what they have experienced, with little appreciation of what others in the network have experienced.

Consider for example if reliability in (say) Geelong is better than in (say) Apollo Bay, for quite understandable reasons. If the respondent is from Apollo Bay, a small increase in cost would be seen as reasonable for an improvement in its reliability. Conversely, a Geelong resident might not seek an improvement or want to pay for Apollo Bay residents to get better reliability.

The selection of attendees at the various consumer engagement activities is also a core issue for consumer engagement.

- General meetings of consumers in a region require the attendees to be made aware of the meeting (e.g. by advertising in the local newspaper which is not read by all consumers), and have the time and inclination to want to attend. Attendees often have a gripe, which they want to have addressed by the network (even if it is not germane to the services provided by the network). They are not representative of all consumers in the region.
- Focus groups are predominantly comprised of a small number of people (usually 4-6) who are prepared to attend these activities (they are usually paid). This can bias the outcome of the observations provided, especially when the issue is

complex, such as electricity supply, which requires some understanding of economics, engineering and law, in order to make an informed observation.

- Surveys can be even less representative, as those asked to complete surveys often decline. Those responding have an interest in the issue (often a gripe), and the survey is used to provide a vehicle for getting the gripe addressed.
- Workshops tend to have attendees who are interested in the topic being addressed, but they also need to be made aware of the workshop and have the time and inclination to attend when the workshop is scheduled. Workshops tend to be dominated by advocates for specific issues, government representatives, and other firms that might be impacted by the issue (e.g. retailers), as well as advocates for consumers more generally. This mix can lead to non-representative outcomes.
- Consultative councils tend to be invitees of the networks. This imposes some limitation on the ability for the group to be fully representative. The main benefit of consultative councils is that they can devote significant time to address issues and build on previous learning. Properly constructed, they should be able to provide sound consumer advice. Consultative councils include representatives of a wide range of consumers, including large and small industry, large and small commercial, advocates for disadvantaged consumers, local government, alternative technologies, service providers to the networks (such as unions and electricians), and retailers. While the mix of members should cover a wide range of skills (e.g. engineering, financial, economics, and hardship), how well the group shares these skills becomes critical. Consultative councils have their own difficulties, such as turnover of members, having time to attend meetings when they also have “real jobs” that call on their time, and access to confidential information.

If council members are paid for their time, this introduces the risk of “capture” of the members by the networks. If they are not paid, this introduces the risk of not attending when needed or representing specific interest groups. While a consultative council has the ability to introduce topics of its own, and may have an independent Chair, the DNSP still has control of the agenda, and this has the potential to limit the council input on wider issues.

Consumer engagement should also take account of how consumers are actually engaging with the electricity industry on their real-life account, and not just how they respond to surveys and in meetings. In real-life, disconnections due to inability of customers to pay for electricity have increased. The residential electricity disconnection rate in Victoria increased in 2013-14 to 1.47 per 100 customers, up from 1.07 in 2012-13. Over 34,000 Victorian residential electricity customers were disconnected in 2013-14 (up 36 per cent

from 2012-13). The electricity disconnection rate for business customers increased in 2013-14, to 2.19 per 100 customers from 0.91 per 100 in 2012-13.²

Statistics such as these must be recognised and taken into account when assessing the willingness of consumers to pay for increased costs for network services, as the cost of network services is a major element of the total supply chain cost.

The considered view of CCP3 is that consumer engagement can provide some guidance to a DNSP, but cannot be deterministic, due to the many issues that surround the various approaches that are being used.

² Essential Services Commission 2014, *Energy Retailers Comparative Performance Report – Customer Service, 2013-14*, December 2014

3. Benchmarking

The benchmarking work carried out by the AER to date addresses two main aspects

- Assessment of the efficient use of capital (asset benchmarking); and
- Assessment of the efficient identification of operating expenditure.

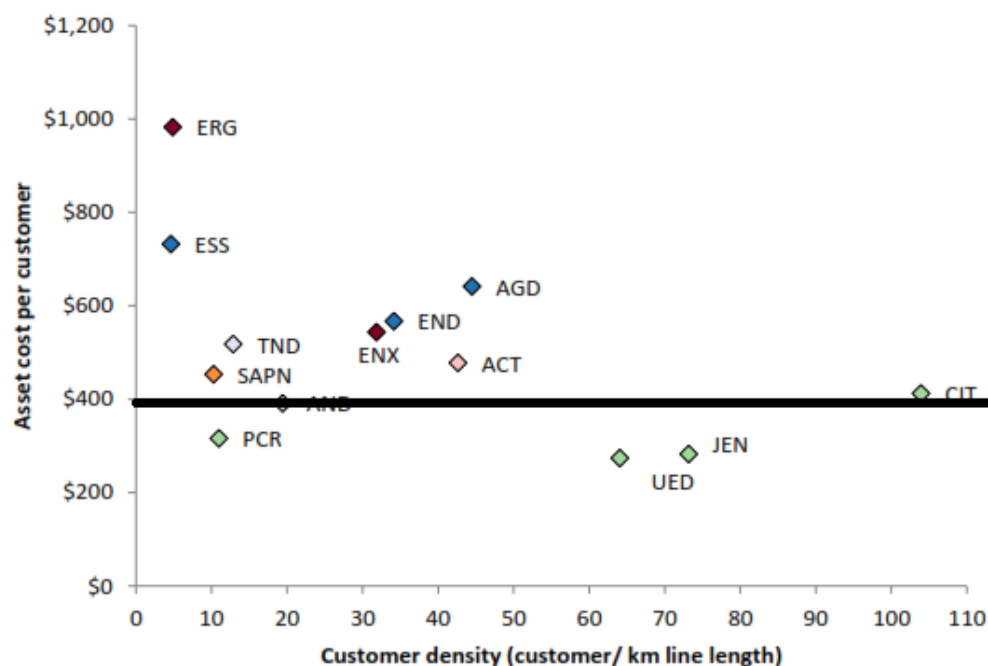
Despite the AER endeavouring to ensure that there is an efficient sourcing of debt, it has not carried out any assessment of the actual costs of debt incurred in the past, to assess whether the networks have identified lower cost sources of debt, and whether these sources might be more efficient than the approach to debt sourcing embodied in the Rate of Return guideline.

CCP3 considers that undertaking detailed benchmarking of actual costs of debt is in the long term interests of consumers. This benchmarking should be used in the future to identify the most cost effective approach to debt provision.

3.1 Asset benchmarking

Benchmarking of the use of capital is relatively in its infancy on the NEM. The benchmarking carried out by the AER in its Annual Benchmarking Report (released November 2014) identifies the Victorian DNSPs as being efficient in the use of capital provided. This is pictorially shown in figure 13 of the AER report, which is reproduced below.

Figure 13 Asset cost per customer compared to customer density (average 2009–2013)



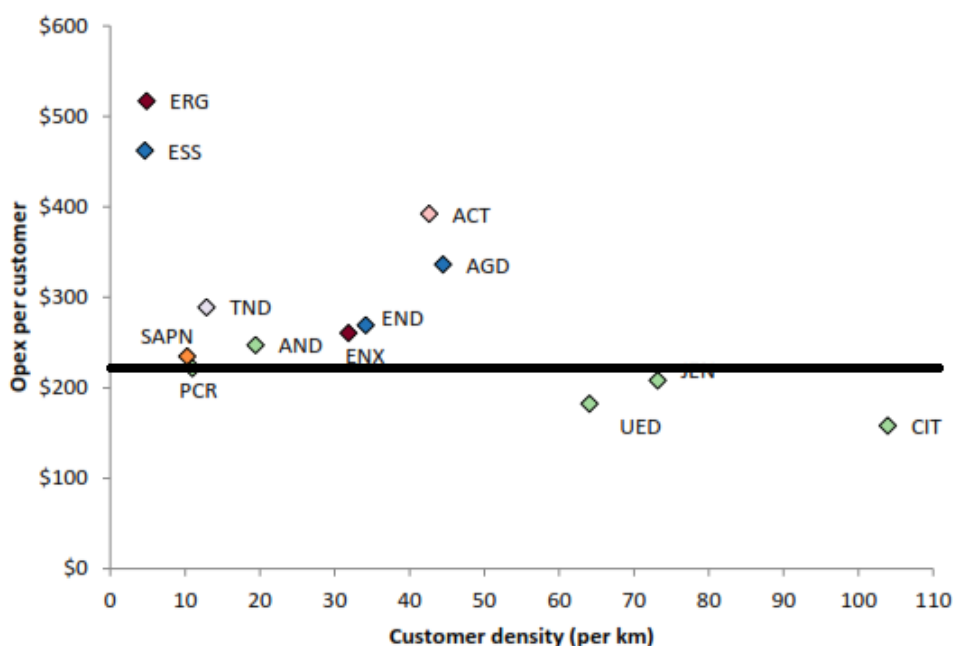
The AER report is supported by the AMP Capital November 2014 report *The Capital Efficiency of Australian Electricity Distributors*, submitted to the Productivity Commission, which also highlighted that the capital efficiencies of the Victorian DNSPs compared well with those of the UK electricity distribution networks.

On this basis, CCP3 considers that the Victorian DNSPs have used their asset capital efficiently to date. However, the DNSPs are proposing significant increases in their capex for the 2016-20 regulatory period. It is important that the impact of this additional expenditure forms part of the AER’s overall considerations of the capex proposals.

3.2 Opex benchmarking

The average historic opex performance by the Victorian DNSPs generally reflects that they are among the most efficient users of opex in the NEM. Figure 12 from the AER’s Annual Benchmarking Report (released November 2014) displays this better performance.

Figure 12 Operating expenditure per customer compared to customer density (average 2009–2013)

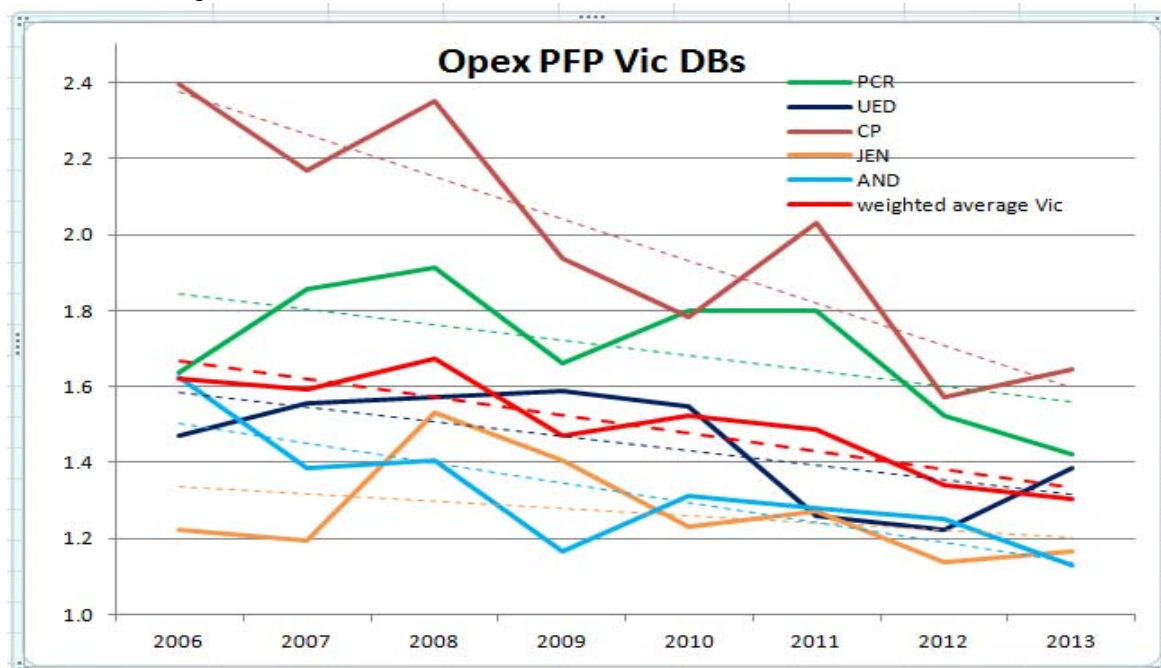


This comparative performance only tells part of the story. There is a marked rate of decline in the opex efficiency, and this generally applies across the NEM.

A more detailed analysis of the longitudinal opex Partial Factor Productivity (PFP) performance of the DNSPs shows that across the NEM, there is a median decline of 0.039 points/annum with a standard deviation of 0.033. From this, it could be assumed that exogenous factors are reducing the productivity of all electricity DNSPs.

The following chart shows the PFP for opex for the five DNSPs over time. The linear trend line for each Victorian DNSP is also shown, along with the weighted average performance (weighted by actual opex).

Source: Economic Insights data, CCP3 calculation



From the data behind the chart, numeric values can be developed for the loss of productivity across the NEM, as well as for the Victorian DNSPs. These are shown in the following table.

DNISP	Annual rate of decline
AusNet	-0.052
CP	-0.111
JEN	-0.020
PC	-0.040
UE	-0.039
Average (Vic)	-0.052
Weighted average (Vic)	-0.048
Median (Vic)	-0.040
Standard deviation from median (Vic)	-0.035
Average (NEM)	-0.042
Weighted average (NEM)	-0.034
Median (NEM)	-0.039
Standard deviation from median (NEM)	-0.033

Source: Economic Insights data, CCP3 calculation

This table shows that the loss of productivity in the Victorian DNSPs is greater than across the NEM, albeit that the overall productivity of the Victorian DNSPs is higher than across the NEM. Part of this might be attributed to the impact of the Victorian Bushfire Royal Commission (VBRC) recommendations, as both AusNet and PC have had to incur significant costs as they addressed these requirements during the current regulatory period.

Some DNSPs have been able to withstand the impact of the exogenous factors, and it appears that some DNSPs have identified they have a low productivity and taken steps to remedy this position. For example, TasNetworks has identified that it has unacceptably low productivity, and has instituted changes to address this.

JEN productivity loss is the lowest in Victoria, but not the lowest in the NEM, where Ergon Energy exhibits a positive trend albeit from a low starting point.

CCP3 considers that:

- The loss of productivity data shows that the base year opex for CP does not reflect an efficient level of opex. This should be examined in more depth.³
- As the performance of the other four DNSPs is within the NEM median plus one standard deviation, this implies that there cannot be drawn a conclusion that the base year opex is not efficient.
- The high rate of loss of productivity exhibited by CP cannot be attributed to unique exogenous factors, as CP is exposed to the same exogenous factors as the other four DNSPs operating in Victoria, and has not faced the same cost increases arising from the VBRC as PC and AusNet.

CCP3 has also addressed the impact of CP opex on reliability, and has identified that the amount of unserved energy (USE) suffered by CP consumers implies that CP might have been incurring higher opex in order to deliver the low levels of USE. This could imply that CP has been over investing in opex, as its reliability data is very good. However, we also note that the AEMO VCR data shows that commercial customers are more sensitive to supply losses.

This indirectly supports a view that the opex productivity deterioration might be a result of delivering very high levels of reliability.

The five DNSPs have all commented on the use of the benchmarking data. General themes are identified by the DNSPs regarding benchmarking, such as

- "We benchmark favourably";
- Data supports the use of revealed costs to develop opex base line;
- EBSS drives the efficient outcomes seen;
- Deterioration is from exogenous factors, including regulatory compliance; and
- Benchmarking does not reflect differences between DNSPs.

³ CCP3 identified that the only other DNSP with a similar loss of productivity was SA Power Networks, with a rate of loss of productivity of -0.099.

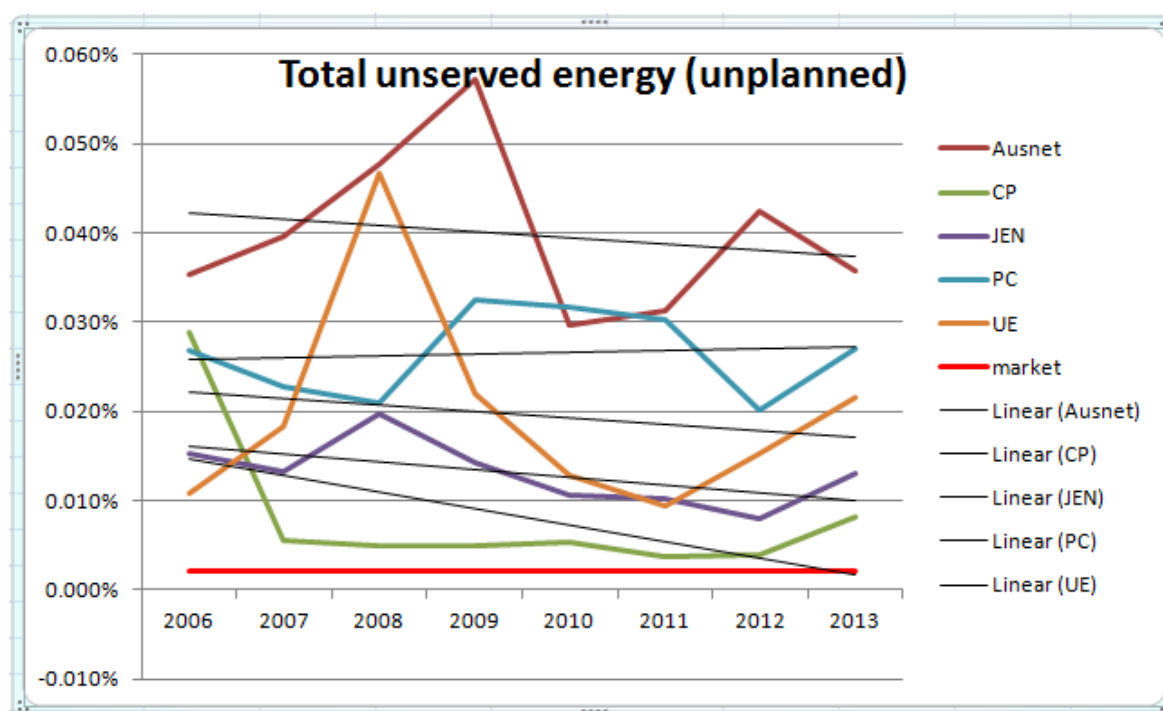
CCP3 considers that the benchmarking carried out should be used to inform the assessment of the base year efficiency. Except for the outcome identified for CP, the benchmarking generally supports the approaches taken by the five DNSPs to set their base year opex.

3.3 Other benchmarking

CCP3 undertook some additional benchmarking to address the amount of unserved energy (USE) provided by the networks (to assess the reliability provided), and in asset utilisation (to assess the need for augmentation).

The amount of unserved energy was assessed, as this is a better assessment from a consumer viewpoint as to how well the networks performed, and reflects the approach used in the wholesale market.

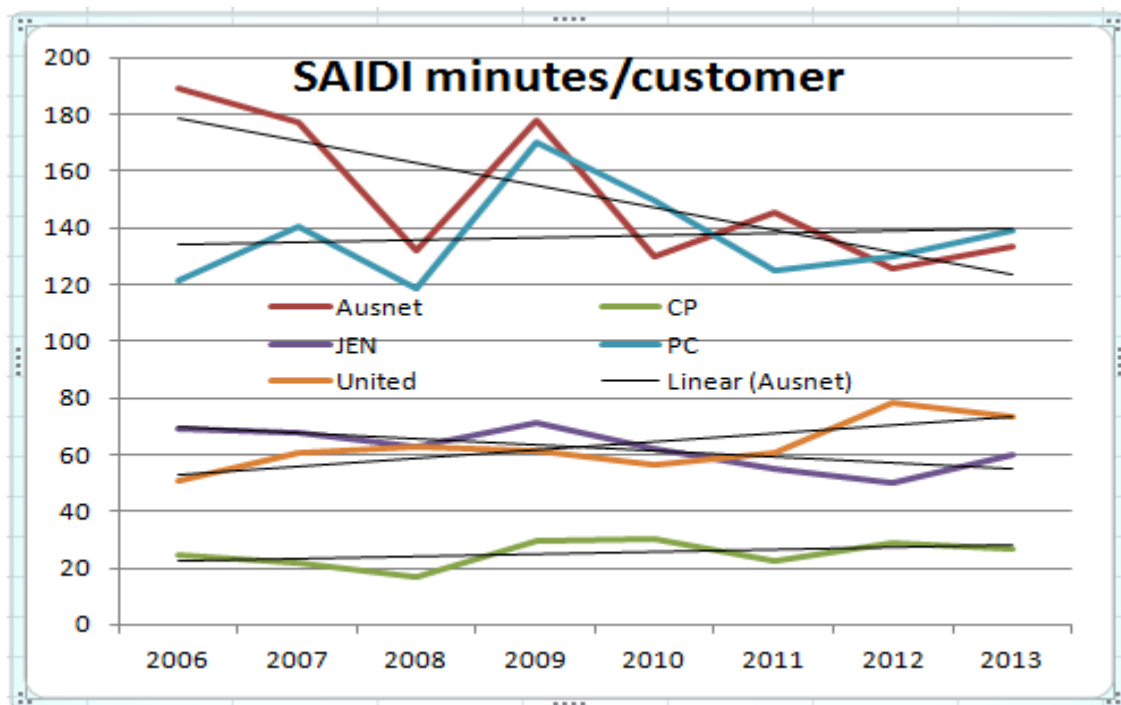
The following chart shows the amount of unplanned USE.⁴



Source: RIN data

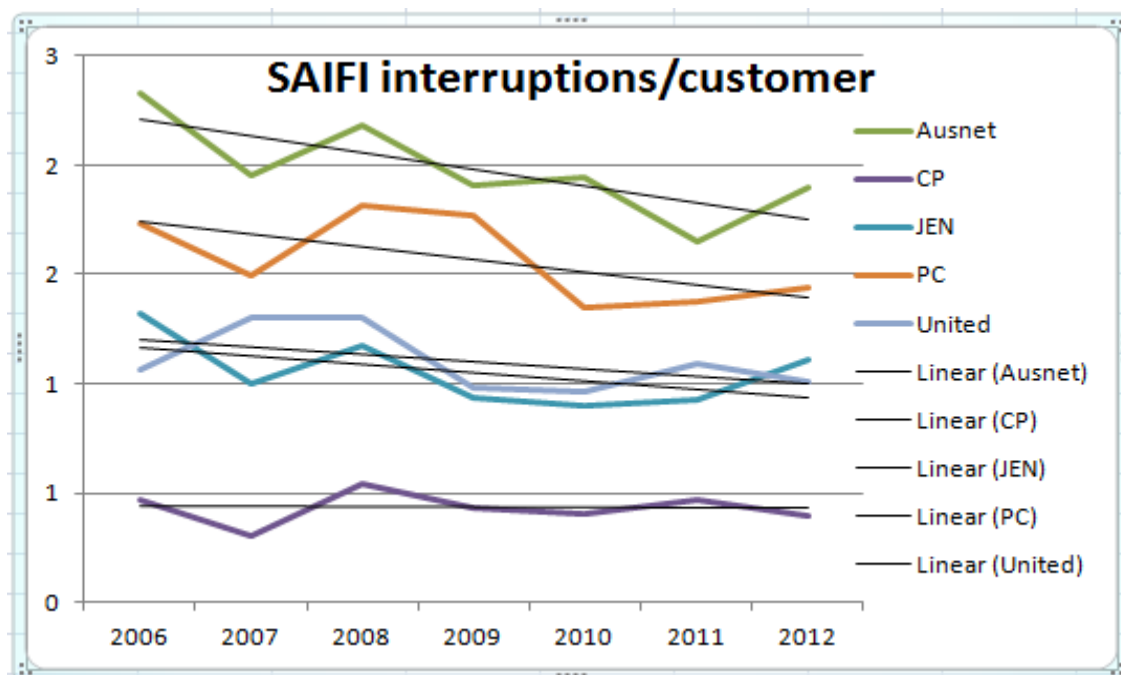
The level of USE shows a general downward trend, implying that reliability as seen by consumers is improving. This is in contrast to SAIDI (see following chart), which generally show an upward trend, except for AusNet which exhibits a sharp downward trend.

⁴ JEN data would appear to be recorded as stated in MWh and not GWh. Making this change makes JEN data consistent with that of the other DNSPs. Unplanned USE was assessed as it excludes the impacts of the planned work particularly undertaken by AusNet and PC as a result of the VBRC recommendations.



Source: RIN data

The following chart shows that SAIFI is exhibiting a consistent downward trend, except for CP, which shows a very low but constant rate for SAIFI.

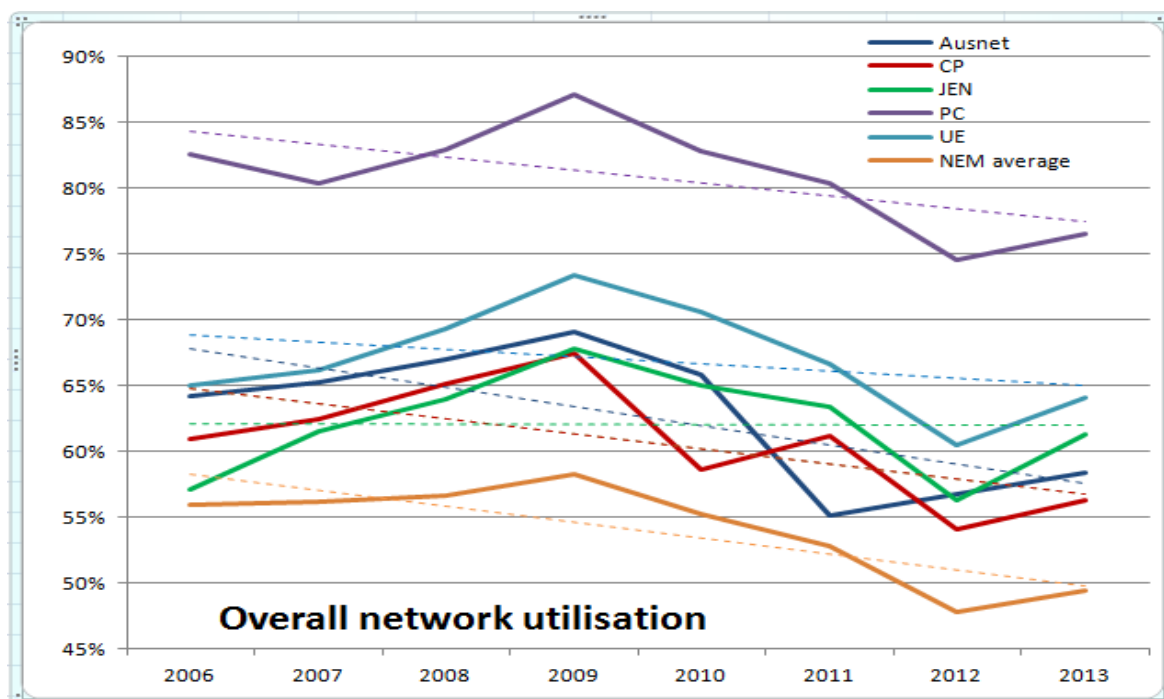


Source: RIN data

As there is a view that replacement capex is in part driven by declining reliability, this benchmarking suggests that reliability might not be such an issue as implied by some of the DNSPs, and the replacement capex needed might well be less than sought by the DNSPs. Importantly, the additional expenditure by AusNet in particular following the

VBRC, and subsequent investments in the rural network since 2009, might be expected to deliver improvements in AusNet’s reliability.

Asset utilisation is also a measure used to identify the need for more augmentation capex. Each DNSP (other than AusNet) states a need for maintaining or increasing the current levels of augmentation capex. The following chart shows that generally there is a decline in asset utilisation.⁵

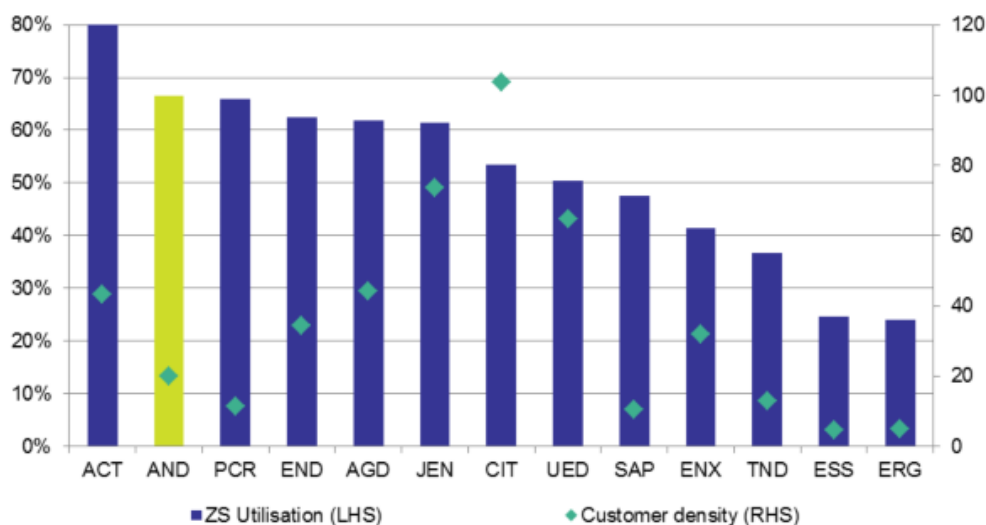


Source: RIN Data

In its proposal, AusNet provides the following chart (related to zone substation utilisation – probably the critical element in asset utilisation). This provides a slightly different view on asset utilisation, with AusNet and PC having the highest asset utilisation in Victoria, followed by the other DNSPs.

⁵ The utilisation data provided by PC is significantly higher than that provided by the other DNSPs. CCP3 questions whether PC has provided utilisation based on peak demand, while the other DNSPs have provided data based on average demand.

Figure 7.18: 2013 zone substation utilisation (%)



Source: AER RIN data.

Note: AusNet Services shown as AND. Customer density is number of customers per km line route line length.

Despite AusNet and PC having similar utilisation levels, AusNet is forecasting a 50% reduction in its augmentation capex, whereas PC is forecasting a 40% increase. Both DNSPs include a substantial rural element, and both claim growth in customer numbers, centred on recognised growth corridors in their regions. Therefore, it is difficult to understand why there are two different views on the need for augmentation capex.

The utilisation data provides a view that there is little need for augmentation, when considering that greater utilisation in the past has been readily accommodated. The utilisation data supports the intuitive view that the declining peak demand data experienced in Victoria reflects a lesser need for augmentation capex.

Each DNSP identifies that there are pockets of demand growth in its network that require augmentation. CCP3 accepts that this might be the case. However, equally, if there are pockets of growth, then there are also pockets of declining usage, meaning there is the potential to utilise assets no longer needed in some parts of the network and relocate them to where growth is being experienced.

4. Operating Expenditure (opex)

Operating expenses are the second largest cost item in the building block assessment of network costs. A reasonable expectation would be that in a relatively low growth environment, reducing operating costs would be a real focus for the businesses. However, the DNSPs are all proposing significant increases in opex even though they have delivered a safe and reliable network services to Victorian customers on the existing opex allowances.

As discussed in later sections, CCP3 is particularly concerned that if these costs are allowed by the AER, the observed steady decline in productivity as measured in the AER's benchmarking study, will continue. This is not an outcome that is in the long-term interests of consumers.

CCP3 also is disappointed with the lack of clarity and quantification in the DNSPs proposals about the savings in opex that should flow to customers as a result of the significant investments in AMI and in replacement capex and IT over the current regulatory period. Many of these projects are justified on the basis of savings to consumers in the longer term, it is just that there is no way of knowing if these savings have eventuated in practice. The CCP3 considers that there must be a more effective way of identifying these savings on a regular basis (including demand management programs) to ensure benefit realisation and better prioritisation of projects in the future.

4.1 Overview

The benchmarking studies referred to in section 3 all suggest that the Victorian DNSPs are generally performing better than the average for Australian regulated electricity networks. The AER's 2014 benchmarking report suggests that on average the Victorian DNSPs spend around \$200 per customer (\$2013) during the period 2006 to 2013,⁶ which compares favourably with the average of NSW and of Queensland DNSPs.

However, as noted in section 3 above, the Victorian DNSPs have seen a decline in opex partial factor productivity over the 2006-2013 period. There are several factors behind this reduction, including the additional expenditures required following the changes to the *Electricity Safety Act 1998* "the Safety Act", which inter alia imposed more stringent vegetation clearing costs on the DNSPs, particularly in areas of high bushfire risk.

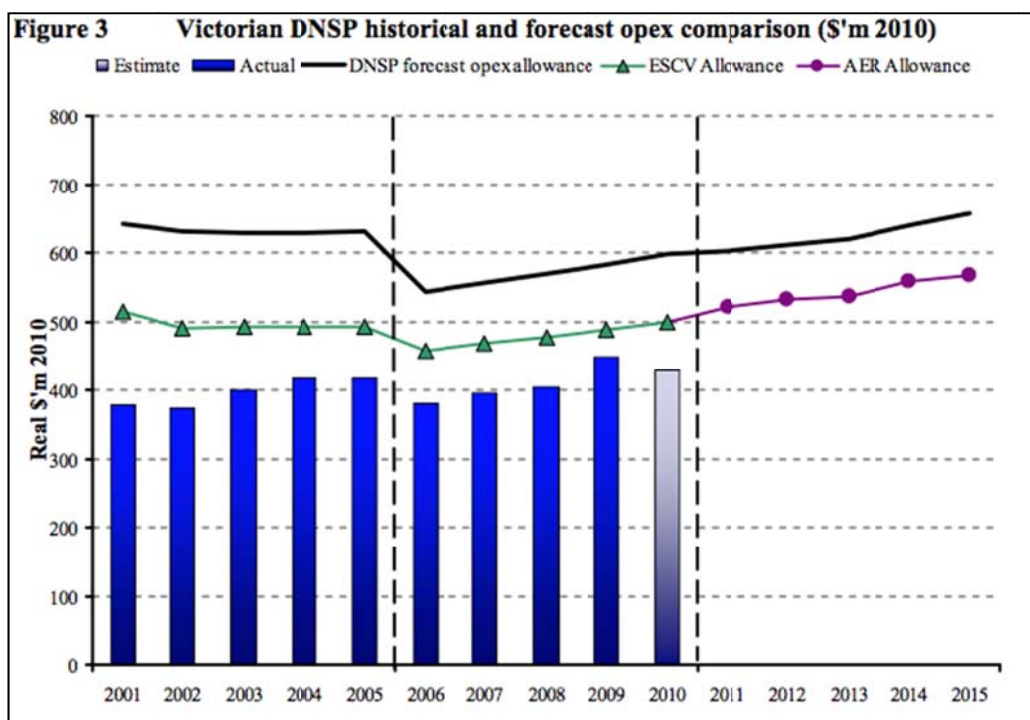
Nevertheless, the decline in productivity should also be seen in the context of the general increases in allowed and actual expenditure, particularly between the 2006-11 and 2011-15 periods. As a result, opex productivity (in real dollar terms) for the Victorian DNSPs declined by on average of around 5 per cent per annum.

⁶ See for instance, AER, *Electricity distribution network service providers, Annual benchmarking report*, November 2010, p 24

To understand the current regulatory proposals from the Victorian DNSPs, it is worth reflecting on the historical trends in the DNSPs' proposed revenue, the allowances by the regulator and the actual spending of the DNSPs.

The figure below is taken from the AER's Final Decision for the Victorian DNSPs for 2011-2016 (prior to the Tribunal's review).⁷ It illustrates that:

- In the two regulatory control periods 2001-2005 and 2006-2010, the DNSPs have proposed a total opex allowance that was significantly greater than the allowance provided by the regulator – the Essential Services Commission Victoria (ESCV).
- The total DNSPs' actual opex is well below the ESCV's opex allowance in both the regulatory periods. Actual opex is some 20 per cent lower in 2001-2005 and some 13 per cent lower in 2006-2011.
- In the period 2011-2015, the DNSPs sought a total increase of some \$3.1 billion [\$2010]. This proposal was some 45 per cent compared to actual opex in 2006-2011. The AER allowed a total opex of some \$2.7 billion (\$2010). While this was much lower than the amount sought by the DNSPs for 2011-15, it was still some 32 per cent above the actual spend for 2006-2011 in real terms.⁸



Between 2001 and 2010, therefore, the DNSPs have significantly over forecast their opex requirements. Collectively, they have spent considerably less than their proposed opex and also less than their regulatory allowances.

⁷ AER, *Victorian distribution determination final decision*, October 2010.

⁸ *Ibid*, p vii. The numbers quoted are before adjusted to reflect the decision on appeal by the Australian Competition Tribunal and the pass through allowances during the 2011-15 control period.

This indicates that either the regulatory allowance was too generous or the relevant opex incentive scheme provided strong incentives to improve efficiency. However, if the latter was the case, we would expect to see declines in opex per customer in each regulatory period as the point of the opex efficiency schemes is to capture efficiency benefits over time, and to share these with customers.

That is, the efficiency scheme should see the base opex lower in each subsequent regulatory period. We perhaps see this effect in 2006 but not in 2011 when the expenditure allowance increased by some 32 per cent above the actual 2011-15 allowance.⁹

The same outcome can be seen in the current regulatory proposals. As discussed in the next section, each of the DNSPs is proposing to increase their opex compared to the current regulatory allowance and actual expenditures.¹⁰

CCP3 understands that there have been some increases in obligations arising from new obligations and accounting treatments, but we do not consider that these factors justify increases of the level proposed by the Victorian DNSPs. The proposed opex increases should also be considered in the context of:

- The increase of some 32 per cent in the 2011-2015 opex allowance over the 2006-2010 allowance;
- Similarly, the very large increases in the AER's capital expenditure (capex) allowance in 2011-2015 compared to the two previous regulatory periods (2001-2005, 2006-2010). The AER allowed an increase of some 45 per cent for 2011-2015¹¹ compared with actual expenditure in the previous regulatory period. Most DNSPs overspent the higher capex allowance. It is reasonable therefore for consumers to expect reductions in operating costs in future to reflect higher capex; and
- The completion of the AMI roll-out by the end of 2014-15, along with the back-office infrastructure which should lead to savings in operating expenditures from 2016.

These issues are discussed further in the sections that follow.

4.2 The DNSPs' current opex proposals

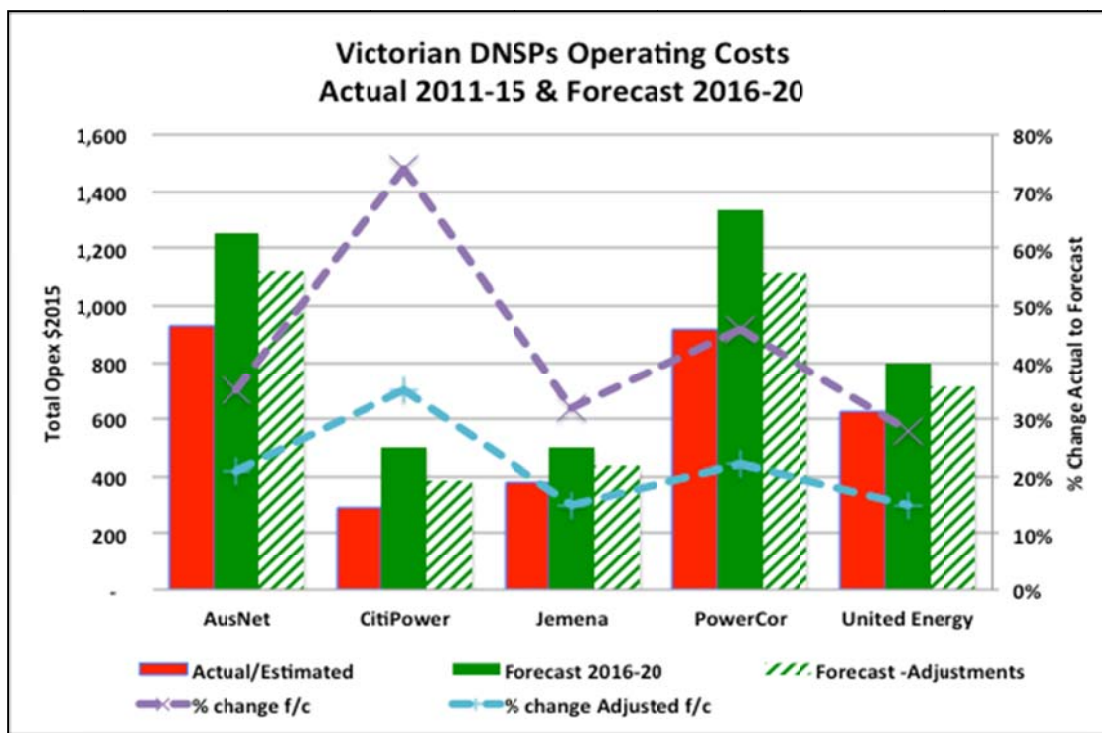
The figure below summarises the DNSPs' proposals for 2016-20. The chart illustrates the increase in the opex proposals compared to 2011-15 actual expenditures (in real \$2015 dollars). It also demonstrates the increase in opex after adjusting for the reported

⁹ Somewhat more if the Tribunal's decisions in 2012 are taken into account.

¹⁰ Actual expenditures include an estimate of the 2015 expenditures.

¹¹ The increased allowance is before the 2012 Tribunal decisions and the pass through of additional costs. The figure of 45 per cent is taken from the AER's Final Decision 2011-2015, October 2010, p v.

changes in capitalisation procedures (CP and PC) and changes in service allocations (all DNSPs). These latter changes will be discussed separately.



Source: DNSPs' proposals, CCP3 analysis.

Overall, the DNSPs are proposing a 40 per cent increase in opex over current expenditure levels. After adjusting for the capitalisation and service allocations, the overall increase is still some 21 per cent compared to 2011-15. If approved by the AER, this would represent a cumulative real increase in opex over two regulatory periods estimated to be some 84 per cent without adjustments or 60 per cent allowing for the 2016 adjustments.¹²

CCP3 does not consider this level of increase reasonable, particular in the context of increased capital expenditure (particularly replacement expenditure), the completion of the AMI roll-out and the slow growth in energy demand.

The largest percentage increases were seen in the proposals of CP (74 per cent real increase over 2011-16 actuals) and PC (46 per cent real increase). After adjusting for changes to capitalisation and service allocation, the figure above illustrates that in percentage terms CP (35 per cent) and PC (22 per cent) are still proposing the largest real dollar increases, although AusNet is also at 21 per cent.

The next section will consider the reasons for these proposed increases in more detail. The focus is on the DNSPs proposals under the "base-step-trend" forecasting

¹² This figure is derived on the basis of the 32 per cent increase in 2011-2016, compared to 2006-2010, and the proposed additional 40 per cent increase in 2016-2020. The estimate excludes the Tribunal decision and pass through allowances, and therefore is a conservative statement of the cumulative increase.

methodology set out by the AER in its *Expenditure Forecast Assessment Guideline* (November 2013).

It is important, however, to recognise at the outset that these operating expenditure increases, if allowed by the AER, have the potential to put substantial pressure on consumer prices in the future. Currently, the impact of the opex (and capex) increases is disguised by the significant decrease in the cost of capital (a factor outside the DNSPs' management). When interest rates increase, the impact of the proposed cost increases (if allowed by the AER) will be revealed to consumers in higher prices.

The way these increases in opex and capex will impact on future prices is of course different. For capex, it is the growth in the regulated asset base (RAB) that has already accelerated in 2011-16. For opex, however, the impact will be potentially felt through the application of the AER's base-step-trend approach from 2020. Excluding adjustments, the 2019 (base year for 2021-2025) will be more than 20 per cent in real dollar terms above 2014 (base year for 2016-20).¹³

4.3 The reasons for the proposed increases

CCP3's analysis of the reasons for the increases in opex is discussed by consideration of the three components of the AER's expenditure forecasting methodology, the base year, the proposed step changes and the forecast trends in input costs.

As a general introduction to this, CCP3 makes some high-level comments:

- CCP3 is concerned with the adjustments to the base year and in particular, the adjustments to capitalisation and service allocations. There seems to be a real lack of consistency in capitalisation approaches across DNSPs despite the AER's *Cost Allocation Methodology Guideline*. This does not seem to have been updated since 2008, and that the Victorian DNSPs have in any case been subject to 'special' transitional arrangements. CCP3 suggests that the AER should consider revisiting this Guideline in the near future to ensure greater consistency and enhance the quality of the benchmarking.
- There appears to be considerable inconsistency in the DNSPs' approach to step changes. In particular, we note that the DNSPs are proposing many step changes. For example, United Energy is proposing a total of 19 step changes. This does not seem to be an appropriate use of the step change allowance. This suggests that the concept of 'step change' needs further clarification by the AER and the DNSPs.
- The DNSPs are proposing trend changes that seem excessive in the current climate and need careful examination. Moreover, all but one DNSP (JEN) reject the application of a productivity factor. The AER needs to review this outcome and

¹³ This is estimated on the basis of the DNSPs' forecasts of opex after adjusting for capitalisation and service allocation changes, on the assumption that these latter factors will not change in 2021-2025.

determine what function the productivity factor should play in an incentive regime.

- The regulatory arrangements under the Victorian Safety Act are potentially confusing, and appear to be in the process of change. For example, the 2010 amendments to vegetation management are being reviewed again. CCP3 considers that these changes may have a significant impact on opex over the 2016-20 period. If so, the AER should allow scope for a negative pass-through event (or similar) if the cost reductions are significant.
- CCP3 expects to see savings flow to customers as a result of a number of the expenditures incurred by the DNSPs and paid for by consumers in the 2011-2015 regulatory period. These expected savings include:
 - Savings to customers as a result of the completion of the AMI program, such as reduced truck visits, remote fault identification and management, faster disconnect and reconnect and so on. The DNSPs have identified a range of qualitative benefits from AMI in their proposals. However these savings do not appear to flow through to their opex (and capex) proposals;
 - DNSPs have invested heavily in IT and communications upgrades in 2011-15 and they propose to continue this high level of capex in 2016-20. The DNSPs identify that these investments will lead to savings in the future. However, CCP does not see such savings emerging in the current proposals;
 - The DNSPs have invested considerable funds in improving bushfire management including network infrastructure strengthening and enhanced vegetation management plans. Based on the business cases put to the Government in 2010, it would be expected that there would be savings in network maintenance costs quantified in the 2016-20 proposals. We do not see such savings.

It is quite possible that the savings do form part of the underlying opex costs assessments. However, there is a lack of transparency around the quantitative benefits to customers. It is important that the original cost-benefit case be revisited and made transparent in the network proposals. Much the same could be said of the investment in demand management.

4.3.1 The base year

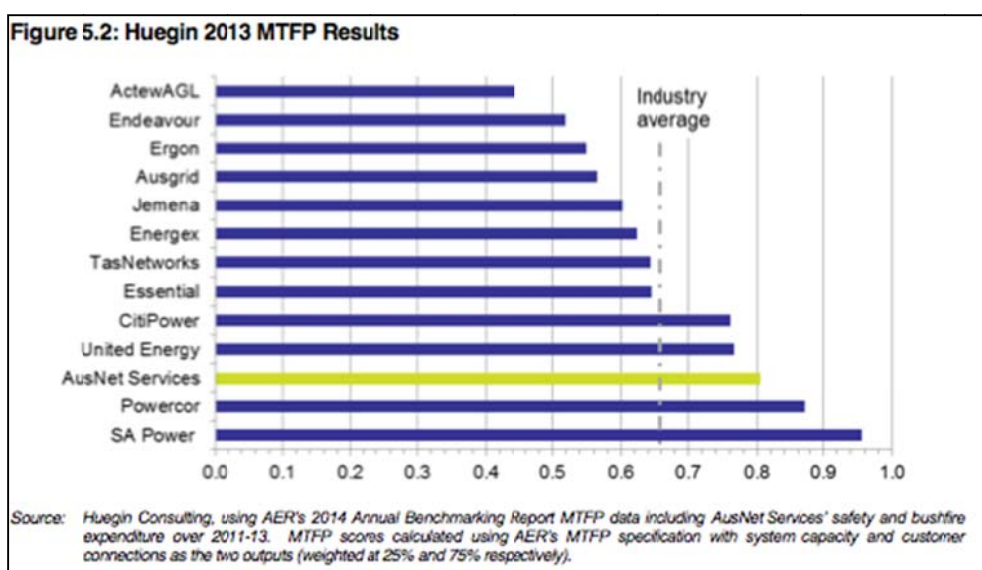
The 2014 base year is reasonable, but illustrates the limitations of the AER's approach

The DNSPs all confirm that 2014 should be the base year for setting the forecast opex for 2016-2020. CCP3 agrees that this is appropriate and there is no consistent evidence that there has been excessive allocation of opex to that year versus other years in the 2011-15 regulatory control period.

The DNSPs also state that there should be no adjustment to the revealed costs in 2014 as the Victorian DNSPs were operating within the efficient frontier that the AER set for all the DNSPs in the NEM based on the benchmarking study by Economic Insights.

CCP3 acknowledges that the Victorian DNSPs have been operating efficiently compared to their interstate peers in Queensland and NSW and that this outcome has been observed in multiple studies, not just the study by Economic Insights. The outcome can be seen in the AER’s opex measures reported in its annual benchmarking reports as illustrated in section 3 above.

The Victorian DNSPs have also identified higher levels of efficiency in their own benchmarking studies e.g. by in the 2014 benchmarking study by Huegin Consulting, the results for which are illustrated in the figure below from AusNet’s regulatory proposal.



Regulatory Proposal for 2016-20, p. 87.

The 2014 base year is a conservative assumption

CCP3 also highlights, however, that the use of 2014 as a base year is a ‘conservative’ assumption. We consider it is conservative because the Economic Insights study has illustrated the significant decline in its multi-factor and partial factor productivity estimates over the period of their study (2006-2013), as demonstrated in section 3 above.

Although some of this decline can be explained by the more onerous obligations arising from the amendments to the Victorian Safety Act that impact on both capex and opex, it cannot be the total explanation for the decline in productivity.

More importantly, however, is how this issue is addressed going forward. If energy growth is relatively flat, then productivity growth can only be restored by even more careful assessment of forecast operating costs. Yet the DNSPs are proposing another round of opex increases, which will lead to further declines in productivity.

CCP3 seeks further examination of the base year adjustments

The adjustments to the base year are important because they carry through to each year in the 2016-20 regulatory period.

In general, CCP3 is confident that the AER will examine the detail of these various adjustments by different DNSPs to the base year. However, there are two areas of particular concern to CCP3. These are:

- The changes to the capitalisation policy by CP and PC, which in total amount to an additional \$268 million in opex. In the case of CP, this amounts to almost 20 per cent of their total forecast opex. For PC, it is around 13 per cent of their total opex. The main reason for the change is that CP and PC propose to expense indirect corporate overheads.

The claims by CP and PC that the AER has approved this reallocation between capex and opex (in 2014) and that the overall expenditure (opex plus capex) has not changed as a result. CCP3 seeks assurance from the AER that these claims are correct and that the change is appropriately and transparently dealt with in future benchmarking analyses. The effect of this change is to bring forward cost recovery from consumers into the current regulatory period.

More generally, the changes made by CP and PC highlight the complexity that inconsistent capitalisation policies are creating for any meaningful assessment of trends and benchmark comparisons. A 20 per cent change in opex due to reclassification has a significant impact on these measures.

- Following the end of the Order in Council cost recovery arrangements for AMI, and the decision by the AER to re-categorise metering related costs as alternative control services (ACS), all of the DNSPs are seeking to recover some cost under the standard control revenue allowances. Due to different presentations of the data, it is not easy to extract the exact amounts. However, it appears that over \$300 million (\$2015) may be transferred to standard control services in the DNSPs' proposals.

In the AER's Final Framework and Approach papers for 2016-20, the AER proposes that the ACS allowance will include "metering provision, installation, maintenance, reading and data services". Given this broad definition, it is difficult to understand why such a large amount of costs that were once part of the AMI charge are now proposed to be included in standard control services. Moreover, CCP3 notes that under the AMI pricing approval process, the AER was advised by the DNSPs that there was no 'double counting', that is, there were no components of the AMI cost build-up that were part of the standard control services cost build up and revenue allowances.

CCP3 therefore expects that the AER will very carefully examine these claims.

- AusNet has proposed a change to the way it recovers the costs of a large network support contract with a generator that also significantly increases its opex allowance. It does not appear to alter the outcome for customers but such changes do complicate the process of benchmarking and makes it more difficult for consumers to compare outcomes. We would therefore take a general position that such changes to the way costs are treated should be discouraged unless there is a compelling reason for the change.

4.3.2 The step change proposals

The DNSPs appear to take very different approaches to Step Changes

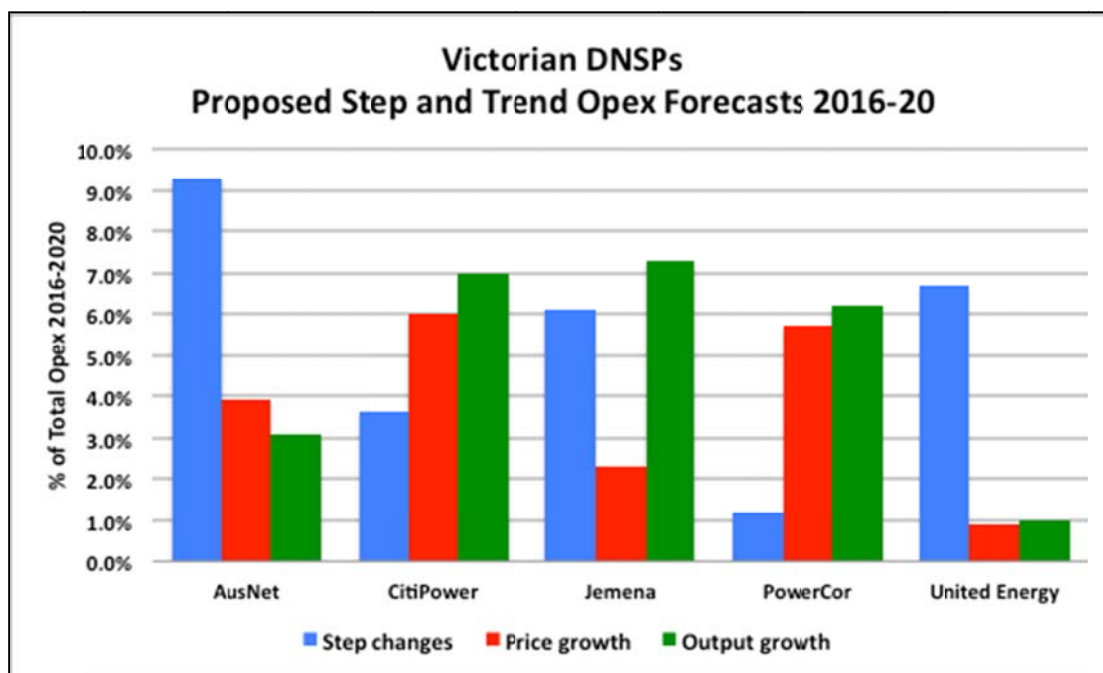
Across the five DNSPs, there are some 47 individual step change proposals, totalling an increase in opex of some \$230 to \$240 million, or around 5 to 6 per cent of the total opex proposed by the DNSPs.¹⁴

It is also clear that there is considerably ambiguity about what items are relevant to determining a 'step' change, leading to significant differences in the proposals of the individual DNSPs. For example:

- The number of proposed step changes ranges from 19 (UE) to 4 (AusNet).
- The amounts sought by the DNSPs vary from \$116.8 million (\$2015) by AusNet to \$16.5 million by PC. AusNet is seeking step changes of over 9 per cent of its total proposed opex (including adjustments), while PC's proposal is only 1.2 per cent of its total proposed opex (including adjustments).

The chart below, which presents the step changes as a percentage of the total proposed opex illustrates the differences between the DNSPs.

¹⁴ CCP3 has relied on the data provided in the AER's Issues Paper for the numbers in sections 4.3.2 and 4.3.3.



Source: AER Issues Paper, DNSPs' Regulatory Proposals, CCP3 analysis

CCP3 supports the AER's interpretation of the step changes, that is, they must relate to significant and incremental changes in opex requirements. The DNSPs provide various reasons for their proposed step changes. We make the following comments:

- The AER should not accept step changes for additional new regulatory obligations, particularly where these relate to AER requirements. The main information requirements were set out by the AER in 2013-14 and therefore should be included in the base year. We are not aware of any substantive increases since that date although clearly there is an ongoing process of continuing improvements in reporting as there would have been in the lead up to 2014.
- The proposals by, for instance, AusNet to recover forecast GSL payments (AusNet seeks \$28 million recovery), should be reviewed by the AER. The GSL payments are generally designed to provide an additional incentive for networks to maintain service quality and to place some priority on the worst served customers. It does not seem appropriate that the networks are able to recover all, or a substantial portion, of that cost.
- Insurance costs including self-insurance costs are a substantial element of some proposed step changes. CCP3 expects the AER to review these claims for increased insurance costs and ensure that they are reasonable. We do not consider, for instance, that consumers should fund increased insurance costs that in practice reflect a failure in performance by the DNSP in the past. Only general premium increases should be allowed as a step increase.

- DNSPs have adopted different approaches to the Demand Management Innovation Allowance (DMIA) increases over the base year. We agree that the base year should be adjusted down to remove the previous (2011-2015) DMIA expenditures. However, the proposals to spend additional amounts on DMIA in 2016-20 should be carefully scrutinised to ensure they are realistic and add value to customers in the longer term. For instance, we do not see DMIA expenditures in the past flowing through transparently to savings in capex and opex in the current proposals.

4.3.3 The Trend Proposals

Consistent with the AER's Expenditure Forecast Assessment Guideline, the DNSPs have forecast trends in price, output and productivity. The price forecasts relate to forecast changes in price for labour and for materials. The output forecasts relate to growth in customer numbers, ratcheted peak demand and line length (although there are some differences in approach on this). The productivity factor is intended to formalise an expectation that DNSPs will continue to improve their performance over the regulatory period. It is a complement to the existing Efficiency Benefit Sharing Scheme.

The chart above (in section 4.3.2) provides a summary of the percentage change in opex arising from forecasts of price growth and output growth. It does not include productivity growth as all but one of the DNSPs (JEN) did not include any productivity growth in their forecasts. We will discuss this issue below.

The DNSPs' labour price forecasts seem excessive given current market outcomes

The DNSPs have adopted an increase in material prices of CPI. While this seems high given the current market conditions for raw materials, CCP3 considers that the AER has conducted a detailed review of these costs in its earlier determinations and on balance is prepared to accept a CPI proposal. CCP3 suggests that the AER continue to monitor the real costs of these materials noting that the forecast CPI increases are relative to the costs captured in 2014 base year when raw material costs were significantly higher.

CCP3's main concern, however, is with the DNSPs' forecasts of labour costs, including their own labour and contractors. These labour costs account for over 70 per cent of the input operating costs.

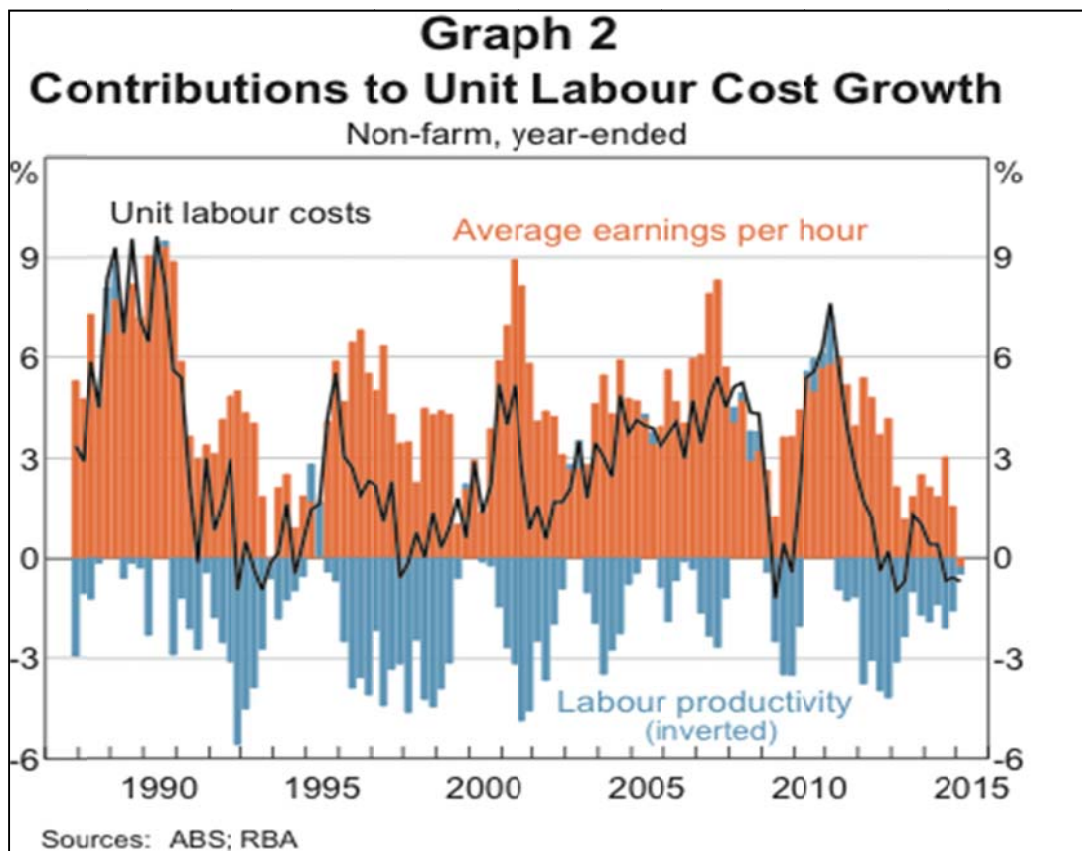
The DNSPs used two different economic consultant firms and somewhat different approaches within that to forecasting labour costs. Nevertheless, the proposed increases in labour costs were above CPI and in the order of 1.5 to 2.0 per cent per annum over the forecast period. They are based on averaging estimates that include their consultants' forecasts for the electricity, gas, water and waste sector and for the construction sector.

CCP3 finds these increases somewhat surprising, particularly in the context of assessing labour costs for the opex allowance as this will include a large proportion of office workers, and fewer construction workers.

The RBA, for instance, has recently produced a report *Why is Wage Growth So Low*. The report summarises its observations as follows:¹⁵

Wage growth has declined markedly in Australia over the past few years. At the same time, stronger growth in labour productivity has worked to contain growth in labour costs. ... The size of the decline in wage growth has been larger than simple historical relationships would suggest, which might be explained by various characteristics of the current episode.

The chart below from the report illustrates the essential point of the report that wage growth is at historical lows, and labour costs declining further because of labour productivity growth.



Source: RBA Bulletin June Quarter, 2015 p 9.

Projections based on historical labour cost trends in the industry, particularly for the opex allowance, should be critically examined by the AER given the overall scenarios for labour costs.

Output growth also seems excessive for some DNSPs

¹⁵ Jacobs D., and Rush Alexander, *Why is Wage Growth So Low*, RBA Bulletin, June Quarter 2015, p 9

The chart in section 4.3.2 above indicates that at least some of the DNSPs are predicting significant output growth. CP, JEN and PC are all forecasting growth in output that amounts to over 6 per cent of their total opex forecasts. These forecasts are in marked contrast to the forecasts of AusNet (3 per cent) and United (1 per cent), although there is no apparent reason for such differences, given they draw on a common labour market pool.

CCP3's section 5 below reviews the DNSPs' forecasts of customer numbers and demand and highlights that a number of these forecasts are inconsistent with forecasts from other independent sources such as AEMO. Because these higher forecasts flow through to the forecast of output growth, they need to be carefully reviewed by the AER. It is likely that such a review will reduce the growth and put downward pressure on the opex forecasts..

Another constant theme throughout the proposals is that the opex trend will increase in line with capex growth through the growth escalation process. However, as the CCP3 demonstrates in section 6 below, a high proportion of the proposed capex is for replacement capex. CCP3 would, therefore, have expected a reduction in capex from the base year level as replacement capex should reduce the need for maintenance. However, there is no proposal for a negative step change to reflect the high level of replacement capex that commenced in 2011-2016 period.

There is no forecast for productivity growth productivity growth (except JEN)

CCP3 is concerned that the productivity growth factor is not applied by the DNSPs except JEN. We do not consider that the reasons given are appropriate for businesses facing the challenge of declining energy usage. In a competitive market, businesses facing such a challenge would be very actively seeking a reduction in opex rather than an increase.

JEN is to be congratulated in giving itself a challenge to respond to the market conditions in a way that will make them more "competitive" with non-network alternatives and embedded generation in the future.

One reason that is either explicitly or implicitly cited by the DNSPs is that the businesses are already operating at an efficient frontier. We do not accept this reasoning particularly given the decline in productivity as measured in the Economic Insights benchmarking study for instance.

Whereas the DNSPs are proposing real increases in labour costs, the report by the RBA illustrates that in general, businesses in Australia are limiting wage increases and reducing labour costs through greater productivity. There seems no reason why the networks should regard themselves as insulated from the economic pressures that their business customers must face every day and respond effectively too.

As a final comment on this subject, CCP3 is becoming concerned that the productivity factor is becoming effectively redundant in the DNSP/AER process. CCP3 believes that it has an important additional role that is over and above the incentive mechanisms such as the EBSS. The evidence is not consistent over time and across the NEM that the incentive

mechanism is driving changes as quickly as required to ensure the competitiveness of Australia's energy industry and its long-term survival in the face of challenges and change.

CCP3 therefore requests that the AER carefully consider what it wants to achieve from the productivity factor and how it can work with the EBSS to ensure that the network businesses respond to the same pressures on performance as their customers must through competition.

5. Forecasting – demand, customer numbers

This section covers forecasts by the DNSPs of customer numbers, peak energy demands, and total energy to be distributed in the coming regulatory period. These forecasts are important because they underlie forecasts of operating and capital expenditure, which are key components in the building block analysis undertaken by the AER to set the DNSPs' future revenue requirements. All other things being equal, over-forecasts of these numbers would result in a higher revenue requirement than is appropriate being determined by the AER.

Further, these forecasts are used directly to translate future revenue requirements into tariffs. Inaccuracies in forecasting customer numbers, peak energy demands, and total energy to be distributed for any given year will result in under- or over-recovery by the DNSP in that year against the determined revenue requirement for that year. Under a revenue cap, the amounts of any under- or over-recovery are carried over to following years, and the tariffs for those following years are adjusted accordingly. Ultimately, the adjusted tariffs fall on consumers, who will end up paying differing amounts from those that had been anticipated in the AER's Final Determination price path.

The AER's Issues Paper which was published on 9 June 2015 summarised the DNSPs' forecasts of energy demands and total energy, and compared them with the forecasts from AEMO that were available at that time. On 18 June 2015, AEMO published its National Energy Forecasting Report for 2015.

5.1 Customer numbers

The table below was published as Table 3.1 in the AER's Issues Paper. This table compares the forecast customer numbers for each distributor with the historic rate of growth in customer numbers over the previous two regulatory periods. The AER noted that the businesses' proposed growth in customer numbers is broadly in-line with recent historic growth rates, with the exception of CitiPower and Jemena. These two businesses forecast faster growth in customer numbers than has occurred in previous regulatory periods.¹⁶

Historic and forecast growth in customer numbers

Distributor	2006– 2010	2010– 2014	2016	2017	2018	2019	2020
AusNet Services	1.62%	1.50%	NA	1.61%	1.57%	1.49%	1.46%
CitiPower	1.26%	1.25%	2.00%	1.60%	1.60%	1.60%	1.60%
Jemena	1.37%	0.71%	NA	1.24%	1.24%	1.25%	1.25%

¹⁶ In Jemena's regulatory proposal, attachment 3-3 forecasts growth in customer numbers of around 1.24% per annum. However chapter 7 (p. 76, para. 253) of their proposal refers to 'our forecast of 0.58% year-on-year growth in customer numbers'.

Distributor	2006–2010	2010–2014	2016	2017	2018	2019	2020
Powercor	1.88%	1.70%	1.70%	1.80%	1.80%	1.80%	1.80%
United Energy	0.85%	0.96%	1.00%	1.00%	1.10%	1.00%	1.00%

Source: AER, Historic data is compound annual growth rate of actual customer numbers reported for RIN purposes; CitiPower, Powercor, United Energy: forecast growth rates as reported in regulatory proposals; AusNet Services and Jemena: forecast growth in customer numbers inferred from forecast customer numbers reported in regulatory proposals.

CCP3 has looked in more detail at CitiPower and Jemena’s forecasts, given that those two had been identified as being not in line with recent historic growth rates.

CitiPower stated that it had engaged CIE to develop its customer number forecasts for the 2016–2020 regulatory control period. CIE forecast the growth rate in customer numbers for residential, commercial and industrial customers as follows:

- Residential customers – based on the forecast growth in dwelling numbers by local government area produced by the Victorian Government Department of Transport, Planning and Local Infrastructure. CIE mapped the relevant local government areas to CitiPower’s network areas;
- Commercial customers – based on a time trend from the most recent data point (2013); and
- Industrial customers – assumed zero growth from the most recent data point (2013).¹⁷

CitiPower referred to CIE’s *Tariff volume forecasts*, prepared for CitiPower and Powercor, February 2015.¹⁸ This in turn refers to CIE’s *Customer number forecasts 9 February 2015* spreadsheet,¹⁹ which does not directly show the percentage growth rates that CIE reports, and on which CitiPower then relies. CCP3 believes that the DNSPs should provide the underlying modelling showing how their projected growth rates are derived, to facilitate checking by AER.

Jemena’s forecasts were based on analysis by ACIL Allen.²⁰ However, we were unable to find the underlying Excel models behind the ACIL Allen analysis. These should be provided and referenced.

¹⁷ CitiPower Regulatory Proposal section 8.3, pages 91-92, and Appendix C Demand, energy and customer forecasts, section 6, page 28

¹⁸ An unpublished public document reference CP PUBLIC ATT 8.10

¹⁹ An unpublished public document reference CP PUBLIC MOD 1.50

²⁰ Jemena Attachment 03-03 ACIL Allen Energy consumption forecasts

Customer number forecasts are important in the capex forecasts, where customer numbers are the driving force behind the augex growth, except for AusNet, which reduces its augex despite its high customer number forecasts.

5.2 Energy demands

The AER’s Issues Paper noted that another key driver of the cost of providing distribution network services is the maximum flow of electricity, which must be accommodated at each point on the network. The larger the peak flow on a given part of that network, the larger the capacity of network assets must be at that location.

The Issues Paper included as Table 3.2 the following table:

Forecast growth in peak demand (Summer, POE10)

Distributor	Period	Regulatory Proposal Forecasts	AEMO forecast
AusNet Services	2015–2020	1.07%	–0.09%
CitiPower	2015–2024	2.38%	0.40%
Jemena	2015–2024	1.46%	–0.10%
Powercor	2015–2024	3.54%	0.27%
United Energy	2015–2024	2.05%	0.14%

Source: AusNet Services Regulatory Proposal, p. 80; CitiPower, Appendix C, p. 13; Jemena, Attachment 3-5, p. 8; Powercor, Appendix C, p. 16; United Energy, Regulatory Proposal, p. 30. AER analysis based on AEMO Transmission Connection Point forecasts. The figures show the compound annual growth rate.

The AER also noted that the AEMO forecasts are the sum of the AEMO Connection Point forecasts for each distributor and therefore reflect the growth in non-coincident peak demand. CitiPower and Powercor forecasts are for coincident peak demand. AusNet Services forecasts are for non-coincident peak demand. The regulatory proposals for Jemena and United Energy do not state whether the forecasts used for this table are coincident or non-coincident. The AER said that it would seek to clarify further the extent to which differences in forecasts set out in this table reflect differences in the methodology.

It is important to define carefully how peak demand is calculated and what it represents, and importantly how these forecasts translate into revenue requirements.

AEMO’s more recently published 2015 National Energy Forecasting Report forecasts that Victoria’s 10% POE maximum demand is forecast to decrease at an average rate of 0.1% over the next few years. This contrasts with the DNSPs’ forecasts of peak demand increasing.

In June 2015, the AER published its Electricity Distributors 2011-13 Performance Report, which included the following table as Table 4-2:

Maximum demand (megawatts) – Victorian DNSPs

	2011		2012		2013	
	Forecast	Actual	Forecast	Actual	Forecast	Actual
AusNet Services	1874	1728	1959	1786	2046	1908
CitiPower	1510	1421	1552	1397	1593	1495
JEN	1099	1079	1130	996	1162	959
Powercor	2481	2263	2557	2161	2652	2321
United Energy	2359	2052	2424	2142	2495	2205

This table shows that for each year for each DNSP the maximum demand was over forecast in all cases. Over the past few years, AEMO has consistently revised downwards its forecast peak demands, increasing concerns about peak energy demand forecasts.

In summary, the AER should pay particular attention to the DNSPs' maximum demand forecasts and whether they have been over-estimated, given the facts that:

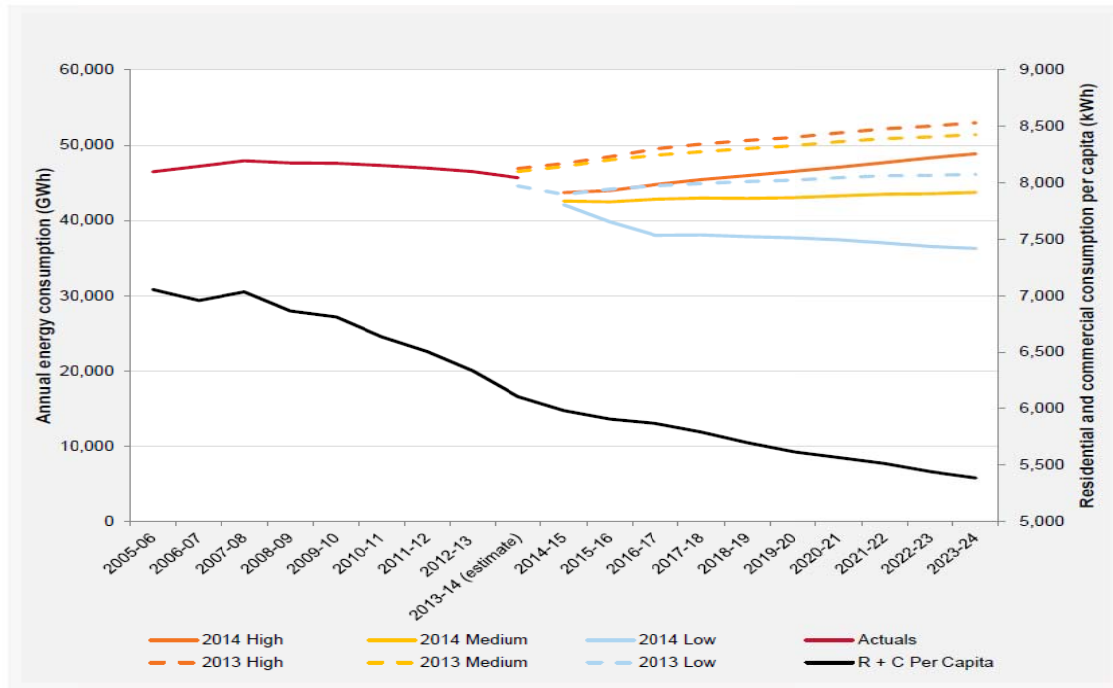
- The forecasts of maximum demand are key drivers of revenue requirements;
- The DNSP forecasts exceed and contrast with AEMO's forecasts;
- The DNSPs have consistently over-forecast maximum demands in the past.

All aspects of the forecasts should be critically analysed. We concur also with the AER's view in its Issues Paper that growth in peak demand will depend, among other things, on the tariff structures chosen by the network businesses. These may change substantially during the next regulatory period. For example, Jemena is proposing to introduce a 'maximum demand charge' for all residential and small business customers. It could be expected that this new tariff structure, if it is passed through to end-customers, may have the effect of moderating further growth in peak demand. It is expected that the other DNSPs will also propose similar new tariff structures in their Tariff Structure Statements in August, which will also serve to moderate their maximum demands.

5.3 Total energy

The AER's Issues Paper included the following figure as Figure 3.3:

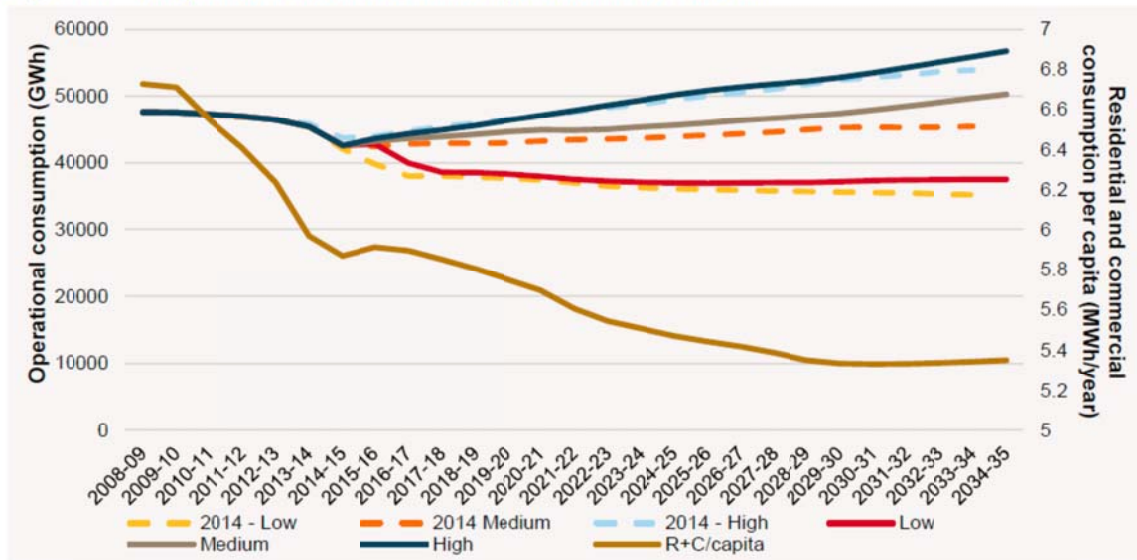
Historic and Forecast Annual Energy Consumption for Victoria



Source: AEMO. * R + C stands for residential and commercial, which is shown on a per capita basis.

An updated figure in the AEMO 2015 NEFR is shown below:

Figure 49 Comparison of low, medium and high forecasts for Victoria



This figure shows that actual usage has been declining since 2008-09.

The AER's Issues Paper included the following table as Table 3.3:

Historic and forecast growth rate of annual energy consumption by distributor

Distributor	Historic energy growth 2006-2013	Forecast energy growth 2016-2020
AusNet Services	0.20%	-0.08%
CitiPower	0.02%	2.16%
Jemena	-0.08%	1.20%
Powercor	0.56%	1.38%
United Energy	-0.11%	0.51%

Source: AER analysis of distributor proposals.

Clearly, and as observed by the AER, four of the five DNSPs are forecasting faster rates of growth in the future than has occurred in the past. CitiPower forecasts substantially higher growth in energy delivered in the future compared to the previous regulatory period. The AER needs to consider if these growth rates are appropriate.

Only AusNet Services is forecasting lower demand in the future compared to the past, despite growth in customer numbers. In order to ascertain why it might be that AusNet Services' forecast differs so much from those of the other DNSPs, we investigated the methodologies that each had used. It may be significant that AusNet Services is using interval data from the rollout of Automated Metering Infrastructure in Victoria ("AMI data") in ways that other DNSPs may not be doing.²¹ The AER should be investigating whether the DNSPs are making use of the AMI data that is available to them to refine and increase the accuracy of their forecasts.

²¹ See for example AusNet Services *Appendix 4B Demand Forecasting Methodology* page 19

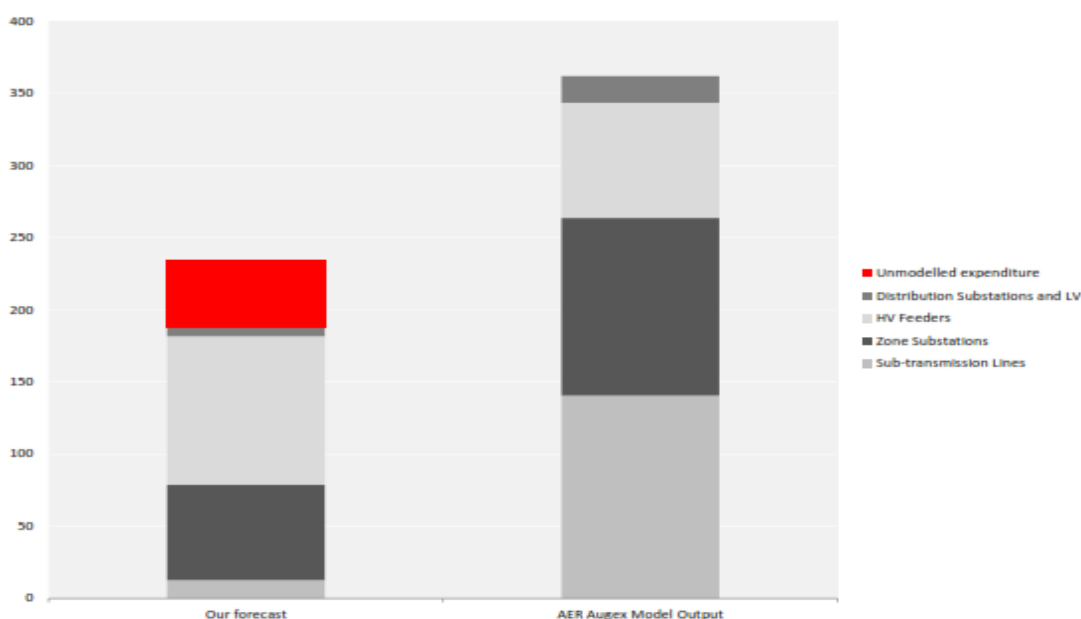
6. Capital expenditure (capex)

One of the most important issues identified in the review of the proposed capex programs is a concern that there is little consistency between the different elements of each proposal. For example, in the substantiation for some capex projects (particularly IT projects such as that proposed by CP and PC in their *CRM and Billing system replacement* CP appendix E42), the proponent nominates reasons for the capex including improved reliability and/or features that the DNSPs state that consumers want. In other cases, the DNSP states that the benefits are intangible (such as UE in its IT proposal PJ08). However, on reading other sections of the proposals, it is clear that consumers do not want increased reliability or better features if this involves increased costs; yet these are the primary reasons provided for the capex.

All DNSPs exhibit a view that there are significant shortcomings in the AER capex models (augex and repex), and then identify what they consider are the shortcomings. None of the DNSPs seems to recognise that the models are a part of the overall AER approach which also uses other techniques as well, including trend analysis. CCP3 considers that the suite of approaches used by the AER in their assessments provides a much better “top down” approach to identifying the upper bounds for efficient capex proposals than is given credit for by the DNSPs.

It is also significant that the DNSPs use the two capex models to either support their capex proposals or to identify how the models provide incorrect outcomes. For example, PC provides a view that the augex model greatly overstates the need for augex (as shown on figure 4.18 of Appendix E).

Figure 4.18 Comparison of Powercor’s forecast to augex model forecast output (\$million, 2015)



Source: Powercor

Note: direct costs excluding real escalation

In contrast, Jemena’s consultant Nuttall provides a view that the augex model provides support for the proposed augex as shown in its figure E1 in Jemena attachment 07-12.

Key model findings

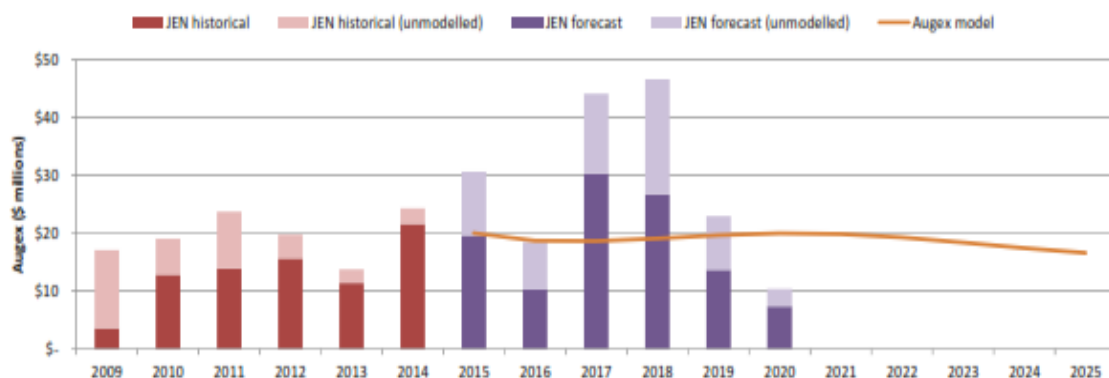
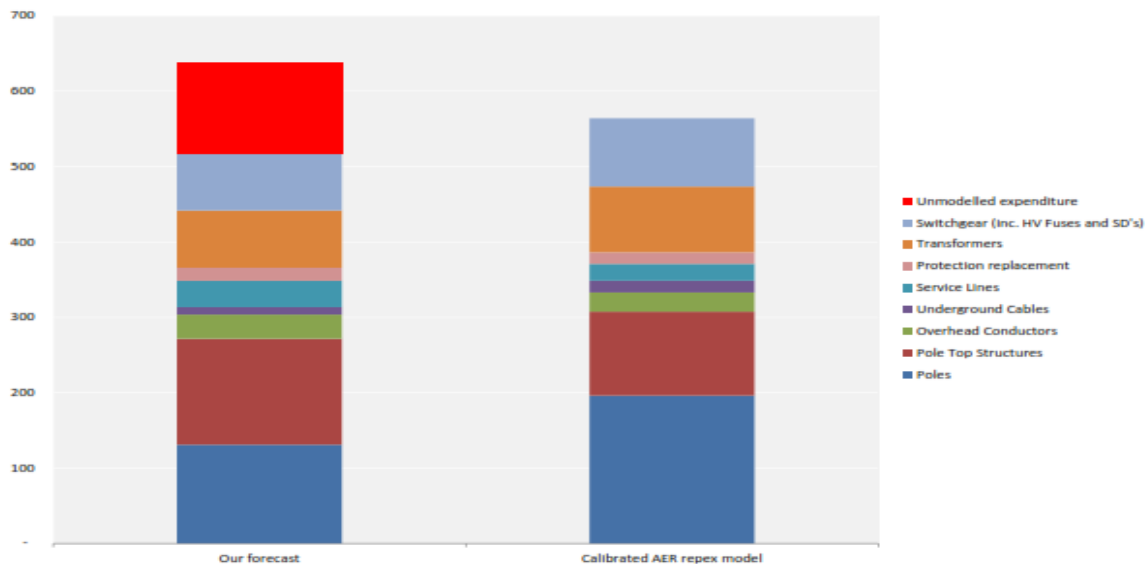


Fig E1 – JEN augex model forecast

However, it is intriguing that PC has forecast a 40% increase on its augex from the current period actual, whereas JEN has forecast less than 20% increase.

The PC assessment of the repex model shows the reverse of what the augex model delivers (see figure 3.24 in Appendix E).

Figure 3.24 Comparison of Powercor’s forecast to repex model forecast output (\$million, 2015)



Source: Powercor
 Note: direct costs excluding real escalation

The Nuttall assessment for Jemena tends to support the PC view that the repex model underestimates the needed repex as shown in figure E1 of attachment 07-11.

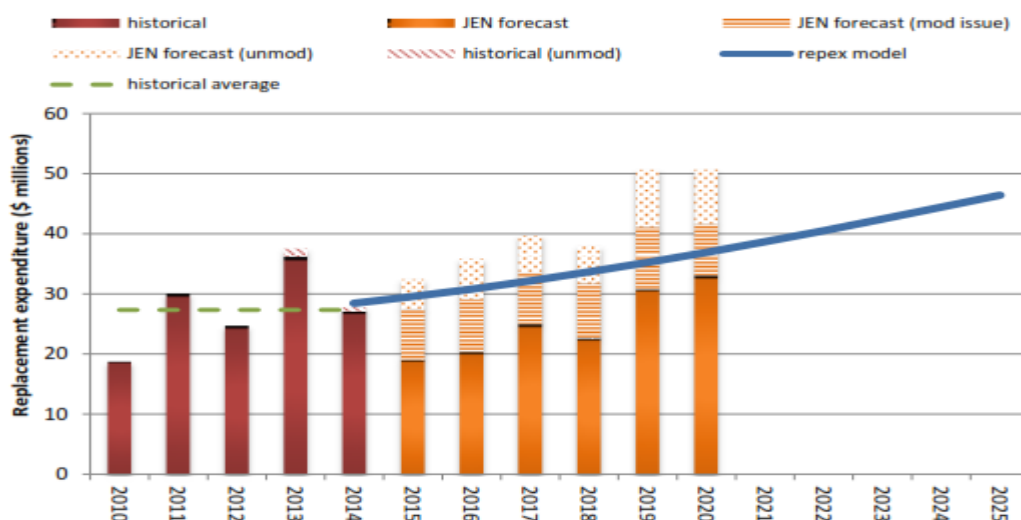


Fig E1 – JEN repex model forecast

In comparison, PC has forecast a 40% increase in repex from the current period whereas Jemena has forecast marginally less than 30% increase.

CCP3 is considered as to whether the inputs to the modelling are consistent, and whether parameters are appropriate. For example, Nuttall undertook an assessment of the augex and repex modelling for the Jemena network. In its report on the repex modelling, Nuttall comments in attachment 07-11:

- It is important to stress that we cannot say if these issues²² could result in the model over or under stating the replacement forecast; only that this could result in an inaccuracy when comparing the repex model against this forecast (page 5).
- As noted above, these findings do not say that JEN’s forecast compares favourably against the repex model – addressing these limitations in the model could move its forecast up or down. Nonetheless, this finding does suggest that fairly modest improvements in the accuracy of the model could result in JEN’s forecast comparing favourably against the model (page 6).
- We have not been able to reconcile the volume forecast. The effect of variances in volumes could be different to those presented here (page 8).

The issues identified imply that the data provided by the DNSP to enable the modelling and the assumptions made within their own forecasts could result in quite different outcomes. In particular, Nuttall comments that the AER had undertaken considerably more modelling (in the NSW DNSP review) to better inform the AER of what might be considered a better informed outcome.

²² Referring to identified potential shortcomings

6.1 Observations about historical use of capex

In the current period (i.e. 2011-2015):

- All DNSPs used more capex than they were allowed in the last reset except for CP, which used less.
- All DNSPs used more replacement capex (repex) than allowed (except for CP which used less),
- All DNSPs used less augmentation capex (augex) than was allowed
- In their proposals, all DNSPs used more capex than they forecast for the current period except for CP and PC which used less than they forecast

The amount of capex allowed for the current period was a significant increase on the capex used in the previous period (i.e. 2006-2010) predominantly driven by an expectation of increased demand growth. This implies that the current period capex might be overstated. If this is the case, then drawing comparisons between the current period capex and the next period (i.e. 2016-2020) – particularly for augex – could be misleading. In this regard it is important to note that the current period capex was set on the basis of the “old” rules which overtly incentivised investment but which did not apply for the rules for the previous period.²³ Despite the lower incentive in the previous period, it is important to note that reliability did not suffer, although generally benchmarking of reliability (as measured by both unserved energy and SAIDI) has shown an improvement with the current period capex.

6.2 General comments on capex

6.2.1 Category based costing

One of the features of the category analysis element of the Better Regulation program was to provide efficient valuations for carrying out various elements of the capex programs. Of concern are the observations of the DNSPs that the category analysis benchmarking has significant issues that limit its usefulness. For example, PC comments (page 75 of appendix E) that the unit costs for new zone substations vary by a factor of 5 between the NEM DNSPs and attributes this to the way the data and the costs are reported, environmental differences and whether the costs are representative and based on an appropriate sample size.

CCP3 has no comment on the extent of this concern or whether it is commonly held across all DNSPs. However, CCP3 considers that as the category analysis is a key element for providing useful input into capex benchmarking, the issue needs to be investigated.

²³ The automatic roll in of actual capex and the fact that $RAB \times WACC$ is the driver for generating profits, provides a strong incentive for investment, regardless of actual needs

6.2.2 Focus of the capex programs proposed

All DNSPs are seeking an increase in the capex for the next period compared to the current period, despite there being a considerably lower need for augmentation capex due to a much lower increase in demand forecast for the next period compared to the forecasts when the current period reset occurred. This growth in capex is shown in the following table from the AER Issues paper.

Table 4.1 Victorian distributor capital expenditure proposals

Distributor	2016–20 total capex proposal (\$million, 2015)	Change from 2011–15 total actual capex (per cent)
AusNet Services	1 964	2
CitiPower	850	17
Jemena	841	19
Powercor	2 331	32
United Energy	1 195	14

Source: Actual total capex is drawn from the distributors' submitted Roll Forward Models (RFM). Proposed capex is drawn from the "assets" sheet of the distributors' submitted PTRM. We have drawn the capex amounts shown in this table from the distributors' submitted financial models, rather than from their written regulatory proposals.

The two highest cost elements of the proposed capex programs are repex (AusNet, JEN, UE) and connections (CP, PC). The second highest cost element are repex (CP, PC) and connections (AusNet, JEN, UE).

As might be expected in a low demand growth environment augex is the third largest element,²⁴ although in some cases IT capex comes close to being third in size.

6.2.3 Category costs

As noted above, there is concern exhibited among the DNSPs as to the value of the category analysis work undertaken by the AER and its application to the DNSP activities. DNSPs consider their environment is unique and should have higher costs allowed. For example, CP comments that its costs for carrying routine tasks should be higher than the average due to congestion, higher traffic, higher excavation and reinstatement costs and contamination risks.

CP apparently does not recognise that there are countervailing benefits in that its work is more localised and concentrated, which would provide significant offsetting benefits.

CCP3 is aware of recent work in the UK by Ofgem that implies that the costs between DNSPs because of environmental differences are not as great as is asserted. This view is supported by the work of Economic Insights during the Better Regulation process where the cost impacts from environmental differences were discussed at length.

²⁴ in the previous reset review, augex was the highest element for all DNSPs

6.2.4 Capitalisation policies

CCP3 encountered significant difficulties in assessing the different approaches apparently taken by each of the DNSPs and how these impacted in the trend analyses needed for assessing forecast capex.

CCP3 considers that these policies need to be formalised and made consistent across all DNSPs so that appropriate comparisons can be made if this has not already been mandated.

For example, CP states that it has spread its overheads across all capex on an expenditure basis, but does not allocate overheads to IT and communications, vehicles, and property. There does not appear to be a rational reason for excluding these items. Equally, allocating overheads on a spend basis, while convenient, does not reflect the actual usage of overheads.

In addition, some of the DNSPs are amending their capitalisation policies in this current determination. For example, CP has reallocated \$95 million (\$2015), and PC has reallocated \$173 million (\$2015) from capital expenditure to operating expenditures. The primary basis for this change is the expensing of indirect corporate overheads.

Both CP and PC claim that the amended cost allocation methodology has been approved by the AER and that the reclassification is cost neutral and no costs have been double counted.

CCP3 relies on the AER to confirm this comment. In any case, it does demonstrate the difficulties of making historical trend comparisons and the challenge of benchmarking both opex and capex.

6.3 Augmentation capex (augex)

Table 4.3 Victorian distributor augmentation capital expenditure proposals

Distributor	2016–20 augex (\$million, 2015)	Proportion of total capex (per cent)	Change from actual augex in 2011–15 period
AusNet Services	314	16	-146
CitiPower	203	20	17
Jemena	141	17	26
Powercor	362	16	145
United Energy	167	14	-16

Source: Distributor regulatory proposals and RINs.

Of concern is that all of the DNSPs used less augex than was allowed, although despite this some used more capex than was allowed overall. The reason for this is that lower demand growth allowed the deferral of some augmentation projects.

CCP3 is concerned that the deferral of projects provides the DNSPs with a benefit which does not get passed on to consumers, yet the same projects are then included again in the next regulatory period. CCP3 hopes that this ability will be addressed by the AER in future, because under the capex incentive program, consumers will pay the DNSPs a capex benefit for deferring programs, yet still be required to pay again when the project is reintroduced in the following regulatory period.

6.3.1 Growth in demand

It has been identified that there is a disconnect between the forecasts of expect demand growth between forecasts made by AEMO and the DNSPs. CCP3 is aware that AEMO has updated its forecasts in its 2015 NEFR which brings its forecasts closer to those of the DNSPs although there is still a difference between the AEMO forecast and those of the DNSPs.

However, it is recognised that general forecasts do not identify those pockets of growth that do occur, despite a general view of low or even declining general growth. AEMO is in the process of refining its forecasts to the more localised (zone substation) level that the DNSPs have done and this might provide greater consensus as to where demand growth might occur.

CCP3 considers that the AusNet approach to develop its forecast demand (and hence the needs for augmentation) is a significant enhancement in forecasting future demand and is a direct outcome from the decision to mandate the roll out of the AMI program across Victoria.²⁵ It is clear that the AusNet approach has resulted in a significant reduction in augex but this same approach has not been used by other DNSPs which appear to have used longer term average demand expectations rather than apply the most recent and accurate data available.

Overall, CCP3 considers that greater effort is needed by other DNSPs to use the data from the AMI program for assessing future demand needs and to use the data to better examine demand side options to defer augmentation projects.

Associated with this issue, is that DNSPs use probabilistic forecasting to develop their demand forecasts at each zone substation. CCP3 agrees that this approach is preferable to the more traditional approach of deterministic based forecasting, while also noting that the inputs used in the probabilistic approach can have a major influence on the resultant outcomes.

There needs to be a close review of the assumptions made in the development of the demands assessed for those zones where the DNSPs have forecast a need for augmentation. For example, PC provides a view on the assumptions that it uses (Table 4.1 Appendix E of its submission) to implement its probabilistic approach. Have these been independently verified as reasonable and appropriate? Other DNSPs have similar tools and there should be consistency across all DNSPs.

²⁵ This was also mentioned in section 5.3 above in regard to forecasting total energy

6.3.2 Use of forecast unserved energy

In setting the cost/benefit of a proposed augmentation, an assessment is made of the expected amount of unserved energy that will result under a set of operating conditions. This is then converted to a cost using the AEMO VCR valuations. CCP3 is aware that there are different VCR values for each class of consumer so the VCR used at each zone substation should reflect the mix of consumers being served by that substation.

It is not clear that this has been done in the assessments of whether and when an augmentation should occur.

Additionally, CCP3 is aware that most consumers are able to be served from two sources (e.g. via a ring main). It is not clear from the calculations made of unserved energy, whether the assumption is made that each consumer is served from one substation or from either. It is possible that when calculating the amount of unserved energy, that augmentation on one substation might provide adequate back up to another substation which therefore would not need to be augmented. For example, if a consumer is connected to two substations as many are, then if one substation has N-1 rating, it is possible that the other substation could be assessed as having capacity up to N rating for limited periods of time.

There appears to be a view that the need for augmentation is also driven by the relative “health” of a substation. This implies that, in addition to the expected load a substation might face, a substation with “poor” health would be rated differently for a need for augmentation to one with “good” health. While this appears to be sensible, it brings into issue how the “health” of a substation is developed. The issue of health indices is addressed in more detail under the repex section, but it needs to be noted that the degree of assessments and assumptions made increases significantly.

CCP3 is concerned that the increase in assessments and assumptions has the potential to significantly increase the degree of conservatism that underlies the decision “to augment or not to augment – that is the question”.

6.3.3 Localised growth

All DNSPs state that they have pockets of localised growth, despite the low overall growth identified by AEMO.

The fact there is significant growth in some parts of the networks also leads to the conclusion that there is negative growth in other parts. Such negative growth implies there are assets that significantly underutilised, yet none of the DNSPs appears to address this over supply aspect. CCP3 considers that where there is an oversupply of assets, the DNSPs should examine the potential for relocating “spare” assets to areas where there is demand growth.

There is a trend among networks to accelerate depreciation, especially in the low interest rate regime that currently applies. While there is a view that faster depreciation would assist in addressing the cost impact of the current general over-capacity that networks

have, there is an equal view that this over-capacity could be addressed by innovative use of existing assets. One such approach is relocation of existing assets in preference to buying new assets.

6.3.4 Demand side participation

As a general observation, while detailed proposals for augex projects make reference to demand side participation as being an option for delivering a solution to the perceived need, in most cases, the demand side option is classified as “non-credible” or not commercially viable.

AusNet has identified that a much reduced amount of augex is required despite them identifying areas where they are experiencing growth in demand. During workshops that CCP3 attended, AusNet highlighted that they are able to implement much lower augex through deep analysis of AMI data they have. In particular, AusNet has identified that they are using the AMI data from recent additions to the network which exhibits lower demands than seen on average across their network.²⁶

PC comments that it has attempted to implement demand management options through use of desk top studies. Review of the projects detailed highlight that discounted tariff options (such as used by AusNet) implies that these types of demand side options have been countenanced (eg PC RIT-D for the new Truganina substation).

Overall, CCP3 considers that greater effort is needed by other DNSPs to utilise the data from the AMI program to better examine demand side options to defer augmentation projects.

6.4 Replacement capex (repex)

Table 4.2 Victorian distributor replacement capital expenditure proposals

Distributor	2016–20 repex (\$million, 2015)	Proportion of total capex (per cent)	Change from actual repex in 2011–15 period
AusNet Services	901	46	214
CitiPower	260	26	107
Jemena	224	27	61
Powercor	722	33	279
United Energy	585	49	179

Source: Distributor regulatory proposals and RINs.

²⁶ For example, power demand for older residences is higher than the power demand for new residences. While this trend has been observed in the past, AusNet considers that they should use current data from new residences to calculate expected demand growth rather than use an average from across the network.

All DNSPs are seeking to further increase their repex in the next period, even though that amounts actually used in the current period are generally greater than the allowances for the current period, and in some cases the DNSPs exceeded even their own initial forecasts for repex needs for the current period.

CCP3 is not convinced that the apparent need to overspend on repex has been justified as the same arguments for increased repex were presented to the AER at the last reset as are included in the proposals for this reset.

6.4.1 Reliability and repex

Reliability is cited as the driving concern for repex, yet the reliability performance does not seem to support the arguments provided. As seen in section 3 above, all DNSPs registered a reduction in trends for SAIFI and unserved energy, and the trend in SAIDI for all is relatively constant or falling. Only UE shows a significant increasing trend in SAIDI.

CCP3 considers that this data clearly shows that reliability (except perhaps for UE) does not appear to be an issue, and that there is little reason to increase capex for reliability.

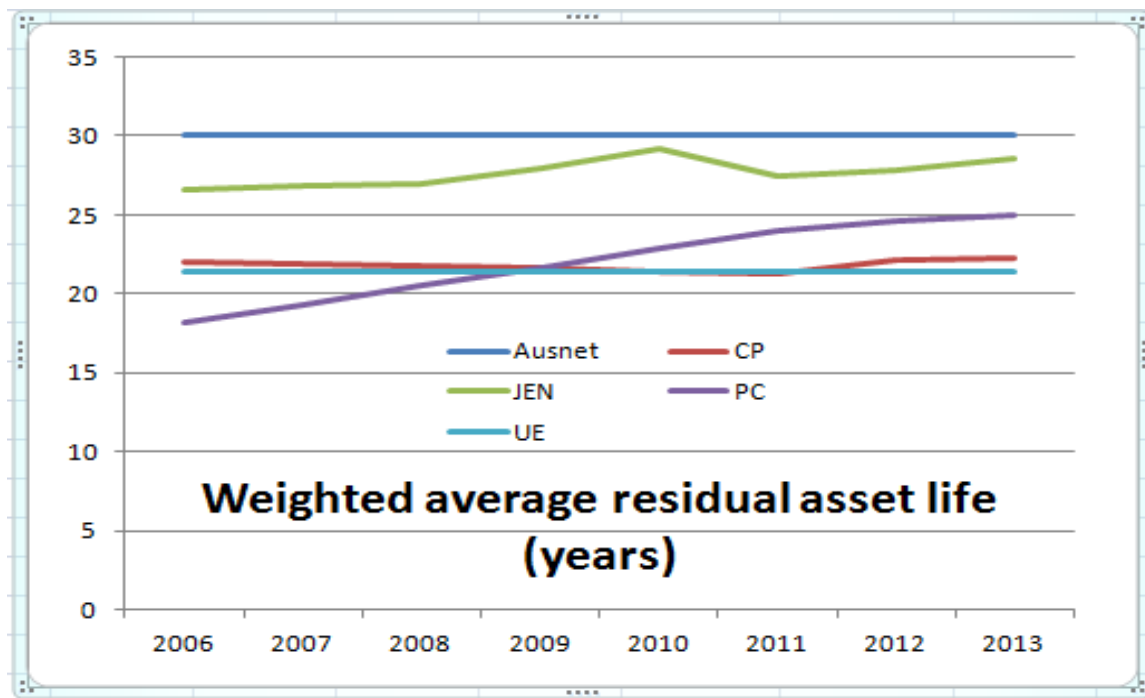
There is a fundamental question that is not satisfactorily addressed with in the proposals. There is the assertion that condition monitoring has identified increased rates of repex, yet reliability has not suffered. It is also asserted that increased failure rates have driven increased repex, yet the amount of unserved energy has not increased (in fact it has fallen). It raises the question as to whether there is justification for addressing condition monitoring and/or failure rates as the core driver for repex, or whether output measures should be the determining factor.

CCP3 considers that it is what consumers see should be the driving factor, as the DNSPs assert that consumers are happy with current reliability rates (and the associated cost). If the current levels of reliability can be achieved with the current levels of repex, then at a high level, the consumer experience should be the core driving factor. Related to this, the amount of unserved energy coupled to the VCR for the customer class should provide a view as to the cost that consumers are prepared to pay for the reliability they see.

6.4.2 Asset age and repex

Another element of that drives the need for repex, is the age of the assets. The average age of the network is a function of various elements. However, it is clear that the average residual ages of the DNSP assets have been maintained or improved over time as the following chart shows.²⁷

²⁷ There is concern about the RIN data for AusNet and UE which show no change at all over the seven years of data. The weighting of the data is based on the RAB values for each of the age classifications.



Source: RIN data

The weighted average asset age for distribution network assets of all DNSPs in the NEM shows that the average network has an expected life of 47.5 years. The RIN data for the residual live of the Victorian DNSPs in the chart all show that they have at least half (or more) of their lives yet to be used.

The residual asset age data indicates that the current levels of capex have resulted in no deterioration of the residual asset lives. It is recognised that all capex impacts on the weighted average age of the network but generally, repex is seen to be the key influence of network asset age.

CCP3 considers that maintenance of the weighted average residual asset lives at more than half of their lives yet to be used implies that there is no need for **an increase in** repex over the current expenditures. CCP3 highlights that current replacement expenditures generally represent a significant increase over historical levels. For PC and AusNet, there has been additional investment in hardening the network under the Power Line Bushfire Safety Plan since 2010.

Modelling of repex based on age assumes that, on the asset reaching its design life, it will no longer function and has to be replaced. This is an extremely conservative view. Engineering lives of assets are in themselves conservative. The engineering life assessment is that with a high level of certainty, the asset will survive for the engineering life. This means that the engineering life has a very low expectation that the asset will not survive its expected life span but there is every expectation that it will survive for considerably longer than its expected life.

For example, PC notes in its proposal that the average age for a circuit breaker is about 40 years, yet over 30% of its circuit breakers are older than 50 years and still working

well. Equally, UE comments that it considers that an asset within 15% of the expected life is expected to exhibit greater failure rates. The UE observation is not unusual, but it needs to be seen in context – that the failure rate within this period is still very low.

Firms operating in competition drive their assets well beyond their expected lives, because this delivers the most cost efficient outcome.

CCP3 considers that modelling based on expected life will be essentially quite conservative and overstate the need for replex.

6.4.3 Depreciation rates and replex

A core element of assessing the weighted average residual asset life of the networks is the expected asset life. In assessing the residual lives of the assets, CCP3 identified an intriguing issue with regard to expected lives of assets. A review of the RIN data highlighted that there is little consistency among DNSPs of the expected lives of assets.

Across the entire NEM the RIN data shows the following outcomes life expectancy for different asset classes.

All DBs in NEM	mean	median	SD	Longest	Shortest
Overhead network assets less than 33kV (wires and poles)	46	49	8.3	62	35
Underground network assets less than 33kV (cables)	51	55	6.9	60	36
Distribution substations including transformers	45	45	9.9	73	36
Overhead network assets 33kV and above (wires and towers / poles etc)	49	53	4.7	64	47
Underground network assets 33kV and above (cables, ducts etc)	46	50	6.4	60	40
Zone substations and transformers	43	46	5.8	60	40
“Other” assets with long lives	27	23	13.1	50	8
“Other” assets with short lives	6	6	1.0	8	5

Source: RIN data

This massive variation has two major impacts. Not only does the variation impact on the residual lives of assets but it also has a major impact on the depreciation allowances. DNSPs, using shorter asset lives, depreciate their assets much faster than those with longer asset lives and thereby increase the revenue requirement.

CCP3 considers that the AER must address this disparity in expected asset lives so that there is some consistency across all DNSPs. In this regard, it is noted that the AER is required to establish the revenue required by the notional efficient stand alone DNSP. In fact, the AER has been using the asset lives proposed by each DNSP to develop the efficient revenue. This approach results in considerable variation between DNSPs.

CCP3 also examined the asset lives used by the Victorian DNSPs and the outcome still exhibits considerable variation although the median lives and standard deviations have some similarity to those seen across the entire NEM.

Life in years	Aus	CP	JEN	PC	UE	avg	med	SD	Longest	Shortest
Overhead network assets less than 33kV (wires and poles)	47	49	62	51	36	49	49	9.4	62	36
Underground network assets less than 33kV (cables)	55	49	49	51	36	48	49	7.3	55	36
Distribution substations including transformers	62	49	48	51	36	49	49	9.4	62	36
Overhead network assets 33kV and above (wires and towers / poles etc.)	54	49	64	51	60	56	54	6.2	64	51
Underground network assets 33kV and above (cables, ducts, etc.)	55	49	40	51	60	51	51	7.4	60	40
Zone substations and transformers	57	49	46	51	60	53	51	5.9	60	40
"Other" assets with long lives	0	12	30	15	8	13	12	11.3	30	8
"Other" assets with short lives	5	6	7	6	5	6	6	1.0	7	5

Source: RIN data

The data also shows up some significant anomalies, such as why would underground network assets of less than 33 kV have a shorter life than the same assets rated more than 33 kV; similarly why would overhead assets of less than 33 kV have a shorter life than overhead assets greater than 33 kV.

There are other anomalies when the median ages for assets of the Victorian DNSPs are referenced to the NEM as a whole. Specifically the NEM median for underground <33kV is significantly higher than that for Victoria as are both zone and distribution substations and "other assets with long lives".

Further, CCP3 noted that there are some further anomalies in the actual asset lives used to develop the weightings. For example

- AusNet states that it has a fleet of 200,000 wood pole and they plan to replace 3,000 pa (or 1.5% pa). This implies that their wood poles have an expected life of 65 years, as at 1.5% pa this is how long this would take to replace a wood pole. AusNet states that it expects wood poles to have an average life of 45 years, recognising that different timbers and treatment will affect this expected life.

- Jemena states that wood poles have an average life of 54 years, and that staked poles have a life of 80 years, although wooden cross arms have a life of between 30-55 years, averaging 45 years.
- Jemena provides a table (section 7 in attachment ELE PR 0012) which appears to be at odds with the RIN data regarding asset lives, and at odds with the expected lives for assets stated by other DNSPs.
- UE states that its increasing SAIDI indicates a need for increased repex yet their expected lives of assets exhibits the shortest expected lives for five of the eight different categories.
- UE also states that their repex modelling using the AER approach supported their proposed repex program but it is not clear whether UE used the shorter asset lives they have for their expected asset lives.

CCP3 is very concerned that the diversity in expected asset lives between the five Victorian DNSPs (and with those across the NEM) and considers that the AER needs to establish asset lives appropriate to the notional efficient DNSP. This will impact both repex and depreciation.

6.4.4 Health indices and repex

All DNSPs point out that age is a factor initiating the need for replacement of assets, but it is the condition of the assets that is the main driver for replacement of the assets. CCP3 agrees to some extent.

However, the assessed health of an asset is driven by several factors:

- The amount of opex that is devoted to assets over their entire life
- The age of the asset
- Design and manufacturing faults in the assets
- The approach to assessing the apparent "health" of the asset.

The issue of the age of the asset is discussed above as is that reliability has remained at acceptable levels, yet the basic concern CCP3 has, other than age, what has resulted in a need for significant increases in repex compared to previous regulatory periods when reliability has not suffered?

Opex levels have not been reduced – in fact opex has been consistently been increased over time for the same output as is evidenced by the declining partial factor productivity identified in section 3 above.

CCP3 is concerned at the approach to the development of the assessment of condition ("health") of the assets. While there can be some quantitative assessments made of some equipment (e.g. insulation resistance in a transformer or the amount of sound

wood in a pole), it appears that the bulk of the assessments made of assets is based on a qualitative basis (e.g. visual examination of a cross arm or insulator). Such qualitative assessments will vary between individuals making the examination. But a major impact on a qualitative assessment is also driven by the environment at the time the assessment is made. For example, after the bushfires in 2009, there was a heightened concern that visual examinations of assets did not identify specific aspects of where damage or condition was substandard. As a result, subsequent inspections would be made much more closely and any doubtful item would be seen as a risk.

This means that the condition assessment of assets is subjective. CCP3 is not suggesting that assessments are being made on too cautious a basis, but that being too cautious will result in unnecessary costs for consumers. While some aspects of the proposed repex is related to safety (such as the work resulting from the VBRC – see next subsection), not all of the caution that might be being applied is related to safety issues. For example, CP comments that its inspection of cross arms is carried out visually, and that this has resulted in conservative assessments. As a result, CP has advised that it has identified a need to increase replacements of cross arms, which it also states has been necessitated by increased failure rates.

AER consultant EMCa commented in its assessments of the condition monitoring practices of the NSW DNSPs that condition monitoring is not an exact science and it was critical of some of the conservative risk assessment inputs used in developing the likely need for replacement of assets.

Historic levels of repex have maintained performance of the networks, so its basic question is why has there been an increase proposed by all the DNSPs. It is asserted that condition based monitoring has identified more assets “at risk” than occurred in previous times and this necessitates more repex. Equally, unless there are exogenous reasons that cause faster deterioration of assets than occurred in the past, then the only conclusion that CCP3 can see for the significant increase in repex is either there is a more conservative approach being used to establish the condition of the assets or that DNSPs are applying less care in their maintenance practices. Because an overall reduction of network performance has not been seen, CCP3 considers that less opex is not the cause. This then leads to the conclusion that greater conservatism is being applied to condition assessments than was applied in the past.

The development of the “health index” of the network assets through condition based monitoring is not transparent, and relies on inputs to the modelling that identify what health index applies to each element of the network. CCP3 considers that the assumptions being applied in the development of “health indices” for assets are probably too conservative. This has probably led to a much higher level of repex than is needed.

6.4.5 Early replacement

Within the proposals there are references to a desire to replace assets because there are new/better/more modern alternatives to the existing assets. This particularly applies to IT assets (where newer/better/more capable assets are available over short time

periods), but also to other assets such as relays where electronic relays are seen as better alternatives to electro-mechanical relays. As these alternatives appear to provide better features than the existing assets, all DNSPs have proposed early replacement so as to provide a better service.

While CCP3 agrees that the new asset might provide a better service, it is concerned that the existing assets are still used and useful and still carry out the tasks they are designed to do.

CCP3 does not consider that assets should be replaced early unless the DNSP can provide a cost benefit analysis that results in a better outcome for consumers. Unless there is a clear benefit for consumers, then the replacement cost should not be permitted in the allowed revenue.

6.5 Bushfire safety related capex

CCP3 recognises that a significant element of the proposed repex is devoted to address the recommendations of the VBRC and, more specifically, as part of the Powerline Bushfire Safety Task Force plan established under the auspices of the Victorian Government and Energy Safe Victoria (ESV). It is also recognised that the two DNSPs facing most of the risks of bushfires (AusNet and PC) have already expended considerable funds into addressing VBRC recommendations, while the other three have not yet had to do so but will be required to address the recommendations in the next period.

PC comments that it has not completed the ESV requirement to replace conductors (and therefore underspent on this requirement), but overspent on pole and cross arm replacements. It stated its reason not to replace conductors pending resolution on the extent of undergrounding. CCP3 questions why poles and cross arms were replaced as these have just as much involvement in whether to underground or not as conductor replacement.

PC also states that the increased rate of pole and cross replacement must be maintained into the next period. CCP3 questions the logic of this assertion, bearing in mind the time by which all VBRC work has to be completed.

PC includes in its augex for replacement of SWER power lines, yet this was an issue related to the VBRC recommendations. However, this aspect is also addressed using Automatic Circuit Recloser (ACR) technology. CCP3 is concerned that there is not a consistent approach to addressing this VBRC recommendation in the most cost effective manner.

CCP3 had difficulty in identifying VBRC capex in the amounts expended during the current period from the information provided especially as some of the work undertaken was funded by the Victoria government.

CCP3 considers that all of the DNSPs should be required to identify VBRC capex as a separate item in the RIN data and to more clearly state what capex is devoted to VBRC work in the next period. Such an approach would enable a like for like comparison to be

made and to excise from benchmarking data the unique features faced by the Victorian DNSPs with regard to this legislated but unique impost.

6.6 Customer connections capex

Table 4.4 Victorian distributor connections capital expenditure proposals

Distributor	2016–20 augex (\$million, 2015)	Proportion of total capex (per cent)	Change from actual connections in 2011–15 period
AusNet Services	368	19	29
CitiPower	332	33	40
Jemena	170	20	15
Powercor	649	30	149
United Energy	249	21	30

Source: Distributor regulatory proposals and RINs.

Connections capex is a major cost element of the capex proposals, ranking either the highest cost or second highest.

All DNSPs are seeking to increase connections capex, but generally the increases are relatively small except for PC which seeks a 30% increase - an increase that seems to be at odds with the forecast growth in new connections.

Despite the modest increases claimed by each DNSP (except PC), it needs to be recognised that during the current period, the growth in new connections is much the same as is forecast for the next period. If the rate of new connections are much the same as in the past, it would be expected that the cost would be much the same and no increases would be required noting also the potential changes to the regulatory arrangements for new connection meters under the proposed meter cost recovery and contestability policies.

A major concern lies with the amounts of recovery expected by each of the DNSPs from those being connected. As a general observation, CCP3 considers that those connecting to the network should pay for the cost of that connection. A new load should result in sharing of the cost of the common assets so that existing customers achieve lower costs. However, this is not the case, as connection guidelines allow for new connections to reduce the customer contribution to reflect the increased utilisation of the assets and this reduces the benefit that existing customers get from new customers joining.

Victoria has not yet ratified NECF so the connections policies embedded in NECF do not apply to the Victorian DNSPs and should use the ESCV guidelines for new connections. The AER has a guideline for new connections, developed from NER Chapter 5A and the F&A seems to imply that ESCV guideline should apply. Despite this, some of the DNSPs

seem to indicate that they have followed the AER guideline. This issue needs to be clarified.

However, analysis of the costs sharing (regardless of the guideline used), clearly shows that existing customers are levied with a significant share of the cost of connecting new customers.

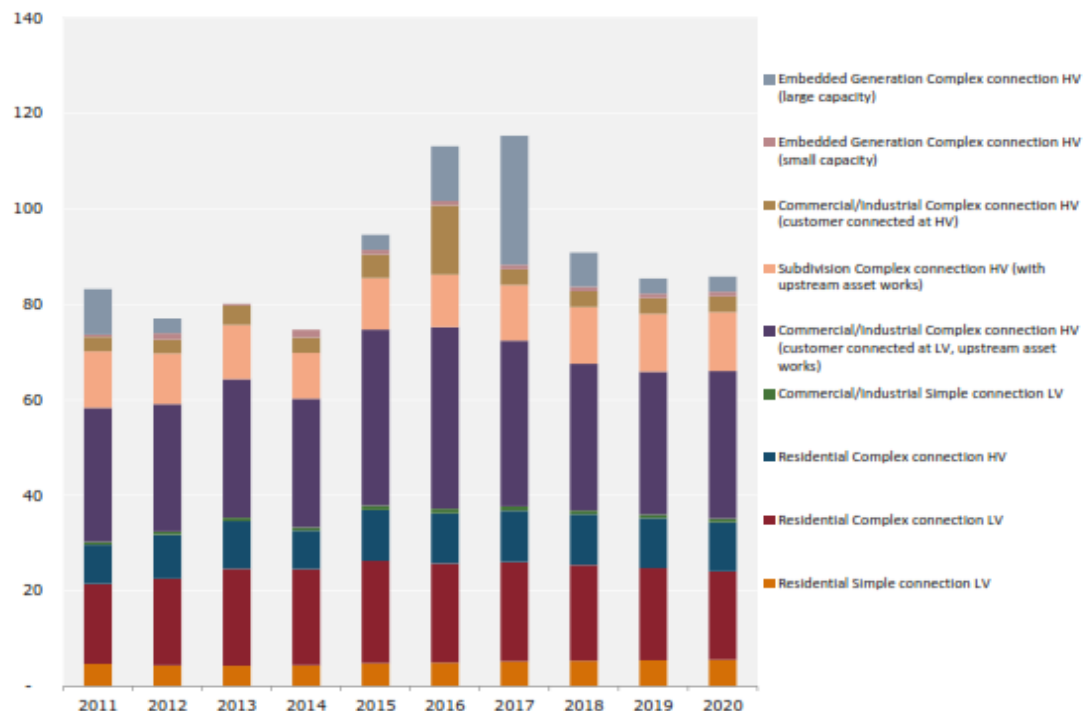
For example,

- In the current period, AusNet existing customers contributed about 30% of the cost of new connections and forecasts that it will recover about 50% of the new connection costs from new customers. Other DNSPs are forecasting even lower recoveries. CCP3 is concerned that the forecasts of customer contributions varies so significantly between the different DNSPs.
- UE comments in its proposal that they did not even recover their forecast customer contributions, implying that existing customers carried even more of the costs of new connections than was forecast.

In particular, CCP3 questions why some of the major developments being proposed (e.g. Fisherman's Bend, Melbourne Airport, dairies, and new generation) are having significant proportions of their connection costs paid for by residential consumers and other business enterprises (which might even be in competition to the developers requiring the new connection).

In Appendix E of its proposal, PC provides a breakdown of connection type over the current period and forecast.

Figure 5.4 Breakdown of gross direct capital expenditure by connection type, excl recoverable works and gifted assets (\$ million, 2015)



Source: Powercor

This shows that residential and small business connections comprise a relatively modest proportion of all new connections yet the bulk of the new connection costs are likely to fall on existing residential and small business customers. CCP3 questions whether this is equitable.

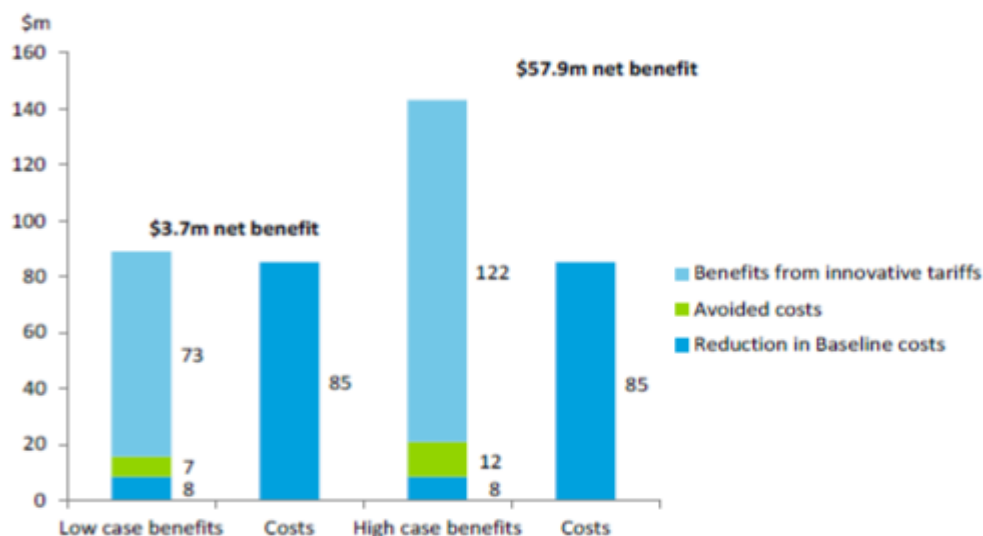
The need for augmentation capex is a result of increased connections. Effectively, the cost of the augmentations is additive to the cost of new connections. As all existing consumers are carrying the cost of augmentations as well as the larger part of the cost for new connections, CCP3 considers that the AER needs to examine more closely the total costs for expanding the networks and the allocation of the costs incurred.

6.7 Non-network capex - IT

As a general view, CCP3 considers that new IT systems (like many aspects of non-network investment) should only be implemented if there is a clear benefit to consumers who are funding such investment. Examination of the cost benefit analyses that are provided are not robust as details about how the benefits are costed is not clear and dependent on assumptions that are not provided.

For example, PC and CP have decided that a new customer relationship management (CRM) and billing system should be implemented. A report from Deloitte Access Economics (CP proposal attachment 9.21) provides a view that the new system will generate a marginal saving based on the low case benefit with a significant saving on the high case benefits. The following figure shows this.

Figure 7.13 Net economic from investing in a new CRM and billing system



Source: DAE, *Investing in a new billing and customer relationship management system*, 16 December 2014, p. 4.

The benefits show a saving in avoided costs and a reduction in baseline costs yet these are not translated into the forecast opex (CCP3 considers that the avoided costs are also a reduction in baseline costs too but this seems not to be the case as CP and PC seek increases in opex to management the new system) but the major benefits are related to benefits from innovative tariffs yet there is no compensating reduction in capex from reductions in demand (i.e. it would appear that the demand response that comes from the innovative tariffs – the main driver of the investment – is not factored into the forecast peak demands).

Three of the DNSPs (AusNet, JEN and UE) are seeking much the same IT and communications capex as that used in the current period with JEN seeking a bit more and AusNet seeking a bit less. In contrast both CP and PC are seeking to double their existing IT capex, although it could be that much of the increase is related to the CRM and billing system.

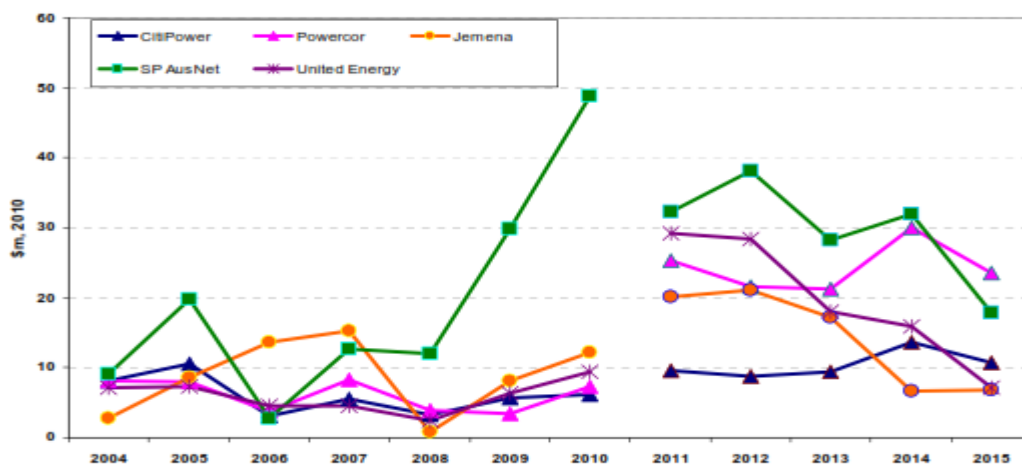
Overall, the existing level of IT and communications capex across all the DNSPs totals about \$110m pa, and an increase to about \$135m pa is being forecast. A core question for CCP3 is whether all of this investment is reasonable and whether consumers are getting fair value for the funding they are supporting. It is important to note that for the period 2006-2010, the total allowed capex for IT and communications capex was some \$65m pa (\$2015) – about half what the DNSPs are seeking for the next period.

Not all of the capex allowed for IT and communications for the current period has been used. This means that some of the claims for increases come after deferring this capex in the current period.

However, with the reset for the current period, the DNSPs claimed a considerable increase in IT and communications capex to reflect some unique aspects that they stated needed to be addressed, such as being able to maximise the benefits of the AMI roll out.

This increase is shown in the following figure from the AER Final decision in 2009 for the Victorian DNSPs.

Figure 8.15 Victorian DNSPs' 2004–2015 capex—Non-network–IT (\$m, 2010)



Note: Capex in this figure is not at a direct cost level and includes DNSPs' proposed margins, overheads and real cost increases.
 2004–2008 data is actual capex, 2009–2015 is forecast capex.

Source: CitiPower Regulatory Proposal, RIN template 2.1, Powercor Regulatory Proposal, RIN template 2.1, Jemena Regulatory Proposal, RIN template 2.1, SP AusNet, Regulatory Proposal, RIN template 2.1, United Energy Regulatory Proposal, RIN template 2.1.

The AER final decision allowed much of the claimed increase so the current levels of IT and communications capex reflect “one off” adjustments which do not necessarily need to be replicated in the next period.

CCP3 considers that what was considered reasonable in the period before the current period still has significance in setting the overall IT and communications capex for the next period and the current levels of capex reflect several elements that need not be carried forward into the next period.

For example, CP has stated that it needs the increase in IT capex for it to:

- provide system needs for compliance reporting;
- maintain latest versions and ensure there is the capacity to manage vast amounts of data;
- conduct customer engagement;
- replace hardware;
- be able to optimise infrastructure asset life cycles;
- maintain security of supply; and

- have a smarter network.

CCP3 sees that these are functions that CP has always had (except for developing a smarter network), so the current levels of capex should permit it to continue to provide the services identified, especially noting that the current level of capex includes for the one off issues identified as needed to accommodate the AMI roll out.

Overall, CCP3 considers that the capex for IT and communications should reflect a reduction from the current levels (following the pattern proposed by AusNet) in order to bring the amounts of capex back to reasonable levels.

If a DNSP wants to increase its IT and communications capex, this should be done when a cost benefit analysis shows that there is a net benefit to consumers AND that the benefits are integrated into the forecasts for capex and opex so that the benefits are actually seen by consumers.

6.8 Other non-network capex

CCP3 has no specific comment about with regard to other non-network capex

6.9 Cost and growth escalators

The DNSPs propose to use their enterprise agreements (EBAs) as the driver of their labour cost escalation or other similar approaches. CCP3 considers that the current approach used by the AER which is based on independent assessments of future labour cost movements is preferable to basing forecasts on negotiated agreements or forecasts of these.

All the DNSPs accept the current AER view that the cost growth in materials is adequately covered by the conventional movements of CPI. While CCP3 has a view that the recent massive falls in iron ore, coal and oil along with the more modest movements in other materials might result in a lower cost growth for materials used by the DNSPs, the logic behind the recent AER approach is supported.

Both CP and PC propose to introduce a new escalation method for forecasting the cost movements of contracts. CCP3 is not convinced that this new approach provides a more accurate outcome than the previously used movements of construction labour and materials. It is concerning that it appears that the movement of “contracts” appears to deliver a higher expected cost growth than would occur based on a cost growth based on construction labour and materials. CCP3 considers that there is insufficient reason to include a new category into the cost growth calculation, especially as the approach based on EGWS labour, construction labour and materials has historically been seen to more than address the cost growths actually experienced.

CCP3 also sees that there is a need to formalise the proportions of internal labour, construction labour and materials used in the cost growth calculation. While CCP3 sees that each DNSP might have specific reasons to vary the actual mix of their internal and external labour and materials, the AER is required to set an allowance based on the

notional efficient entity rather than provide for the unique needs of each DNSP. CCP3 therefore considers that the AER should assess the optimum mix of internal and external labour and materials and apply this to all DNSPs.

Different assessments are made for identifying an appropriate allowance for growth in assets. While having its own concerns about the factors and proportions of each factor that the AER uses to provide for expected growth in assets, CCP3 considers that the AER approach provides a consistency that applies across all DNSPs.

CCP3 considers that a consistent approach for escalation of costs and growth, based on the notional efficient entity, is very much in the long term interests of consumers. The AER has established a sound method for making reasonable adjustments for forecast capex (and opex), and CCP3 considers that the AER approach meets the needs of consumers in this regard.

7. Incentive schemes

CCP3 sees that the incentive schemes especially those applying to the reliability (service target performance incentive scheme – STPIS), opex (efficiency Benefit sharing scheme – EBSS) and capex (capital expenditure sharing scheme – CESS) provide an inter-related suite of incentives. This means that a change to any one of them has the potential to cause a change in the power of the incentive and change the inherent relationship that is a core element of the schemes.

As a matter of principle, CCP3 does not consider that any element of the three schemes should be varied from what is detailed in the guidelines detailing the incentives.

It has been suggested that the recent change to the Value of Customer Reliability (VCR) developed by AEMO, will impact on the reliability provided by the DNSPs as it will result in deferrals of augmentation and replacement projects. CCP3 agrees that this will be a natural outcome as VCR is a core element used in the probabilistic calculation of the need for capex. Over time, a lower VCR will impact network reliability.

Equally, CCP3 considers that the impact of changing VCR will be minimal in the short term as the bulk of assets providing the reliability were implemented under the higher values of VCR used in the past, along with deterministic reliability settings used before probabilistic tools were used. Overall, reliability across the networks should be maintained because the decisions for historic investments which comprise the vast majority of the network assets were made using higher standards. As the STPIS reflects historic performance, the impact of the slight deferrals that will now apply through the use of a lower VCR will change over time to reflect the outcomes of using a lower VCR.

CCP3 does not consider that the approach to setting reliability levels for the STPIS incentive need to be changed as a result of the lower VCR.

The DNSPs all suggest variations to the various incentive schemes, with most of the variations applying to the EBSS and STPIS.

The proposed exclusions for the EBSS differ between DNSPs but they include excluding:

- GSL and DMIS payments
- debt raising
- self insurance
- defined superannuation contributions
- Pass through amounts
- adjustments for capitalisation policies.

Within the STPIS, there are a variety of proposed adjustments/exclusions proposed.

Interestingly, not all DNSPs propose the same adjustments, indicating that the DNSPs do not have a common view on what is needed and one (UE) has only two concerns of significance to vary the incentives, one of which is related to VCR and the other considered as a concern by the other DNSPs.

CCP3 is aware that the AER has moved to exclude as few limitations to the assessments of inputs as possible in its decisions. CCP3 supports this as consumers experience total costs and reliability as a package, uninfluenced by the network's experiences. Further, as noted above, CCP3 sees that the incentives need to be seen as a package.

On this basis, CCP3 considers that no exclusions should be made to the approach used by the AER in its guidelines as this will change the balance of the incentives.

CCP3 also has concerns about the claims for demand management schemes (DMIS). As the scheme operates for revenue capped DNSPs, the AER determines an allowance (the DMIA) for the DNSPs to devote to examining options for increased demand management and demand side participation.

CCP3 has noted that there is a concern among consumers that the amounts allowed for the DMIA are significant when assessed in aggregate across all of the DNSPs in the NEM. With this in mind, CCP3 raises questions as to what this allowance is to achieve overall, to what extent the programs are managed between DNSPs to prevent duplication and whether there have been cost benefit analyses undertaken to ensure that the maximum value is achieved for the investments made using consumer contributions.

8. Weighted average cost of capital

8.1 Background

CCP3 notes that:

- The rate of return allowance makes up over 40 per cent of the total cost base of the Victorian DNSPs. Decisions on the rate of return therefore have very significant impacts on prices to consumers and on investment incentives for the DNSPs;
- The assessment of the rate of return has long been the area of greatest dispute between the regulator and the various network service providers (NSPs) including the Victorian DNSPs;
- The amendments to the National Electricity Rules (NER) and the National Gas Rules (NGR) in late 2012 made very substantial changes to how the rate of return should be determined, with a focus on objectives, principles and criteria rather than prescriptive requirements while broadening the scope for the AER to use its judgement in making its decision in the long-term interests of consumers;
- The rule changes have not been tested in the Australian Competition Tribunal (Tribunal). However, judging by the amount of material already submitted by the Victorian DNSPs and other NSPs, the changes to the rules are providing a very fertile ground for disputes and legal appeals; and
- After some 12 months of consultation, the AER published a Rate of Return Guideline (as required under the amended rules) in late 2013. The Guideline was designed to provide some certainty and transparency to all stakeholders including the NSPs regarding the AER's intended approach to estimating an efficient rate of return. However, the Victorian DNSPs' proposals include substantial variations from the AER's Rate of Return Guideline

CCP3 also notes the responses by other stakeholders including consumer and business representatives and energy retailers to the Victorian DNSPs. We greatly appreciate their efforts and acknowledge the widespread concern amongst these stakeholders with the rate of return proposals submitted by the Victorian DNSPs.

CCP3 shares these concerns. While our submission will not cover all aspects of the DNSPs' rate of return proposals, we will attempt to respond to a number of the more contentious areas particularly with respect to the estimation of the return on equity.

CCP3 observes that the Victorian DNSPs' rates of return proposals have many common elements and we note that these are also shared with the rate of return proposals from most of the NSPs outside Victoria. In addition, the proposals draw on the same suite of consultant reports.

As a result, much of our commentary on the rate of return proposals will be generic. We will also draw on the relevant decisions by the AER in 2014 and 2015 for NSW, Queensland, South Australia electricity and gas networks including various papers prepared by the AER’s expert advisors.

8.2 Summary of the proposals by the Victorian NSPs

8.2.1 Overall WACC

Table 1 below, from the AER’s Issues Paper summarises the proposals by the five DNSPs.

Table 1: Victorian electricity DNSPs’ proposed rates of return

	AusNet Services	CitiPower	Jemena	Powercor	United Energy
Overall WACC (per cent)	7.19	7.20	7.18	7.20	7.38
Return on equity (post-tax nominal) (per cent)	9.90	9.90	9.87	9.90	9.95
Return on debt (pre-tax nominal) (per cent)	5.39	5.39	5.39	5.39	5.67

Source: AER, *Issues paper, Victorian electricity distribution pricing review 2016 to 2020*, 9 June 2015, Table 6.1, p 46.

All the proposals submitted by the Victorian DNSPs depart from the AER’s Rate of Return Guideline that was published in late 2013 after a significant period of consultation.²⁸

While compliance with the Rate of Return Guideline is not mandatory, the NER requires that both the AER and the networks set out the reasons for any departure from the Guideline.²⁹ Without this constraint in the NER, the NSPs and other stakeholders were greatly concerned that the AER’s determinations would lack predictability and transparency.

CCP3 therefore finds it somewhat ironic that it is the NSPs, including the Victorian DNSPs, who are so strongly pursuing variations from the Rate of Return Guideline.

²⁸ See AER, *Better Regulation - Rate of Return Guideline*, December 2013 [AER, Rate of Return Guideline] and the associated document, AER, *Better Regulation - Explanatory Statement - Rate of Return Guideline*, December 2013.

²⁹ NER, 6.2.8 (c) and NER S6.1.3 (9).

As a result of the Victorian DNSPs' departures from the Guideline, the proposed rates of return are significantly above the more recent decisions by the AER.

The Victorian DNSPs' overall WACC proposals of around 7.2 per cent are some 175 basis points or more above the AER's most recent WACC decisions, e.g. 5.41 per cent for Jemena Gas Networks NSW (June 2015).³⁰ This difference between the AER and the Victorian DNSPs is due to differences in both the return on equity and return on debt.

The most significant impact arises from differences in the assessment of the return on equity as the DNSPs have proposed major variations from the AER's Rate of Return Guideline.

A brief summary of the Victorian DNSPs' approach to the return on equity and return on debt follows.

8.2.2 Return on Equity

The primary reason for this difference in the overall WACC between the AER and the Victorian DNSPs is the different approaches to the return on equity. As noted above, the Victorian DNSPs are proposing significant variations from the AER's Rate of Return Guideline

In its recent decisions, the AER has determined a return on equity of around 7.1 per cent (subject to changes in the risk free rate). Given a risk free rate of 2.55 per cent this implies an equity risk premium of around 4.55 per cent.

However, the Victorian DNSPs are proposing a return on equity of some 9.90 per cent, around 280 basis points higher than the AER's. The implied equity risk premium over the risk free rate is around 7.35 per cent compared to the AER's 4.55 per cent.

The Victorian DNSPs' equity risk premium is also larger than the equity risk premium allowed under the AER's 2011-2015 determination of some 5 to 5.5 per cent made not long after the peak of the global financial crisis (GFC).

These very large differences in the return on equity, and implied equity premium, reflect the very different modelling approaches adopted by the Victorian DNSPs compared to the approach set out in the AER's Rate of Return Guideline.

The DNSPs argue that the approach set out in the Guideline will not allow them to recover their efficient financing costs or attract equity investors. They claim that the

³⁰ The published WACC applies to 2015-16 year and will be updated each years to reflect an update of the cost of debt. The Queensland and SA preliminary decisions may be revisited in as part of the AER's final decision in late 2015.

lower amount will result in lower investment in the network and increase their overall financing risks. This outcome will not be in the long-term interest of consumers as required by the National Electricity Objective (NEO).

8.2.3 Return on Debt

The Victorian DNSP's are proposing a return on debt of some 5.4 per cent on average. This proposal is around 100 basis points above the return on debt allowed by the AER if the AER applies its Rate of Return Guideline approach.

The DNSPs' proposals for the return on debt include a number of variations from the AER's Rate of Return Guideline approach to assessing the cost of debt. The most important of these variations concerns the process by which the cost of debt assessment is transitioned from the "on the day" approach to a 10-year rolling average approach.

All parties agreed that the 10-year rolling average approach would reduce volatility and the risk of divergence between the cost of debt and the debt allowance in any regulatory period. However, the Victorian DNSPs do not agree with the transition approach set out in the Guideline.

The AER has proposed a gradual transition over 10 years, with the first year (2016 in this case) being effectively the same as the previous "on the day" approach. Each year 1/10th of the debt will be reset meaning that full transition will occur over a 10-year cycle. The AER's intention was two-fold;

- To reduce risks of lost investor confidence that might arise from a sudden change in regulatory approach; and
- Minimise the risk of windfall gains or losses to either the NSPs or consumers from a changes to the regulatory approach.

The Victorian DNSPs have proposed a "hybrid" approach that they claim would minimise the potential for mismatch between the regulatory allowance and an efficient debt financing strategy.

The "hybrid" transition approach in essence involves the following elements.

- Transition to a 10 year trailing average using a portfolio of 1,2,3 to 10 year swap contracts priced at the start of the regulatory period;
- Immediate transition to a debt risk premium (DRP) based on a 10-year trailing average and updated each year. The DRP is added to the fixed swap contract cost.

The Victorian DNSPs also propose variations to the Rate of Return Guideline with respect to sources of data, averaging periods, credit ratings and extrapolation of data. These do

not have a significant immediate impact. However, the proposals do seek to give greater discretion to the DNSPs to vary elements of their approach in future years. Consumers have resisted this type of additional flexibility in the Guideline because of concerns that it could be gamed, would be complex and add to the areas of dispute between the regulatory and the businesses.

8.3 A summary of the CCC3's response to the Victorian DNSPs' proposals

8.3.1 Overview

The submissions to the AER by other stakeholders have largely rejected the Victorian DNSPs' proposals. They consider the businesses are low risk and in a time of very low interest rates the proposed rate of return on equity (and debt) is too high. They urge the AER to apply its Rate of Return Guideline that was developed after 12 months intensive consultation and which is generally regarded as conservative.

CCP3 supports the views of consumers and other stakeholders. Like a number of consumer submissions we consider that the AER's Rate of Return Guideline is essentially a conservative document that is more likely than not to result in rate of return allowances above those required by the benchmark efficient firm.

Nevertheless, we recognise that the AER's Rate of Return Guideline has been developed after extensive consultation with a wide range of stakeholders and, if applied, will lead to rate of returns that are preferable to those proposed by the Victorian DNSPs.

In this submission, CCP3 will discuss a number of elements of the proposals although it is not our intention to cover every aspect of the rate of return proposals – such a task is beyond the scope of any but the most generously funded organisations willing to read through many thousands of pages and spreadsheets.

Therefore our response to the DNSPs' proposals is limited to the following areas.

- An overview of the 2012-13 reforms of the NER and NEL;
- An assessment of "real world" outcomes and the role that they can play in improving and/or supporting the AER's decision making
- An assessment of systematic risk and whether this has changed since 2013;
- A review of the DNSPs' proposals for the return on equity, including the "multi-model" approach; and
- A review of the DNSPs' proposals for the return on debt

A brief explanation of these four areas follows. Subsequent sections of this submission will expand on each of the issues.

8.3.2 What was the intent of the 2012-13 reforms to the NER and NEL?

In this submission CCP3 has included a discussion on the intent of the 2012-13 reforms to the NER and the National Electricity Law (NEL).

We anticipated that all that could be said about these reforms has been said. However, it CCP3 considers that in their proposals, the Victorian DNSPs have somewhat distorted the intention of the rule and law changes.

The reforms to the NEL and NER were initiated by consumer and business groups, the AER and the Commonwealth Government. They were in response to the sudden increases in network prices and the impact these were having on consumers and business.

There was a view that the gaps in the national energy rules were a major factor in this outcome and that the AER was overly restricted in its capacity to constrain network expenditures. The Australian Energy Market Commission (the AEMC) considered that the problem was best addressed by providing more flexibility in the rules in parallel with increasing the ability of the AER to exercise its judgment on the best approach to achieve the stated objectives.

That is, the rule changes were not about opening more opportunities for NSPs for dispute with the regulator.

With respect to the rate of return rule changes, the AEMC made it quite clear that the regulator was not bound by the NSPs' proposals. Rather, the AER was required to exercise its discretion to achieve the best outcome in accordance with the rate of return objectives and the long-term interests of consumers.

To provide some certainty to the networks, investors and consumers, the AER was required to develop a Rate of Return Guideline that set out its proposed approach to assessing an efficient the rate of return that met the rate of return objectives in the rules.

Reading the DNSPs' proposals, however, suggests they are still operating under the old rules, placing an onus on the regulator to "prove" them wrong. The AER has to take their views into due consideration as it must take in the views of consumers and other stakeholders. However, its judgment is not ultimately constrained by the network proposals.

8.3.3 Why is "real world" information important?

We believe that the AER's decision making could be more robust if greater use was made of information from the "real world".

In a paper submitted by the whole of the CCP to the AER Board in July 2014,³¹ the CCP highlighted a variety of information that the AER could usefully collect and use to guide (and defend) its decisions. Our concern was that the AER would become “sucked down” into endless and ultimately fruitless debates about arcane econometric and financing models. In doing so, it risks losing touch with the overall objectives. We consider this risk has, if anything, increased.

For instance, we demonstrated that most of the NSPs had been making equity returns that were well in excess of those “allowed” by the AER and that the AER’s rate of return decisions were more generous than its peers. We also highlighted that the investment market were valuing the network businesses well above their asset values with RAB multiples over 1.2 and up to 1.4. We argued that investors saw a favourable regulatory environment that generated reliable cash flows and returns to shareholders.

We recognise that the AER is making more use of market feedback in their most recent decisions. However, we argue there is still a way to go on this and it is made more urgent by the need for the AER to respond vigorously to the claims of the DNSPs.

As a footnote to these concerns, CCP3 also notes the recent report by the Productivity Commission which found that in 2013-14, the multi factor productivity of the electricity, gas, water and waste sector continued to decline by a further -5.4 per cent.³² There are several reasons for this continued decline but it does indicate how important it is to ensure the DNSPs only recover their efficient financing costs.

8.3.4 Are there changes in the systematic risk faced by the Victorian networks?

The Victorian DNSPs have made much of what they see as new risks facing the network businesses including little or no growth in electricity consumption and technology changes such as the expected growth in commercial and residential solar PV markets and battery technology.

CCP3 agrees that there are ongoing changes in technology and adapting to these will require the DNSPs to develop new business models. But change is not just a risk; it is also an opportunity. We consider that the DNSPs understate the opportunities that change provides whether it is savings from digital communication technology, opportunities for

³¹ Consumer Challenge Panel, *Smelling the roses and escaping the rabbit holes: the value of looking at actual outcomes in deciding WACC*, July 2014.

³² Productivity Commission, *PC Productivity Update 2015*, 20 July 2015. Table 1.2. <http://www.pc.gov.au/research/recurring/productivity-update/pc-productivity-update-2015/2014-australian-productivity>. Some of this decline reflected investment in the LNG industry, however, it illustrates the challenge facing the Council in meeting the 40% target set by the Commonwealth Government as part of their Energy Productivity Plan (as proclaimed in the Government’s Energy White Paper).

electric vehicles that the new battery technology opens up or opportunities for new products and new pricing arrangements.

In addition, the risks of technology change are faced by all sectors of the economy. For this reason, we believe that the additional risks do not necessarily qualify as systematic risks and can be diversified away. Technology risk is therefore part of the overall market risk and should be adequately captured in the market risk premium rather than the equity beta.

The DNSPs also understate the role of the regulatory framework in reducing risk, a role that might well be the envy of their business peers. For example, both revenue and asset values are protected by the regulatory framework while changes to the assessment of the cost of debt reduce the risk of under-recovery of finance costs. This section of our submission will explore these protections further.

8.3.5 Are the Victorian DNSPs' return on equity proposals reasonable?

CCP3 considers that the DNSPs' proposed approach to assessing the rate of return is not reasonable. Despite the thousands of pages and multiple consultant reports, the multi-model approach remains deeply problematic. Each of the iterations of the four models seems to add complexity, reduce transparency and become more speculative in the assumptions and model constructions.

In addition, only two of the four models in the multi-model approach have been generally applied by financial markets and regulators and often only for particular purposes not related to the regulatory task of assessing expected returns commensurate with the risks faced by a regulated network. In an effort to do so, the models have, as noted above, become more speculative with even less independent validation of the approach.

The fact that all the models, including the DNSPs version of the Sharpe-Lintner Capital Asset Pricing Model (SL-CAPM), are estimating a rate of return on equity close to 10 per cent, with equity risk premiums over 7.4 per cent over the risk free rate, tells us something is wrong. This premium exceeds the premium seen in the midst of the GFC (around 5 per cent), yet the economy grows, inflation and unemployment is steady, and there is ample liquidity in the equity and debt markets.

Moreover, simply taking a weighted average of a number of models does not a more robust outcome. In fact the very similarity of the return on equity outputs of the models suggests either:

- There is significant correlation between the models and/or their input assumptions, in which case the additional “information” provided by each model does not warrant the added complexity; and/or
- The models and the inputs to the models reflect conscious or unconscious expectations about the outcomes, what we call “goal-seek” models.

Our fundamental argument, however, is that the “multi-model” approach is a novel and untested approach in a regulatory setting, and one that is open to bias and dispute. CCP3 is not aware that any testing has been undertaken to see if models are correlated or complimentary and how sensitive the models are to reasonable changes in assumptions. However, we do not that the AER examined a number of the assumptions and sensitivities and found that output of each of the models (and by implication, the multi-model) overly sensitive to small changes in inputs.

We do not therefore accept that consumers should be subject to the risks inherent in applying experimental modelling techniques to assess the rate of return.

We also note the recent rather cryptic statement made by the AER’s consultant, Associate Professor Partington, in summarising his views that additional models or data will not per se lead to better quality results: “In econometric modelling when you put garbage in, you get garbage out”.³³ CCP3 considers that when what goes into the model is speculative and what comes out also a something of a mystery, we cannot have confidence in the overall process. This too is an unacceptable risk for consumers.

CCP3 notes the fact that thousands of pages and (in all likelihood) millions of dollars have been spent by the NSPs on promoting the multi-model approach but with little change to regulatory practices in Australia or throughout the world, suggests that there remain significant flaws in the framework proposed by the DNSPs. The lack of any meaningful attempt to engage consumers and explain why such significant variations from the Rate of Return Guideline is in their interest, merely adds to our concerns.

8.3.6 Is the proposed approach to calculating the return on debt?

Discussion on the merits of the Victorian DNSPs’ proposed approach to the return on debt could not proceed without recognising the reasons the AER and other stakeholders had for changing the approach from the “on-the-day” approach to a “trailing average” approach with annual updating of the debt costs and for providing a transition process. In essence, the trailing average approach was designed to reduce the risks of a mismatch

³³ Partington G., “Report to the AER, Return on Equity (Updated), April 2015, p. 14.

between the cost of debt and the allowed return on debt.³⁴ Similarly, the 10-year transition approach was designed to reduce potential risks of windfall profits or losses to the NSPs and to consumers.

If this is the case, then it is surprising that the transition process itself has generated so much debate as the AER's approach set out in the Rate of Return Guideline would improve the position of the networks relative to the previous approach. It is clear that the DNSPs see that the changes are an opportunity to increase their revenues.

CCP3 notes that, everything else being equal, in the long run each of the options would satisfy the NPV = 0 principle espoused by Handley.³⁵

However, everything else is not equal and the Victorian DNSPs' hybrid approach will cause the allowed return on debt to increase above the efficient level. That is, the hybrid approach proposed by the networks, which uses a 10-year historical average will mean that the DRP increases seen during the GFC will be included in the forward looking cost of debt. Consumers will be expected to pay twice for the GFC spike in premiums, one in the previous determination and again in the current determination.

We reject the proposition in some proposals that the AER is restricted from looking beyond the five-year regulatory terms. The AER's primary obligation is to determine an efficient rate of return for an efficiently financed firm bearing in mind the long-term interests of consumers.

It is not in consumers' long-term interests to fund the GFC premiums twice. After extensive consultation, the AER's Rate of Return Guideline proposed an approach to transition that was reasonable and provided benefits and protections to both the networks and consumers. We consider the AER should reject proposals to vary from the Guideline, particularly in the context that the outcomes will ensure recovery of costs already funded by consumers.

There are other areas where the Victorian DNSPs' proposals vary from the Rate of Return Guideline, including the process for weighting the Bloomberg Fair Value curve and the RBA 10-year bond yield and extrapolation techniques. The Victorian NSPs are also seeking variation on the Guideline's approach to averaging periods.

³⁴ This is because the previous approach of assessing the cost of debt on an "on-the-day" basis would have locked in the very low current costs of debt for five years. The AER's approach will allow the DNSPs' cost of debt to move gradually with changes in commercial bond rates.

³⁵ See for instance, Handley J.C., *Report to the AER, Advice on the Return on Equity*, October, 2014

CCP3 is not resourced to comment on the specific detail of the AER's approach and the DNSPs' proposed approach. What we do assert strongly, however, is the principle that opportunities for gaming (whether realised or not) should be minimised.

For example, support for the annual updating of the cost of debt by consumers and other stakeholders during the Better Regulation process was conditional on this process being automatic and that it did not provide opportunities for additional debate or manipulation.

To be clear we are not suggesting that the DNSPs' proposals have that intention.

That is not the point. It is whether the opportunity exists for such strategic activity that is relevant to consumers. We understand that the Guideline approach does provide such protections and to that extent we prefer it to the DNSPs' proposals that require many more subjective judgements on inputs and model specifications and in the transition process.

8.3.7 Some final thoughts

It might have been hoped that when the AEMC amended the NER and NGR in 2012-13 its intention to provide the regulator with greater strength and flexibility to achieve the rate of return objective would lead to a more constructive regulatory determination process.

If that is so, these hopes may well be fading as the current round of regulatory decisions unfold. Perhaps, however, it is a little too early to tell.

For instance, we are aware that the NSW and ACT DNSPs have recently appealed to the Australian Competition Tribunal (Tribunal) in an attempt to have significant elements of the AER's recent decisions overturned. We are also aware that many other NSPs have sought leave to intervene in the appeal, presumably in the expectation that the Tribunal's decisions will have broader impacts on the AER's decisions.

Thus, we are at a critical point in the process of assessing whether the amendments to the NER and the NGR will achieve the original intentions of the AEMC's rule changes. We therefore await the outcome of the appeal with considerable interest.

In the meantime, however, CCP3 is disturbed by the degree to which the NSPs, including the Victorian DNSPs, have sought to overturn key elements of the AER's Rate of Return Guideline.

These efforts by the NSPs to effectively make null and void the Rate of Return Guideline ignore the comprehensive consultation process conducted by the AER in the development of the Rate of Return Guideline and the support for the reform process from customers, business and government.

This outcome is also ironic because it was the networks and their representatives who so keenly sought additional transparency and predictability as a counterpoint to the increased discretion granted to the regulator.

The Guideline was intended to be the mechanism that would balance the competing objectives of flexibility and predictability. Yet it is the NSPs, including the Victorian NSPs who are intent on submitting regulatory proposals that substantially vary from the Rate of Return Guideline and deliver outcomes with much less transparency and predictability.

Whatever the motives the NSPs might have to undermine the very principles of certainty and transparency that they so keenly sought during the rule change process, CCP3 considers that their “solutions” do not meet the intent of the rule changes, the rate of return objectives or the long-term interests of consumers.

CCP3 also highlights the fact that the NSPs have made very little attempt to engage directly with consumers to explain their rate of return proposals and why they are proposing to deviate from the Guideline. It is left to the consumer to wade through the many thousands of pages in order to glean their reasoning.

Naturally, this process is increasingly alienating consumers and other stakeholders who do not have the resources to investigate the DNSPs’ proposals and assess the potential benefits and risks that their proposals entail.

This is decidedly not what the reform process intended as an outcome but it has become symptomatic of the whole adversarial nature of the current round of regulatory decision making.

The CCP urges the AER to reject the rate of return proposals submitted by the by the Victorian DNSPs.³⁶ We consider that the DNSPs’ proposed approach would deliver a rate of return in excess of efficient financing costs and this would not be in the long-term interests of consumers. We also do not consider that the DNSPs have conducted the necessary consultation with other stakeholders, particularly given the extent to which these stakeholders participated in the development of the Guideline.

We note in particular the extremely comprehensive review undertaken by the AER in its Final Decision on Jemena Gas Networks (NSW) regulatory proposal.³⁷ We believe that this

³⁶ We recognise that there are some differences between the NSPs in, for instance, the weightings they give to various models. However, overall the impact of these differences is small and each proposal draws on the same suite of consultant reports. For convenience, therefore, this chapter will treat the Victorian NSPs’ proposals for a rate of return as the same.

³⁷ AER, *Final Decision, JGN Access Arrangements 2016-20*, June 2015. The rate of return attachment to the decision (Attachment 3) runs to more than 500 pages.

provides a very substantive response to the issues raised by the networks to date and is highly relevant to the assessment of the Victorian DNSPs' rate of return proposals.

We consider that the assessment process set out in the AER's Rate of Return Guideline should continue to be the basis of the AER's regulatory decisions as it provides certainty and transparency. Importantly, the Guideline provides continuity with the past while providing additional flexibility to develop the rate of return approach to match changing circumstances.

This does not mean that CCP3 considers the AER's approach to assessing the rate of return is either perfect or inviolable. We expect the AER to continue to develop its approach including establishing a benchmarking process for its own decisions based on real world outcomes.

In addition, CCP3 does not dismiss the prospect of a future Rate of Return Guideline incorporating some of the modelling proposals submitted by the NSPs, including the Victorian DNSPs. However, such a step would require considerably more progress in providing assurance to stakeholders that such models deliver unbiased, transparent and predictable outcomes consistent with the long-term interests of consumers.

We note also the warnings of the Australian Competition Tribunal during the rule reform process in 2012 that in providing less prescription in the rules there is a real risk that this simply provides more opportunity for dispute and appeals.

We look instead for the flexibility to provide an opportunity for all stakeholders to work more cooperatively towards mutually beneficial solutions.

A detailed explanation of CCP3's position on the rate of return, including all the components of the rate of return assessment, is included in the Attachment 1 to this submission from CCP3.

9. Pricing

NER cl 6.18.1A(a) requires the DNSPs to propose their tariff structures as part of their Tariff Structure Statements. NER cl 11.76.2 requires the DNSPs to submit their first TSS by 25 September 2015.

Jemena chose to submit its TSS earlier, with its 2016 regulatory proposal. A key element of Jemena's TSS is to introduce maximum demand-based prices to the existing tariff structure for residential and small business customers.

Jemena's stated rationale for its proposal to update its network tariff structures is to encourage more informed customer decision making and to put downward pressure on its costs and average prices over the long term. The new 'maximum demand charge' for all residential and small business customers is to more clearly signal the higher costs of using the network during periods of peak demand, and thus encourage these customers to reduce or spread out consumption. The impact on individual customers' bills will depend on how and when they use the network, and how they respond to the new price signals.

CCP3 is concerned that if there is a move to peak demand based tariffs, that the peak demand for each consumer should be related to the times of expected peak network demand as this is the driver for augmentation. If the new demand tariff is an "anytime" peak demand tariff, this will do little to drive change. If the peak demand tariff is based on usage at peak times in the network (e.g. between 3 pm and 7 pm on summer work days or similar to that used by AEMO for transmission pricing), then this will result in a more equitable arrangement for allocation of costs.

CCP3 notes that the other DNSPs are to prepare their TSSs later in the year and it will review these at that time.

10. Pass through events

The general view is that there are risks faced by networks where consumers should bear the risk rather than face the potential costs a network might perceive would be needed to manage that risk. This particularly applies to High Impact, Low Probability risks where the cost to manage the risk could be very high. Additionally, in theory, the transfer of the risk of such low probability events to consumers, networks have a lower rate of return to reflect the lower risk profile the DNSPs have.

The rules allow for the costs for the following events to be passed through

- (1) a regulatory change event;
- (2) a service standard event;
- (3) a tax change event;
- (4) a retailer insolvency event; and
- (5) any other event specified in a distribution determination as a pass through event for the determination."

All DNSPs have identified where the AER has previously allowed the pass through of some risks. The following table summarises the different pass through events sought by the DNSPs and those that the AER has previously accepted in addition to those specifically noted in the NER.

Event	Past AER practice	AusNet	CP/PC	JEN	United
Insurance cap	X	x	x	x	x
Natural disaster	X	x	x	x	x
Terrorism	X	x	x	x	x
Insurer credit risk			x	x	x
Retailer insolvency (redefinition)			x	x	x
End of metering derogation			x	x	
Power of Choice		x			
Multiple trading relationships			x		
Carbon cost				x	
NECF					x
To apply to SCS and ACS			x	x	

As a matter of principle, CCP3 considers that fewer pass through events should be allowed than more. While CCP3 has a view that it is not convinced that the pass through events previously allowed by the AER should be provided, it accepts that these have now moved to become generally accepted pass through events.

A review of the proposed additional pass through events does not exhibit consistency across all of the DNSPs indicating that there is no general consensus on what should be added as accepted pass through events.

There are two events that have a majority of DNSPs seeking to be added - insurer credit risk and redefinition of retailer insolvency. CCP3 is aware that both of these (and some of the other events nominated) have been addressed by the AER in previous decisions. CCP3 does not consider that the reasons provided by the DNSPs for these pass through events adds new information that would lead to the AER needing to make a change to their previous decisions not to include the new pass through events.

With regard to the other claims for added pass through events, the fact that there is no consensus among the DNSPs for their need supports CCP3's view that they should not be included.

11. Metering

The AER’s Issues Paper notes that the DNSPs have reclassified at least some ongoing costs associated with the Advanced Metering Infrastructure (AMI) ‘smart meter’ program under standard control services, although the AER’s Framework and Approach paper classified AMI as an alternative control service. This was referred to in section 4.3.1 above.

AMI services were previously regulated under an Order in Council.

Table 2 in the AER’s Framework and Approach set out the differences between standard and alternative control services.

Classification		Description	Regulatory treatment
Direct control service	Standard control service	Services that are central to electricity supply and therefore relied on by most (if not all) customers such as building and maintaining the shared distribution network.	We regulate these services by determining prices or an overall cap on the amount of revenue that may be earned for all standard control services. The costs associated with these services are shared by all customers via their regular electricity bill.
	Alternative control service	Customer specific or customer requested services. These services may also have potential for provision on a competitive basis rather than by the local distributor.	We set service specific prices to enable the distributor to recover the full cost of each service from customers using that service.
Negotiated service		Services we consider require a less prescriptive regulatory approach because all relevant parties have sufficient market power to negotiate the provision of those services.	Distributors and customers are able to negotiate prices according to a framework established by the rules. We are available to arbitrate if necessary.
Unclassified service		Services that are not distribution services ³⁸ or services that are contestable and therefore do not need to be regulated.	We have no role in regulating these services.

³⁸ A distribution service is a service provided by means of, or in connection with, a distribution system. NER, Chapter 10.

The AER's proposed approach in its Framework & Approach to classify type 5 and 6 and smart meter - regulated services as alternative control was because these services are charged for separately, and provision of these services is likely to become open to more competition in future. The increasing range of metering services customers may wish to use (for example, smart meters) also suggested that the AER should unbundle these services from standard control. Solar PV and small generator pre-approval fees and type 7 metering will also be classified as alternative control.

The Framework & Approach also noted that the AEMC, in its consultations on introducing metering competition to Victoria, has stated that:

The NER mandates that smart metering in Victoria be classified as an alternative control service in the 2016-2020 regulatory control period...³⁹

Clause 11.17.6(a) of the NER requires the AER to regulate smart meters and their associated equipment in the first year of the next regulatory control period under the form of regulation which applies under the AMI Cost Recovery Order In Council (CROIC). The AMI CROIC includes provision for exit and restoration fees. The AMI CROIC also establishes a framework for regulating AMI metering which includes an individual price for meters serving customers in the same customer class. This characteristic is closest to an alternative control service. The AMI CROIC also regulates the price of the service on the basis of a cap on the maximum revenue a distributor may earn for the service. This is implemented through a 'building block' approach. It is subject to a 'true-up' mechanism, whereby variations in actual costs from forecast costs are adjusted in the following two years. The building block approach with an 'unders and overs' adjustment describes the form of control that operates under a revenue cap. In classifying a service the AER must, where there is no previous classification of the service, have regard to the previously applicable service classification.⁴⁰

As a consequence of these considerations, the AER decided to classify this service as an alternative control service and to apply a revenue cap as the form of control. The AER considered this classification will minimise any disruption to the existing approach to regulating this service. In their respective submissions, AusNet Services and Jemena supported this approach, while CitiPower/Powercor proposed that the service be classified as standard control, but subject to a revenue cap.⁴¹

It seems that the DNSPs have not justified in their regulatory proposals why they have departed from the Framework & Approach. CCP3 would have expected to have seen the justification so that stakeholders could comment appropriately.

³⁹ AEMC, *Competition in metering and related services - rule change, Stakeholder workshop 5*, 9 October 2014, p.30

⁴⁰ NER, clause 6.2.2(d)(2).

⁴¹ Jemena, *Submission on AER preliminary positions*, 21 July 2014, p. 12. SP AusNet, *Submission on AER preliminary positions*, 21 July 2014, pp. 5-8. CitiPower/Powercor, *Submission on AER preliminary positions*, 21 July 2014, pp. 9.

12. Public lighting

In its Framework and Approach, the AER considered that public lighting should be a negotiated service rather than an Alternative Control Service (ACS)

There is a consistent view presented by the councils in response to the DNSP proposals that negotiating with the DNSPs is a fraught exercise. The experience that CCP members who have also had to negotiate with DNSPs supports this view. The term "negotiate" when used in association with a monopoly is an oxymoron.

While some councils might have the resources to devote time to negotiate with the DNSPs many do not and this then means that those councils with no negotiating power will be put at an even greater disadvantage. It is not just the outcome of having to negotiate but the time needed to reach an acceptable solution.

Until a significant proportion of public lighting has been contracted to third parties (away from the DBs) then the relationship between councils and the DNSPs has to remain and be workable in order to deliver equitable outcomes. (Equitable outcomes require information symmetry and until this is achieved regulation is the least worst outcome)

The views put by the Victorian councils is consistent with that put by councils in other states, so there is a widespread view that moving public lighting from ACS to a negotiated service has little support on a NEM wide basis.

In addition to the issue of having regulated prices for public lighting maintenance, concern has been expressed about the derivation of the rates applied in the ACS pricing tables. Councils have commented that they do not know how the prices are developed and nor are they convinced that the prices reflect the costs for the services provided. CCP3 recognises that prices will vary between DBs for the same apparent service; a key aspect is related to the distances that the DNSP maintenance crews have to travel to provide the service, so maybe there is a need for the services to be further subdivided.

While it once seen as a new technology, LED lighting is now so widespread that it is effectively a common aspect of public lighting. CCP3 considers that LED lighting should no longer be considered "new technology".

CCP3 considers that public lighting for this regulatory period should continue to be an Alternative Control Service for conventional public lighting services (including LED lighting) as this will provide greater certainty for councils, prevent the likelihood of excessive time commitments needed for "negotiations" between each council and DNSP, and will minimise the risks to some councils (especially those with limited resources) that costs for public lighting will increase significantly.

CCP3 also considers that DNSPs should be able to demonstrate that the rates for public lighting services are reflective of the actual costs involved in providing the services. In this regard, CCP3 considers that perhaps the pricing for the services to provide public lighting

should reflect the difficulty in providing the services (e.g. broken down to urban, regional city and rural).

ATTACHMENT 1

THE REGULATED RATE OF RETURN FOR AN EFFICIENTLY FINANCED BENCHMARK EFFICIENT ENTITY OF SIMILAR RISK TO A DISTRIBUTION SERVICE PROVIDER

A RESPONSE BY THE CONSUMER CHALLENGE PANEL SUBGROUP 3 (CCP3)
TO THE RATE OF RETURN PROPOSALS BY THE VICTORIAN ELECTRICITY
DISTRIBUTION BUSINESSES

August 2015

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1 Overview of this Attachment to the CCP3 advice to the AER

1.1 Background

The Victorian electricity distribution service providers (DNSPs) have submitted their initial electricity distribution pricing proposals for 2015 to 2020 to the Australian Energy Regulator (AER).

This Attachment to advice from the Consumer Challenge Panel Sub Panel 3 (CCP3) responds in detail to the DNSPs' proposals on the rate of return.

There are several reasons for CCP3 to provide this separate attachment on the DNSPs' rate of return proposals, including:

- The rate of return allowance makes up over 40 per cent of the total cost base of the Victorian DNSPs. Decisions on the rate of return therefore have very significant impacts on prices to consumers and on investment incentives for the DNSPs;
- The assessment of the rate of return has long been the area of greatest dispute between the regulator and the various network service providers (NSPs) including the Victorian DNSPs;
- The amendments to the National Electricity Rules (NER) and the National Gas Rules (NGR) in late 2012 made very substantial changes to how the rate of return should be determined, with a focus on objectives, principles and criteria rather than prescriptive requirements while broadening the scope for the AER to use its judgement in making its decision in the long-term interests of consumers;
- The rule changes have not been tested in the Australian Competition Tribunal (Tribunal). However, judging by the amount of material already submitted by the Victorian DNSPs and other NSPs, the changes to the rules are providing a very fertile ground for disputes and legal appeals; and
- After some 12 months of consultation, the AER published a Rate of Return Guideline (as required under the amended rules) in late 2013. The Guideline was designed to provide some certainty and transparency to all stakeholders including the NSPs regarding the AER's intended approach to estimating an efficient rate of return. However, the Victorian DNSPs' proposals include substantial variations from the AER's Rate of Return Guideline.

CCP3 also notes the responses by other stakeholders including consumer and business representatives and energy retailers to the Victorian DNSPs. We greatly appreciate their efforts and acknowledge the widespread concern amongst these stakeholders with the rate of return proposals submitted by the Victorian DNSPs.

CCP3 shares these concerns. While our advice to the AER will not cover all aspects of the DNSPs' rate of return proposals, we will attempt to respond to the more contentious areas particularly with respect to the estimation of the return on equity.

CCP3 observes that the Victorian DNSPs' rates of return proposals have many common elements and we note that these are also shared with the rate of return proposals from most of the NSPs outside Victoria. In addition, the proposals draw on the same suite of consultant reports.

As a result, much of our commentary on the rate of return proposals will be generic. We will also draw on the relevant decisions by the AER in 2014 and 2015 for NSW, Queensland, South Australia electricity and gas networks including various papers prepared by the AER's expert advisors.

1.2 Summary of the proposals by the Victorian NSPs

1.2.1 Overall WACC

Table 1 below, from the AER's Issues Paper summarises the proposals by the five DNSPs.

Table 1: Victorian electricity DNSPs' proposed rates of return

	AusNet Services	CitiPower	Jemena	Powercor	United Energy
Overall WACC (per cent)	7.19	7.20	7.18	7.20	7.38
Return on equity (post-tax nominal) (per cent)	9.90	9.90	9.87	9.90	9.95
Return on debt (pre-tax nominal) (per cent)	5.39	5.39	5.39	5.39	5.67

Source: AER, *Issues paper, Victorian electricity distribution pricing review 2016 to 2020*, 9 June 2015, Table 6.1, p 46.

All the proposals submitted by the Victorian DNSPs depart from the AER's Rate of Return Guideline that was published in late 2013 after a significant period of consultation.¹

¹ See AER, *Better Regulation - Rate of Return Guideline*, December 2013 [AER, Rate of Return Guideline] and the associated document, AER, *Better Regulation - Explanatory Statement - Rate of Return Guideline*, December 2013.

While compliance with the Rate of Return Guideline is not mandatory, the NER requires that both the AER and the networks set out the reasons for any departure from the Guideline.² Without this constraint in the NER, the NSPs and other stakeholders were greatly concerned that the AER's determinations would lack predictability and transparency.

CCP3 therefore finds it somewhat ironic that it is the NSPs, including the Victorian DNSPs, who are so strongly pursuing variations from the Rate of Return Guideline.

As a result of the Victorian DNSPs' departures from the Guideline, the proposed rates of return are significantly above the more recent decisions by the AER.

The Victorian DNSPs' overall WACC proposals of around 7.2 per cent are some 175 basis points or more above the AER's most recent WACC decisions, e.g. 5.41 per cent for Jemena Gas Networks NSW (June 2015).³ This difference between the AER and the Victorian DNSPs is due to differences in both the return on equity and return on debt.

The most significant impact arises from differences in the assessment of the return on equity as the DNSPs have proposed major variations from the AER's Rate of Return Guideline.

A brief summary of the Victorian DNSPs' approach to the return on equity and return on debt follows.

1.2.2 Return on Equity

The primary reason for this difference in the overall WACC between the AER and the Victorian DNSPs is the different approaches to the return on equity. As noted above, the Victorian DNSPs are proposing significant variations from the AER's Rate of Return Guideline

In its recent decisions, the AER has determined a return on equity of around 7.1 per cent (subject to changes in the risk free rate). Given a risk free rate of 2.55 per cent this implies an equity risk premium of around 4.55 per cent.

However, the Victorian DNSPs are proposing a return on equity of some 9.90 per cent, around 280 basis points higher than the AER's. The implied equity risk premium over the risk free rate is around 7.35 per cent compared to the AER's 4.55 per cent.

The Victorian DNSPs' equity risk premium is also larger than the equity risk premium allowed under the AER's 2011-2015 determination of some 5 to 5.5 per cent made not long after the peak of the global financial crisis (GFC).

These very large differences in the return on equity, and implied equity premium, reflect the very different modelling approaches adopted by the Victorian DNSPs compared to the approach set out in the AER's Rate of Return Guideline.

The DNSPs argue that the approach set out in the Guideline will not allow them to recover their efficient financing costs or attract equity investors. They claim that the

² NER, 6.2.8 (c) and NER S6.1.3 (9).

³ The published WACC applies to 2015-16 year and will be updated each years to reflect an update of the cost of debt. The Queensland and SA preliminary decisions may be revisited in as part of the AER's final decision in late 2015.

lower amount will result in lower investment in the network and increase their overall financing risks. This outcome will not be in the long-term interest of consumers as required by the National Electricity Objective (NEO).

1.2.3 Return on Debt

The Victorian DNSP's are proposing a return on debt of some 5.4 per cent on average. This proposal is around 100 basis points above the return on debt allowed by the AER if the AER applies its Rate of Return Guideline approach.

The DNSPs' proposals for the return on debt include several variations from the AER's Rate of Return Guideline approach to assessing the cost of debt. The most important of these variations concerns the process by which the cost of debt assessment is transitioned from the "on the day" approach to a 10-year rolling average approach.

All parties agreed that the 10-year rolling average approach would reduce volatility and the risk of divergence between the cost of debt and the debt allowance in any regulatory period. However, the Victorian DNSPs do not agree with the transition approach set out in the Guideline.

The AER has proposed a gradual transition over 10 years, with the first year (2016 in this case) being effectively the same as the previous "on the day" approach. Each year 1/10th of the debt will be reset meaning that full transition will occur over a 10-year cycle. The AER's intention was two-fold;

- To reduce risks of lost investor confidence that might arise from a sudden change in regulatory approach; and
- Minimise the risk of windfall gains or losses to either the NSPs or consumers from a changes to the regulatory approach.

The Victorian DNSPs have proposed a "hybrid" approach that they claim would minimise the potential for mismatch between the regulatory allowance and an efficient debt financing strategy.

The "hybrid" transition approach in essence involves the following elements.

- Transition to a 10 year trailing average using a portfolio of 1,2,3 to 10 year swap contracts priced at the start of the regulatory period;
- Immediate transition to a debt risk premium (DRP) based on a 10-year trailing average and updated each year. The DRP is added to the fixed swap contract cost.

The Victorian DNSPs also propose variations to the Rate of Return Guideline with respect to sources of data, averaging periods, credit ratings and extrapolation of data. These do not have a significant immediate impact. However, the proposals do seek to given greater discretion to the DNSPs to vary elements of their approach in future years. Consumers have resisted this type of additional flexibility in the Guideline because of concerns that it could be gamed, would be complex and add to the areas of dispute between the regulatory and the businesses.

1.3 A summary of the CCC3's response to the Victorian DNSPs' proposals

1.3.1 Overview

The submissions to the AER by other stakeholders have largely rejected the Victorian DNSPs' proposals. They consider the businesses are low risk and in a time of very low interest rates the proposed rate of return on equity (and debt) is too high. They urge the AER to apply its Rate of Return Guideline that was developed after 12 months intensive consultation and which is generally regarded as conservative.

CCP3 supports the views of consumers and other stakeholders. Like a number of consumer submissions we consider that the AER's Rate of Return Guideline is essentially a conservative document that is more likely than not to result in rate of return allowances above those required by the benchmark efficient firm.

Nevertheless, we recognise that the AER's Rate of Return Guideline has been developed after extensive consultation with a wide range of stakeholders and, if applied, will lead to rate of returns that are preferable to those proposed by the Victorian DNSPs.

In this advice, CCP3 will discuss a number of elements of the proposals although it is not our intention to cover every aspect of the rate of return proposals – such a task is beyond the scope of any but the most generously funded organisations willing to read through many thousands of pages and spreadsheets.

Therefore our response to the DNSPs' proposals is limited to the following areas.

- An overview of the 2012-13 reforms of the NER and NEL;
- An assessment of “real world” outcomes and the role that they can play in improving and/or supporting the AER's decision making
- An assessment of systematic risk and whether this has changed since 2013;
- A review of the DNSPs' proposals for the return on equity, including the “multi-model” approach; and
- A review of the DNSPs' proposals for the return on debt

A brief explanation of these four areas follows. Subsequent sections of this submission will expand on each of the issues.

1.3.2 What was the intent of the 2012-13 reforms to the NER and NEL?

In this submission CCP3 has included a discussion on the intent of the 2012-13 reforms to the NER and the National Electricity Law (NEL).

We anticipated that all that could be said about these reforms has been said. However, CCP3 considers that in their proposals, the Victorian DNSPs have somewhat distorted the intention of the rule and law changes.

The reforms to the NEL and NER were initiated by consumer and business groups, the AER and the Commonwealth Government. They were in response to the sudden increases in network prices and the impact these were having on consumers and business.

There was a view that the gaps in the national energy rules were a major factor in this outcome and that the AER was overly restricted in its capacity to constrain network expenditures. The Australian Energy Market Commission (the AEMC) considered that the problem was best addressed by providing more flexibility in the rules in parallel with increasing the ability of the AER to exercise its judgment on the best approach to achieve the stated objectives.

That is, the rule changes were not about opening more opportunities for NSPs for dispute with the regulator.

With respect to the rate of return rule changes, the AEMC made it quite clear that the regulator was not bound by the NSPs' proposals. Rather, the AER was required to exercise its discretion to achieve the best outcome in accordance with the rate of return objectives and the long-term interests of consumers.

To provide some certainty to the networks, investors and consumers, the AER was required to develop a Rate of Return Guideline that set out its proposed approach to assessing an efficient the rate of return that met the rate of return objectives in the rules.

Reading the DNSPs' proposals, however, suggests they are still operating under the old rules, placing an onus on the regulator to "prove" them wrong. The AER has to take their views into due consideration as it must take in the views of consumers and other stakeholders. However, its judgment is not ultimately constrained by the network proposals.

1.3.3 Why is "real world" information important?

We believe that the AER's decision making could be more robust if greater use was made of information from the "real world".

In a paper submitted by the whole of the CCP to the AER Board in July 2014,⁴ the CCP highlighted a variety of information that the AER could usefully collect and use to guide (and defend) its decisions. Our concern was that the AER would become "sucked down" into endless and ultimately fruitless debates about arcane econometric and financing models. In doing so, it risks losing touch with the overall objectives. We consider this risk has, if anything, increased.

For instance, we demonstrated that most of the NSPs had been making equity returns that were well in excess of those "allowed" by the AER and that the AER's rate of return decisions were more generous than its peers. We also highlighted that the investment market were valuing the network businesses well above their asset values with RAB multiples over 1.2 and up to 1.4. We argued that investors saw a favourable regulatory environment that generated reliable cash flows and returns to shareholders.

⁴ Consumer Challenge Panel, *Smelling the roses and escaping the rabbit holes: the value of looking at actual outcomes in deciding WACC*, July 2014.

We recognise that the AER is making more use of market feedback in their most recent decisions. However, we argue there is still a way to go on this and it is made more urgent by the need for the AER to respond vigorously to the claims of the DNSPs.

As a footnote to these concerns, CCP3 also notes the recent report by the Productivity Commission which found that in 2013-14, the multi factor productivity of the electricity, gas, water and waste sector continued to decline by a further - 5.4 per cent.⁵ There are several reasons for this continued decline but it does indicate how important it is to ensure the DNSPs only recover their efficient financing costs.

1.3.4 Are there changes in the systematic risk faced by the Victorian networks?

The Victorian DNSPs have made much of what they see as new risks facing the network businesses including little or no growth in electricity consumption and technology changes such as the expected growth in commercial and residential solar PV markets and battery technology.

CCP3 agrees that there are ongoing changes in technology and adapting to these will require the DNSPs to develop new business models. But change is not just a risk; it is also an opportunity. We consider that the DNSPs understate the opportunities that change provides whether it is savings from digital communication technology, opportunities for electric vehicles that the new battery technology opens up or opportunities for new products and new pricing arrangements.

In addition, the risks of technology change are faced by all sectors of the economy. For this reason, we believe that the additional risks do not necessarily qualify as systematic risks and can be diversified away. Technology risk is therefore part of the overall market risk and should be adequately captured in the market risk premium rather than the equity beta.

The DNSPs also understate the role of the regulatory framework in reducing risk, a role that might well be the envy of their business peers. For example, both revenue and asset values are protected by the regulatory framework while changes to the assessment of the cost of debt reduces the risk of under-recovery of finance costs. This section of our submission will explore these protections further.

1.3.5 Are the Victorian DNSPs' return on equity proposals reasonable?

CCP3 considers that the DNSPs' proposed approach to assessing the rate of return is not reasonable. Despite the thousands of pages and multiple consultant reports, the multi-model approach remains deeply problematic. Each of the iterations of the four models seems to add complexity, reduce transparency and become more speculative in the assumptions and model constructions.

In addition, only two of the four models in the multi-model approach have been generally applied by financial markets and regulators and often only for particular

⁵ Productivity Commission, *PC Productivity Update 2015*, 20 July 2015. Table 1.2. <http://www.pc.gov.au/research/recurring/productivity-update/pc-productivity-update-2015/2014-australian-productivity>

Some of this decline reflected investment in the LNG industry, however it illustrates the challenge facing the Council in meeting the 40% target set by the Commonwealth Government as part of their Energy Productivity Plan (as proclaimed in the Government's Energy White Paper).

purposes not related to the regulatory task of assessing expected returns commensurate with the risks faced by a regulated network. In an effort to do so, the models have, as noted above, become more speculative with even less independent validation of the approach.

The fact that all the models, including the DNSPs version of the Sharpe-Lintner Capital Asset Pricing Model (SL-CAPM), are estimating a rate of return on equity close to 10 per cent, with equity risk premiums over 7.4 per cent over the risk free rate, tells us something is wrong. This premium exceeds the premium seen in the midst of the GFC (around 5 per cent), yet the economy grows, inflation and unemployment is steady, and there is ample liquidity in the equity and debt markets.

Moreover, simply taking a weighted average of a number of models does not a more robust outcome. In fact the very similarity of the return on equity outputs of the models suggests either:

- There is significant correlation between the models and/or their input assumptions, in which case the additional “information” provided by each model does not warrant the added complexity; and/or
- The models and the inputs to the models reflect conscious or unconscious expectations about the outcomes, what we call “goal-see” models.

Our fundamental argument, however, is that the “multi-model” approach is a novel and untested approach in a regulatory setting, and one that is open to bias and dispute. CCP3 is not aware that any testing has been undertaken to see if models are correlated or complimentary and how sensitive the models are to reasonable changes in assumptions. However, we do not that the AER examined a number of the assumptions and sensitivities and found that output of each of the models (and by implication, the multi-model) overly sensitive to small changes in inputs.

We do not therefore accept that consumers should be subject to the risks inherent in applying experimental modelling techniques to assess the rate of return.

We also note the recent rather cryptic statement made by the AER’s consultant, Associate Professor Partington, in summarising his views that additional models or data *will not* per se lead to better quality results: “In econometric modelling when you put garbage in, you get garbage out”.⁶ When what goes into the model is speculative and what comes out is also a something of a mystery, we cannot have confidence in the overall process. This too is an unacceptable risk for consumers.

CCP3 notes the fact that thousands of pages and (in all likelihood) millions of dollars have been spent by the NSPs on promoting the multi-model approach but with little change to regulatory practices in Australia or throughout the world, suggests that there remain significant flaws in the framework proposed by the DNSPs. The lack of any meaningful attempt to engage consumers and explain why such significant variations from the Rate of Return Guideline is in their interest, merely adds to our concerns.

⁶ Partington G., “Report to the AER, Return on Equity (Updated)”, April 2015, p. 14.

1.3.6 Is the proposed approach to calculating the return on debt?

Discussion on the merits of the Victorian DNSPs' proposed approach to the return on debt could not proceed without recognising the reasons the AER and other stakeholders had for changing the approach from the "on-the-day" approach to a "trailing average" approach with annual updating of the debt costs and for providing a transition process. In essence, the trailing average approach was designed to reduce the risks of a mismatch between the cost of debt and the allowed return on debt.⁷ Similarly, the 10-year transition approach was designed to reduce potential risks of windfall profits or losses to the NSPs and to consumers.

If this is the case, then it is surprising that the transition process itself has generated so much debate as the AER's approach set out in the Rate of Return Guideline would improve the position of the networks relative to the previous approach. It is clear that the DNSPs see that the changes are an opportunity to increase their revenues.

CCP3 notes that, everything else being equal, in the long run each of the options would satisfy the NPV = 0 principle espoused by Dr Martin Lally (Lally) and others.⁸

However, everything else is not equal and the Victorian DNSPs' hybrid approach will cause the allowed return on debt to increase above the efficient level. That is, the hybrid approach proposed by the networks, which uses a 10-year historical average will mean that the DRP increases seen during the GFC will be included in the forward looking cost of debt. Consumers will be expected to pay twice for the GFC spike in premiums, one in the previous determination and again in the current determination.

We reject the proposition in some proposals that the AER is restricted from looking beyond the five-year regulatory terms. The AER's primary obligation is to determine an efficient rate of return for an efficiently financed firm bearing in mind the long-term interests of consumers.

It is not in consumers' long-term interests to fund the GFC premiums twice. After extensive consultation, the AER's Rate of Return Guideline proposed an approach to transition that was reasonable and provided benefits and protections to both the networks and consumers. We consider the AER should reject proposals to vary from the Guideline, particularly in the context that the outcomes will ensure recovery of costs already funded by consumers.

There are other areas where the Victorian DNSPs' proposals vary from the Rate of Return Guideline, including the process for weighting the Bloomberg Fair Value curve and the RBA 10-year bond yield and extrapolation techniques. The Victorian NSPs are also seeking variation on the Guideline's approach to averaging periods.

CCP3 is not resourced to comment on the specific detail of the AER's approach and the DNSPs' proposed approach. What we do assert strongly, however, is the

⁷ This is because the previous approach of assessing the cost of debt on an "on-the-day" basis would have locked in the very low current costs of debt for five years. The AER's approach will allow the DNSPs' cost of debt to move gradually with changes in commercial bond rates.

⁸ See for instance, Lally M, "Review of Submissions on the cost of debt", April 2015 and Handley J.C., "Report to the AER, Advice on the Return on Equity", October, 2014.

principle that opportunities for gaming (whether realised or not) should be minimised.

For example, support for the annual updating of the cost of debt by consumers and other stakeholders during the Better Regulation process was conditional on this process being automatic and that it did not provide opportunities for additional debate or manipulation.

To be clear, we are not suggesting that the DNSPs' proposals have that intention.

That is not the point. It is whether the opportunity exists for such strategic activity that is relevant to consumers. We understand that the Guideline approach does provide such protections and to that extent we prefer it to the DNSPs' proposals that require many more subjective judgements on inputs and model specifications and in the transition process.

1.3.7 Some final thoughts

It might have been hoped that when the AEMC amended the NER and NGR in 2012-13 its intention to provide the regulator with greater strength and flexibility to achieve the rate of return objective would lead to a more constructive regulatory determination process.

If that is so, these hopes may well be fading as the current round of regulatory decisions unfold. Perhaps, however, it is a little too early to tell.

For instance, we are aware that the NSW and ACT DNSPs have recently appealed to the Australian Competition Tribunal (Tribunal) in an attempt to have significant elements of the AER's recent decisions overturned. We are also aware that many other NSPs have sought leave to intervene in the appeal, presumably in the expectation that the Tribunal's decisions will have broader impacts on the AER's decisions.

Thus, we are at a critical point in the process of assessing whether the amendments to the NER and the NGR will achieve the original intentions of the AEMC's rule changes. We therefore await the outcome of the appeal with considerable interest.

In the meantime, however, CCP3 is disturbed by the degree to which the NSPs, including the Victorian DNSPs, have sought to overturn key elements of the AER's Rate of Return Guideline.

These efforts by the NSPs to effectively make null and void the Rate of Return Guideline ignore the comprehensive consultation process conducted by the AER in the development of the Rate of Return Guideline and the support for the reform process from customers, business and government.

This outcome is also ironic because it was the networks and their representatives who so keenly sought additional transparency and predictability as a counterpoint to the increased discretion granted to the regulator.

The Guideline was intended to be the mechanism that would balance the competing objectives of flexibility and predictability. Yet it is the NSPs, including the

Victorian NSPs who are intent on submitting regulatory proposals that substantially vary from the Rate of Return Guideline and deliver outcomes with much less transparency and predictability.

Whatever the motives the NSPs might have to undermine the very principles of certainty and transparency that they so keenly sought during the rule change process, CCP3 considers that their “solutions” do not meet the intent of the rule changes, the rate of return objectives or the long-term interests of consumers.

CCP3 also highlights the fact that the NSPs have made very little attempt to engage directly with consumers to explain their rate of return proposals and why they are proposing to deviate from the Guideline. It is left to the consumer to wade through the many thousands of pages in order to glean their reasoning.

Naturally, this process is increasingly alienating consumers and other stakeholders who do not have the resources to investigate the DNSPs’ proposals and assess the potential benefits and risks that their proposals entail.

This is decidedly not what the reform process intended as an outcome but it has become symptomatic of the whole adversarial nature of the current round of regulatory decision making.

The CCP urges the AER to reject the rate of return proposals submitted by the by the Victorian DNSPs.⁹ We consider that the DNSPs’ proposed approach would deliver a rate of return in excess of efficient financing costs and this would not be in the long-term interests of consumers. We also do not consider that the DNSPs have conducted the necessary consultation with other stakeholders, particularly given the extent to which these stakeholders participated in the development of the Guideline.

We note in particular the extremely comprehensive review undertaken by the AER in its Final Decision on Jemena Gas Networks (NSW) regulatory proposal.¹⁰ We believe that this provides a very substantive response to the issues raised by the networks to date and is highly relevant to the assessment of the Victorian DNSPs’ rate of return proposals.

We consider that the assessment process set out in the AER’s Rate of Return Guideline should continue to be the basis of the AER’s regulatory decisions as it provides certainty and transparency. Importantly, the Guideline provides continuity with the past while providing additional flexibility to develop the rate of return approach to match changing circumstances.

This does not mean that CCP3 considers the AER’s approach to assessing the rate of return is either perfect or inviolable. We expect the AER to continue to develop its approach including establishing a benchmarking process for its own decisions based on real world outcomes.

⁹ We recognise that there are some differences between the NSPs in, for instance, the weightings they give to various models. However, overall the impact of these differences is small and each proposal draws on the same suite of consultant reports. For convenience therefore, this chapter will treat the Victorian NSPs’ proposals for a rate of return as the same.

¹⁰ AER, *Final Decision, JGN Access Arrangements 2016-20*, June 2015. The rate of return attachment to the decision (Attachment 3) runs to more than 500 pages.

In addition, CCP3 does not dismiss the prospect of a future Rate of Return Guideline incorporating some of the modelling proposals submitted by the NSPs, including the Victorian DNSPs. However, such a step would require considerably more progress in providing assurance to stakeholders that such models deliver unbiased, transparent and predictable outcomes consistent with the long-term interests of consumers.

We note also the warnings of the Australian Competition Tribunal during the rule reform process in 2012 that in providing less prescription in the rules there is a real risk that this simply provides more opportunity for dispute and appeals.

We look instead for the flexibility to provide an opportunity for all stakeholders to work more cooperatively towards mutually beneficial solutions.

A detailed explanation of CCP3's position on the rate of return, including all the components of the rate of return assessment is included in the following sections of this submission.

2. What was the intent of the 2012-13 reforms to the NER and NEL?

CCP3 has become increasingly concerned that the intent behind the reforms to the NER and the NEL in 2012-2013 may not be realised in practice. We have similar concerns with the reform of the National Gas Rules and the National Gas Law although that is not directly relevant to CCP3's remit.

It may well turn out that the AEMC's intention to provide the regulator with more flexibility and discretion to use its judgement to meet the regulatory objectives has, instead, delivered a perverse outcome by creating a renewed opportunity for more debate and dispute between the regulator and the regulated, with the consumer as "piggy in the middle".

To address this issue, CCP3 considers it is worth restating the background to the 2012-13 rule changes particularly given the apparent misinterpretations of the intent of the rule changes that we have seen in the Victorian DNSPs' proposals.

2.1 The drivers for reform of the rules and law

The 2012-13 reforms the NER, NGR, NEL and NGL were in response to the many issues raised by consumers, regulators and governments who were all alarmed at the excessive increases in electricity and gas network costs that occurred following the round of regulatory decisions in 2010-12 under the then new NER and NGR.

Specific rule changes were sought by the AER and by representatives of larger consumers (the Energy Users Association of Australia (EUAA)). The AER sought greater powers to exercise its discretion to make better pricing determinations in the interests of consumers.¹¹

The requests for change by the AER and the EUAA were simply the "tip of the iceberg". By 2011 there was widespread and growing concern with large network price increases that appeared to be well in excess of what was required to provide a safe and reliable network service to consumers.

For instance, the Productivity Commission (PC), the Council of Australian Governments (COAG) and the Standing Council on Energy and Resources (SCER) also recognised the need for reform.

For example, the PC stated that "spiralling network costs" in most states were the main contributors to electricity price increases (of 70 per cent or more) and that

¹¹ The AER also sought clarification of its capacity to undertake benchmarking and apply the benchmarking to the regulatory process.

these increases were, in turn, driven by “inefficiencies in the industry and flaws in the regulatory environment”.¹²

The SCER highlighted: “ the importance of ensuring network regulatory frameworks are delivering efficient and stable outcomes for consumers and investors”.¹³

The SCER not only took an active interest in the AEMC’s rule change process but also initiated its own review of the National Electricity and National Gas Laws (NEL and NGL) with the aim of reforming the appeals process.

A common view of stakeholders was that the AER had, under the previous rules, allowed the networks a rate of return that was much greater than their actual cost of capital. The higher rate of return also provided incentives to invest excessive capital in the networks – a “double whammy” for consumers.

2.2 The intent of the AEMC’s reforms

The AEMC’s final rule change determination for the NER and NGR came into effect at the start of January 2013, while the AER’s Rate of Return Guideline and associated Rate of Return Explanatory Statement were published in December 2013.

The AEMC’s rule changes were based on the clear intention that the long-term interests of consumers must be central to the AER’s decisions.

The AEMC considered that the best way to achieve this was to amend the rules to provide the AER with greater flexibility and more opportunity to exercise its judgement to determine the approaches that would best achieve the NEO or NGO.

As stated by the AEMC in its final position paper:¹⁴

*The amendments will provide the Australian Energy Regulator (AER), for gas and electricity, and the Economic Regulation Authority (ERA), for gas, with **additional strength and flexibility in setting revenue and prices** for electricity and gas network service providers (service providers). The most significant changes are in the way the regulator determines the rate of return that service providers can earn on their assets... [emphasis added]*

In coming to this view, the AEMC specifically rejected the proposals by many NSPs that there be greater prescription in the NER and NGR in order to limit the AER’s discretion.

The AEMC also explicitly rejected the claim by the networks’ industry body (Energy Networks Association (ENA)) and some NSPs that the rate of return decision should be subject to the constituent decision constraints that had previously applied to the NSPs’ proposed capital and operating expenditure proposals.

¹² See for instance Productivity Commission, *Electricity Network Regulation, Inquiry Report*, June 2013. The quotations are taken from the PC’s “key points” as set out on the PC website at <http://www.pc.gov.au/inquiries/completed/electricity/report>

¹³ Standing Council on Energy and Resources, Meeting Communiqué, Melbourne, 9 December 2011, p. 2.

¹⁴ AEMC 2012, *Economic Regulation of Network Service Providers, and Price and Revenue Regulation of Gas Services, Final Position Paper*, 15 November 2012, Sydney, p. i.

The NSPs' and ENA's claim was that the AER should be limited in its ability to substitute the rate of return that was set out in a NSP's regulatory proposal. They proposed that the rules specify that the AER's right to amend a NSP's rate of return proposal should be limited to the minimum extent to extent necessary to enable it to be approved in accordance with the rules.¹⁵

The AEMC explicitly rejected these proposals from the NSPs and stated that the proponents of this approach:¹⁶

...had not made a sufficient case as to why such a restriction should apply to constrain the AER's ability to determine the rate of return with reference to the NSP's regulatory proposal.

However, it has to be said that the in the current round of determinations, many of the NSPs responses have indicated that they have not understood the AEMC's rejection of any proposal to constrain the AER's discretion.

2.3 Balancing flexibility with predictability

As indicated in the quotation above, the AEMC clearly sought to provide sufficient flexibility in the rules for the AER to exercise its best judgement on how the NEO and NGR could be achieved.

On the other hand, the AEMC also sought to address the NSPs' concerns that this greater flexibility and scope for the AER to exercise its judgement would lead to more uncertainty for investors and other stakeholders.

For example, the NSPs proposed that an "inertia principle" be included in the rules noting that, absent such a principle, any two experts could look at the same material and come up with multiple answers thus reducing "certainty, stability and transparency in the regulatory framework".¹⁷ The investment analysts and credit rating providers shared this concern. Immediately following the AEMC's rule changes in 2012, Moody's changed its outlook on the Australian regulated utilities sector to negative because it saw a risk to the stability of the regulatory process.¹⁸

However, following the release of the Rate of Return Guideline, Moody's modified its negative stance but also noted that: "if the regulator departs materially from its guideline then that would reignite concerns over the regulatory setting".¹⁹

Most recently, Moody's assessed the impact of the AER's draft revenue determinations for South Australian and Queensland DNSPs. Moody's concluded that:²⁰

¹⁵ Ibid, p. 46.

¹⁶ Ibid.

¹⁷ Ibid, p. 28.

¹⁸ Moody's Investors Service, "Negative outlook on Australian regulated utilities", 21 February 2013. https://www.moodys.com/research/Moodys-Negative-outlook-on-Australian-regulated-utilities--PR_266517

¹⁹ Moody's Investors Service, "Regulator's final guideline improves revenue visibility for Australian regulated networks but uncertainty remains", 19 December 2013. https://www.moodys.com/research/Moodys-Regulators-final-guideline-improves-revenue-visibility-for-Australian-regulated--PR_28946. The research states that: "Because of the non-binding nature of the guideline, the regulator's commitment to its framework and the consistency in which it is applied, will be a key factor in the predictability of the regulatory environment". The report did not anticipate that it would be the NSPs that would promote such departure and thereby raise the level of uncertainty.

[t]he revenue determinations are consistent with the AER's approach to setting the weighted average cost of capital as published in December 2013.

Moody's therefore considers the AER's actions to be reflective of a stable regulatory environment ...the consistent application of the regulatory guidelines reaffirms the track record of Australia's transparent and predictable regulatory regime.

It should be clear from the discussion above that the AEMC's primary intention was to balance greater flexibility and strength for the regulator with transparency and predictability in the regulatory outcomes. The AEMC recognised that this was necessary in order to give confidence to investors and lenders that the regulatory regime was stable and effective, as highlighted in the series of quotations above from Moody's.

Four important themes emerged from these reforms to the rules and laws:

- In determining the rate of return, the AER and the Tribunal should take a holistic view with a focus on the long-term interests of consumers (as set out in the NEO) and on achieving an overall rate of return required for an efficiently financed efficient benchmark business of similar risk;
- The AER should be given greater discretion to use its judgement to determine the rate of return assessment approach that would best achieve this objective and must set this out in a Guideline;
- The AER is not constrained in its decisions by the NSPs' proposals, i.e. it is not limited to changing the proposals only to the minimum extent necessary; and
- Consumers should be active participants in both the AER and the Tribunal's process.

However, despite the AEMC's views, and despite the extensive consultation with all stakeholders that occurred during the rule change process, the great majority of the NSPs have proposed an approach to the rate of return assessment that varies very substantially from the AER's Rate of Return Guideline.

CCP3's firm view is that the Victorian DNSPs have not provided an adequate case for proposing such extensive variations from the Rate of Return Guideline. Rather, the DNSPs have used the greater flexibility in the rules to promote their own novel approaches even when this does not provide the transparency and certainty so sought by all stakeholders (including the NSPs). In this, the Victorian DNSPs have adopted a very similar approach to all the other NSPs that have submitted regulatory proposals.

Moreover, despite the rule changes the AER has clearly felt it necessary to engage in a detailed response to the each of NSPs' proposals. To wit, the AER has felt obliged to respond to these arguments with many more pages of detailed argument. It is the DNSPs that are using their interpretation of the legal

²⁰ Moody's Investors Service, "Impact of draft revenue determinations manageable for regulated networks", 4 May 2015. https://www.moodys.com/research/Moodys-Impact-of-draft-revenue-determinations-manageable-for-Australian-regulated--PR_324255#

construction of the rules to defend their view that they are entitled to higher rates of return than might be efficient.

We are, therefore, very concerned that the assessment of the rate of return has descended into a battle of legal interpretations of the rules, obscure econometric and financing theories, remote from the real concerns of consumers and other stakeholders.

CCP3 wonders if this is the best use of the AER's skills and resources that it should need to spend so much time in repeatedly defending the application of its Rate of Return Guideline to its decisions, particularly given the Guidelines represent the default regulatory position. It seems to us that it is the party that is proposing to vary from the Guideline who must convince the AER and their customers of the merits of their case. Perhaps it is an argument for a reversion to more prescription in the NER and NGR.

In any case, we urge the AER to continue to focus more on the overall reasonableness of the rate of return outcomes in the current market as we consider this is what the AEMC intended in the rule changes.

We also conclude that the NSPs, including the Victorian DNSPs, have misconstrued the intent of the reforms to the rules and the laws.

In their long and complex submissions the DNSPs have focussed on the minutiae of the rate of return, such as which equity models will be used when.

However, the NER requires that it is the overall rate of return outcome that is central. The DNSPs' proposals have also sought to nullify the Rate of Return Guideline but have not engaged with their customers on their reasons for this and why it is in the consumers' long-term interests to depart extensively from the Guidelines.

The CCP also does not agree with all aspects of the AER's Rate of return Guideline. For instance, the CCP considered the AER did not place sufficient emphasis on "real world" outcomes as discussed below.

In various submissions to the AER, the CCP has also indicated that it considers certain parameters in the return on equity model (such as the equity beta) are far too conservative.

Nevertheless, the CCP acknowledges that the AER undertook a thorough and consultative process as required by the AEMC reforms before finalising the Rate of Return Guideline. The CCP also considers that the AER's approach is distinctly preferable to the large scale variation from the Rate of Return Guideline that the Victorian DNSPs (and others) are proposing.

The CCP has already indicated one way (albeit not the only way) that may assist the AER in "standing back" and taking a more holistic view of the rate of return assessment as intended by the AEMC's reforms. We discuss this further in Section 3 below.

3 Avoiding the “rabbit hole” – the value of assessing real world outcomes

3.1 Overview

In 2014, the CCP submitted a paper to the Board of the AER expressing its concerns with the direction that the assessment of the rate of return might be taking.²¹ It was becoming clear that the greater “flexibility” in the NER and NGR was, in reality, opening the door wider than ever for arcane debates between the NSPs and the AER about the merits of this model or that model.

These were debates that the NSPs have been able and willing to pour many millions of dollars into since 2012.

In the CCP’s letter to the Board, it described this risk as a regulatory “rabbit hole” because if the AER continued to engage in this process, it may well find itself digging deeper and deeper into a morass of alternative, and ultimately unprovable, economic and financing theories.

The overall regulatory objective of determining an allowance that reflected the efficient financing of an efficient network business may well be lost in the process.

And so it has come to pass.

The almost inevitable result of this greater flexibility in the rules is that many thousands of pages have been written, including multiple “expert” reports, in support of network proposals that vary from the Guidelines. Consumers ultimately pay all of this additional debate and elegant sophistry. Meanwhile, as we noted previously, the AER feels obliged to give more and more detailed consideration to each of these proposals.

A further, and very important aspect of this extended debate and mountain of material on the assessment of the rate of return is that consumers are becoming increasingly alienated from the process. While consumers vigorously participated in the development of the Rate of Return Guideline (reflecting the AER’s commendable program of consumer engagement), the same cannot be said of the recent attempts to put aside the Guideline.

If the costs of capital were a relatively trivial component of the NSPs’ costs stacks, then perhaps this would be a nuisance rather than a major issue. However, the cost of capital accounts for some 50-60 per cent of the overall NSPs’ cost stack and errors in the assessment of the rate of return have additional “knock on” effects such as incentivising inefficient capital expenditure.²²

²¹ Consumer Challenge Panel, *Smelling the roses and escaping the rabbit holes: the value of looking at actual outcomes in deciding WACC*, July 2014.

²² For example, an excessive cost of capital allowance will also provide incentives for a NSP to overinvest in its assets, as the rate of return will be higher than the NSP’s actual cost of capital. Every new power pole adds to the regulated asset base and becomes a new source of surplus profit over its lifetime.

Given the strong risk of such an outcome, in its paper to the Board, the CCP continued to urge the AER to take better account of “real world” outcomes as part of its assessment process.

The CCP argued that taking account of actual outcomes from the regulatory decisions would offer an “escape” from the “rabbit hole” of abstract econometric and financing theories. It would also allow the AER to “benchmark” its own decisions. It is a disappointing feature of the regulatory process to date, that the regulator does not provide more analysis of its own decisions and share these outcomes with the public. Improvements rely on an honest and open discussion with the AER’s ultimate customers, the energy consumers of Australia.

For example, if regulated NSPs were achieving significant profits above those expected by the regulator when it made its decisions – and the CCP’s preliminary analysis suggests they are (see below) - then surely it would be worth the AER investigating whether this outcome arose from network efficiency improvements and innovation, from the regulatory WACC settings that were set too high or some other factor or combination of factors.

The task of separating these factors should not be too difficult if it is undertaken in a systematic way as the AER is doing as part of its development of benchmarking for operating and capital expenditures. The task of obtaining accurate financial data from each of the NSPs would also be facilitated by the AER’s considerable information gathering powers.

The CCP concluded its July 2014 paper as follows:²³

The CCP recognises that the National Electricity Rules (NER) may restrict the AER from directly, or only relying on real world data in setting the WACC. Nonetheless, real world data can be useful in influencing the many judgements that the AER needs to make in setting WACC. We conclude this paper with the suggestion that using real world data, for all its limitations, provides a way forward for all stakeholders and an alternative to the ever deepening “rabbit hole” of arcane theoretical debate on WACC parameters.

Such real world data might include assessment of actual network profits, share prices, transaction multiples, valuation reports and decisions by other regulators (including overseas regulators, with a suitable level of caution).

While we acknowledge that the AER has in fact used more of the “real world” data in its recent decisions, CCP3 considers that the AER has not fully availed itself of the opportunities it has in in this area to develop a powerful database of real world information and track this over time.²⁴ As noted above, what is also missing is a critical appraisal of its past decisions on rate of return parameters.

²³ Consumer Challenge Panel, *Smelling the roses and escaping the rabbit holes: the value of looking at actual outcomes in deciding WACC*, July 2014, p.2.

²⁴ To be clear, we understand that the AER has looked at information such as trading multiples and reports from valuers as part of its five step process to establish the WACC. But it is not clear to us how the AER has used that information to guide its decision on WACC parameters. Moreover, to our knowledge, the AER has not undertaken any comprehensive review or backtesting of its decisions to understand the real world outcomes.

More importantly, however, such data would provide an objective assessment of the claims made by the NSPs, including the Victorian DNSPs, that the AER's determinations would lead to networks not being able to recover their efficient costs.

3.2 Real World Outcomes

3.2.1 The CCP July 2014 paper to the AER Board on WACC

In its 2014 paper to the AER Board, the CCP provided some preliminary analyses to illustrate the potential benefit of using real world data to assess the outcomes of its decisions. The findings included the following comparisons of the AER's decisions with "real world" data:²⁵

- *Nominal vanilla WACC less the risk free rate determined by the AER, the state regulators and the ACCC (1999-2013)*; the AER's decisions were in general significantly higher than other regulators;
- *Nominal vanilla WACC, cost of equity and cost of debt determined by the AER and by the New Zealand Commerce Commission (2011)*; the AER's decisions were higher for the same time period;
- *Real vanilla WACC, real cost of equity and real debt determined by the AER and by the UK regulator, Ofgem*; the AER's decisions in real terms were higher than the UK regulator;
- *Interest on borrowings allowance determined by the AER and as reported in the financial statements of the businesses*; the AER's allowance was some 250-400 basis points above the reported interest rates;
- *Observed trading multiples in the range of 1.28- 1.5*; These multiples were observed subsequent to the publication of the Rate of Return Guideline and the AER's preliminary determination of WACC for NSW distribution and transmission networks; and
- *Return on equity allowance determined by the AER and as reported in the published accounts of the network businesses*; the actual return on equity reported by the NSPs was significantly greater than the AER's "allowed" return on equity could not readily be explained by reductions in expenditure.²⁶

The CCP acknowledged the limitations of each of these observations. Certainly, taken alone none of these observations are determinative. Nor, taken alone, are they a reason for the AER to put aside the parameters and approaches set out in the Rate of Return Guideline.

²⁵ Consumer Challenge Panel, *Smelling the roses and escaping the rabbit holes: the value of looking at actual outcomes in deciding WACC*, July 2014. Details of the individual observations are provided in p.p. 7,8,9, 10-11,12 and 13 respectively.

²⁶ Subsequent analysis, which included the impact of asset revaluations, indicates that the actual return on equity for many NSPs was considerably higher than the figures in Table 4, p. 13 of the CCP report. For example an analysis by CCP2 member, Mr Hugh Grant, found that after adjustment for accounting treatments, the actual return on equity for the Queensland NSPs was in the order of 24 to 35% compared to the AER's return on equity allowance of 10.84%. [see the submission by CCP2 to the AER on the AER's Preliminary Determination for Energex and Ergon].

However, taken collectively, they suggest that the AER needs to look carefully into its past decisions and, using its considerable information gathering powers, to further, and transparently, explore the reasons for these outcomes.

Such actions will serve three important purposes:

- Assist the AER improve its own decision making;
- Provide a useful guide for the AER when exercising its discretion; and
- Provide a counterpoint to the arguments put by the NSPs that the AER's current decision making would prevent them recovering at least their efficient costs as required by the revenue and pricing principles in the NEL.

While outcomes of the AER's decisions past decisions for the Victorian DNSPs have not led to quite such dramatic improvements in profits as in some other regions, the fact remains that the reported network profits in Victoria appear to have increased substantially.

For example, in August 2014, a prominent investment analyst firm noted the following with respect to Spark Infrastructure Group (SKI), and the regulated utility sector in general:²⁷

[a]s Spark's 85% share gain in the past five years shows, utility stocks can prove to be profitable. Spark has also smashed the 26% return from the S&P/ASX 200 Index (INDEXASX:XJO).

Just as the share price has been going gangbusters, so too have earnings. For the half year ending 30 June 2014, Spark has reported a 17.1% increase in net profit to \$89 million.

Given these reported results, CCP3 considers it would be most useful for the AER to conduct further analysis of its past decisions in Victoria before it makes its determinations on the Victorian DNSPs regulatory proposals.

3.2.2 Updated data on real world outcomes

The CCP has continued to assess the real world outcomes since the 2014 letter to the Board and has highlighted its findings in several public presentations and consumer workshops.

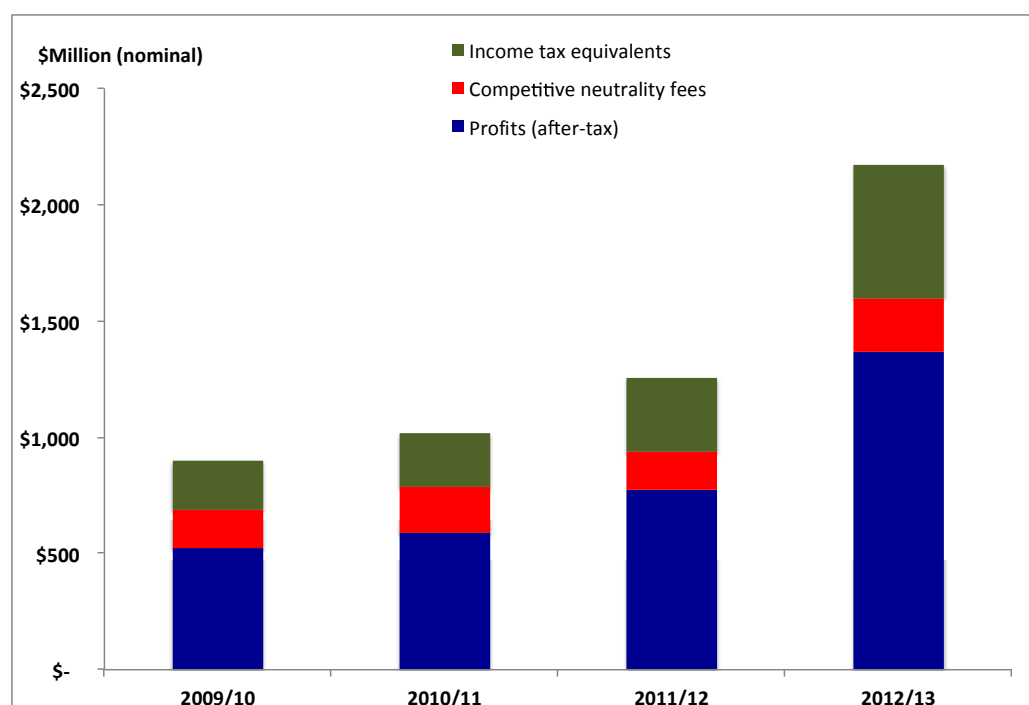
A sample of such data is set out below to illustrate our concerns. We understand the limitations of this additional information but believe it points to issues that could be further investigated by the AER.

3.2.3 NSP profits under the previous rules

Figure 1 below illustrates the extraordinary growth in network after-tax profits up to 2012/13 in NSW, profits that are even greater than the reported profits for the private sector such as SKI (above). This growth in profits cannot readily be explained by reductions in expenditure compared to allowances.

²⁷ Tim McArther, "Is now the time to buy Spark Infrastructure Group?", The Motley Fool, 16 August, 2014. <http://www.fool.com.au/2014/08/26/is-now-the-time-to-buy-spark-infrastructure-group/> SKI has 49% interests in South Australian Power Networks, PowerCor and CitiPower.

Figure 1: Growth in network profits: NSW



Source: CCP sub-panel 1 (Bruce Mountain), AER Pre-determination Conference, 8 December 2014, p. 2.

Similarly, the CCP2 has identified that South Australia Power Network's (SAPN) historical EBIT per connection in 2012/13 was up to four times greater than the profits generated by UK Power Networks (UKPN)²⁸ even after adjusting for financing costs. The EBIT per connection for SAPN was around \$710 per connection compared to UKPN of \$161 per connection.²⁹

While SAPN underspent its capex and opex allowance in that year, it was not by a large amount and cannot explain the differences in profits.

Further examination of the UKPN's Annual Reports suggests that these lower allowances for UKPN had not left the UK company in any financial distress. Rather, it appears to be performing relatively well for its shareholders.

Moreover, UKPN expected to continue to perform well for its owners and customers despite the latest regulatory decision by the Office of Gas and Electricity Markets (Ofgem). Ofgem's decision provided an allowance of 3.75 per cent (real vanilla WACC) for calendar 2015 and declining over the remaining 8 years of the regulatory period.³⁰

²⁸ SAPN and UKPN have a common majority owner, Cheung Kong Infrastructure Holdings (CKI).

²⁹ See Bruce Mountain, *SAPN's 2015-2020 proposal: initial comments*, December 2014. CKI is the majority shareholder of both SAPN and UKPN. CKI is also the major shareholder in CitiPower and PowerCor. The CCP2 notes that SAPN has disputed the CCP2's claims. However, although invited to do so, we understand that SAPN has not at this stage provided an alternative assessment to the CCP2. Financial reports from both CKI and SKI (49% equity holder in SAPN, CitiPower and PowerCor) support the observation of profit levels that are well above the regulatory expectations.

³⁰ See, for instance, the December 2014 investor presentation by UKPN.

<http://www.ukpowernetworks.co.uk/internet/en/about-us/documents/FINAL%20investor%20presentation%20Dec%202014.pdf>

We also note the recent comments from CKI's 2015 Annual Report. The Report provides the following summaries regarding the performance of its international subsidiaries; UKPN, SAPN and the two Victorian DNSPs, PowerCor and CitiPower.³¹

UK Power Networks, CKI's largest overseas investment continued to perform well in 2015. The new RIIO-ED1 regulatory reset commenced on 1st April 2015 providing a high level of predictability of income through to 2023.

The total contribution from the Group's Australian portfolio ... would have recorded a growth of 19% if the result is reported in local currency.

Again, the most likely explanation is that the AER's rate of return allowance was excessive. However, CCP3 believes the AER is in a much better position to investigate these outcomes and confirm our hypothesis (or otherwise).

We note too that significant EBIT growth has occurred across many of the Australian NSPs over the 2009-2015 period despite declines in volume sales on the one hand and actual expenditures that mapped closely to the regulatory allowances on the other hand.

3.2.4 Impact on NSW Sale Prices

An important real world test of the AER's decisions under the Rate of Return Guideline will be observed quite soon when bidding closes for the sale of the NSW transmission service provider.

Already there appears to be vigorous competition amongst prospective buyers of TransGrid. As TransGrid has accepted the AER's Final Determination (including the rate of return), the fact that buyers are competing for the assets and cash flow of the business suggests that the AER might have it "more right than wrong".

Indications are that the price for TransGrid may be up to 1.4 times the value of the regulatory asset base.³² In turn, this suggests that investors in the "real world" expect that the AER's decisions based on the Rate of Return Guideline will provide a more than adequate return on investment over the life of the transmission assets.

As such, it represents a real world challenge to the claims by the Victorian DNSPs that the AER's approach as set out in the Rate of Return Guideline will not allow them to recover the efficient costs of financing their businesses.

3.3 Comparison of the rate of return allowances by other regulators

In this section, we will consider how the AER's rate of return decisions compare to the decisions of other regulators. We again acknowledge that comparisons should

³¹ Cheung Long Infrastructure Holdings, *Interim results for 2015*, 23 July 2015, p.p.2-3.
http://www.cki.com.hk/english/PDF_file/announcement/2015/20150723_1.pdf

³² The current estimate for the TransGrid sale (long-term lease) is around \$9 billion for an indexed asset base of some \$6 billion as at June 2014. TransGrid has not appealed the AER's regulated pricing determination. The determination included reductions in allowances for capital expenditure; however, the principle factor was the reduction in the rate of return by almost 2% compared to TransGrid's proposal.

be made with care as regulators are tasked with different objectives and operate within different constraints on their decision-making.

Nevertheless there is value in making these comparisons and further exploring both the reasons for the differences and the effect of these differences on the viability and performance of the companies they regulate.

It is also important to note that recent decisions by the AER, such as the June 2015 decision on Jemena Gas Networks (NSW), indicate that the AER is progressively expanding its information base of other regulatory decisions.

3.3.1 Return on equity

CCP3 acknowledges that in assessing the return on equity that best meets the rate of return objectives, the AER is constrained by the requirement that the allowed return on equity must have regard to the prevailing conditions in the market for equity funds.³³

Other regulators are not necessarily so constrained in their assessment. For example, the approach adopted by the Independent Pricing and Regulatory Tribunal (IPART) since 2013 to assessing the market risk premium (MRP) involves averaging short run and long run estimates of the MRP.³⁴

In contrast, the NER states that: “regard must be had to the prevailing conditions in the market for equity funds”.³⁵ Although the AER places primary reliance on long term historical data for calculating the MRP, it does so on the basis that this provides the best initial estimate of the prevailing MRP (which is unobservable).³⁶

Our analysis of the data provided by the AER on the MRP parameter suggests that the AER’s MRP of 6.5 per cent is at the higher end, but not the highest of the decisions by other Australian regulators.

Figure 2 sets out the AER’s summary of empirical estimates of the MRP, including estimates of the MRP made by other regulators. The AER’s chart suggests that the regulator estimates range from 6 to around 7.9 per cent.

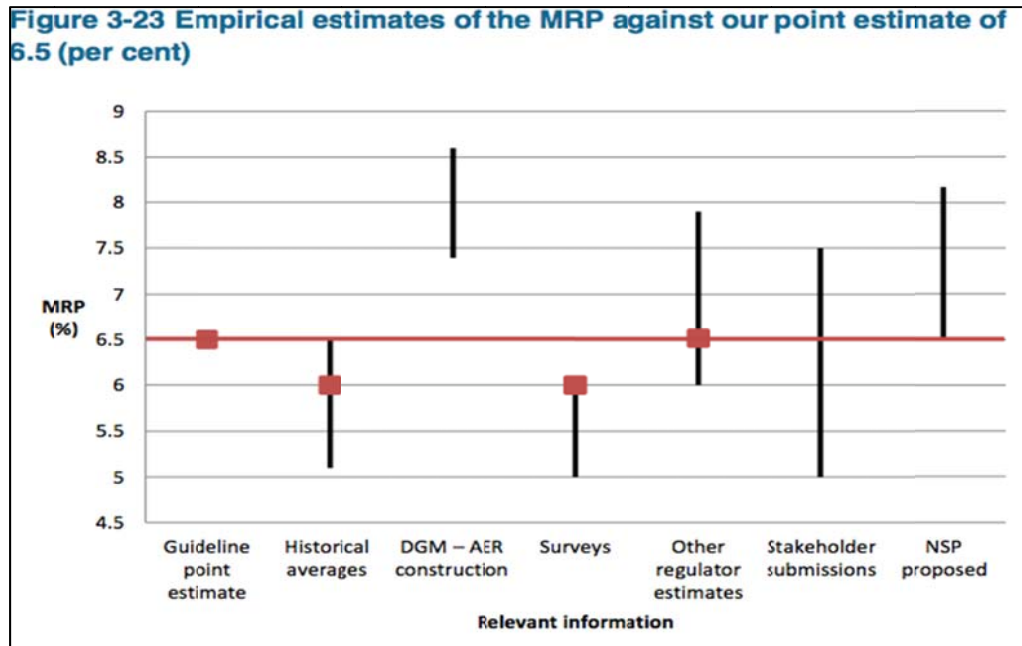
³³ NEL, 6.5.2 (g).

³⁴ See for instance, IPART, *Review of WACC Methodology, Research – Final Report*, December 2013. Note IPART also uses a short and long run risk free rate to add to the short and long run MRP (respectively) and an assumed beta range of 0.8 as part of assessing the overall return on equity for a regulated water utility.

³⁵ NER, 6.5.2 (g),

³⁶ This AER’s approach has been tested in the Tribunal and affirmed by the Tribunal.

Figure 2: Analysis of MRP estimates of other regulators



Source: AER, *Preliminary Decision, Energex Distribution Determination*, Attachment 3, Rate of Return, April 2015, Figure 3.23, p, 3-316.

CCP3 has further examined the AER’s summary of the decisions of different regulators on the MRP. When proper account is taken of that information, the estimates from other regulators in the 2013 to 2015 period range from 5.5 to 7.1 per cent with the majority of MRP decisions sitting at 6 per cent.³⁷

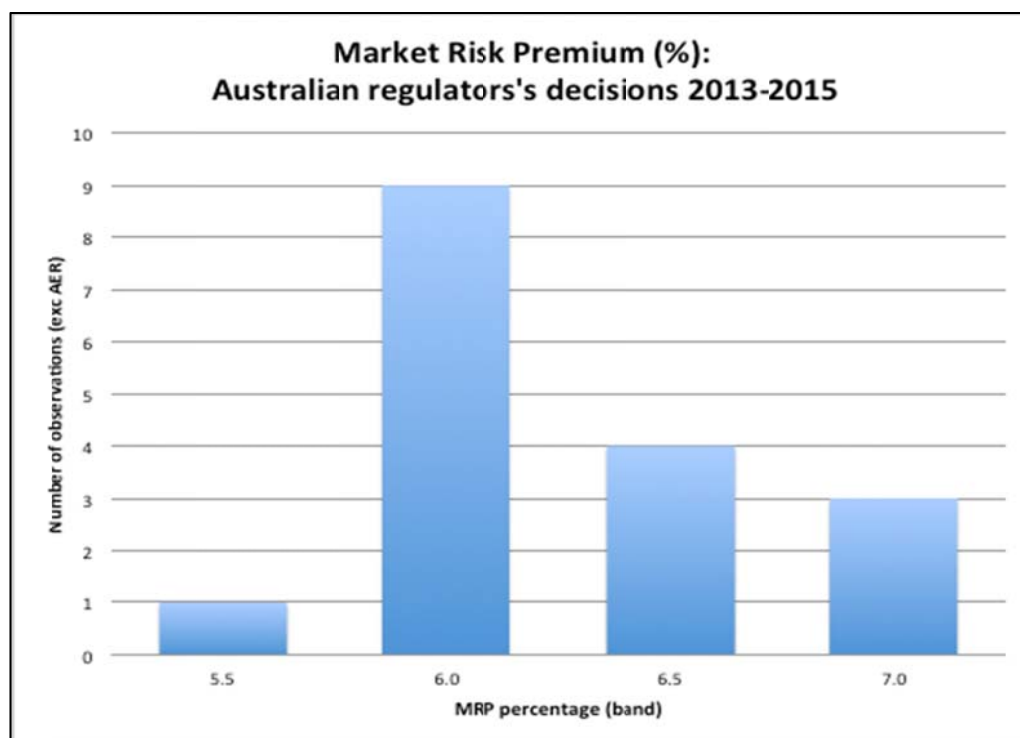
This is illustrated in the histogram in Figure 3. We consider this provides a somewhat different and more accurate picture of the dispersion of decisions by other regulators. It clearly demonstrates that the regulators’ decisions are concentrated around an MRP of 6 per cent.

More relevantly, however, CCP3 notes that while the AER presents the information on the decisions of other regulators, it does not make clear how it uses this to reach its preferred MRP point estimate of 6.5 per cent.

To our mind the AER has overemphasised the higher end of the range of MRP decisions (IPART) and in doing so, does not adequately highlight that IPART’s high point is based on its long-run assessment and its decisions are actually based on the average of the short and long term estimates for both the MRP and risk free rates, an approach that is inconsistent with the NER requirements.

³⁷ For ease of reference, the data was extracted from Table 3-40 in AER, *Preliminary Decision, Energex Distribution Determination*, Attachment 3, p.p. 3-295 to 296.

Figure 3: CCP Analysis of MRP estimates of other regulators



Source: AER, *Preliminary Decision, Energex Distribution Determination, Attachment 3, Rate of Return*, April 2015, Table 3-40, p. 3-295 -6. The histogram is prepared by the CCP from the data in Table 3-40. Note, it excludes “general/ policy decisions” and calculates IPART’s figures based on the average of the midpoints of “long term” and “current market data” as set out in IPART’s 2013 WACC methodology paper.

3.3.2 Return on Debt

CCP3 has provided the AER with a number of analyses of the AER’s decisions on the cost of debt, or more specifically, the debt risk premium (DRP).

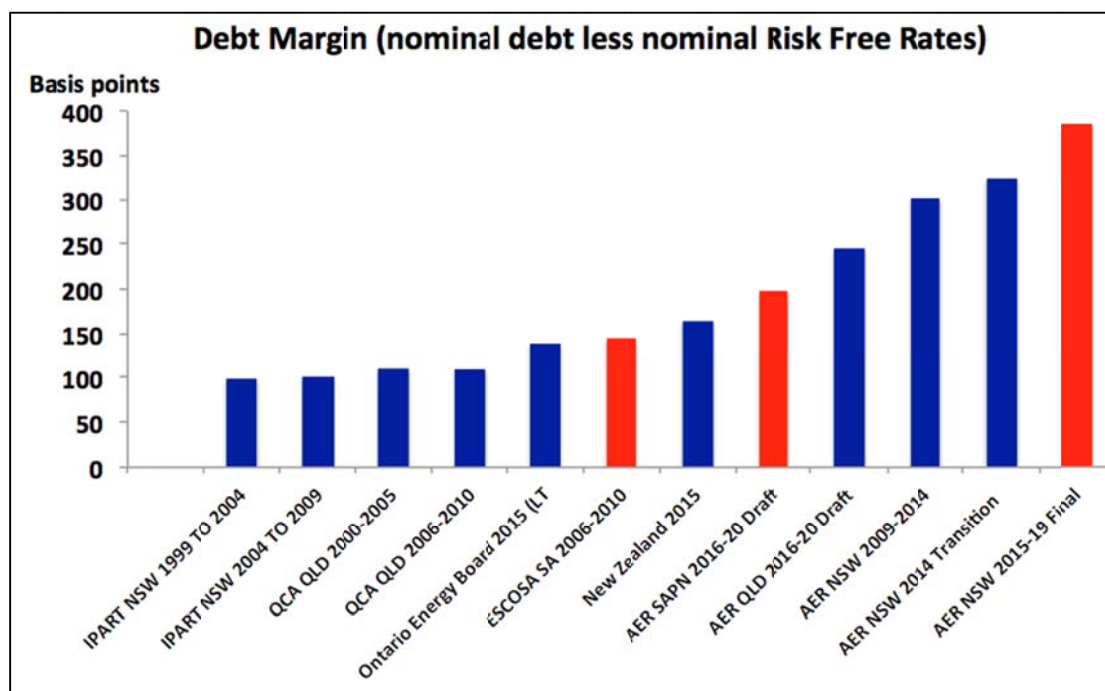
CCP3 has, for instance, compared the AER’s decisions to those of other relevant regulators after adjusting for different risk free rates. Figure 4 below is an example of this type of analysis. We have yet to have a clear explanation from the AER on why the AER’s DRP allowance appears to be so high relative to others, particularly for the NSW NSPs.

As indicated above, we believe that the AER would benefit from undertaking its own analysis of this type of information in order to benchmark its own decision making and to provide a counterpoint to the claims of the NSP’s with respect to the AER’s more recent assessments of the DRP.

Relevantly, the Victorian DNSPs are proposing even higher debt margins than the AER’s most recent decisions for the South Australian and Queensland DNSPs. For instance, the Victorian DNSPs are proposing DRPs between 2.75 to 3.03 per cent,³⁸ levels equivalent to those allowed in the midst of the GFC.

³⁸ See for instance, AusNet Electricity Services Pty Ltd, *Electricity Distribution Price Review 2016-20*, 30 April 2015, Tables 12-12 & 12-13, p. 349. The risk-free rate in AusNet’s proposal is 2.64%, and the cost of debt is 5.39%. United Energy DRP is 3.03%.

Figure 4: Comparative debt margin allowances



Source: Mountain B., *South Australia Preliminary Decision Conference*, 13 May 2015, p. 11.

In addition to the observations above, CCP3 notes that in its most recent biannual update of the WACC (February 2015), IPART has observed the following with respect to the Australian bond market:³⁹

- Australian corporate bond yields at the aggregate BBB rating have been stable over the last six months;
- Of the three BBB/BBB+ rate fixed bonds recently issued in the Australian market by Australian corporations, the average yield was around 160 basis points over the yield on the 10-year Commonwealth Government bonds.

The spread for AGL Energy (7-year tenor) was 180 basis points, Glencore Australia (5 year) was 100 basis points and QPH Finance was 140 basis points. It is hard to argue that these businesses were of a lower risk than a regulated NSP; and

- The RBA's measure of 10-year BBB rated debt indicates a margin of around 205 basis points over the risk free rate, while Bloomberg 7-year BBB fair value curve indicates a margin of around 160 basis points.

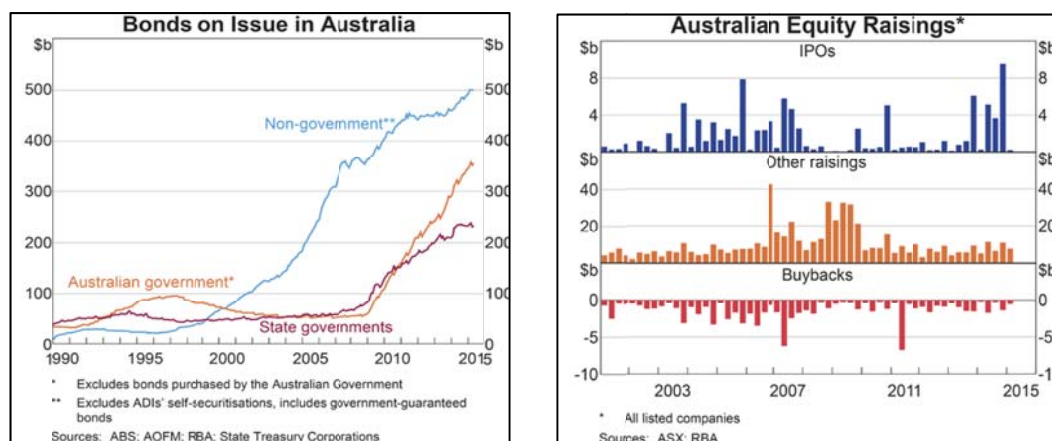
We would add that there is evidence of ample liquidity in the financial markets with significant growth in the Australian bond and equity markets as illustrated in Figure 5 below. The most recent minutes of the RBA states that: "Corporate bond issuance in Australia has been strong over the course of 2015 to date..."⁴⁰

³⁹ IPART, "Fact Sheet, WACC Biannual Update", February 2015, p.p. 5- 6.

⁴⁰ RBA, *Minutes of the Monetary Policy Meeting of the Reserve Bank Board*, 7 July 2015.

<http://www.rba.gov.au/monetary-policy/rba-board-minutes/2015/2015-07-07.html>

Figure 5: Recent Bond Issues and Equity Raisings



Source: RBA Chart Pack, 9 July 2015. <http://www.rba.gov.au/chart-pack/index.html>

More particularly, there is no evidence from the markets that the regulated NSPs, including the Victorian DNSPs, are facing difficulties in either refinancing existing debt or accessing new equity or debt.

This is occurring notwithstanding that the market has been well informed of the AER’s intentions as set out in the Rate of Return Guideline and the published regulatory decisions under that Guideline.

For example, in announcing a recent bond transaction (June 2015), Multinet stated:

41

The interest rate margin achieved was attractive and reflected strong demand for investment grade regulated energy utility issuers...

Multinet Gas Chief Executive Officer, Hugh Gleeson, said he was “pleased with the support received from Australian and Asian based investors for the transaction”.

Similarly, when announcing its successful refinancing of 2015 maturing debt in July 2015, the CEO of the Dampier to Bunbury Pipeline (DBP) stated:⁴²

These new bank and bond commitments reflect DBP’s ability to access debt market opportunities on attractive terms leveraging off our strong financier relationships.

On this matter, however, we will give the “last word” to SKI who in their investor presentation in the UK/Europe (March 2015) highlighted that their Australian

⁴¹ Multinet, “Gas Prices A\$230 million domestic Bond Transaction”, 5 June 2015. <http://www.asx.com.au/asx/statistics/announcements.do?by=asxCode&asxCode=DUE&timeframe=D&period=M6>

⁴² DBP, 17 July 2015. DUET has interests in both Multinet and the DBP. <http://www.asx.com.au/asx/statistics/announcements.do?by=asxCode&asxCode=DUE&timeframe=D&period=M6>

regulated energy businesses benefited from “in-built protections” and were subject to:⁴³

well established transparent regulatory process with resets every 5 years [and a] CPI-X price formula

....

The revenue recovery methodology will change to a Revenue Cap from the start of the next regulatory period thus eliminating this part of the equation [actual volume risks]

The announcements set out above by the NSPs or their owners to the investor community are just a sample of various statements by the senior executives of the regulated NSPs.

CCP3 considers that if the AER developed a “library” of such announcements to investors, it would be better placed to challenge the claims of NSPs, including the Victorian DNSPs, that the AER’s current approach to the rate of return is risking the ability of the NSPs to recover their efficient costs or to invest adequately in providing a reliable, safe network.

Certainly the public comments reviewed by CCP3, particularly those made over the last year (which follow the publication of the AER’s Rate of Return Guideline), do not support the NSP’s claims in their regulatory proposals that their economic position is under threat from the AER’s decisions.

The next section will consider other data sources that also confirm CCP3’s position on these matters.

3.3.3 Other data sources

There are other sources of information on the current market conditions include surveys of financial analysts, and “conditioning variables” such as dividend yields, credit spreads and implied volatility.

CCP3 considers that these other data sources can also provide valuable information to assess the NSPs’ claims regarding the negative outcomes for investors and consumers of the AER’s Rate of Return Guideline approach. We are pleased that the AER appears to be making more consistent use of this data.

CCP3’s own views on whether investors are “spooked” by the AER’s Guideline approach are informed by market data such as the following:

- To our knowledge there have been no credit downgrades that can be directly attributed to the AER’s approach although there have been a number of upgrades in 2014-15 such as the upgrade of Envestra Ltd’s (now Australia Gas Networks) credit rating in September 2014.
- The Victorian DNSPs proposals recognise that there has been a recent improvement in the credit standings of the energy utilities in Australia, an

⁴³ SKI, *Investor Presentation - UK/Europe*, 13 March 2015, p.p. 10 and 26.
<http://www.asx.com.au/asx/statistics/announcements.do?by=asxCode&asxCode=SKI&timeframe=D&period=M6> SKI has 49% interests in SAPN, CitiPower and PowerCor.

improvement that has occurred after the Rate of Return Guidelines were published. For instance, AusNet Services states in its regulatory proposal:⁴⁴

[t]he median credit rating has been BBB across all firms for the longest time period examined and for the last 5 years. While the median credit rating in 2014 was BBB+ by including all of the firms that the AER seeks to include, but once the firms with sovereign government ownership are excluded (i.e. SP AusNet (A rated), SPI (A- rated) and Electranet (BBB+ rated)), the mean credit rating is BBB/BBB+.[emphasis added]

- There appears to be considerable and vigorous interest by local and overseas investors in bidding for the NSW transmission company, TransGrid.⁴⁵ This interest is occurring despite TransGrid “accepting” the AER’s Final Determination in April 2015 in which the AER applied the Rate of Return Guideline.⁴⁶
- RBC Capital Markets is quoted as saying: “TransGrid could be valued at between 1.3 and 1.45 times its regulated asset base, including \$4.6 billion of debt and up to \$4.3 billion of equity”.⁴⁷
- If the claims by the NSPs that the AER’s approach will have a very negative effect on shareholders, it would follow that share prices for ASX listed companies with equity in various NSPs would decline in line with the publication of the AER’s Guideline and with the AER’s Final Decisions on the NSW NSPs (e.g. around April 30 2015).

Similarly, you would expect analysts to change their recommendations. There is no evidence that either of these outcomes has eventuated.

We have illustrated the last points in the following two charts and table.

The charts illustrate that share prices continued to increase following the AER’s release of the transition decisions for NSW networks (February 2015) and there is no noticeable response to the 30 April final decisions for NSW and ACT NSPs, the Tasmanian TNSP and the preliminary decisions for the Queensland and South Australian DNSPs.

While we consider this data is indicative of a market that is sanguine about the AER’s decisions, we also encourage the AER to undertake its own investigations of market responses during the course of 2014 and 2015.

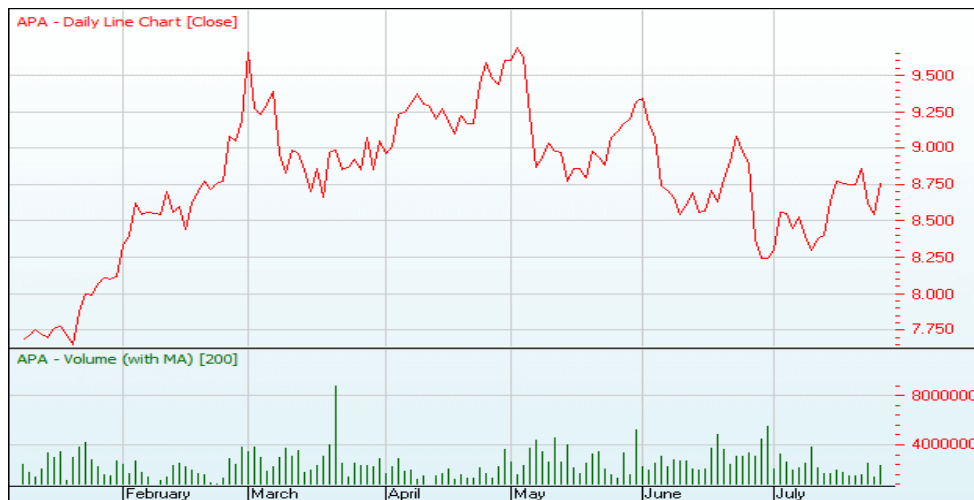
⁴⁴ AusNet Electricity Services Pty Ltd, Electricity Distribution Price Review 2016-20, April 2015, p. 342. We do not endorse AusNet’s proposal to remove the impact of three of the networks in assessing the credit rating for the benchmark efficient entity, particularly as the firms have equity participants listed on the ASX. However, even taking the remaining listed utilities (which are largely gas NSPs), the ratings still exceed the five-year historical average that has been assessed by the networks’ consultants.

⁴⁵ See for instance, Angela Macdonald, “AusNet Services primed to take lead on TransGrid bid”, 14 July 2015. <http://www.brisbanetimes.com.au/business/ausnet-services-primed-to-take-lead-on-transgrid-bid-20150713-giasxm.html>. While there is now some doubt about this particular bid, there is no shortage of other bidding consortiums.

⁴⁶ That is, apparently under the instruction of the NSW Government, TransGrid is not appealing the AER’s Final Determination, although all of the NSW DNSPs are.

⁴⁷ *ibid.*

Figure 6: APA Group & AusNet Services: 6 month daily prices on ASX



Source: ASX,

<http://hfgapps.hubb.com/asxtools/Charts.aspx?asxCode=APA&chartType=3&volumeInd=9&TimeFrame=D6>

Figure 7: AusNet Services: 6 month daily prices on ASX



Source: ASX

<http://hfgapps.hubb.com/asxtools/Charts.aspx?asxCode=AST&chartType=3&volumeInd=9&TimeFrame=D6>

The table below of recommendations by 10 equity analysts regarding Spark Infrastructure Group (SKI)⁴⁸ provides a further illustration that the market has not perceived any significant or unmanageable risk emerging as a result of the AER's regulatory decisions, a large part of which include the assessment of the rate of return under the Rate of Return Guideline.

⁴⁸ SKI is listed

Table 2: Analysis by 10 equity analysts of Spark Infrastructure Group (SKI)

Recommendation Trends				
	Current Month	Last Month	Two Months Ago	Three Months Ago
Strong Buy	0	0	1	1
Buy	6	6	6	6
Hold	3	3	2	2
Underperform	2	2	2	2
Sell	0	0	0	0

Source: CME analysis, presented by the CCP2 at the Predetermination Conference in South Australia, May 2015.

The CCP considers that these charts and the table above provide more useful information on investor expectations for the regulated businesses than all the theoretical arguments that are such a large part of the Victorian DNSPs' proposals (and the proposals of other NSPs).

In particular, we would assume that the investors and analysts are now well informed of the AER's decisions and applications of the Rate of Return Guideline and have taken this into account in their various recommendations.

As noted previously, the AER has significant information gathering capabilities and powers and we encourage the AER to expand on these examples and to develop a robust suite of real world outcomes.

3.3.4 Does the AER's approach increase the risks to the NSPs credit ratings?

There are various claims made by the NSPs about the risks to their credit ratings if the AER's Rate of Return Guideline methodology prevails and highlight that any subsequent credit downgrades will result in higher interest rate costs.

In the previous sections we have provided some data that suggests the markets are not expecting such a downgrade. In this section we highlight a recent discussion by Moody's on the impact of the draft regulatory determinations that were published on the 30 April 2015.⁴⁹

Basically, Moody's states that while the "headroom" within their rating tolerance levels could decline, it is manageable and should not impact on ratings all other things being equal.⁵⁰

- The impact of the lower rate of return is manageable because it largely reflects the lower risk-free rates;
- The businesses can manage this risk by securing lower interest costs and implementing other measures such as change in dividend policy and/or cost reductions; and

⁴⁹ Moody's is referring to the AER's Preliminary Determinations for the Queensland and South Australian DNSPs. SAPN in particular is privately owned, with an ASX listed company (SKI) having 49% equity.

⁵⁰ Moody's Investor Service, 4 May 2015. . https://www.moodys.com/research/Moodys-Impact-of-draft-revenue-determinations-manageable-for-Australian-regulated--PR_324255#

- The AER's determination does not reflect a change in regulatory intent, and overall the regulatory environment is stable and predictable.

A summary of the report is set out below.

Sydney, May 04, 2015 -- Moody's Investors Service says that the Australian Energy Regulator's (AER) announcement in April 2015 of several revenue determinations resulted in lower revenues for regulated energy networks, but the impact on Moody's-rated networks should be manageable.

"The lower rate of return in the draft regulatory revenue determinations mainly reflects lower risk-free rates, which in turn could lead to lower revenues," says Mary Anne Low, a Moody's Analyst.

"Our rated regulated networks have some capacity to offset possible reductions in revenue and the impact on the regulated return on debt - due to lower risk-free rates - by securing lower interest costs," says Low, adding, "and implementing potential countermeasures such as changes in dividend policy and/or cost reductions to support their financial metrics, if necessary."

Reductions in rate of return, primarily due to substantial declines in risk-free rates, also affect the regulated return on equity and reduces operating cash flows. If the final determination is consistent with the draft determination, the headroom within the rating tolerance levels of our rated networks could decline.

Moody's analysis is contained in its just-released report titled "Australia Regulated Networks — Draft determination impact manageable within networks' ratings despite likely declines in risk-free rates," and is authored by Low.

The report notes that the impact of the AER's increased focus on operational efficiency on Moody's-rated networks should also be manageable, because the regulator perceives most of these rated networks as generally more efficient.

As for the nature of the draft regulatory revenue determinations, Moody's report says the lower risk-free rates do not reflect a change in regulatory intent, because the revenue determinations are consistent with the AER's approach to setting the weighted average cost of capital as published in December 2013.

Moody's therefore considers the AER's actions to be reflective of a stable regulatory environment. Moody's report points out that the consistent application of regulatory guidelines reaffirms the track record of Australia's transparent and predictable regulatory regime.

Subscribers can access the report at
http://www.moody.com/viewresearchdoc.aspx?docid=PBC_1004887

CCP3 concludes that if the AER applies its Rate of Return Guideline, there may well be a reduction in existing profits. However, we would highlight that these existing profits are far in excess of the regulator's expectations and in excess of the returns warranted for a low risk business. Moody's comments imply there is ample room for management to manage the changing environment. CCP3 would say that it is only appropriate that they do.

4 Assessing the comparative level of risk for the Victorian DNSPs

4.1 Overview

The following sections of this submission will consider in some detail the Victorian DNSPs' proposals for the rate of return, including their approach to the constituent decisions on the return on equity and return on debt. CCP3 will review their approach in the context of whether their proposals are consistent with the overall allowed rate of return objective and the constituent objectives for the allowed return on equity and allowed return on debt.

The allowed rate of return objective states:

*The allowed rate of return is to be determined such that it achieves the allowed rate of return objective.*⁵¹

*The allowed rate of return objective is that the rate of return for a Distribution Network Service Provider is to be commensurate with the **efficient financing costs of a benchmark efficient entity with a similar degree of risk** as that which applies to the Distribution Network Service Provider in respect of the provision of standard control services.*⁵² [emphasis added]

An important task in operationalising the rate of return objective is to define the concept of a benchmark efficient entity. In the Rate of Return Guideline, the AER has defined the benchmark efficient entity as:⁵³

A 'pure play', regulated energy network business operating within Australia.

This is clearly an idealised and conservative definition that ignores beneficial factors like parent ownership (including local and overseas government ownership) that may impact on actual credit ratings and the actual costs of equity and debt.

On the other hand, the definition also makes clear that the assessment of the rate of return is not tied to any individual network business. That is, it is not the role of the AER to make an allowance for the rate of return that reflects an individual firm's capital costs and capital structure. To do so would remove the incentive features of the regulatory framework in Australia.

In the view of CCP3, the increasing difference between the AER's idealised benchmark firm and the reality of complex ownership structures warrants the AER revisiting the definition at the next review of the Guideline. Nevertheless, we recognise the importance of the AER putting a "stake in the ground" for the current round of determinations.

⁵¹ NER, 6.5.2 (b).

⁵² NER, 6.5.2 (c).

⁵³ See for instance, AER, *Explanatory Statement, Rate of Return Guideline*, December 2013, p. 8. More detailed explanation of each of the elements in the decision is set out in p.p. 34-38.

However, we also believe that the AER should take account of its conservative position when assessing the allowed rate of return parameters.

A second important feature of the allowed rate of return objective is the assessment of the risks that are relevant to the cost of capital for the benchmark efficient entity. We will consider this issue below given its relevance to the various arguments on the rate of return on equity and debt and to the question of whether there has been a change in the relevant risks since the AER's Rate of Return Guideline

4.2 What risks are relevant to the assessment of the allowed rate of return?

When assessing risks that are relevant to the assessment of the allowed rate of return as defined in the NEL it is important to distinguish between:

- Whether the risks are systematic or non-systematic; and
- Whether the risks are business or financial risks.

CCP3 notes that there has been an extensive body of investigations into these issues. We consider that the AER's initial review of these aspects of risk that contributed to the development of the Rate of Return Guideline is very thorough. Subsequent reviews by the AER as represented (for instance) in its Final Decision on JGN's distribution access Arrangement (June 2015) expand on these important questions about the nature of the risks facing a NSP. .

As the AER's reviews provide a reasonable summary of the conceptual and empirical work on the risks facing the benchmark entity,⁵⁴ we do not propose to add much further to these reviews. However, it is worth recapping some aspects of the findings in the reviews.

The AER approached the task of assessing the relevant risks in two ways, using a conceptual approach and an empirical study of risk parameters (such as the equity beta). This twofold approach provides a useful cross-check given some of the criticisms that have been made of each approach.

4.2.1 Conceptual Analysis

Business risk and financing risk represent the two key types of systematic risk that have been examined in some detail from a conceptual analysis perspective. They are discussed briefly below.

Business Risk

Business risk refers to the systematic risk exposure of the underlying business assets. It is said to have two components:

- Intrinsic risk: how the business cycle impacts on the firm's revenues; and
- Operational risk (operational leverage): the proportion of fixed to variable costs.

⁵⁴ Although CCP3 notes that we do not agree with all the AER's conclusions that they have drawn from these risk assessments, as we highlight in our discussion on equity beta in section 6 of this submission.

Following the work of McKenzie and Partington (2012), the AER concluded that the business risk for the benchmark efficient entity will be “very low”. The AER also noted the conclusions of McKenzie and Partington (2012) that the intrinsic risk of a firm: “is the primary, if not the sole driver of its systematic risk”.⁵⁵

CCP3 observes that in addition to demand being relatively inelastic as noted by the AER (et al), the regulatory framework provides the network businesses with unique protections from the business cycle. We would add that the move from an average price cap to a total revenue cap form of control affords the Victorian DNSPs even more protection from volatility in their revenue and cash flow during 2016-20.⁵⁶

On the other hand, although the networks have significant fixed costs reflecting the level of fixed assets and capital investment, we do not consider this materially offsets the low level of intrinsic risk.

In the first place, the form of regulation ensures that the networks can fully recover the cost of the assets over the lifetime of the assets including the costs of funding the capital for providing the assets.

Secondly, the networks have the ability to adjust their tariffs in a way that is not necessarily available to a business operating in a competitive market. We can see that process in action now. In response to concerns about the impact of embedded generation such as PV systems, the Victorian DNSPs are progressively changing their tariff structures by moving towards higher supply charges and introducing demand based tariffs over the next few years.

Finally, if the regulated businesses are faced with some substantial and unexpected event requiring new expenditures, there is an opportunity for the network to seek a pass-through of the additional fixed costs (if operational expenditure) and/or to capture the additional costs in the future inflation adjusted regulatory asset base.⁵⁷

For these reasons we agree with the AER’s conclusions on business risks:⁵⁸

[w]e consider the intrinsic business risk of a firm is the primary driver of its systematic risk and that this intrinsic risk is low for the benchmark efficient entity (relative to the market average firm).

Financial Risk

Financial risk arises from the firm’s additional exposure to its debt holdings.

The benchmark efficient network entity is defined as having a gearing ratio of 60 per cent, which is above the average of the market as a whole. As a result, the DNSPs argue that this higher gearing risk offsets (at least in large part) the lower business risks.

⁵⁵ See McKenzie M. and Partington G., “Estimation of the equity beta”, April, 2012, p.p. 6, 15

⁵⁶ For instance, the revenue cap insulates the networks from changes in demand and reduces the risk that would otherwise arise from having to forecast demand at the tariff element (ie. Peak versus off-peak, winter versus summer etc).

⁵⁷ That is, if the business can establish that the additional capital expenditure above the regulatory allowance is prudent and efficient, then it will be recognized in the allowed RAB in the next regulatory period and adjusted for inflation.

⁵⁸ AER, *Final decision, Jemana Gas Networks distribution access arrangement*, Attachment 3, Rate of Return, June 2015, p. 3-395.

We consider that the situation for a regulated benchmark utility is not as straightforward as the DNSPs' analysis would imply. Our reasons include the following:

- As identified by McKenzie and Partington (2012), the relationship for the regulated firm is not straightforward. For instance, it is not clear if there is a simple linear relationship or some more complex non-linear relationship between debt levels and credit ratings;⁵⁹
- The regulatory arrangements provide additional protections, for example, the revenue cap arrangements provide some assurance that future income will be sufficient to cover debt repayments;
- Similarly, the regulatory arrangements provide for CPI indexing of the asset base and this ensures that the value of the assets is maintained even when the assets are redundant from an operational or economic perspective. To the extent that the value of assets is protected, the level of debt to company value is not at risk; and
- Default risk is low as is counterparty risk. For example, retailers are required to provide bank guarantees (or equivalent) and have limited payment terms. Moreover, the retailer of last resort arrangements now in place protects the networks from financial failure of a retailer.⁶⁰

Disruptive technology and risk

One question that has been raised by South Australian Power Networks (SAPN)⁶¹ and others is the effect of “disruptive technologies”, such as solar PV and advanced battery technology, on the risk profile of the businesses.

CCP3 notes that Partington (2015) considers that while disruptive technology may have an impact on the cash flows and the longer-term value of the firm, it is not appropriate to consider it as systematic risk as an investor can diversify away this risk. Therefore it should not affect the cost of capital calculation.⁶² The AER supports this view.

We would add to this consideration that while the disruptive technologies cited by the NSPs may be unique to the NSPs (and therefore can be diversified away), it is also important to consider that almost all firms face the challenge of disruptive technologies in some form or other. In brief, the general fact of facing the risk of technology change is not unique to the utility industry and we would expect the DNSPs to have the capacity to effectively manage this risk (through tariff innovation etc). Thus the impact of disruptive technology is faced by all firms and is therefore captured in the overall assessments of the market risk premium and equity beta.

⁵⁹ McKenzie M. and Partington G., “Estimation of the equity beta”, April, 2012, p.p. 7-13. The usual assumption is that credit rating moves directly and inversely with debt. However, this is not the only criteria, for instance if cash flows are reliable and predictable (such as a regulated network), then both equity and debt holders have a level of comfort not open to others.

⁶⁰ If a retailer defaults, the market rules require the retailer of last resort for that area to immediately take over the costs such as market and network charges.

⁶¹ South Australia Power Networks, Regulatory Proposal, October 2014, p.p. 306-309.

⁶² Partington G., “Report to the AER, Return on equity (updated), April 2015, p.p.77-79.

Moreover, while some technologies may reduce electricity usage, others such as electric vehicles will increase energy use. The improvements in battery technology will work both ways. It is difficult to say therefore whether the net impact of new technology will be favourable or unfavourable to electricity use or to the costs of supply.

What we can observe, however, is that the mass roll-out of cost-effective battery technology for households is still some way off despite the “hype” around it. Any cash flow impacts can be managed in the interim under the revenue cap and tariff flexibility arrangements and the asset values remain protected by automatic indexation irrespective of changes in the usage profiles.

CCP3 therefore does not accept that adjustments should be made to the forecast beta values in the 2016-20 regulatory period because of the claimed increase in technological related risk.

We are also not aware of announcements by the listed utility companies to the effect that they expect a decline in the future value of their company. Most listed utilities are forecasting continued growth in the value of their assets and seem confident in continuing to promote their steady cash flows, dividend growth and stable regulatory environment (see section 3 above).

Contrary to what might be expected if the Victorian DNSPs anticipated a decline in their value and increasing threats to their credit status, all the Victorian DNSPs are forecasting increases in their capital expenditure compared to 2011-15. These increases in capital expenditure range from 2 per cent (real \$2015) to 32 per cent. Such proposals to expand investment appear to be inconsistent with expectations of declining value of the business due to technology risk (or other factors).

Similarly, the Victorian DNSPs are requesting increases in their operating cost allowances. A business under imminent threat of obsolescence would be focussed on reducing operating expenses and extracting efficiencies wherever it can.

4.2.2 Empirical Analysis

There is no absolute division between the conceptual and empirical analysis and as noted it is important that the empirical results are supported by the conceptual analysis and vice versa. The empirical studies most relevant to assessing risk are the studies relating to identifying the equity beta. These studies examine the historical variability in the returns of a sector of firm compared to the market as a whole

In this submission, we have concentrated on two such empirical studies. They are:

- The studies by Professor Olan T Henry (Henry) and, in particular, his updated study on equity beta dated April 2014; and
- The studies by SFG Consulting (SFG), and in particular, the regression based study of equity beta dated July 2013.

We are aware that there have been updates to and many discussions on both of these reports. However, we regard them as the primary documents for understanding the empirical measurement of risk.

A full discussion of these studies is included as part of Section 6 in this submission. However, as a very general point, CCP3 is of the view that the Henry study is most consistent with the conceptual analysis that the regulated utilities in Australia have very low risk relative to the market in general.

SFG's analysis of Australian energy utilities derives very similar results to Henry's (equity beta of around 0.5 to 0.6). However, SFG combines the Australian sample with a much larger sample of US utilities to generate a significantly higher beta value, albeit still less than 1.

CCP3 does not agree with SFG's approach to combine the sample of Australian and US firms then apply the weighted average results to Australian networks. We consider that in the search for statistical reliability, the validity of SFG's empirical study is compromised because of the very different regulatory and tax environments, the substantial differences in market capitalisation and the fact that the US firms undertake activities in retailing and generation.⁶³

⁶³ This issue is discussed further in section 6. CCP3 is aware that SFG and CEG have filtered the US sample to ensure that at least 50% of the firms revenue comes from regulated network activity, however, this still leaves a very significant (and undefined) component of activity in other non-regulated markets.

5 Estimating the regulated rate of return for an efficiently financed benchmark efficient network service provider

5.1 Overview

This section investigates a number of the higher level questions arising from the Victorian DNSPs' approach to assessing the rate of return.

The emphasis in this section of CCP3 submission therefore will be on the general approach adopted by the DNSPs to the assessment of the return on equity. We will have a particular focus on the following concerns that we believe limit the relevance of the DNSPs' proposed approach to the regulatory task:

- The requirement for the DNSPs and the AER to focus on the overall rate of return outcome in the current market conditions; and
- The limitations of the proposed “multi-model” approach to assessing the return on equity.

The issues around the individual models that form part of the multi-model approach will be considered in a separate section. Our aim in examining a number of these models in more detail, however, is limited.

The purpose of revisiting the issues with particular equity models (which have been much canvassed over the last two years) is to demonstrate our general concern that the models are complex, largely untested in a regulatory setting, require many assumptions on the inputs and there is no general agreement on the optimal model specification (or combination of models) that is appropriate for the regulatory task.

We also make the general point that a model that may work well for explaining a cross section of returns may perform poorly on the task of determining ex ante a return on equity commensurate with an efficient network business.

The proposed approach to assessing the return on debt is set out in the last section of this submission.

5.2 The AEMC's view of the role of regulatory judgement in assessing the rate of return

The AEMC has clearly stated that the primary task of the regulator is to determine an overall rate of return that is consistent with the allowed rate of return objective.⁶⁴ That is, the allowed rate of return must be commensurate with the efficient financing costs of a benchmark efficient service provider with a similar degree of risk to the service provider whose rate is being determined.

⁶⁴ NER, 6.5.2 (b).

The AEMC's amended rules, however, provide limited prescription about how this process is to be carried out; this is left to the discretion of the AER. However, the AER must publish a Rate of Return Guideline setting out its proposed methodologies to determine the return on equity and return on debt consistent with the rate of return objective⁶⁵, this Guideline must be present at all times⁶⁶ and must be reviewed at intervals not exceeding three years.⁶⁷

More specifically, the amended rules specify that the rate of return must be determined on a nominal post-tax basis based on a weighting of the return on equity and the return on debt (the "nominal vanilla WACC")⁶⁸, and is consistent with the estimate of the value of dividend imputation credits.⁶⁹

With regard to the return on equity, the AER must take account of the prevailing conditions in the market for equity funds.⁷⁰

The AEMC also states that while considering the equity, debt and imputation components individually, the process of setting a rate of return for the regulated networks is a "joint estimation" exercise such that the regulator can ensure the overall estimate of the rate of return satisfies the overall objective.⁷¹

The issue of regulatory judgement has become particularly important in the determination of the return on equity. This is hardly surprising given that the equity parameters are particularly hard to measure and there are many competing theories about how the return on equity should be best assessed.

For better or for worse, the AEMC introduced more flexible rules on how this could be assessed, stressing that the regulator should exercise its discretion to determine how the return on objectives is best determined.

5.3 Having regard to relevant estimation methods, models and other data

In determining the allowed rate of return, the AEMC also stated that "regard must be had to ... relevant estimation methods, financial models, market data and other evidence..."⁷²

The AEMC understood that there are a wide variety of potential methods, models and information sources that might contribute to the AER's assessment task and it was important that the AER consider these. However, the AEMC also states that:⁷³

*In addition, the **regulator must make a judgement** in the context of the overall objective as to **the best method(s)** and information sources to use **including what weight** to give to the different methods and information in making the estimate. [emphasis added]*

⁶⁵ NER, 6.5.2 (n).

⁶⁶ NER, 6.5.2 (o).

⁶⁷ NER, 6.5.2 (p)(1).

⁶⁸ NER, 6.5.2 (d)(2).

⁶⁹ NER, 6.5.2 (d)(2).

⁷⁰ NER, 6.5.2 (g).

⁷¹ AEMC, *Final Position Paper*, November 2013, p. 48.

⁷² NER, 6.5.2 (e)(1).

⁷³ AEMC, *Final Position Paper*, November 2013, p. 48.

It is this particular aspect of the amended rules that appears to have opened the door for the Victorian DNSPs (and other NSPs), to propose significant variations to the Rate of Return Guideline.

In particular, it seems that the DNSPs are arguing that the rule requires the AER to include **any** models or assessment techniques that the NSPs choose to include in their proposals, **even if** the AER has already evaluated these as part of the Guideline development process and has found they do not meet the relevant criteria.

CCP3 strongly disagrees with the DNSPs' argument on this. It is our view that the AER went to considerable effort during the Better Regulation process to:

- Establish a number of objective assessment criteria;
- Systematically evaluate a wide range of models and other information sources against these assessment criteria; and
- Establish an approach to assessing the return on equity that reflects the findings of this analysis and best contributes to achieving the rate of return objective.

The AER found that some models and information sources satisfied most criteria, while others satisfied few or none. The latter were either excluded from the final Guideline approach or given a limited role (such as “directional” or “informative”).

CCP3 considers that the AER's process was appropriately transparent and consultative albeit it involved reviewing a large range of possible methods, models and information sources and refining these into a manageable scope that could be readily understood and applied.

The fact, therefore, that the AER did not include all the models (e.g. the AER did not include the Fama-French 3-factor model) or give a central role to others (e.g. the Dividend Growth Model and the Black CAPM) as suggested by the NSPs, does **not** mean that the AER has failed to consider them.

The AER has considered them – extensively - and in great detail and on multiple occasions. And the AER has used its judgement to conclude that some of these models are not appropriate to the regulatory task of determining the overall cost of equity. This is precisely what the AEMC intended as explained elsewhere in this submission.

The outcome of the AER's assessment is set out clearly in the Rate of Return Guideline and the Rate of Return Explanatory Statement.

For instance, after considering all the methods, models and information that might be relevant to the assessment of the cost of equity, including all the models now promoted by the Victorian DNSPs, the AER adopted what it calls a “foundation model” approach.

That is, the AER has decided to use the Sharpe-Lintner CAPM (SL-CAPM) in its traditional form⁷⁴ to establish the range of feasible outcomes for the cost of equity

⁷⁴ By traditional form, we mean the form used in previous revenue determinations by the AER – this has the added advantage of being a relative simple and well known model, providing some continuity

and then used other well-established models and information source to assist in selecting a point estimate within the range of SL-CAPM outputs. The resulting process was systematic and transparent.

The mere fact that the AER did not adopt the NSPs' preferred approach to assessing the cost of equity in the Rate of Return Guideline or in subsequent determinations does not mean that the AER did not carefully consider all the alternatives put to it by the NSPs and their consultants.

This is precisely the type of judgement that the AEMC expected the AER to make when it provided the flexibility for the AER to judge the best method to achieve the rate of return objectives. As the AEMC noted in its Final Position Paper:⁷⁵

*The Commission has taken the view that it is preferable not to prescribe in the rules a list of particular models that should be considered or indeed prescribe characteristics that must be met by such a model. The Commission instead is requiring that the regulator have regard to relevant estimation methods, financial models, market data and other evidence **and is leaving to the judgement of the regulator the relative weights to be given to the methods, models and such information.** Implicit in this requirement to consider a range of methods, models and information is that checks of reasonableness would be undertaken. [emphasis added]*

CCP3 cannot understand, therefore, why the Victorian DNSPs continue to claim that the NER requires the regulator to take all of their proposed models into account (but not other methods and models).

The NER does not require this. Indeed, it would be absurd to propose that it would as this would mean that an NSP could propose any model during any determination process and demand that it be part of the AER's decision. There would be [more] regulatory chaos!

Nor is the AER's judgement on the best approach to assessing the rate of return restricted to modifying the NSPs' proposal to the minimum extent necessary. As discussed previously, the AEMC specifically rejected this restriction on the AER's discretion to select the best rate of return for a regulated NSP.

5.4 Why the AER should reject the Victorian DNSPs' "multi-model" approach

It should be apparent from the previous discussion that CCP3 has great difficulty with the proposition that the AER should vary from its Rate of Return Guideline simply because an alternative modelling approach is put to it.

Consumers would require a very strong justification from the AER to undertake such a variation from its Rate of Return Guideline, particularly given the concerns raised by consumers regarding the complexity of and lack of predictability and transparency in the multi-model approach.

with the past while having flexibility to adapt its output to current conditions. We consider this is an outcome that aligns closely with the AEMC's intentions of balancing flexibility and predictability.

⁷⁵ Ibid, p. 50.

These concerns have been canvassed in submissions to the Better Regulation process and in subsequent submissions to the AER's determinations. CCP3 considers that the NSPs collectively have not addressed these concerns or discussed the intrinsic risks in the multi-model approach.

CCP3 would strongly suggest to the Victorian DNSPs that the rules require that the AER provide reasons for varying from the Guideline⁷⁶ and we believe that they would have to be very good reasons. In this sense, the onus of proof is with the DNSPs to go beyond just asserting that the AER should adopt their preferred approach, they must demonstrate unambiguously that this would be a preferable outcome for consumers.

For convenience, we will summarise a number of the concerns with the multi-model approach in the following sections.

5.4.1 What is the "multi-model"?

It must be said at the outset that that much of the additional material provided by the Victorian DNSPs in their proposals are elaborations of the material previously presented during the 2013 Better Regulation program.

The multi-model approach, and the models that form part of the multi-model approach have therefore been carefully considered by the AER and by other stakeholders over a number of years.

The AER rejected the approach proposed by the DNSPs in favour of its foundation model for reasons that consumers and other stakeholders considered reasonable and consistent with an approach to regulation that avoids abrupt change and 'gambling' with untested approaches that have long term impacts on consumers' legitimate interests in efficient pricing.

Victorian DNSPs, however, have continued to promote the use of the "multi-model" approach in their proposals and continue to assert that the AER's Rate of Return Guideline should effectively be made null.

The multi-model approach basically takes a very theoretical approach to estimating the return on equity. As specified by the DNSPs, the multi-model approach relies on complex economic and finance models that require many assumptions and leaps of faith with respect to the model specifications.⁷⁷

On the other hand, the DNSPs have effectively ignored the wealth of "real world" information of the type set out by CCP3 in section 4 above.

For example, Table 3 below (taken from the AER's Issues Paper) summarises the weightings given by the Victorian DNSPs to each of the four models used in the multi-model approach.

⁷⁶ NER, 6.2.8 (c).

⁷⁷ By this we mean, that at one point in time, the weight of expert opinion favours one form of a given model, while at some other time, it favours an alternative specification.

Table 3: Victorian electricity DNSPs' proposed rates of return on equity

	Estimated return on equity (per cent)	Weighting (except Jemena) (per cent)	Weighting (Jemena) (per cent)
SL-CAPM	9.32	12.5	25.0
Black CAPM	9.93	25.0	25.0
Fama French Model	9.93	37.5	25.0
DGM	10.32	25.0	25.0
Resulting Estimated Return on Equity (per cent)		9.95	9.87

Source: AER, *Issues paper Victorian electricity distribution pricing review 2016-2020*, 9 June, Table 6.3, p. 40. It should be noted that the SL-CAPM referred to in this table includes a MRP value derived from the DGM rather than the historical returns analysis used by the AER.

5.4.2 Does the output of the multi-model approach make sense?

Looking just at the overall outcomes of the multi-model approach, suggests that the approach of combining models does not lead to a more accurate estimate of expected equity return on a low risk asset.

Moreover, the mere fact that there are similarities in the estimates of each of the individual models does not per se establish the validity of the individual models or of the overall weighted average of the models. There is considerable overlap in the three capital asset pricing models, and as discussed in section 6,, the estimation of the Dividend Growth Model (DGM) is highly sensitive to forecast assumptions and model specifications and therefore open to “goal seeking” the model that produces the desired outcome.⁷⁸

For example, the estimated returns on equity produced by each of the models listed in the table above (including the DNSPs' non-standard version of the SL-CAPM) are little changed from the AER's 2011 determination (10.28% - 10.85%⁷⁹). In 2011 the effects of the GFC were still washing through the economy, the risk free rate was over 5 per cent⁸⁰ and the implied equity risk premium was in the order of 5.2 per cent.

In 2015, the relevant risk free rate for the Victorian DNSPs is in the range of 2.55-2.64 per cent⁸¹. Therefore, the implied equity risk premium is close to 7.4 per cent (for a risk free rate of 2.64 per cent). The implied equity risk premium in the DGM model is around 7.7 per cent.

⁷⁸ To be clear, CCP3 is not claiming that the Victorian DNSPs' DGM analysis has been done in this way. However, it is potentially a very significant risk that must be taken into account when assessing the value that any particular DGM output can add to the process. To date, consumers have received little assurance that this risk has been addressed by those that propose the DGM.

⁷⁹ AER, *Victorian distribution determination final decision, 2011-2015*, October 2010), table 11.4, p. 519.

⁸⁰ Ibid. The risk free rate ranged from 5.08% to 5.65%.

⁸¹ The AER is using 2.55 per cent, the Victorian DNSPs propose a risk free rate of 2.64 per cent.

There is no obvious reason for why such an extreme equity premium is required given the liquidity in the equity markets. Certainly, there is little convincing explanation provided by the DNSPs in their proposals.

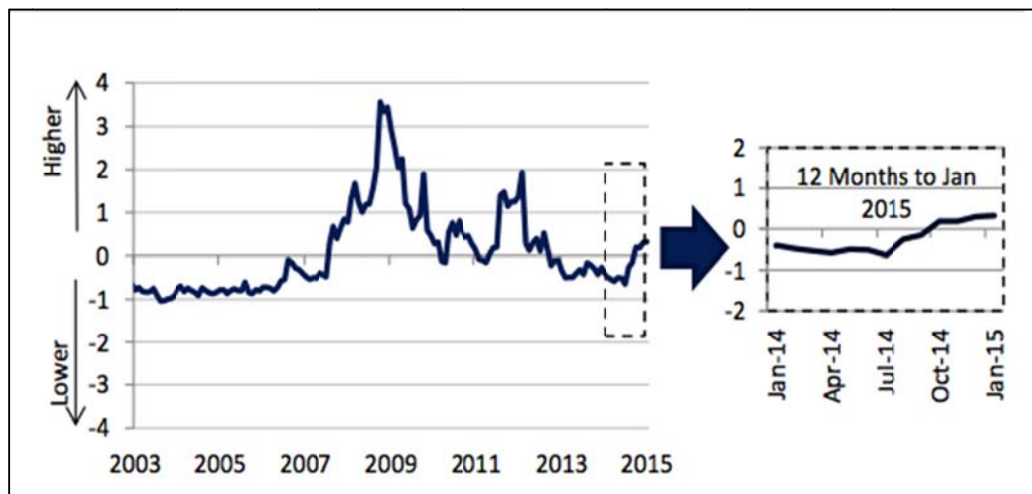
There has been some reference by the DNSPs to reports by the RBA about the stickiness of company hurdle rates in the face of reducing interest rates. However, this reflects the risks firms are willing to take in investment in specific projects whether this risk is preferable to options such as making higher dividend payouts and/or equity buy backs. The RBA considers this as an unhealthy response that jeopardises the companies’ opportunities for future growth.

In any case, investment in individual projects carries a high intrinsic risk and is quite different than equity investment in firms (in which individual project risk is diversified). Therefore, the comparison between hurdle rates and equity returns is hardly relevant to the regulatory task. If it were, then the parties considering bidding for Transgrid would not be contemplating paying multiples of the RAB well in excess of 1.

IPART uses a volatility index to assist it in setting the point estimate of WACC between the upper and lower bounds of the feasible range of WACC.⁸² Figure 8 below demonstrates the changes in IPART’s “economic uncertainty” index between 2003 and January 2015.

Figure 8 clearly demonstrates that current levels of market uncertainty are considerably below those seen in the 2009 – 2011 period, making it even harder for CCP3 to accept that current equity risk premiums should be at a peak level.

Figure 8: Economic Uncertainty 2003 to 2015



Source: IPART, *Fact Sheet, WACC Biannual Update*, February 2015, Figure 4, p. 5. The Fact Sheet will be updated in August 2015. However, the chart is relevant to the averaging period specified in the DNSPs’ proposals.

⁸² IPART calculates an “uncertainty index” which it uses to assist it in setting the point estimate of the WACC (lower, middle, upper bound). In its latest assessment (illustrated in Figure 8), IPART found the index was within 1 standard deviation of the long term average value of 0.

We have also considered the extensive information on equity risk premiums that the AER has provided in its Final Decision for Jemena Gas Networks (NSW).⁸³

We also understand that there are complexities in comparing the equity risk premiums from different sources given different treatment of dividend imputation credits, ex-post “discretionary adjustments” by various valuers and experts.

As the AER notes, there is a lack of transparency in many of the valuation reports on the details of their assessments. We therefore place some reliance on the AER’s “normalisation” of risk premiums implied in various expert reports. In summary:

- The AER’s equity risk premium point estimate for JGN is 4.55 per cent based on a MRP of 6.5 per cent and equity beta of 0.7 and including the effects of dividend imputation,⁸⁴
- The AER’s equity risk premium with “raw” equity beta point estimate (no adjustment for imputation) is around 3.8 per cent,⁸⁵
- The AER states that the most recent broker reports for (largely) comparable companies indicate an equity risk premium with a range of 2.6- 5.2 per cent (no imputation) and 3.0 – 6.0 per cent (with imputation),⁸⁶ and
- The most recent decisions on equity risk premium by other regulators for water utilities range from 3.90 per cent to 5.81 per cent. The ACCC’s decision for Telstra’s fixed line service was 4.2 per cent. There is a much larger range of equity risk premia for transport/railways reflecting their different characteristics and market exposures.⁸⁷

CCP3 notes and agrees with the AER that caution should be exercised in interpreting this information. However, CCP3 does conclude that despite all these limitations, there is nothing to support an equity risk premium of over 7 per cent as inferred from the Victorian DNSPs’ WACC proposals.

One reason sometimes posited (or implied) for the inferred increases in the equity risk premium is the view that the cost of equity is stable over time and is therefore insensitive to changes in the risk free rate. If the cost of equity is constant it also follows that the implied equity risk premium must move in the opposite direction to the movement in the risk free rate.

This proposition is strongly promoted by the Victorian DNSPs in their proposals as it is by most other NSPs.

There is no a priori reason for assuming this negative correlation, and even less information to explain why the market should **consistently** respond to low interest rates by increasing their perception of risk. Such consistency is required if the strong assumption of a negative correlation is to be used to determine expected returns.

⁸³ *Final Decision, Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, Attachment 3 Rate of Return, June 2015, p.p. 3-471 to 3-493.

⁸⁴ *Ibid*, p. 3-473.

⁸⁵ *Ibid*, p. 3-474.

⁸⁶ *Ibid*, Table 3.60, p. 3-478

⁸⁷ *Ibid*, Table 3.63, p. 3-481.

The DNSPs criticise the AER's approach or as they put it, the "Ibbotson inspired approach". They claim, for instance, that there is no evidence that equity investors' required rates have fallen in proportion to the fall in the risk free rate. However, we find a lack of convincing evidence that investors do not respond to these changes. Why in an open economy would investors seek even higher than normal premiums in the equity markets as the returns in the debt market decline? There are surely arbitrage opportunities that would progressively narrow any such gap in returns.

The suggestion is also put forward by the DNSPs that the AER's approach is implying a fixed relationship between risk free rates and the MRP.

It is not. The AER has explained that it independently assesses the risk free rate and the MRP; it does not assume a correlation between them.

CCP3 considers that it is the DNSPs who are imposing a fixed link between the measures of the risk free rate and the MRP, albeit it is a negative relationship.

CitiPower, for instance, provides an interesting example using the market conditions during the GFC as 'readily apparent' proof of a negative relationship:⁸⁸

[a]t the same time that investors became nervous and were demanding significantly increased returns, central banks were significantly reducing wholesale interest rates to try and stimulate the economy. This is a stark example of what the expert evidence shows is generally the case: the MRP and the risk free rates tend to move in opposite directions.

We consider that CitiPower has in fact highlighted the whole difficulty with the DNSPs' proposal that there is a direct and inverse relationship between the MRP and the risk free rate.

Sometimes there will be empirical data suggesting a positive relationship, sometimes the data will indicate a negative relationship; it just depends.

For instance, as noted above, since the GFC period, there have been significant improvements in economic conditions and the economy continues to grow at around 2.5 per cent, albeit lower than trend rate.⁸⁹ However, interest rates for Commonwealth Government Securities (CGS) have continued to decline.

In other words, as the economy has improved, the Reserve Bank of Australia (RBA) has continued to lower interest rates. In large part this is because the risk of inflation is low and the RBA has been focused in 2013-15 on reducing the value of the Australian dollar.

Secondly, CitiPower demonstrates a common problem with such observations. The so-called relationship is very much dependent on the time period of the observations. Observing a negative relationship in one period, particularly if it is a crisis period, is not a predictor of some intrinsic link between the two measures. During the GFC the spread between the CGS and BBB rated commercial debt also increased markedly. Does that imply a constant inverse relationship – no, it does

⁸⁸ CitiPower, *Regulatory Proposal 2016-20*, April 2015, p. 211.

⁸⁹ See for instance, RBA, *Statement of Monetary Policy*, May 2015.
<http://www.rba.gov.au/publications/smp/index.html>

not. As we note above, the CGS rate has continued to decline since the GFC, but the yield on BBB related debt has declined even more rapidly.

Thirdly, even if there was a reasonably consistent relationship over time (which we strongly doubt): how is it to be quantified; is the correlation -1, or something less. If the relationship “fluctuates” as suggested by Incenta,⁹⁰ how is it to be incorporated into an ex-ante forecast of investor expectations in a way that is demonstrably unbiased from a consumer perspective?

As a result, CCP3 is more persuaded by the views of Handley⁹¹ and of Partington and Satchell⁹²:

The theoretical justification for such an assumption is far from clear whilst the empirical evidence that is presented is not compelling. More importantly, this is a proposition whose widespread use and acceptance is yet to be established. Until then (if at all) there is no compelling reason to move from the standard approach to estimation [Handley, 2014]

[w]e are not convinced that the claims for a negative relationship have a compelling quality about them. Furthermore, if a change in interest rates were offset by a change in the market risk premium, thus holding the expected return on equity constant, then holding expected cash flow constant the value of the market would be independent of interest rate changes. This is a proposition that few would accept. [Partington and Satchell, 2015]

A further test of the assumed negative correlation proposition is whether the NSPs will continue to propose the same hypothesis if the risk free rate rises to (say) six per cent as it has in the past. Will the NSPs accept a return on equity of around 10 per cent or will they seek something higher. The DNSPs need to make this point clear in their proposals or run the risk that the claim of a necessary inverse relationship will be seen as opportunistic.

5.4.3 Will combining models contribute to a better overall estimate of return on equity?

It is quite clear that were the AER to accept the multi-model approach it would add greatly to the complexity of the process for assessing the return on equity. It would also add many new areas for potential disagreement between the AER and the NSPs given the considerably greater number of assumptions and many alternative specifications of each of the models included in the multi-model approach.

In this, we agree with the conclusions of Partington (2015):⁹³

We have repeatedly expressed our view that triangulation is a useful technique, for example in relation to the measurement of the market risk premium. However this does not mean that using all possible

⁹⁰ Cited in Ibid, p. 211.

⁹¹ Handley J.C., *Report to the AER, Advice on the Return on Equity*, October, 2014, p. 18.

⁹² Partington G and Satchell S, *Report to the AER, Return on Equity and Comment on Submissions in Relation to JGN*, May 2015, p. 18.

⁹³ Partington G, *Report to the AER, Return on Equity (updated)*, April 2015, p. 15.

models for the rate of return will give you a better estimate of the rate of return. There needs to be a strong case of the use of the model.

And

We have previously pointed out the problems with the application of the alternative cost of capital models particularly in the Australian context... Here we simply note that there is little consensus on the implementation of these models in Australia and there is substantial variation in the estimated parameters.

Partington proceeds to make the following comments highlighting the very real risks arising from the calculation and application of the return on equity using the multi-model approach. Partington states:⁹⁴

There are three opportunities for cherry picking. First with multiple models there are multiple unobservable parameters and betas to estimate and there is considerable latitude in how the parameters and betas can be estimated and the choice of data to be used for this task. Second, when it then comes to combining the results from multiple models there is no agreed optimal weighting scheme and the desired results can be obtained by judicious choice of weights. Third, it is possible to raise arguments about abnormal conditions, either requiring the revision of parameters, or the exclusion of certain data in estimating inputs to the models...The risk expands quite rapidly as the number of models increase. [emphasis added]

CCP3 and a number of consumer groups⁹⁵ have also identified these issues in previous submissions to the AER. CCP3 would also add that there must be a clear trade off between adding complexity and improving the estimates of expected return on equity; a trade off that includes understanding the increasing risks of rapidly multiplying the number of assumptions required as inputs.

There is no point in moving away from the relative simplicity and transparency of the AER's SL-CAPM foundation model approach to more and more complex approaches unless it cannot be clearly demonstrated that, ex ante, the additional complexity provides a better estimate of expected market returns without increasing risks and uncertainty in the regulatory outcomes.⁹⁶

This task has not been undertaken by the Victorian DNSPs (or other NSPs). Moreover, while there has been much defence of the individual models by the DNSPs we see little objective analysis of the effect of combining different models, and there is certainly very little precedence for such action.⁹⁷

⁹⁴ Partington G, "Report to the AER, Return on Equity (updated)", April 2015, p.p. 16-17.

⁹⁵ For example, Partington quotes the submission by QCOSS with approval. We also agree with QCOSS's concerns that are very similar to CCP3's. See Queensland Council of Social Service, *Submission on Queensland distributors' regulatory proposals 2015-20*, January 2015.

⁹⁶ By "uncertainty" of outcomes, we mean that under the same conditions and the same point of time different versions will come up with different results. Of course, the SL-CAPM will produce different results at different times, but the reasons for this are transparent. This is not the case with some elements of the multi-model as illustrated by Partington.

⁹⁷ Regulators have been guided in making their decisions by the information from different models, much as the AER's foundation model uses some other models to assist setting the point estimate. We

The extent to which combining models adds additional values to the process will also depend on factors like the correlation of the models and the independence of the inputs. For example, as noted above, the DNSPs assessment of the SL-CAPM relies on the DGM to calculate the MRP. The Fama-French model includes a beta factor that may or may not be consistent with the beta in the SL-CAPM (depending on the explanatory power of the size and market value factors in the Australian context).

We understand for instance, that the DNSPs' consultant, SFG, has reduced the weight of the SL-CAPM⁹⁸ in the multi-model specification because of the overlap with the Black CAPM model. However, some NSPs have reweighted the SL-CAPM back to equal weight.

For all the limitations of the AER's SL-CAPM, at least the limitations of the model are well known, it has been used for many years, there are limited "new" assumptions and the basis for estimating the inputs such as the MRP and equity beta are transparent and well tested. Moreover, other information used by the AER includes estimations that are not (per se) correlated within the SL-CAPM (i.e. they add new information, such as analysts reports and so on).

To conclude, consumers must be confident that the process of determining the return on equity is unbiased, independent, relies on well-tested theory and approaches and includes a minimal number of 'unobservable' assumptions.

With so many arbitrary inputs and model specifications inherent in the multi-model approach there is a strong opportunity for "gaming" the regulatory process. We again cite the warning of the Tribunal concerning the reduced prescription in the NER with respect to the rate of return calculations:⁹⁹

[i]t would expose the process of selection of the rate of return on capital to the risk of prolonged debate about the relevant factor, their empirical measurement and their weightings.

This risk is unacceptable to consumers, irrespective of whether there is actual gaming or not by the NSPs. CCP3 therefore supports the SL-CAPM/foundation model as the preferable approach as it has stood the test of time for at least the last 15 years and provided the DNSPs with greater profitability than was expected.

CCP3 advises strongly against the adoption of the multi-model approach presented by the Victorian DNSPs.

The next section will provide a brief review of some of the models and assumptions included as part of the multi-model approach in the analyses of the return on equity by the DNSPs. As there is much that is common and much that has been said before in other proposals, this review is necessarily brief.

are not aware, however, of regular quantification of these combinations based on some decision metric about how much these models should be weighted in a quantitative sense. In fact we regard such a process as inherently circular and too open to conscious or unconscious bias.

⁹⁸ Using the parameter values for the MRP calculated by SFG using the DGM.

⁹⁹ *Application by WA Gas Networks Pty Ltd (no 3)* [2012] ACompT 12, [68]; *Application by DBNGP (WA) Transmission Pty Ltd (no 3)* [2012] ACompT 14, [89]. Cited in *Ibid*, p 31.

6 The DNSPs' equity models and related input assumptions – some considerations

6.1 Overview

This section will look briefly at the limitations of a number of the individual models used in the multi-model approach. We will not examine these in any detail as the limitations have been well canvassed by the AER and its consultants in various determinations both before and after the AEMC's 2012 amendments to the rules.

For example, the AER's assessment of the rate of return proposals in its final determination for Jemena Gas Networks (JGN)¹⁰⁰ includes a comprehensive review (over 500 pages of analysis) of the various equity models including reviews of the updated reports from the NSPs' consultants.

We consider the AER's review of JGN's proposal is equally relevant to the proposals of the Victorian DNSPs. We generally support the AER's critique of both the multi-model approach and the individual models (including that of the new construction of the SL-CAPM) posited by the Victorian DNSPs.

Our aim in discussing a number of equity models that make up the multi-model approach is, therefore, more limited. Our intention is simply to reinforce the concerns discussed previously with the multiple assumptions required for each individual model and collectively. We also highlight the lack of consensus by various experts over the "correct" form for each of the models specifically for estimating the expected equity returns for a low risk regulated utility.

The section also provides a high level analysis of the equity beta. Again, much has been written and at a high level, CCP3 supports the AER's assessments. However, we do consider that the AER has been too heavily influenced by the "theory" of the Black CAPM in setting an equity beta at the higher end of the range of empirical outcomes for Australian regulated utilities.

Given the favourable regulatory environment and some of the other intrinsically conservative assumptions in the AER's assessment process (e.g. the selection of the MRP and the approach to the cost of debt), we consider that a better overall rate of return will be achieved by applying a beta value closer to the median of the observed rates.

6.2 The Fama-French 3-factor model

The Fama-French 3-factor model has the greatest individual weighting of all the four models included in the majority of the DNSPs' multi-model approach. The 3-factor version of the Fama-French model specifies that variation in market returns can be explained by the market risk beta plus two additional factors, the size and the value of the firm.

¹⁰⁰ AER, *Final Decision, Jemena Gas Networks (NSW) Ltd Access Arrangement 2015-20*, Attachment 3 Rate of Return, June 2015.

We note at the outset it is not clear to CCP3 how such factors will be assessed in the context of the regulatory task. What size and value do we assume represents the benchmark efficient network business in the Australian context? Assumptions such as this, which are untested, are required from the start.

Nevertheless, the DNSPs and their consultants claim that the Fama-French model has greater explanatory power than the traditional SL-CAPM model for a cross section of market returns. However, the DNSPs extrapolate this claim to make the further claim that it has greater explanatory power to predict the expected returns required by investors in a low risk benchmark efficient regulated network in Australia.

CCP3 considers it is essential for the regulatory purpose that the model demonstrate transparency, reliability and validity in the Australian regulatory context and that the model is not open to the risk of data mining or to varying assumptions in order to achieve a desired outcome.

We do not consider that the Fama-French model (either in its earlier form, or in the form subsequently expanded by SFG) meets these requirements. Our reasons are summarised below.

The Fama-French 3-factor model derives its three factors and the coefficients for each factor using multiple regressions analyses of stock market returns. It is not derived from an ex-ante hypothesis or based on accepted theory of what factors might drive returns. As a result, there is a real risk that the factors reflect no more than extensive “data mining”.

It is hardly surprising therefore that other research finds many hundreds of possible explanatory factors, including behavioural factors.¹⁰¹ We note for instance, that Fama and French have more recently suggested a 5-factor model might better explain returns. The use of 5-factors invariably changes the coefficients of the original three factors.¹⁰²

Nor is it surprising that the size, direction and statistical significance of the factor coefficients are sensitive to the markets in which the observations are made. While there are a number of attempts to develop country specific factors, this work is still in its infancy and has raised many measurements issues.¹⁰³ For instance, how should size (large/medium/small) or the value (high/low) factors be defined in a relatively small market such as Australia?

The factor coefficients are also found to be sensitive to the period over which the regression is performed and whether the observation periods are weekly, monthly or annual.

Given all the possible assumptions and model constructs above, CCP3 supports the AER’s conclusion that the Fama-French model is currently not suitable for the

¹⁰¹ See for example, the discussion in, McKenzie & Partington, “Report to the AER, Return on Equity”, October 2014, p.p. 16-18.

¹⁰² Fama, E.F. and French, K.R. (2014), ‘A Five-Factor Asset Pricing Model’, August 11. Available at ssrn.com/abstract=2287202 and cited in McKenzie & Partington, “Report to the AER, Return on Equity”, October 2014, p 16. In practice the original “value” factor has little explanatory power once profitability and investment are included.

¹⁰³ For example, the tables of international coefficients refer to “USA”, the World and regions. For instance, Australia is included in the Asia-Pacific (excluding Japan) region.

regulatory task of estimating the return on equity of the benchmark efficient entity or of performing a cross check on other models.

It is also worth noting at this juncture that despite the enthusiasm for the Fama-French model, SFG's own 2013 study on the regression coefficients illustrates some of the difficulties and limitations with the model.

To take just one example from the public report of the 2013 study, there are important differences between the Australian and US utilities in terms of the Fama-French premiums for size and book-to-market value.

SFG report indicates that the Australian average (Fama-French) market beta coefficient, size coefficient ($s * SMB$) and book to market value coefficient ($h * HML$) were 0.52, 0.08 and 3.33 respectively. The equivalent coefficients in the US were 0.79, -0.25 and 0.56.

Controversially, SFG averages these two populations to get a combined set of Fama-French parameter estimates of 0.79, -0.17 and 1.23. Thus an observed positive coefficient for size in Australia becomes a negative coefficient in the combined sample.¹⁰⁴ It is difficult therefore to understand what these combined numbers might represent from a practical point of view and how they should be applied to Australian utilities. Overall, we remain sceptical that the combined figure tells us much about the expected returns for a benchmark efficient entity in Australia.

Perhaps SFG could usefully have combined the average Australian factor coefficients with the UK or one of the Canadian states, which may have been more representative of Australian market conditions. Or perhaps not. We simply cannot tell from the published SFG analysis.

We note that SFG has updated its figures in more recent reports. For example, AusNet Services cites SFG's recommended and updated coefficient estimates as: market exposure of 5.04%, size exposure of -0.19% and book to market exposure of 1.15%.¹⁰⁵ These updated figures do not alleviate our initial concerns with the 2013 study results and the application of these results to the regulatory task.

In fact the updated figures demonstrate just how unstable the Fama-French parameters can be in contrast to the considerably more stable empirical analysis of the single factor equity beta (see discussion on the equity beta below). They also illustrate our concern with the relevance of the factors for assessing Australian utilities. Has the positive value for the size factor disappeared, or is the negative sign just another outcome of averaging with a much larger US data set.

Moreover, the Fama-French 2013 3-factor analysis appears to add little to the overall explanatory power compared to the simple SL-CAPM single risk factor measured in the same study. This is illustrated in the summary table below.

¹⁰⁴ See SFG Consulting, Regression-based estimates of risk parameters for the benchmark firm, 24 June, 2013. Table 4, p. 16. The average estimates are the average of individual firm analysis and equal weighted indices. The combined Australia/US parameter estimates are based on a weighted average of the Australian and US average results (Australia weighted 24%, US weighted 76%)

¹⁰⁵ AusNet Electrical Services Pty Ltd, *Electricity Distribution Price Review 2016-20*, April, 2015, p. 330.

We note that SFG concludes that: “Incorporation of the size and book-to-market factors has increased the average explanatory powers of the regression”.¹⁰⁶ We do not consider the data supports such a claim and do not see any evidence of any statistical testing of this claim.

In any case, the analysis confirms our doubts that the minor increases in the R-squared values we see in SFG’s results warrants the additional complexity of the Fama-French model as illustrated in Table 3.

Table 3 Comparison of R-squared and β parameter for the SL-CAPM and the Fama-French 3 Factor Model

	Australia	US	Combined	Australia	US	Combined
	R ²	R ²	R ²	β	β	β
SL-CAPM	11%	31%	28%	0.6	0.88	0.84
FF Model (FFM)	14%	33%	29%	0.59	0.86	0.82

Source, SFG, “Regression based estimates of risk parameters for the benchmark firm”, 24 June, 2013, Table 2, page 13. CCP analysis. The β factor in the FFM represents an estimate of systematic risk and is therefore similar to the CAPM β (although modified by inclusion of two additional factors in the regression).

We conclude therefore, that the Fama-French model is too complex, unstable and untested in the regulatory context to be of additional value to the AER in its task of determining a cost of equity for a benchmark efficient firm.

Moreover, with so many possible permutations it would quickly become a fertile ground for dispute and appeal. This is not an outcome that is in the long-term interests of consumers.

We cannot but agree with the recent comments by Partington and Satchell:¹⁰⁷

With the original Fama and French model under revision by its originators, this does not seem the appropriate time for the AER to adopt the FF model and follow a path that other regulators have avoided.

Consumers have the right to know that the AER’s decisions on the rate of return are based on transparent, well-established and stable approaches. Despite the references by the DNSPs to the use of the Fama-French model in a number of US regulatory rate cases, we do not consider this provides a useful precedence for its application in the Australian market.

We would, however, encourage the AER to continue to monitor independent research on the application of the Fama-French model and/or its variants within the context of a regulated benchmark efficient network business.

¹⁰⁶ SFG Consulting, “Regression-based estimates of risk parameters for the benchmark firm”, 24 June, 2013, p. 13.

¹⁰⁷ Partington and Satchell, “Report to the AER, return on equity and response to submissions on JGN”, May 2015, p 14.

6.3 Dividend Growth Model (DGM)

The relevance of the DGM to estimating either the overall return on equity or the market risk premium (MRP) has also been the subject of much debate even prior to AEMC's 2012 amendments to the NER and NGR.

For instance, the Tribunal has ruled on the matter a number of times in 2012-2013 and has concluded that the AER has not erred in adopting a MRP of (circa) 6 per cent, nor has the AER erred in not adopting values for the MRP that were derived from a DGM analysis as suggested by the relevant NSPs.¹⁰⁸

In its 2013 assessment of APA GasNet's appeal, the Tribunal highlighted a number of very important difficulties with using the DGM to estimate the MRP (*Note: the Tribunal did not assess the question of using the DGM to estimate the overall return on equity*).

The Tribunal concluded that:

- The MRP is a forward-looking concept and by definition is not observable [at 302];
- There are substantial debates amongst the experts as to how particular methodologies should be employed and the assumptions necessary to drive them [at 304];
- The choices of methodologies and assumptions can significantly alter the resulting estimates [at 304];
- It is "well known" that DGM estimates are highly sensitive to the assumptions made [at 267];
- Relevant assumptions include forecasts of expected market growth rates in dividends per share, or as proxies, analysts short term forecasts of market-wide earnings per share growth or by long term expectations of GDP growth or both [at 267];
- APA GasNet's proposed DGM based assessment of the MRP is significantly higher than the AER's and illustrates the range of possible outcomes depending on model specifications and assumptions (APA GasNet sought an MRP of 8.72¹⁰⁹ per cent from a range of DGM estimates of 6.16 to 9.56 per cent) [at 267]; and
- While the DGM is "currently" producing high MRP estimates, it produced MRP estimates just above 2 per cent in 1994 [at 267].

In its subsequent Rate of Return Guideline, and regulatory decisions, the AER stated that the DGM was not suitable to use in assessing the overall return on

¹⁰⁸ See for instance, Australian Competition Tribunal, *Application by APA GasNet Australia (Operations) Pty Limited (No 2)* [2013] ACompT 8 @ 266-286. Relevantly, the Tribunal concluded at [306] by reference to its previous decision in *DBNGP (no 3)* [2012] at [326]:¹⁰⁸ *It is clear enough that a finding of fact by the ERA [Economic Regulation Authority in Western Australia] is not shown to be erroneous simply because there is material which could support a different finding of fact...*

¹⁰⁹ *APAGasNet* [2013] ACompT8 at 239. APAGasNet proposed an MRP of 8.72 per cent in its revised proposal; in APAGasNet's original proposal it had proposed an MRP of 8.5 per cent.

equity but could inform the AER's assessment of the MRP. The AER's reasons for limiting the use of the DGM included:¹¹⁰

- While there was a sufficiently robust data series to estimate dividend yields for the Australian market as a whole, there was no sufficiently robust data series to state the required return on equity for Australian network service providers (i.e. of the benchmark efficient entity)
- Similarly, while there were methods for estimating expected growth rate of dividends for the Australian market as a whole, it was unclear if a sufficiently robust method for estimating the dividend growth rate for Australian energy networks, particularly the long term dividend growth rate;
- The sensitivity of DGMs to input assumptions would limit its use as the foundation model;
- Simple DGMs are known to produce implausible estimates of the return on equity for the benchmark efficient entity. For example, the DGMs generated average returns on equity for energy infrastructure businesses over an extended period that exceeded the average return on equity for the market; an outcome that did not make sense given the low systematic risk of the regulated efficient benchmark service provider.¹¹¹

In its subsequent determinations, the AER expressed additional concerns that the DGM (as constructed by the AER) may be biased upwards and noted again that: "DGMs are highly sensitive to the date, model specification, computations and assumptions employed."¹¹²

The AER therefore appropriately undertook an analysis of the sensitivity of the DGM to two frequently used model specifications (two stage and three stage model) and to different assumptions about growth in dividends per share, and the averaging period for estimating this.

Table 4 below summarises the AER's sensitivity analysis using the AER's DGM construction for two and three stage DGMs and using a range of feasible input assumptions with respect to:

- The long-term forecast dividend growth rate (normalised for CPI);
- The averaging period for analysts' forecasts; and
- Analysts' forecasts of dividends per share (short term).

¹¹⁰ This summary is based on the AER's discussion in AER, *Final Decision, JGN Access Arrangement 2016-2020*, Attachment 3, June 2015, p.p. 3-278-279.

¹¹¹ In practice, this outcome is probably more a reflection of what the NSPS have been earning, rather than what they should be earning relative to their risk. This demonstrates the problem of circularity. That is, any argument based on returns for networks derived from more recent observed returns and dividends simply picks up on the fact that the regulators previous assessment happened to be too generous.

¹¹² *Ibid*, p 3-291.

Table 4: Sensitivity of the MRP to different DGM model specifications and input assumptions

Sensitivity	Two stage model	Three stage model
Baseline ^a	7.97	8.20
Low ^b	5.89	6.28
High ^c	9.04	9.20

Source: Bloomberg, AER analysis.
Notes: a) 4.6% growth, 2 month averaging, DPS forecasts.
b) 3.78% growth, 12 month averaging, DPS forecasts - 10%.
c) 5.1% growth, 2 month averaging, DPS forecasts + 10%.

Source: AER, *Final Decision, JGN Access Arrangement*, Attachment 3, June 2015, Table 3-42, p 329. Detailed breakdowns are provided in Tables 3 -39 to 3-41.

The AER adopted a relatively simple three stage DGM model (with a two stage model as a cross check) using analysts forecasts of short term dividend growth, a linear trend to a long term nominal growth of 4.6 per cent in earnings per share, and a 3 per cent long term growth in real Gross Domestic Product (GDP).

However, the AER’s advisors consider this is a generous assumption and propose a long-term growth in earnings per share of 3.73-3.78 per cent.¹¹³ SFG, however, argues for a 5.8% nominal growth in earnings per share¹¹⁴ and (it appears) is content to argue that earnings per share can grow faster than GDP for an extended period (up to 100 years).¹¹⁵

To CCP3, all this debate raises the very significant risk of endless appeals. As Table 4 above demonstrates, the decisions on assumptions and model specification can have a very material impact on the outcomes.

However, there is no a priori basis for selecting any one set of assumptions and model specifications over another. Albeit informed by various analysts’ forecasts (themselves subject to bias) the selection by either a NSP or the regulator of inputs is inevitably subjective and open to conscious or unconscious bias and prior expectations.

Nevertheless, despite the ongoing critique of the DGM and the assessment made by the Tribunal, the Victorian DNSPs (and other NSPs) continue to press for the DGM to make a significant contribution to the estimation of the overall return on equity with a weighting of 25 per cent and an additional contribution to the MRP in their version of the SL-CAPM MRP (as specified by SFG).

More recently, SFG has put forward a further adaption of the DGM designed to address the criticism that the DGM does not properly account for systematic risk

¹¹³ McKenzie and Partington also demonstrate that SFG’s approach to simultaneously solve for the cost of equity and growth, simply means that “what you get will simply rely on the assumptions that underlie the filters” (i.e. the constraints on the variables in the simultaneous equation). Using equally plausible but different “filters”, they arrive at a cost of equity of 6.9% compared to SFG’s 10.6%. See McKenzie and Partington, *Report to the AER, Part A: Return on Equity*, October, 2014, pp 34-36.

¹¹⁴ AER, *Final Decision, JGN Access Arrangements 2016-20*, June 2015, p 3-301.

¹¹⁵ *ibid*, p 3-296.

and is not representative of the return on equity beta for a low risk benchmark efficient network service provider (versus the market as a whole).¹¹⁶

Simplistically, we understand that SFG uses the DGM modelling approach to calculate a return on equity for each of the listed network businesses and then calculates an average “risk premium ratio”. This ratio is used in a manner similar to the equity beta in the traditional SL-CAPM in that it modifies the overall market MRP (where this is also calculated using the DGM).¹¹⁷

The average risk premium ratio estimated in this new approach is 0.94¹¹⁸. Although this figure is significantly higher than SFG’s 2013 regression based estimates of the equity beta for utility/energy businesses¹¹⁹ it would appear that it has been used by the Victorian DNPS in calculating their estimate of the SL-CAPM in the proposal.¹²⁰

The AER and its consultants have provided a detailed critique of SFG’s approach to estimate both the MRP and the risk adjustment for the network businesses.¹²¹ They also note that SFG’s modified construction of the DGM is relatively untested and not supported by any significant body of independent third party research and review.

In contrast, the AER’s three stage DGM is based on a more common approach to applying the DGM theory, albeit the AER recognises that there is no universally accepted format of the DGM: “we [the AER] recognise there is no consensus on what is the most appropriate form of DGM”.¹²²

We would agree with these criticisms and are opposed to the application of novel and largely untested models to estimate either the MRP or the overall cost of equity. As Handley so relevantly states:¹²³

The DGM proposed by SFG essentially adopts a brute force approach to estimating the implied cost of equity for the market...The model is interesting but the regulatory environment involving an aggregate regulatory asset base measured in the tens of billions of dollars is not the appropriate setting to trial a new model whose widespread use and acceptance is yet to be established.

To wit, CCP3 repeats its previous statements; consumers cannot accept the role of being “guinea pigs” in some sort of economic or financial modelling experiment.

¹¹⁶ SFG, “Alternative versions of the dividend discount model and the implied cost of equity”, 15 May 2014; SFG, “Share prices, the dividend discount model and the cost of equity for the market and benchmark energy network”, 13 February, 2015.

¹¹⁷ A more detailed account of SFG’s proposed approach can be found in AER, *Final Decision, JGN Access Arrangements 2016-20*, June 2015, p. p. 3-318 -320.

¹¹⁸ *Ibid*, 3-320.

¹¹⁹ In SFG’s 2013 study, the estimated betas for use in the CAPM model were: Australia (0.55-0.6); US (0.88-0.91) and Combined sample unweighted (0.84-0.86). See, SFG, *Regression-based estimates of risk parameters for the benchmark firm*, June 2013, Table 2, p. 13 and Table 3, p. 15. Note, SFG also provides a weighted average beta (24% Australian firms/ beta and 76% for US firms, with a weighted average beta of 0.82.

¹²⁰ See for instance, AusNet Electrical Services Pty Ltd, *Electricity Distribution Price Review 2016-20*, April, 2015, p. 330.

¹²¹ AER, *Final Decision, JGN Access Arrangements 2016-20*, June 2015, p. p. 3-320-324.

¹²² *Ibid*, p. 3-298.

¹²³ Handley J., *Advice on the return on equity*, October 2014. p. 15.

A conservative and measured approach using well-established techniques is required in the Australian regulatory context.

Moreover, any approach that represents a (significant) departure from the AER's Rate of Return Guideline must demonstrate that it is unbiased, transparent, repeatable and robust in respect of both the inputs and the outputs.

To vary from the Guidelines, both the DNSPs and the AER would need to demonstrate that the model also provides a materially preferable outcome in the long-term interests of consumers commensurate with the added complexity. The DNSPs' proposal using SFG's new approach does not appear to meet these criteria, at least at this stage.

We also highlight that SFG's revised technique adds to the issue of correlation of the so-called independent assessments of the return on equity and/or the MRP. The NSPs generally argue for a weighting of 25 per cent for DGM and 12.5 per cent for the SL-CAPM. In this more recent work, SFG's DGM is effectively given a much greater weighting. That is, it contributes 25 per cent to the weighted average return on equity and separately contributes to the MRP and equity beta in the networks assessment of the SL-CAPM.

6.4 The Black CAPM

The third model that forms part of the Victorian DNSPs' proposed cost of equity calculation is the Black CAPM.

The Black CAPM is generally weighted around 25 per cent in the multi-model approach to determining the return on equity. That is, the Black CAPM is generally given equal weighting to the DGM and twice the weighting for the SL-CAPM (as calculated using SFG parameters for the MRP and equity beta).

In contrast, the AER has given only a limited role to the Black CAPM model. The AER claims it has regard to the theory underpinning the Black CAPM in choosing the equity beta point estimate but does not use it quantitatively to directly estimate the cost of equity.

The AER's view that the theory of the Black CAPM is relevant appears to reflect some acceptance that the standard SL-CAPM produces a downwardly biased relationship between beta and average market return when the beta is less than one.

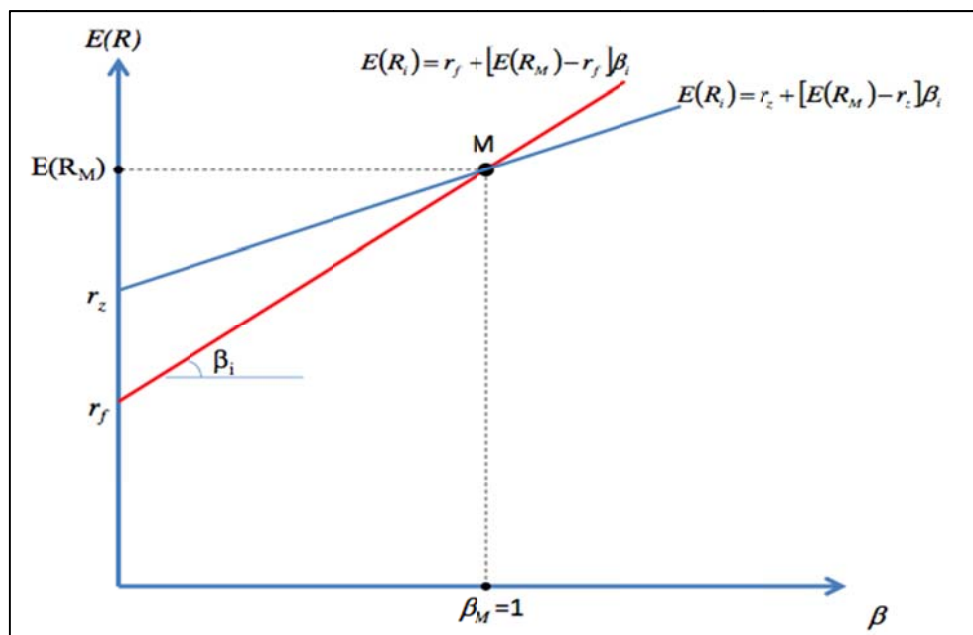
Underpinning this view is the observation that the SL-CAPM assumes that an investor can borrow or lend unlimited amounts at the risk free rates, an assumption that the critics of the SL-CAPM regard as unrealistic. The Black CAPM assumes that the investor may hold an unlimited zero beta portfolio¹²⁴ that consists of long and short positions. In effect this results in a flatter slope on the regression line and has an intercept on the Y-axis above the SL-CAPM intercept for a risk-free asset.

This point is illustrated in Figure 9 below. The red line demonstrates the theoretical risk line for the standard SL-CAPM, while the blue line represents the risk line for

¹²⁴ That is, a portfolio of assets that is orthogonal (i.e. has zero covariance) to the market portfolio. This is conceptually different to the standard SL-CAPM which assumes that there is a risk free asset.

the Black CAPM. It can be readily seen that the slope of the Black CAPM zero-beta line will be lower than the SL-CAPM risk free line.

Figure 9: Security market line – Sharpe-Lintner and Black CAPM



Source: Partington G., "Report to the AER Return on equity (updated), April 2015", Figure 1, p 18.

As Partington explains, the SL-CAPM uses the risk free rate (rf) and this can be observed (assuming the CGS can be regarded as risk free). However, the zero beta portfolio rate (rz) cannot be directly observed. The question then becomes, how is the zero beta value to be determined? How much above the risk free value should it sit?

There are very different views by different analysts on the extent to which a zerobeta CAPM should be used to adjust (quantitatively) the SL-CAPM slope.

McKenzie and Partington for instance state:¹²⁵

*While we do not think such an adjustment is appropriate [to the SL-CAPM beta], if one were to consider making an adjustment, **it is not clear what adjustment you should make to the CAPM return estimate.** The problem is that the difference varies between studies, between sample periods (even with addition of relatively few data points) and is potentially sensitive to the choice of market index or proxy for the risk-free rate. In fact it is entirely possible that the error bounds around these point estimates may mean **that they are actually not significantly different from the CAPM securities market line.** [emphasis added]*

It is not surprising therefore that McKenzie and Partington conclude that:¹²⁶

¹²⁵ Ibid, p.23

¹²⁶ Ibid, p. 24.

the theory underpinning the Black CAPM does not necessarily support an uplift to the estimate of beta to be used in the SL-CAPM for low beta stocks.

McKenzie and Partington (2014) and Partington and Satchell (2015) also note the following limitations of the Black CAPM:

- Maintaining a zero beta portfolio can be both risky and costly (as it requires the investor to short sell). These additional costs must be accounted for in any comparison of the SL-CAPM and the Black CAPM and will minimise the uplift required over the risk free portfolio;¹²⁷
- The measurement of the zero beta asset returns (to the extent it can be approximated from market data) will include the effects of inflation. As inflation gets larger, the zero-beta beta will be biased towards 1.¹²⁸
- The view held by the proponents of the Black CAPM that investors cannot get access to unlimited risk-free assets (an assumption in the SL-CAPM), may not be as big a hurdle as implied in Australia, and is not a sufficient reason to resort to the zero beta CAPM.¹²⁹ Mackenzie and Partington state:¹³⁰

We are, in effect, replacing a very reliable and observable series of treasury rates by a single estimate, which is poorly estimated at best.

Partington also demonstrates that the estimation of the zero beta portfolio is very sensitive to the choices made in its estimation. As Partington so succinctly states:¹³¹

*Our point is **simply ‘that what you get depends very heavily on what you do’ ... with minor variations in inputs a wide range of results are possible, some of which are ‘plausible’ and some of which will be ‘implausible’.** As we also point out below the basis for determining plausibility is subjective not objective. We might argue that this is perhaps a major reason why the Black CAPM has not seen widespread application in this context. [emphasis added]*

The Victorian DNSPs apply SFG’s estimate of a return on a zero beta asset by adding a 3.34 per cent zero beta premium to the risk-free rate of 2.6 per cent (as calculated by the DNSPs). This gives an estimated return on a zero beta asset of 5.98 per cent.¹³² Other consultants such as NERA have suggested a zero beta premium over the risk free rate of 10.75 per cent.¹³³

We do not find this estimate credible. In particular, this estimate of 5.98 per cent should be considered in the light of the DNSPs’ proposals for the return on debt (a

¹²⁷ See McKenzie M and Partington G, “Report to the AER, Return on Equity”, October 2014, p.p. 22-23.

¹²⁸ Partington G., and Satchell S, “Report to the AER – return on equity and response to the submissions on JGN”, May 2015, p. 11.

¹²⁹ Ibid, p. 12

¹³⁰ Ibid.

¹³¹ Partington G, “Report to the AER, return on equity (updated)”, April 2015, p. 23.

¹³² See for instance, AusNet Electrical Services Pty Ltd, *Electricity Distribution Price Review 2016-20*, April, 2015, p. 330.

¹³³ Cited in Partington G, “Report to the AER, return on equity (updated)”, April 2015, p. 25.

range of 5.39 -5.67 per cent) for a business with an average credit rating of BBB.¹³⁴ Partington and Satchell also draw attention to this anomalous outcome.¹³⁵

*The point has previously been made that the range of choice for zero beta portfolios can be infinite and we have repeatedly made the point that what you get for the zero beta return depends very much on what you choose to do in your estimation process...The widely different results reported by the consultants provide clear evidence of this **and the most recent estimate advocated by SFG hardly seems reasonable as a substitute for the risk free rate, since it exceeds the rate of BBB debt.** [emphasis added]*

Given this and the other significant criticisms of the Black CAPM, CCP3's view is that there is insufficient confidence in the estimation of the zero beta portfolio. The fact that it is rarely if ever used in practice,¹³⁶ suggests that practitioners share the concerns with the unstable and subjective estimates.

Therefore, we consider that it would be inappropriate for the AER to use the Black CAPM to estimate the return on equity for a benchmark efficient entity either alone or in combination with other models.

We also agree with Partington and consider that the AER's use of the Black CAPM to notionally justify a selection of an equity beta at the top of the observed range is very much open to question. We discuss this further in the next section.

CCP3 would encourage the AER to monitor the debate on this issue closely prior to the establishment of the next Rate of Return Guideline.

6.5 Equity Beta

6.5.1 Overview

In previous submissions, the CCP, along with many consumer groups and other stakeholders, suggest that the AER's decision to use an equity beta at the top end of the observed range is very conservative and is not supported by its advisor, Professor Olan T. Henry.

An important factor driving the AER's decision to use an equity beta higher than the one advised by its consultant is that the AER considers the theory underpinning the Black CAPM should be taken into account. We have discussed our concerns with the Black CAPM above and do not consider it is an appropriate basis for the AER to select an equity beta that is higher than the median of the empirical observations. We also note that there has been remarkable consistency in the findings on equity beta across Professor Henry's studies in 2008, 2009 and 2014. CCP3 considers this stability should be taken into account by the AER.

We also concur with the more recent views of Associate Professor Partington. In 2015, the AER requested him to further consider whether the theory underpinning

¹³⁴ Based on the actual RBA and Bloomberg data which calculates a 10 year bond yield based on BBB+, BBB and BBB- credit rated businesses (even though the benchmark entity is rated BBB+).

¹³⁵ Partington G., and Satchell S, "Report to the AER – return on equity and response to the submissions on JGN", May 2015, p. 10.

¹³⁶ See Ibid, p. 13.

the Black CAPM necessarily supports an uplift to the estimate of beta to be used in the SL-CAPM for low beta stocks. After a further extensive review of the Black CAPM, Partington confirmed his previous views, namely:¹³⁷

In our view, the theory underpinning the Black CAMP does not necessarily support an uplift to the estimate of beta used in the S-L CAMP for low beta stocks.

We further discuss our concerns with the AER's point estimate of the equity beta below. However, prior to that more detailed discussion it is important to highlight a more fundamental problem with the AER's approach.

6.5.2 The AER errs in compounding conservative parameter estimates on conservative estimates

Under the amended NER it is clearly the intention of the AEMC that the AER takes a holistic view of its decisions and, in particular, that the AER focus its attention on the overall rate of return objective. The key decision for the AER is, therefore, to make a decision that is commensurate with the efficient financing of an efficient benchmark entity.

Those means the AER should take a "step back" and consider the whole suite of information before it, including the estimates used in the assessment of the return on equity and the estimate of the benchmark return on debt.

However, CCP3 has observed, as have many other stakeholders, that the AER has a tendency to adopt a conservative estimate across a number of the constituent decisions. For example:

- Selecting a market risk premium that is at the high end of estimates used by market practitioners and other regulators;
- Placing some weight on the results of a DGM analysis, even though the AER recognises the potential upward bias of the DGM estimates;
- Using corporate bond yields based on average BBB credit ratings for the return on debt rather than its benchmark BBB+ for an efficiently financed, efficient regulated business;
- Adopting a notional debt portfolio of 10 year tenor bonds, when the reality is that networks have a mix of tenors; and
- Ignoring the fact that most NSPs raise a large proportion of their funds from overseas markets.

CCP3 therefore considers it is not appropriate for the AER to add another layer of conservatism by adopting an equity beta that is at the high end of the observed range, and above the estimate recommended by its own advisor, Professor Henry.

We also note (see above) that in selecting the higher end of the range the AER has placed reliance on the theory of the Black CAPM although its advisor, Partington has suggested that this adjustment is not necessary.

¹³⁷ Partington G., "Report to the AER Return on equity (updated)", April 2015. P. 44.

We therefore consider that the AER should adopt a value for beta that is closer to the mid-point of its estimates of beta unless there are compelling reasons to do otherwise, and we do not consider that there are such compelling reasons.¹³⁸

6.5.3 The equity betas proposed by the Victorian DNSPs are not credible

While we are critical of the AER's selection of an equity beta at the top of its range, it is a markedly more reasonable estimate than the equity betas proposed by the Victorian DNSPs for application within the SL-CAPM framework.

In the main, the Victorian DNSPs have adopted the original estimated equity beta of 0.82 proposed by SFG in its 2013 paper¹³⁹ for the purpose of the SL-CAPM. However, the average equity beta implied by each of the four models in the "multi-model" approach is 0.89.¹⁴⁰ Confusingly, the Victorian DNSPs also make reference to SFG's more recent assessment of the risk premium for "relevant comparable firms" at "94% of the over-all market returns".¹⁴¹

With respect to the average equity beta of 0.89, we have already discussed our concerns with the multi-model approach and with the individual models that make up this approach.

We will therefore not directly address this aspect of the DNSPs' proposals except to say that we find a figure of 0.89 very much outside the range of recent assessments by regulators for energy networks (and water networks). It is also very inconsistent with the general view that investments in networks are investments in "safe haven assets"¹⁴² (assuming they are efficiently financed and efficiently managed, which may not always have been the case), a view that the DNSPs promote themselves in the market place.

Our attention, therefore, is on the SL-CAPM estimate of an equity beta of 0.82. Here we must return to the original SFG (2013) paper referred to previously in this submission in the context of the Fama-French model.

In its 2013 paper, SFG provide a summary of the implied risk premium resulting from the two samples and two estimation techniques (firms and index). Figure 10 below includes an extract from SFG's summary table with a focus on the SL-CAPM beta.

¹³⁸ This is not too dissimilar to IPART's approach in which it takes the mid-point unless certain pre-defined limits are breached (such as the volatility index is greater than 1 Standard deviation above or below the mid-point).

¹³⁹ SFG Consulting, *Regression-based estimates of risk parameters for the benchmark firm*, June 2013.

¹⁴⁰ For convenience, we have used the calculation in AER, Issues Paper Victorian electricity distribution pricing review 2016-20, June 2015, p. 48.

¹⁴¹ AusNet Electrical Services Pty Ltd, *Electricity Distribution Price Review 2016-20*, April, 2015, p. 330.

¹⁴² FIIG uses this terminology to describe a portfolio of low risk bonds that includes "perennial favourite", Australian Gas Networks (Envestra) with indexed bond on offer at around 2.6 per cent (5.12 per cent at 2.5% average inflation). FIIG, "The Wire", 22 July edition.

Figure 10: SFG (2013): Coefficient estimates and implied risk premiums for CAPM

		CAPM β
Australia	Firms	0.60
	Index	0.55
	Average	0.58
United States	Firms	0.85
	Index	0.91
	Average	0.89
Australia & United States	Firms	0.84
	Index	0.86
	Average	0.85
Parameter estimates		0.82

Source: SFG Consulting, “Regression based estimates of the risk parameters for the benchmark firm”, June 2013, Table 4, p. 16. Table 4 also includes Fama-French risk premiums but we have not included them in this extract for ease of discussion. The estimates are based on four weekly returns and are re-levered to 60% gearing. The ‘index’ analysis allows SFG to construct one time series in each market over the 11-year observation period (given not all firms are available for that whole period). The ‘parameter estimate’ is based on the weighted average of the Australian and US firms (i.e. the weight on the Australian evidence is 24%, and the US weight is 76%).

Our criticism of the derivation of the weighted average beta of 0.82 has already been made in previous submissions to the AER. We consider that the networks have never adequately addressed the issues with SFG’s averaging approach that have been raised by the CCP subgroups and by other stakeholders.¹⁴³

This criticism was based on our view that it is both statistically and practically unsatisfactory to combine a sample of equity betas derived from the Australian population of nine listed regulated networks with a sample of 56 United States (US) listed firms without further investigation of the findings for each grouping.

The SFG papers (2013 & 2014) do not appear to provide any statistical evidence that the two groups come from the same statistical population; it would be surprising if they did given the differences between the two markets.¹⁴⁴ Moreover, we disagree with the weighting process used by SFG to derive the parameter estimate of 0.82 – this weighting appears to be entirely arbitrary.

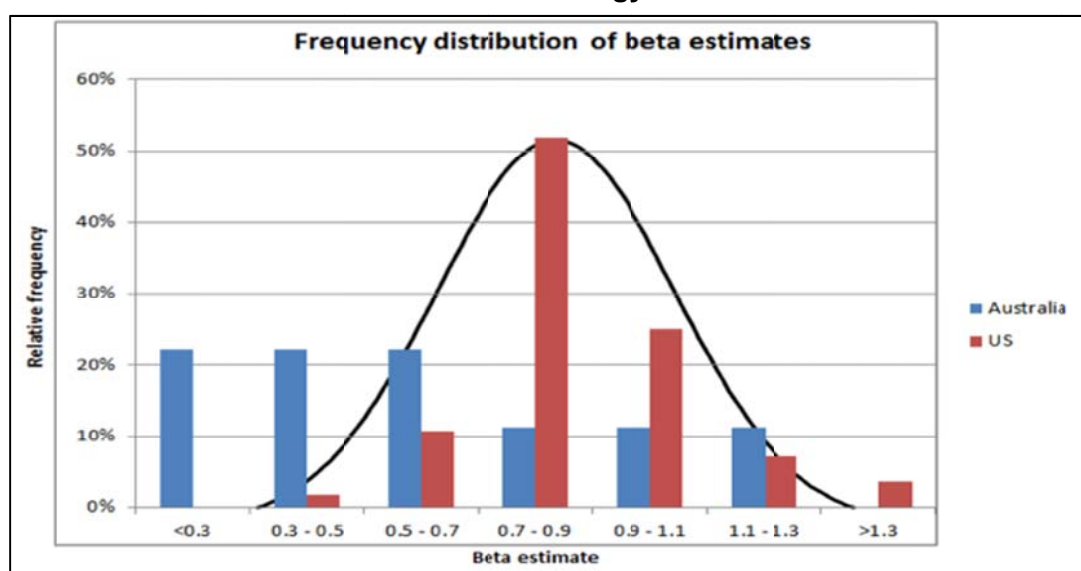
Our view is that if the two samples do *not* come from the same population in a statistical sense, it is *not appropriate* nor is it meaningful to derive an average figure from the combined sample and use that figure to predict the equity beta values for the Australian benchmark efficient network.

¹⁴³ See for example, Public Interest Advocacy Centre, *Moving to a new paradigm? Submission to the Australian Energy Regulator’s electricity distribution network pricing determination*, August 2014, p.p. 78-79.

¹⁴⁴ For example, SFG reports that the average market capital of the Australian firms in the sample was \$ 2.1B while the average market capital of US firms in the sample was \$8.0B. See Tables 5 and 6, pages 18 and 19.

Certainly a visual examination of the relative frequency of the beta estimates for individual firms in Figure 11 suggests that the two samples are not from the same population and have a very different distribution. This is not surprising given the limited number of observations for the Australian utilities, but combining two discrete samples does not solve the problem of estimating reasonable values for Australian regulated utilities.

Figure 11: Frequency distribution of beta estimates for listed energy utilities in Australia and the US. beta for listed energy utilities



Source: SFG Consulting, “Equity Beta”, May 2014, p. 33. Note that the equity betas are derived from an ordinary least squares (OLS) regression and are re-levered (for 60% gearing). SFG also applies a Vasicek adjustment to the raw regression betas although this adjustment is not accepted as appropriate by other authorities, and is not used in the Henry 2014 study.¹⁴⁵

That is, the mere fact that enlarging the population to include both the Australian and US data reduces the standard errors of the estimate does not make the larger sample more valid as an estimate of the equity beta of a benchmark Australian regulated network business.

Moreover, if additional observations were required, then perhaps the SFG study of Australian utilities could be expanded to include weekly observations as was undertaken by Professor Henry rather than the four weekly repeat sampling used in the SFG (2013) regression analysis.

Or perhaps a wider selection of international observations could have been included, for instance a selection of regulated utilities from the UK, New Zealand or Alberta Canada as cited by the AER in its final decision on JGN’s NSW gas access arrangement.¹⁴⁶ There is sufficient evidence to suggest that beta estimates for international regulated energy utilities are at the low end of the scale and bringing this data into the analysis would at least provide some conceptual balance in SFG’s sample that only includes US firms.

¹⁴⁵ The Vasicek adjustment to the OLS estimates is used to “account for the tendency for low beta estimates to understate the true systematic risk and high beta estimates to overstate the true systematic risk”. (SFG, “Regression-based estimates of risk parameters for the benchmark firm”, June, p 6).

¹⁴⁶ AER, *Final Decision, JGN Access Arrangements 2016-20*, June, p.p. 3-442 to 3-448.

More generally, however, we agree with Partington (2015) that any international comparisons and overseas betas (including the US) should be treated with a great deal of caution.¹⁴⁷

6.5.4 How should Professor Henry's empirical estimates be interpreted?

There has been much criticism by the Victorian DNSPs about the AER's use of Professor Henry's 2014 study.

Indeed, one of the difficulties facing the AER was the fact that it needed to prepare the Rate of Return Guideline, including equity beta estimates, before Henry's updated study was available. As a result, the AER included in the Guideline a range of beta values from 0.4 to 0.7 based on the research that it had at hand.¹⁴⁸

In his final report, Henry summarises his advice on the magnitude of β as follows:¹⁴⁹

*In the opinion of the consultant, the majority of the evidence presented in this report, **across all estimators, firms and portfolios, and all sample periods considered suggests that the point estimate of β lies in the range of 0.3 to 0.8.** [emphasis added]*

However, this statement must be read in the context of Henry's other advice that the most reliable estimates (from 20 combinations in 12 tables) are contained in only three tables.¹⁵⁰

*In this report there is little evidence of instability in the intercept or slope of the Market Security Line estimated using the full sample. This means there is little or no reason to omit data and/or partition the sample. The consultant is of the opinion that the **most reliable evidence about the magnitude of β is provided in Tables 2, 14 and 16 using individual assets and fixed weight portfolios.** [emphasis added]*

Figure 12 summarises the findings of Tables 2, 14 and 16 in Henry's 2014 report. Based on these three preferred tables we can observe that there are minimal observations above 0.7 and a concentration of observations in the range of 0.4 to 0.7 as set out in the AER's Rate of Return Guideline.

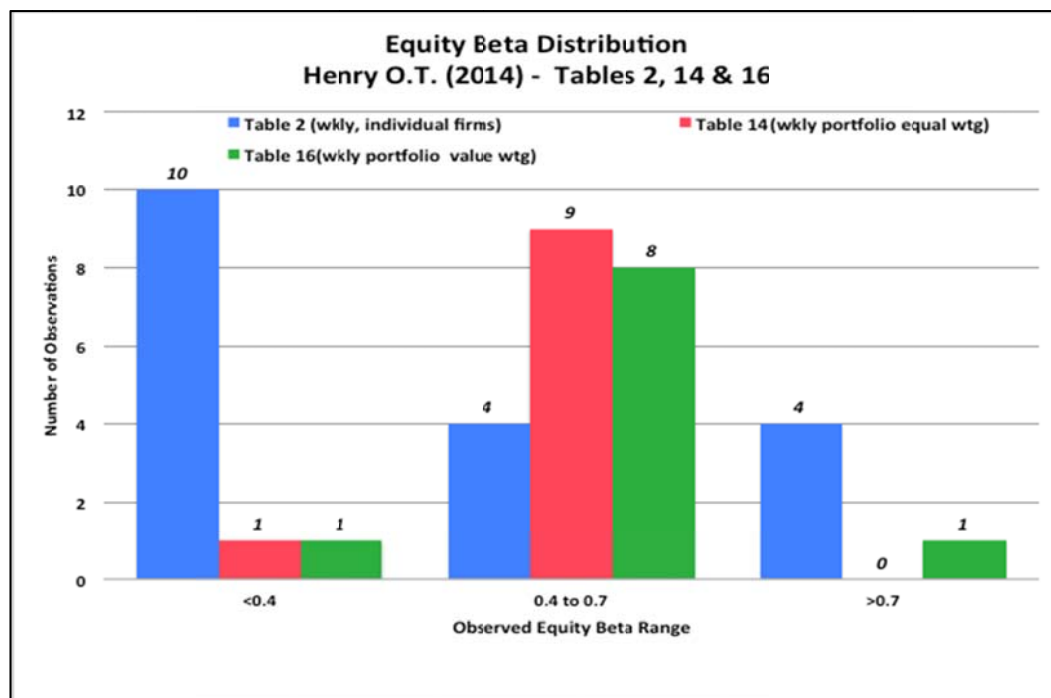
¹⁴⁷ Partington G., "Report to the AER, Return on Equity (updated)", April 2015

¹⁴⁸ This included two conceptual studies from Frontier Economics and McKenzie and Partington, as well as the earlier studies conducted by Professor Henry in 2008 and 2009 for the AER.

¹⁴⁹ Henry, O. T., "Estimating β : An update", April 2014, p. 63.

¹⁵⁰ Ibid. Each of the Tables 2, 14 and 16 include both ordinary least squares regression (OLS) and Least Absolute Deviation (LAD) regression. Henry provided only limited testing of the four monthly frequency tables as the monthly analysis was used only as a "check". Henry recommended against using the two time-varying tables as these were statistically unstable.

Figure 12: Distribution of observations of β in Tables 2, 14 & 16 (Henry, 2014)



Source: Henry O T, “Estimating β : An update”, April 2014, Tables 2, 14 & 16. CCP3 analysis.

However, the Victorian DNSPs appear to place great weight on Henry’s revised range and suggest this represents some fatal flaw in the Rate of Return Guideline. For instance, AusNet has made a number of claims as a result of Henry’s 2014 advice on the range of beta as follows:¹⁵¹

[e]ven using the AER’s tightly constrained set of instructions, its own consultant states that the range is 0.3 to 0.8, not 0.4 to 0.7 as published in the AER’s Guideline, and when unconstrained by the strictures imposed in the AER’s instructions, the analysis delivers beta estimates that vary even further in an upward and downward direction.

Despite this December 2014 evidence demonstrating the 0.4 to 0.7 range published in the 2013 Guideline to be in error, the AER has failed to retract and correct the document. Instead, in the draft determinations the approach is to delve into the report and assert that the majority of the beta figures fall within the AER’s narrower range even though the narrower range is not consistent with the instructions the AER itself provided to Henry.

AusNet’s allegation in the first paragraph above suggests that the AER has sought to impose some sort of wide ranging “strictures” on its consultant by setting out the scope of the project and the analyses it considered relevant.

¹⁵¹ AusNet Electrical Services Pty Ltd, *Electricity Distribution Price Review 2016-20*, April, 2015, p. 317.

We do not agree with AusNet's claim. The AER's project scope is presented in Henry's report.¹⁵² Like any project scope it sets out the AER's expectations and specific issues it wanted tested such as weekly and monthly sampling, Ordinary Least Square (OLS) and Least Absolute Deviation (LAD) regression forms, period of analysis (as long as possible, excluding GFC, last five years), use of raw or excess returns.

It was open to Henry to provide interpretations of the results and to advise the AER on specific technical issues.

AusNet's statement also implies that the AER somehow sought to restrict Henry's reporting of the results of his analysis to the 95% confidence level results.

Again, the AER did no such thing. The AER simply asked the consultant to report its findings at the 95% confidence levels - and so it should! A request to report on 95% confidence level does not mean the consultant is restricted from reporting other findings. For instance, Henry reported on the minimum and maximum (at the 95 per cent range) and also the mean and median beta for each of the group analysis grouping. Henry also conducted a range of statistic tests for thin trading, stability and robustness.

In its 2013 public report, SFG (2013) also reports on both the standard error and the 95% confidence levels of their estimates as well as the mean score. However, the SFG report does not provide information on the median values for each table.¹⁵³ The 2013 report also does not contain the additional tests applied by Henry. We therefore find that there is more transparency in the Henry report about the Australian utilities than there is in the SFG study that is relied on by the DNSPs as their primary source for estimating beta.

We also highlight that the AER's consultancy brief to Professor Henry was prepared quite some time before the Rate of Return Guideline was published and therefore the AER's brief could not have been designed to constrain Henry to the beta parameters in the Guideline.

Finally, CCP3 suggests that the issue of whether the range is 0.4 to 0.7 or 0.3 to 0.8 is of little relevance to our contention that the point estimate of the equity beta should be around the mid point of the range. In either scenario the mid point of the range is 0.55, and there seems no reason to depart from that mid-point.

We note that CCP3's recommendation is still slightly above the average and median values found in the three tables that Henry suggests provide the most reliable estimates (Tables 2, 14 and 16). Table 5 below summarises the average and median for the three tables from Henry (2014).

¹⁵² Henry, O. T., "Estimating β : An update", April 2014.

¹⁵³ SFG Consulting, "Regression-based estimates of risk parameters for the benchmark firm", June 2013, Tables 2 and 3 and, for individual firm betas, Table 5.

Table 5: Average and Median β for Henry’s recommended tables

	Table 2		Table 14		Table 16	
	Average	Median	Average	Median	Average	Median
Ordinary Least Squares	0.52	0.44	0.47	0.48	0.49	0.44
Least Absolute Deviation	0.33	0.32	0.46	0.46	0.50	0.46

Source: Henry, O. T., “Estimating β : An update”, April 2014, Tables 2, 14 & 16. CCP3 analysis.

CCP3’s review of Henry (2014) also indicated that there were a number of individual companies that were responsible for the significant variation around the average. This is indicated in Table 2 where the average beta of the individual firms (0.52) is well above the median beta (0.33). The effect is understandably less striking in the portfolio tables (Tables 14 and 16).

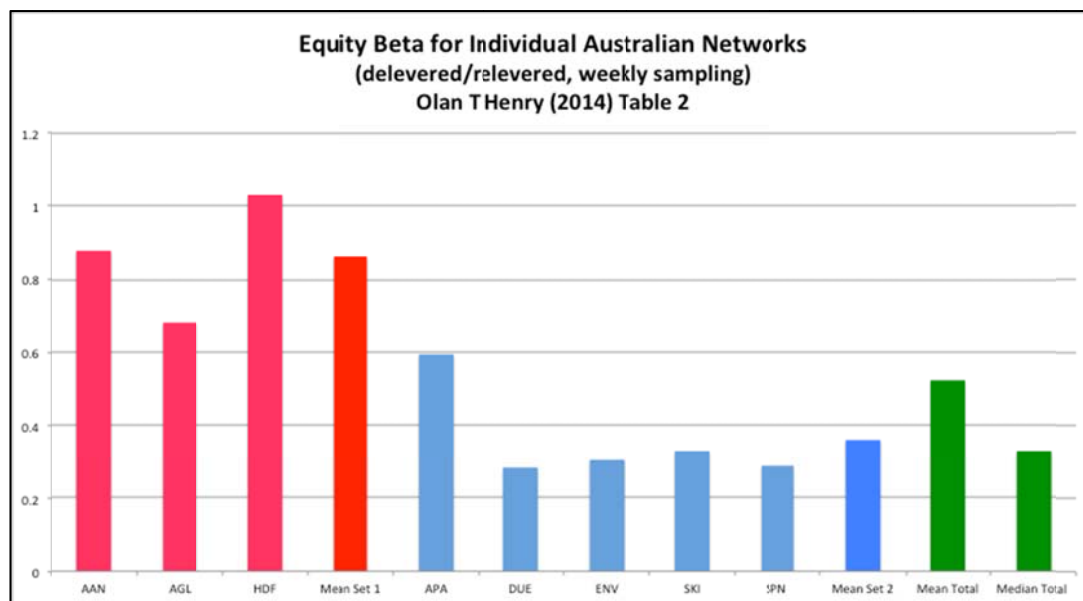
The majority of beta observations in Table 2 that were over 0.7 related to three firms (Hastings Diversified Funds (HDF), Alinta (AAN) and AGL Energy Limited (AGL)).

CCP3 therefore considered Table 2 in more detail to better understand this effect. We were aware that a number of the Australian utilities had financial difficulties and we consider that the equity beta for the individual firms might reflect this and were therefore not representative of the benchmark efficiently financed efficient network service provider.

CCP3’s analysis is set out in Figure 13. We have separated the population of individual firms into two sets. The first set (Set 1) consists of three firms that ceased to operate as utilities prior to 2013. The second set (Set 2) consists of five firms that have continued to operate as regulated utilities. Note: GasNet is not included in the chart, as it was taken over by APA in 2006 and would be part of APA’s ongoing beta.¹⁵⁴

¹⁵⁴ However, the β for GasNet prior to its sale in 2006 is amongst the lowest of the observations in Table 2 (0.32 OLS).

Figure 13: Equity Betas for Individual Firms In Australia



Source: Henry O, “Estimating β : An update”, April 2014, Table 2. CCP analysis. The chart includes only the OLS regression estimates, as these are the preferred estimates. The total population mean includes GasNet.

CCP3 recognises that the small size of both Set 1 and Set 2 prevents any meaningful statistical analysis of the differences between the two sets. Therefore, we can only draw some preliminary conclusions which would need further testing. Moreover, we are in principle opposed to a process of including and excluding data unless there is good reason.

Nevertheless, the data provides insights into the question of whether our recommended beta of 0.55 is reasonable for a benchmark efficient firm. It also provides guidance on whether the AER’s point estimate beta of 0.7 and the DNSPs’ proposed beta of 0.82 – 0.89 are better estimates given the empirical findings. To wit, we make the following observations:

- The beta estimates for the ongoing firms (Set 2) are notably lower than for the firms no longer operating as regulated utilities. The average beta for Set 1 is 0.86 compared to an average beta for Set 2 of 0.36. The firms in Set 1 are known to have experienced difficulties prior to ceasing operation as a network service providers¹⁵⁵;
- It is therefore debatable whether the three firms in Set 1 are representative of a benchmark efficient network service provider. Even if they are not removed from the analysis it is important that this limitation is taken into account when selecting a point estimate within the range;
- The mean of the sample as a whole is 0.52 and the median is 0.32. This difference between the average and the mean outcome reflects the impact that the firms in Set 1 have on the average of the total group of nine firms;

¹⁵⁵ It is also important to note that AGL was also a significant retailer even when it was seen as a network service provider - this would have increased its equity beta significantly

- The overall average beta estimate of 0.52 from Henry's study is not very different than that observed by SFG (2013) for Australian firms (average beta of 0.6 for the analysis by firms), noting that SFG also applied the Vasicek adjustment to these results which tends to increase the beta for low beta firms. The unadjusted raw betas in SFG's report range from 0.26 (SP Ausnet) to 0.81 (Hastings Diversified Fund) with an average beta of 0.49.
- The beta values reported in Henry's study have been de-levered and re-levered to 60 per cent gearing and this would generally increase the reported beta over the raw beta. We have some concerns about the usefulness of the de-levering and re-levering process when estimating the beta for a regulated utility, noting the work of McKenzie and Partington amongst others.¹⁵⁶ We suggest it is an area for further research by the AER.

To conclude, CCP3 considers that a proper analysis of the results presented by Henry indicates that the AER's decision to use a point estimate of beta of 0.7 is too conservative particularly in the context of the other conservative assumptions that underpin its assessment of the rate of return.

As suggested above, CCP3 considers that a point estimate beta between of 0.5 to 0.6 (we suggest 0.55) is also consistent with the observations from the conceptual studies, particularly the study by McKenzie and Partington (2012) who conclude that: "the theoretical beta of the benchmark firm is very low" and would be expected to be "among the lowest possible".¹⁵⁷ The results are also generally consistent with Henry's 2008 -2009 studies¹⁵⁸ showing that there is stability in the observations taken as a whole.

CCP3 is, therefore, very firmly of the view that the Victorian DNSPs have greatly overstated the equity beta of the regulated benchmark efficient network entity. Their estimate of an equity beta of 0.82 to 0.89 is weighted very heavily and inappropriately towards the results of SFG's analysis of US firms. It does not reflect either the conceptual or empirical analyses of Australian utilities including SFG's own analysis of Australian data.

Overall, the equity beta studies on Australian utilities demonstrated a consistency over time and an analytical approach that should provide assurance that they are the best estimate available of the equity beta for a an efficiently financed benchmark efficient Australian energy utility.

¹⁵⁶ See for instance, McKenzie M. and Partington G., "Report to the AER, Return on Equity", October 2014, p.p. 10- 13. The paper concludes that the most recent evidence suggests that it is "intrinsic risk" rather than leverage risk that is the primary or even the sole driver of a firm/industries systematic risk (p. 12).

¹⁵⁷ McKenzie M., Partington G., "Report to the AER, Estimation of the Equity Beta (Conceptual and Econometric Issues) for a Gas Regulatory Process in 2012, April 2012, p. 15.

¹⁵⁸ See, Henry O T., "Econometric advice and beta estimation", November, 2008.

7 Return on Debt

7.1 Overview

The AEMC rule changes provided for the AER to develop the approach to the assessment of the return on debt that would best meet the rate of return objectives. In particular, the AEMC left it to the AER to decide on whether the return on debt should be estimated on the basis of:

- The network raising debt at:¹⁵⁹
 - the time of making the distribution determination (the “on-the-day” approach); or
 - on the basis of the average return that would be required if debt was raised over an historical period prior to the determination (the “trailing average approach”); or
 - a hybrid of the two options.
- The return on debt being:¹⁶⁰
 - the same for each regulatory year; or
 - the return on debt being, or potentially being, different for different regulatory years.

The amended rules also required the AER to have regard to a number of additional factors including minimising the difference between the return on debt and the return on debt of a benchmark efficient entity; interrelationships between the return on equity and the return on debt, incentive effects on capital expenditure and any transitional impacts that might occur in transitioning from the existing on-the-day approach to another approach.¹⁶¹

The AER was also required to adopt an automatic formula to update the calculation if it adopted the annual updates of the return on debt.¹⁶²

The DNSPs propose a return on debt of 5.3 to 5.67 per cent for 2016 (to be updated annually). This proposal is some 100 basis points above the AER’s most recent final decision in June 2015 for the Jemena Gas Access Arrangement.¹⁶³ The AER allowed JGN a return on debt of 4.28 per cent (nominal) based on its Guideline approach.

The DNSPs’ proposals for calculating the return on debt varied in a number of ways from the AER’s Rate of Return Guideline. This is the major factor explaining the difference between the DNSPs’ proposals and the AER’s latest decision. We will consider the key features of the AER’s Guideline and the reasons given by the DNSPs’ for varying from the Guideline.

¹⁵⁹ NER, 6.5.2, (j) (1)-(3).

¹⁶⁰ NER, 6.5.2 (i) (1), (2).

¹⁶¹ NER, 6.5.2, (k) (1) –(4).

¹⁶² NER, 6.5.2 (l).

¹⁶³ AER, *Final Decision JGN distribution access arrangement*, Attachment 3, Rate of Return, June 2014, Table 3.1, p 3-10.

7.2 The AER's approach as set out in the Rate of Return Guideline

After conducting extensive consultation with all stakeholders and seeking expert advice on the risks that different approaches would pose to the networks on the one hand and consumers on the other, the AER decided on the following approach that was included in the AER's Rate of Return Guideline:

- 10 year trailing average for the cost of debt;
- The cost of debt would be updated each year, using an automatic updating formula;
- To avoid opportunities for gaming, the DNSPs would need to nominate the averaging period in advance (at the time of their proposals);
- The cost of debt would be assessed on the basis of BBB+ 10-year bond rates and a gearing level of 60 per cent;
- The 10 year bond rates would be averaged over a period between 10 days and a year, with the last date being as close as possible to the start of the regulatory year; and
- The measurement of these rates was to be determined after further investigations but would be based on third party estimates.

Subsequent to the publication of the Rate of Return Guideline, the AER decided that the 10-year BBB+ bond yields would be determined based on the average of the 10-year BBB bond yields published by the Reserve Bank of Australia (RBA) and the Bloomberg 7-year fair value curve (BVAL), extrapolated to 10 years).

To minimise risks for the networks and consumers, the AER proposed that there would be 10-year transition period; viz the first year return on debt would look much the same as the current "on-the-day" approach; Each subsequent annual update would progressively incorporate historical data over a 10 year period.

It was argued by Lally et al, that a transition period such as this would minimise the risks of windfall gains or losses to either the networks or consumers.¹⁶⁴

CCP3 considers this is a central principle that must be followed by the AER.

7.3 The Victorian DNSPs' Proposed Approach to the Return on Debt

Table 6 summarises the proposals from the Victorian DNSPs. The five DNSPs have adopted the same approach to calculating the return on debt.

However, Jemena has added a "new issue premium" (NIP) to the cost of debt. The other DNSPs have identified the NIP as being potentially a real cost to the network based on their preferred swap strategy. However, they have not included it in their initial proposals. There is some indication that it may be considered in their revised proposals.

One of the most important aspects of the DNSPs' proposals relates to the assessment of costs during the transition period. The DNSPs' proposed approach is a significant variation from the transition approach set out in the Guideline and

¹⁶⁴ See Lally M., "Final Report, Review of submissions on the cost of debt", April 2015.

explains most of the additional return on debt over the AER's most recent calculation.

This can be seen in Table 6, where there is a separate calculation of the debt risk premium (DRP) and the swap rates.

Table 6: Victorian DNSP cost of debt components

Component Description	Contribution to cost of debt %
Immediate transition to a 10-year trailing average for a Debt Risk Premium (DRP)	2.40
Average of 1 to 10 year swap rates, for swaps acquired at the start of the regulatory period (representing a 10 year transition)	2.69
Total cost of debt on semi-annual basis	5.09
Annualised cost of debt	5.17
Swap transaction costs	0.23
<i>Total Cost for AusNet Services, CitiPower, Jemena & PowerCor</i>	5.39
New Issue Premium	0.27
<i>Total Cost of Debt for United Energy</i>	5.67

Source: DNSPs' proposals, CCP analysis.

Our understanding of the DNSPs' proposed approach is that it is built around an alternative hedging strategy that they suggest will assist in managing interest rate risks.

At the start of the regulatory period it is assumed a DNSP will acquire a suite of interest rate hedges ranging from 1 year to 10 years as a proxy for a 10-year transition. In Table 6 the cost of this is 2.69 per cent, updated annually. Separately they will calculate a 10-year trailing average DRP that is described as the premium over the swap rate (not the interest free rate). The cost of the DRP component is 2.4 per cent and fixed for the regulatory period.

The Victorian DNSPs' proposals vary from the AER's Guideline approach in a number of other significant areas.

The table below provides a summary of the DNSP's other proposed variations from the approach set out in the AER's Rate of Return Guideline. The table does not include the DNSPs' approach to the transition period that is discussed above.

Table 7: The DNSP’s Proposed Approach to Return on Debt

Issue	AER guideline	Recent AER decisions	Distributor proposals
Methodology for estimating the return on debt	Use of a simple average of ten years of return on ten-year debt. Return on debt updated each year of the regulatory period	Followed the principles set out in the guidelines	Agree
Benchmark credit rating	Estimated using a credit rating of BBB+ or equivalent or the closest approximation	Followed the principles set out in the guidelines	Estimated using a credit rating of BBB
Data source	Published yields from independent third-party service provider	Average of RBA BBB-rated ten-year curve and Bloomberg BBB-rated 10-year BVAL curve	Use of “best fit” curve in the first year, and the average approach in subsequent years unless there is a material difference, in which case use “best fit” approach
Averaging period	The averaging period for each year of the regulatory period should be nominated in advance by each distributor, as close as practical to the commencement of each regulatory year	Followed the principles set out in the guidelines	Averaging periods should be nominated in advance but only the first averaging period should be nominated before for regulatory period
Timing of debt updates	Averaging period should be as close as practical to the commencement of each regulatory year, but process not specified	Averaging period must end at least 25 businesses days before distributors must submit pricing proposals	Introduce a one-year lag between estimating return on debt and impact on tariffs, to allow time for consultation

Source: AER, *Issues Paper, Victorian electricity distribution pricing review*, June 2015, p 53.

7.4 CCP3’s Response to the DNSPs’ Proposals

Before detailing our concerns with the DNSP’s proposed variations from the Rate of Return Guideline, CCP3 highlights our strong view that any proposed alternative approach that lacks transparency and predictability and/or provides an increased opportunity for regulatory gaming and further appeals to the Tribunal should not be accepted by the AER.

We restate our view that the AER must have a substantive reason to depart from its own Guideline and we consider that the DNSPs' proposals do not provide such reasons.

Certainly the DNSPs provide an alternative approach to a number of the Guideline requirements, particularly the transition period. However, the existence of an alternative approach is not sufficient cause for the AER to be in error in exercising its judgment and coming to a different conclusion as set out in the Guideline. This is particularly so, because the Guideline followed a significant level of consultation with all stakeholders to seek out a balanced approach to managing transition risk.

To our knowledge the DNSPs have not undertaken an equivalent consultation with all stakeholders to demonstrate why their proposal is in the long-term interests of consumers. Nor do the formal proposals attempt to address the concerns that other stakeholders raised during the Guideline development process and in subsequent regulatory decision.

Moreover, the proposals suggest that the DNSPs do not recognise the material reduction in risk that annual updating provides, nor does it recognise the concerns raised by stakeholders with the risks to consumers around the annual updating process.

7.4.1 The CCP's view of the DNSPs' proposed approach to the transition period

The NPV = 0 principle and transition

As stated by Dr Lally (Lally):¹⁶⁵

The AER is subject to the legal requirement to set the allowed cost of debt commensurate with the costs incurred by a BEE [benchmark efficient entity], and this is equivalent to the NPV = 0 principle.

The structure of the regulatory regime is such that the recovery of the capital costs and associated debt occurs over the lifetime of the regulated assets. Thus, Lally operationalises the legal requirement as follows:¹⁶⁶

[t]he allowed prices or revenues of the regulated business should be such that the present value of the resulting revenues net of opex and taxes must be equal to the initial investment.

Implicit in this analysis is that the revenues may not be recovered or may be over-recovered in any one regulatory period, but over several cycles that the NPV=0 principle will be satisfied.

CCP3 considers Lally's summary above is fairly non-controversial. It is what follows from this NPV=0 principle that is the source of controversy.

The essence of Lally's argument with respect to transition from one regime to another is that there is a potential to disturb the NPV=0 process. That is, the immediate adoption of a new regime will interrupt the natural "squaring up process" under the previous regime.¹⁶⁷

¹⁶⁵ Lally M., "Final Report, Review of submissions on the cost of debt", April 2015, p 66. .

¹⁶⁶ *ibid*, p. 19.

¹⁶⁷ *Ibid*, p. 33.

Therefore if there a change of regulatory approach to the treatment of the cost of debt, then the impact of this change on the NPV=0 principle must be carefully assessed. This is consistent with the rule requirements that the AER must have regard to any impact that the transition from the on-the-day methodology to another may have on the benchmark efficient entity.¹⁶⁸

Lally goes on to note that the impact of the change from on-the-day to a trailing average will vary depending on the timing and the circumstances at the time. Under one scenario, there could be substantial detriment to the DNSPs and on another, there could be substantial windfall gains to the DNSPs. Of course the reverse applies from consumers' perspectives given it is a zero sum game.

Lally provides a demonstration of these potential effects and draws the following important conclusion:¹⁶⁹

In summary, immediately adopting a new regime only when the one-off effect is favourable to the BEE but not otherwise would necessarily violate the NPV=0 principle. Alternatively, the policy of immediately adopting a new regime regardless of whether the one-off impact was favourable or unfavourable would expose the BEE to a 'roll of the dice'

In other words, moving directly to a trailing average approach from the on-the-day approach increases the risks for consumers in the first instance, and in the second instance, increases risks to both consumers and businesses.

Lally also demonstrates that this outcome holds if applied to the total return on debt, or if applied only to one of the components of the cost of debt such as to the DRP, although the quantum of the impact will not be as great.¹⁷⁰ The immediate adoption of the trailing average for the DRP is the approach adopted in the Victorian DNSPs proposals.

CCP3 agrees with Lally's arguments and indeed we understand that this was one of the concerns that consumers expressed with moving to a trailing average approach.

While the change reduced risk for the networks, its practical application at this point in time significantly increased the costs consumers and the windfall gain to the networks. This was because moving directly to the 10-year trailing average in the 2014 to 2016 regulatory determinations would mean that some historical years are "double counted".

In practice that means that consumers are effectively paying twice for the high DRP during the GFC period, once under the on-the day regime and once again when the regime change occurred. The NPV=0 principle is violated.

Figure 14 illustrates this outcome. The blue line represents the historical DRP (from Lally's paper¹⁷¹). The red line is the DRP applied in the previous 2011 regulatory period (3.89 per cent)¹⁷². The green line is the estimate of the Victorian DNSPs'

¹⁶⁸ NEL, 6.5.2 (k) (4).

¹⁶⁹ Lally M., "Final Report, Review of submissions on the cost of debt", April 2015, p. 27.

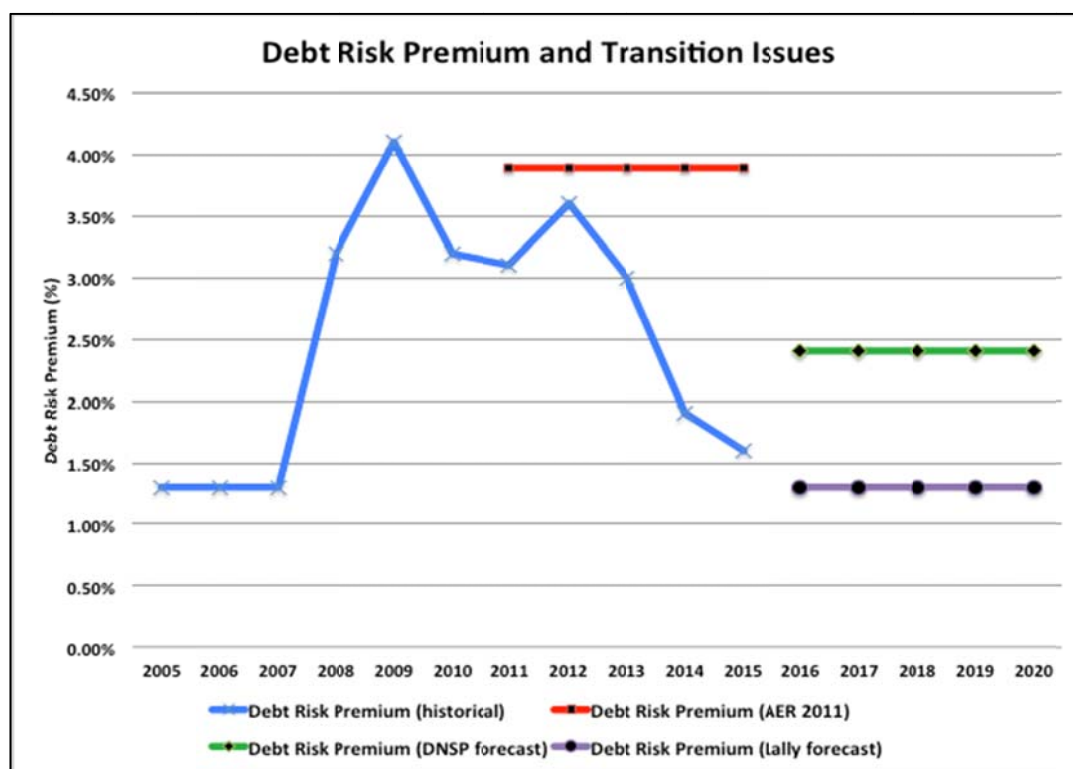
¹⁷⁰ Ibid, p.p. 25 – 32.

¹⁷¹ Ibid, Table 1, p.p. 30-31.

¹⁷² This is the DRP for 2011 following the Tribunal's decision on the Victorian DNSPs' appeal.

proposed DRP for 2016-2020 (2.4 per cent)¹⁷³, the purple line is indicative of the DRP pre GFC of around 1.3 per cent.¹⁷⁴

Figure 14: Historical and Proposed Debt Risk Premiums (DRP)



Source: Lally M., “Final Report, Review of submissions on the cost of debt”, April 2015, Table 1, p.p. 30-31. AER Final Decision on Victorian Electricity Distribution Pricing Review 2011-2015 (updated for Tribunal decision on DPR), Victorian DNSPs’ proposals for 2016-2020, Lally’s DRP forecast. Note: the Victorian DNSPs proposals are based on a DRP relative to swaps prices, swap prices are at a small premium to the risk-free rate.

It is important to clarify that the Guideline approach was not prepared on the basis of some “claw-back” of excess returns in the previous period, although this is suggested by some NSPs.

The Guideline was prepared in 2013, and the AER did not and could not know which direction future interest rates and the economy would go. Pundits at the time were variously forecasting increases and decreases in interest rates.

The critical task from the regulatory point of view was therefore to minimise the risk of harm (windfall gains or losses) to either the NSPs or consumers during the transition process.

The AER’s gradual 10-year transition approach as set out in the Rate of Return Guideline effectively (and ex ante) neutralises the “lucky dip” of interest rates and DRP whichever way they happen to turn during the transition period.

¹⁷³ As per Table 7 above.

¹⁷⁴ Lally M., “Final Report, Review of submissions on the cost of debt”, April 2015, Table 1, p.p. 30-31. The AER’s DRP in its Final Decision on Jemena Gas Networks was around 1.6 per cent.

CCP3 therefore considers that the AER's approach as set out in the Guideline is reasonable under the circumstances and best satisfies the NPV=0 principle that we regard as fundamental to good regulation.

Abiding by that principle of NPV=0 during a change in a regulatory process also provides assurance to investors of the integrity of the AER's process. Allowing a windfall gain to one party or the other, however, would undermine the confidence of all stakeholders in the regulatory process.

Overall we consider that the DNSPs have not put forward a compelling and objective case to vary from the Rate of Return Guideline transition process. The AER exercised its judgment to develop a process that minimised transition risk (ex ante) for both the NSPs and consumers. It was obliged to do so and exercised its judgement reasonably.

We therefore see no reason for the AER to vary from its Guideline approach.

Other proposed variations from the Rate of Return Guideline

CCP3 stresses again that the AER should not vary from its Guidelines unless it has good reason to do so. Similarly if the DNSPs wish to vary from the Guidelines, the principles of transparency and predictability require that they demonstrate why such variation is preferable, without the potential for bias and is in the long-run interests of consumers.

We have noted on a number of occasions that the DNSPs have not (to our knowledge) consulted with consumers or their representatives about their proposed variations to the Guideline or sought to identify and explain to customers the risks that this variation may transfer to customers

In addition to the transition issues discussed above, there are other variations proposed by the Victorian DNSPs to the return on debt assessment. These are also well summarised by the AER in 7 above.

CCP3's comments on each of these variations are set out below.

- We disagree with the DNSP's regarding the average credit rating of a benchmark efficient network. While some networks' credit ratings have been at BBB levels at different times, others have been higher than BBB+. It is hard to believe that a well-managed benchmark efficient utility with 60 per cent gearing, and regulated stable cash flow would not be regarded as a sound low risk investment for equity or debt providers;
- In any case, the notional credit rating has little effect on the actual outcome as both the RBA and Bloomberg published bond yield series are based on an average BBB rating and include bonds for companies in the BBB+ to BBB-range;
- While we are uncomfortable with some aspects of the AER's approach to averaging the RBA and BVAL curves, it is preferable than the approach proposed by the DNSPs;

The DNSPs proposal to calculate a "best fit" curve from the RBA and BVAL series introduces an unacceptable degree of complexity, subjectivity into the

process and scope for further appeals. We do not believe that this is in the long-term interests of consumers;

- CCP3 does not support the DNSPs' proposal to nominate an averaging period for each regulatory year just prior to that regulatory year, rather than at the start of the whole regulatory period;

Again, the DNSPs' proposal increases the complexity and opportunities for gaming in the averaging period. We consider that the DNSPs approach moves the annual update process further away from the AEMC's requirement for automatic updating of the cost of debt;

- We do not see any benefit in the proposal by some DNSPs' proposal to introduce a one-year lag between estimating the return on debt and the publication of the tariffs that reflect this. Again this complicates what was intended to be a simple process.

Moreover, the change from one year to the next is not so onerous that it requires this additional complication, particularly if the DNSPs have undertaken consultation during the development of their Tariff Structure Statement at the start of the regulatory period.¹⁷⁵

7.4.2 CCP3's conclusions on the DNSPs' cost of debt proposal

CCP3 considers that the change to a 10-year trailing average approach to the assessment of the cost of debt is potentially to the benefit of the NSPs and to consumers.

However, this *is only* the case, if the process of transition and the implementation of the annual updates are transparent and unbiased. Taken overall, we consider that the AER's approach to the assessment of the cost of debt and transition to the new arrangements is distinctly preferable to the proposal by the Victorian DNSPs.

Moreover, we consider that the DNSPs have failed to address the issues raised by consumers during the Better Regulation period and during subsequent determinations. Nor have they adequately engaged with consumers on their representatives on their proposals to vary from the Rate of Return Guideline.

In seeking to vary from the Guideline that was the subject of extensive and broad based consultation, the DNSPs must also demonstrate they have had a similar open dialogue with customers and explained the additional risks and uncertainty that was being transferred to customers and other stakeholders.

While this consultation would not by any means guarantee that consumers or the AER would agree with the proposed variations, it would at least demonstrate a commitment to a more cooperative regulatory approach.

¹⁷⁵ NEL 6.18.1A. The Tariff Structure Statement cannot be amended during a regulatory period without the AER's approval, which is constrained. (NEL 6.18.1A (d) and 6.18.1B).