NSW DNSPs' RESPONSE TO THE AER's PRELIMINARY FRAMEWORK AND APPROACH PAPER

REGULATORY CONTROL PERIOD COMMENCING 1 JULY 2014

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

Ausgrid, Endeavour Energy and Essential Energy operate as the Distribution Network Service Providers in NSW (the NSW DNSPs). The NSW DNSPs are pleased to provide this joint response to the Australian Energy Regulator's (AER's) Preliminary Positions - Framework and Approach Paper (the F&A paper) released on 25 June 2012 for the regulatory control period commencing in NSW on 1 July 2014.

The existing Australian Energy Regulator (AER) determinations for these businesses expire on 30 June 2014 and the AER has now commenced the process for making new determinations to take effect from 1July 2014.

As part of the process for making a distribution determination, the AER is required to prepare and publish a preliminary framework and approach (F&A) paper. The F&A paper assists a DNSP in preparing its regulatory proposal to the AER by:

- setting out the AER's likely approach (and its reasons for that likely approach) in the distribution determination to the classification of distribution services;
- stating the form (or forms) of the control mechanisms to be applied by the distribution determination and the AER's reasons for deciding on control mechanisms of the relevant form (or forms);
- providing a statement of the AER's likely approach to cost allocation based on the guidelines currently in force;
- setting out the application of schemes and any other matters on which the AER thinks fit to give an indication of its likely approach.

On 25 June 2012, the AER published its F&A paper for Ausgrid, Endeavour Energy and Essential Energy for the regulatory control period commencing 1 July 2014.

1.2 CLASSIFICATION OF SERVICES

1.2.1 Network services

The NSW DNSPs support the AER's preliminary position that network services (excluding emergency recoverable works) should be classified in a manner consistent with the AER's previous determination, as no other classification is clearly more appropriate. On this basis, network services should be classified as direct control services, and in turn, as standard control services.

The NSW DNSPs support the AER's preliminary position not to classify emergency recoverable works on the basis that the cost of these works may be recovered under common law principles. To the extent that such costs cannot be recovered under common law principles then the NSW DNSPs are of the view that the costs should be recovered as part of a standard control service.

1.2.2 Connection services

The NSW DNSPs support the establishment of a group of services called "Connection Services" for the purposes of classification. We note that the services intended to be covered by the AER are a combination of existing Customer Funded Connections and Standard Control Services (including most Monopoly Services).

The NSW DNSPs are concerned about possible uncertainties and overlaps in the components proposed by the AER. The AER intends to adopt a sub-group of services based on terms defined in Chapter 5A. We are not confident that the new definitions, as applied, have resulted in mutually exclusive sub-groups of services. Consequently, we seek a number of clarifications to confirm that we have interpreted the AER's proposed components correctly and we propose several amendments designed to reinforce the distinctions between the components.

1.2.3 Metering services (Types 5, 6 and 7)

In our response to the AER's preliminary consultation paper on classification of services (Consultation Paper) issued in December 2011, the NSW DNSPs expressed the view that metering types 5-7 services

should remain standard control services, the costs of which should be recovered as part of Distribution Use of System (DUoS) charges. The reasons for this position included the significant inter-dependencies between metering services and other network services and the potential impacts on demand management opportunities associated with a change in classification and regulatory restrictions on opening types 5-7 metering services market to increased competition.

The NSW DNSPs' view remains that metering types 5-7 services should remain a standard control service, with costs recovered as part of DUoS charges. In this submission we reiterate some of the comments in the NSW DNSPs' February submissions in response to the Consultation Paper. We also provide additional information on the regulatory framework for metering types 5-7 services, the functions and activities that comprise metering services and the implications of the AER's proposed change in service classification on network service providers, consumers and the broader electricity market.

1.2.4 Fee based and quoted services

The NSW DNSPs responded to the AER's Consultation Paper in February 2012 setting out their responses to the AER's questions on classification of services, including services currently classified as miscellaneous and monopoly services.

In the F&A paper the AER has set out its preliminary positions on the classification of services for the 2014-19 regulatory period, responding in part to the NSW DNSPs' submissions on the Consultation Paper. In the F&A paper, the AER has proposed a service grouping of "fee-based" and "quoted" services incorporating services previously classified as miscellaneous, monopoly and customer specific services. The AER is proposing to change the classification of these services to alternative control services.

Since responding to the Consultation Paper, the NSW DNSPs have conducted a detailed review of services currently provided to individual customers and services they will be required to provide as a result of the implementation of the National Energy Customer Framework (NECF). As a result of that review, the NSW DNSPs have identified a number of potential new services for classification purposes. These potential new services are discussed in section 2.4 and listed in Attachment A.

The NSW DNSPs have also reviewed each service to determine whether it is more appropriate for the service to be charged on a fee basis or on the basis of a quote. In making this decision the NSW DNSPs have taken into account the AER's comments in its F&A paper that those services that have a generally homogenous nature and scope, for which costs can be 'estimated with reasonable certainty' should be categorised as fee-based services.[1] Services that are of an uncertain nature or scope, or require an element of tailoring to meet the individual customer's needs have been categorised as quoted services.

As submitted by Ausgrid and Endeavour Energy in their responses to the Consultation Paper, there is a broader issue of whether 'quoted' and 'fixed fee' are appropriate service groupings as they relate to the manner in which services are charged rather than the nature of the services themselves. As subsequently discussed with the AER, it may be more appropriate to have a new overarching category of non-DUoS services relating to individual customers covering all of the current and proposed new miscellaneous and monopoly services, with "fixed fee' and "quoted" services being a subset of this category. The NSW DNSPs note that the name of the new service category needs to be sufficiently distinguishable from existing categories of services and service classifications to avoid confusion in implementing and operating regulatory arrangements in the future.

1.2.5 Public lighting

The NSW DNSPs are generally supportive of the concept of technologies not covered by the final distribution determination to be subject to an agreed framework or methodology to allow the pricing and introduction of new lighting technologies. However, this view is contingent upon the ongoing classification of these prices as alternative control services as discussed below.

[1] Page 31: AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

The NSW DNSPs understand the AER's exploration of the negotiated regime to facilitate the adoption of new technologies, however there are other options that would support this outcome with materially reduced complexity and without the need to move to a negotiated classification which may bring with it an unworkable level of administration for customers, DNSPs and the AER.

If the AER's does not accept that new technology services can and should be accommodated within the alternative control classification on the 2014-19 regulatory control period, and decides to classify new technology services as negotiated this will create the need for a mechanism to be established that would allow the reclassification of such services as alternative control services in the next period.

The NSW DNSPs support the continued classification of public lighting services as direct control services and further as alternative control services.

The NSW DNSPs are broadly supportive of the continuation of the current regime which applies a control on movement in price for public lighting inventory based on:

- establishing a base year capital charge for different inventory types;
- establishing a base year maintenance price allocated to different inventory types based on an efficient level of opex ;
- allowance for cost escalation and movements in inventory between years; and
- the recovery of any outstanding investment in any asset replaced before the end of its useful life.

Specifically, the NSW DNSPs are in favour of retaining the current approach to pricing for public lighting services comprised of one set of prices for existing assets and a second set of prices for new assets. We do not support the AER's proposal to create three sets of time-specific prices (and potentially more) for the same public lighting component.

The NSW DNSPs consider that there are a number of issues created by introducing three (or more) sets of prices at each regulatory determination, including increased administrative costs for DNSPs and customers, decreased efficiencies, increased pricing complexity and decreased usefulness for customers in trying to achieve the most effective public lighting solutions. The retention of the current "two price" approach is therefore supported with the methodology and calculation of individual prices to be set out in the DNSPs' regulatory proposals in May 2013.

1.3 CONTROL MECHANISM

A key area of judgement for the 2014-19 NSW distribution determinations is the form of control to be applied to standard control distribution services in NSW. The NSW DNSPs fundamentally support the continuation of the WAPC on the basis that customers do not bear volume risk or face potentially unacceptable price instability that could otherwise result from the operation of the "unders and overs" account inherent in a revenue cap.

It is noted that the retention of a WAPC will place challenges on the network companies to pursue efficiency initiatives to mitigate the impact of volume movements, particularly in a climate where customers, network businesses and governments are working together to reduce greenhouse gas emissions, curb peak demand growth and place downward pressure on electricity prices for the betterment of the community and the wider economy.

The NSW DNSPs are responding by targeting average distribution network prices as close as possible to the rate of inflation for each of the next six years (including the five years starting on 1 July 2014) and are concerned that a move by the AER to adopt a revenue cap may jeopardise our ability to achieve this outcome by the requirement to adjust prices mechanistically to resolve any "unders and overs" account balances. We also believe that there is an inherent inconsistency between the setting of national energy policies targeted at the price of electricity, but regulating the NSW DNSPs on a revenue cap basis.

The NSW DNSPs have identified some important modifications to the current WAPC that could be considered by the AER to address the perceived shortcomings of the current approach.

Should the AER decide not to retain the WAPC as the form of control for standard control services for the NSW DNSPs at the next determination, we recommend that the AER explore the use of a hybrid form of control (as canvassed in this response) as the preferred alternative to the WAPC.

The NSW DNSPs have to date provided substantial information on issues relevant to the control mechanism for standard control services. The information and analysis provided in this submission should be considered in conjunction with the earlier submissions by the NSW DNSPs to the AER on its Consultation Paper on the control mechanism.[2]

1.4 APPLICATION OF SERVICE TARGET PERFORMANCE INCENTIVE SCHEME (STPIS)

The s-factor is the percentage of revenue increment or decrement that applies in each regulatory year. It is based on service quality performance from each preceding year. The following comments are provided in response to the AER's preliminary positions on the STPIS and associated s-factor.

1.4.1 Timing

The NSW DSNPs accept that annual performance will be measured from 1 July to 30 June inclusive, and that performance will be reported from the end of each financial year commencing 1 July 2014.

1.4.2 Revenue at risk

The NSW DNSPs support a regulatory framework that places appropriate incentives on network businesses to improve service performance for customers. On this basis, we support the introduction of the STPIS, but consider that there are a number of implementation and transitional issues whereby the setting of a revenue at risk target of +/- 5 per cent of revenues at the time of the introduction of the STPIS is excessive. Until such time as the STPIS has been in place and operating over a full five year regulatory control period, and there is clarity over the setting of targets and other aspects of the scheme (including the underlying reliability standards), we believe that a revenue at risk of +/- 2.5 per cent of revenue is a more appropriate threshold to manage risks for customers and the network businesses during the initial establishment of the scheme.

1.4.3 Applied within a control mechanism

The NSW DNSPs consider that for administrative ease, the s-factor should only be applied to the control mechanism that applies to distribution services, rather than a separate apportionment to the control mechanism for dual function and distribution.

1.4.4 S bank mechanism

The NSW DNSPs agree that it is desirable to include an S Bank mechanism that will allow a DNSP to delay a revenue increment or decrement, or a portion of the increment decrement, for one regulatory year.

1.4.5 Reliability of supply component

Parameters

NSW DNSPs support the AER's preliminary position to include unplanned System Average Interruption Duration Index (SAIDI) and unplanned System Average Interruption Frequency Index (SAIFI) but exclude Momentary Average Interruption Frequency Index (MAIFI) as parameters in the reliability of supply component. NSW DNSPs agree that the exclusion of MAIFI is desirable due to a current inability to collect complete information under the MAIFI definition in the STPIS.

[2] We note particularly that the Ausgrid submission provided a comprehensive discussion of the economic theory relevant to network pricing and the different forms of control mechanism. Please refer to: AER 2012, Ausgrid Response to the AER Consultation Paper on Control Mechanism, May.

Segmentation

The AER's preliminary position is that the NSW DNSPs' networks will be segmented into CBD, urban, short rural and long rural feeder categories. The NSW DNSPs agree with the proposed network segmentation subject to the exception for Endeavour Energy as outlined in section 4.5.

Performance Targets

The NSW DNSPs accept that reliability performance targets under the STPIS will be based on average performance over the preceding four years.

Incentive Rates

The NSW DNSPs expect that the incentive rates detailed in 3.2.2(b) of the STPIS will remain in place for the 2014-19 regulatory control period, subject to inflation adjustments.

The NSW DNSPs recommend retaining the current values contained in the STPIS for the next regulatory control period due to the lack of time available to analyse in any detail the findings of the Australian Energy Market Commission's (AEMC) Value of Customer Reliability (VCR) study. A higher value VCR would mean that fewer projects could potentially be undertaken to achieve the revenue at risk limits, therefore restricting reliability benefits to a smaller number of customers.

The NSW DNSPs are currently conducting an analysis of STPIS measures over the current regulatory control period, along with the basis of the AEMC's VCR calculation. Therefore, we seek the opportunity to propose amendments to incentive rates after this detailed analysis has been completed.

Exclusions

The NSW DNSPs agree that the calculation of T_{med} using 2.5β methodology is appropriate at this stage but seek the opportunity to propose amendments on completion of more detailed analysis.

1.4.6 Customer service component

Parameters

The NSW DNSPs agree that only the telephone answering parameter of the customer service should be applied in the 2014-19 regulatory control period.

Performance targets

Performance targets for telephone answering will be based on average performance over the last four years of the current regulatory control period. This is the maximum amount of historical data that is available from the NSW DNSPs.

Revenue at risk and Incentive rates

The NSW DNSPs recommend that a maximum value of +/- 0.25 per cent will be attached to the telephone answering parameter and that the incentive rate will be minus 0.040.

Exclusions

The NSW DNSPs agree that events excluded under the reliability of supply component are also excluded under the customer service component.

1.4.7 Guaranteed Service Level (GSL) payments

The NSW DNSPs agree that the presence of a jurisdictional scheme in NSW means it is not necessary to apply a GSL scheme to NSW DNSPs.

1.5 APPLICATION OF EFFICIENCY BENEFIT SHARING SCHEME (EBSS)

The NSW DNSPs are broadly supportive of continuing to apply the national EBSS for the 2014-19 regulatory period.

Although the EBSS has generally operated as intended and expected over the 2009-14 regulatory period to date, the challenges faced by Endeavour Energy and the AER to address the interactions between the retail transaction pass through event and the EBSS highlight that there is some scope to improve the implementation of the scheme without impacting on the underlying incentives.

Consequently, the NSW DNSPs submit that the EBSS would be enhanced by a mechanism for the exclusion of costs that arise as a result of a pass through type event, but which either are not material to support a pass through application or which have not been the subject of an application for other reasons, such as recently arose in relation to Endeavour Energy (which did not seek to increase prices for the costs of a pass through event, but did not want to be penalised under the EBSS for the treatment of the associated costs). This could be achieved through an amendment to the scheme or through an expansion of the categories of costs which the AER considers to be uncontrollable at the time of the revenue determination.

The potential interactions of the EBSS with other schemes will necessarily need to be more fully considered once all of the other incentive schemes have been finalised. The NSW DNSPs would appreciate the opportunity to review the EBSS and its operation in conjunction with the AER and other stakeholders once all of the other incentive schemes applicable to the 2014-19 regulatory period have been confirmed.

1.6 APPLICATION OF DEMAND MANAGEMENT AND EMBEDDED GENERATION CONNECTION INCENTIVE SCHEME (DMEGCIS)

The NSW DNSPs submit that incentive schemes for DNSPs to seek out and undertake alternatives to traditional network augmentation in response to increases in peak demand is an important element in delivering the National Electricity Objective (NEO) in the long term interests of consumers.

It is with the community in mind that we do not support the AER's proposal to restrict the level of funding under the Demand Management Innovation Allowance (DMIA) component of the DMEGCIS and to discontinue the operation of the D-factor scheme from the commencement of the next regulatory period in NSW. We would contend that these two changes result in no positive incentive for DNSPs to encourage greater demand side participation (DSP).

We believe there is scope for increased amounts of cost effective demand management (DM) in the National Electricity Market (NEM) and that there are no inherent barriers in the National Electricity Rules (the Rules) to prevent this occurring. These views are widely shared by stakeholders contributing to the AEMC Power of Choice review. The capacity exists but lies dormant within the existing regulatory framework - what is missing are the incentives to activate DM.

In light of the above, this submission is focused on demonstrating that the inclusion of a higher amount of funding for the DMIA component and the continuation of a simplified D-factor scheme (as set out in section 7.0) better reflect the factors set out in clause 6.6.3(b) of the Rules which the AER must have regard to in developing and implementing a DMEGCIS. We note that the AER's determinations should enable the incorporation of the findings of the AEMC's "Power of Choice" Review (when available).

1.7 DUAL FUNCTION ASSETS

The NSW DNSPs accept the AER's preliminary position in respect of Ausgrid to apply chapter 6A to Ausgrid's Dual Function Assets for the 2014-19 regulatory period. The NSW DNSPs agree that the value of Dual Function Assets represent a material portion of Ausgrid's Regulatory Asset Base (RAB). Moving away from the well-established approach of separating Ausgrid's network for pricing purposes could lead to significant price, consumption, production and investment impacts. The NSW DNSPs would also agree that changing the current approach would increase administration costs.

The NSW DNSPs accept the AER's preliminary position in respect of dual function assets for Endeavour Energy to not apply Part J of Chapter 6A of the Rules.

1.8 OTHER MATTERS

1.8.1 Cost allocation method (CAM)

We understand that the AER's preliminary position is that all NSW DNSPs need to submit a modified CAM for the period 2014-19 so as to comply with the AER's cost allocation guidelines under the Rules.

It is noted that Ausgrid has prepared and submitted a proposed CAM to the AER on 3 July 2012. Ausgrid has advised that its proposed CAM addresses all the requirements of the AER's cost allocation guidelines and also proposed new cost allocators for shared cost items.

It is also noted that the AER has written to both Endeavour Energy and Essential Energy requesting each business to submit a proposed CAM by 30 August 2012 that complies with the AER's cost allocation guidelines.

1.8.2 AER assessment tools

The NSW DNSPs appreciate and welcome early consultation on assessment tools that the AER intend to use as part of the 2014-19 Determination. We are also comforted by indications in recent meetings between the NSW DNSPs, the AER, and the AER's engineering consultants regarding the AER's intended approach in using these tools. In particular, we are encouraged by the AER's acknowledgement that high level tools will never fully address the circumstances of an individual business and therefore can be only used as an informative tool – not as a basis for substitution of well-constructed forecasts.

The NSW DNSPs are still currently analysing the models that have been provided by the AER, and are not in a position to provide detailed comments at this stage. Our comments focus on the principles relating to the use of high level assessment tools including:

- the inherent limitations of using high level tools;
- the best way to use high level tools to inform regulatory decisions;
- suggested criteria to explain the effectiveness of a high level tool.

2.0 CLASSIFICATION OF SERVICES

2.1 NETWORK SERVICES

The AER seek submissions on its proposed classification of network services (excluding emergency recoverable works) as direct control services, and further, as standard control services.

The NSW DNSPs support the AER's preliminary position that the NSW DNSPs' network services (excluding emergency recoverable works) should be classified in a manner consistent with its previous determination, as no other classification is clearly more appropriate. On this basis, network services should be classified as direct control services, and in turn, as standard control services.

The AER also seeks views on its preliminary position not to classify emergency recoverable works.

The NSW DNSPs support the AER's preliminary position not to classify emergency recoverable works on the basis that the cost of these works may be recovered under common law principles. To the extent that such costs cannot be recovered under common law principles then the NSW DNSPs are of the view that the costs should be recovered as part of standard control services.

2.2 CONNECTION SERVICES

The AER seeks comment on its preliminary position to classify connection services as follows:

a) *Premises connection assets should be unclassified and therefore not regulated by the AER.*

b) *Extensions should be unclassified and therefore not regulated by the AER.*

c) *Augmentations (performed by a DNSP) should be classified as direct control services, and in turn, as standard control services.*

d) *Incidental services should be classified as direct control services, and in turn, alternative control services.*

The AER also seeks submissions on whether there are any 'gaps' in its proposed classification of connection services and the operation of chapter 5A of the NER and the AER's connection charging Guideline.

2.2.1 Establishing a group of services called "Connection Services"

The NSW DNSPs support the establishment of a group of services called "Connection Services" for the purposes of classification. We note that the services intended to be covered by the AER are a combination of existing Customer Funded Connections and Standard Control Services (including most Monopoly Services).

In previous submissions responding to the AER's Consultation Paper, we suggested that the decision to categorise according to network assets is potentially confusing. Although we have not been able to provide an alternative sub-grouping that offers an improved outcome and works within the existing Rules, we remain concerned about possible uncertainties and overlaps in the components proposed by the AER. The AER intends to adopt a sub-group of services based on terms defined in Chapter 5A. It will be important that the service classifications for connections and definitions associated with these are aligned with the Rules, NECF and other requirements. The NSW DNSPs seek the opportunity to work with the AER to ensure this alignment. We are not confident that the new definitions, as applied, have resulted in mutually exclusive sub-groups of services. Consequently, we seek a number of clarifications to confirm that we have interpreted the AER's proposed components correctly and we propose several amendments designed to reinforce the distinctions between the components.

In general, we seek confirmation;

- that the services relating to the ongoing maintenance and eventual replacement of components of the distribution system are included in the AER's classification of Network Services; and

- noting the above, that for the purposes of classification, "Connection Services" refers to all the services that must be performed before electricity can flow from the distribution system at a new or altered connection point at the premises of a retail customer, real estate developer or embedded generator.

In particular, we comment in the next section on the four components into which the AER has divided Connection Services.

2.2.2 Components of services that make up "Connection Services"

Historically in NSW, due to the contestable nature of most Connection Services, services have been separated by whether the service is funded by the customer up-front (*Customer Funded Connections)* or not (*Prescribed Distribution Service* including *Monopoly Services)*. With the introduction of Chapter 5A, the AER is proposing for the service to be grouped by three (3) asset categories and one service category, called Incidental Services. That is:

- **Component (a)**: *Augmentation* of *premises connection assets* at the *retail customer*'s *connection point* (*premises connection assets*) – the AER considers this would include any connection assets located on the retail customer's premises.
- **Component (b)**: *Extensions* – an *augmentation* that requires the connection of a power line or facility outside the present boundaries of the *transmission* or *distribution network* owned, controlled or operated by a NSP.
- **Component (c)**: *Augmentations* – any augmentation undertaken by a DNSP which is not an *extension* or *network augmentation* dedicated to a customer.
- **Component (d)**: *Incidental services* – including the provision of administration, design, certification and inspection services.

2.2.2.1 Clarity sought with regards to Component (a): *Augmentation of premises connection assets at the retail customer's connection point*

Firstly, this applies to a broader group than the *retail customer* definition (for example non-registered generator connections; real estate development connections).

Secondly, due to the wholly inclusive nature of the terms *premises connection assets*[3] and *augmentation* together with the overlap of these terms, we consider it suffices to state the component as "augmentation at the premises *connection point".* This is because the installation of any other "premises connection assets" is covered by component (b) and if applicable, also component (c).

In NSW, works at the premises connection point are funded by the customer and performed by an Accredited Service Provider (ASP). For this reason NSW DNSPs support the AER's proposed classification of component (a).

2.2.2.2 Clarity sought with regards to component (b): *Extensions*

It is understood that this component is referring to *extensions* that are not performed by the DNSP. This view is further supported by the AER's definition of *Network Services* to include network *extensions* that "must be performed by the DNSP".[4]

Using the Rules definition of *extension*, it is not accurate to state that DNSPs perform *extension*s in limited circumstances. This is recognised in Chapter 5A where DNSPs are required to develop a *connection policy* setting out the circumstances in which a retail customer or real estate developer may be required to pay a *connection charge* if an extension to the distribution network is necessary. In NSW,

[3] *Premises connection assets* is a wholly inclusive term: it applies to any asset anywhere in the distribution system that must be constructed or altered in order to connect a retail customer's premises to the system.

[4] Page 16; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

due to the operation of Section 31 of the Electricity Supply Act, if the customer funds this work they can choose ASPs to design and construct the relevant assets.

Hence we seek clarification from the AER that:

- component (b) only refers to extensions not performed by the DNSPs;
- the service classification of *Network Services* proposed in the F&A paper includes extensions performed by the DNSP[5]; and
- where the DNSP performs part of the work required to establish the extension or contributes part of the cost, the DNSPs' portion will be classified as *Network Services*.

In addition to this clarification, we note that there are a small set of circumstances where a customer may engage an ASP to perform part or all of the augmentation works. This is also required to be defined in the DNSPs' connection policy. Hence we question whether component (b) should explicitly be expanded to cover *augmentation* in these circumstances. That is:

Component (b) *Extension*s and *augmentation*s not performed by the DNSP.

Alternatively, a new category would be needed to be added to cover these augmentation works as component (c) is not intended to cover these works.

Subject to these amendments and clarifications, NSW DNSPs support the AER's proposed classification of component (b).

2.2.2.3 Clarity is sought with regards to component (c): Augmentation undertaken by a DNSP which is not an extension or an augmentation dedicated to a customer

The AER is proposing to define this category of augmentation based on whether it is dedicated or not. The NSW DNSPs consider there are limited circumstances where an augmentation is truly dedicated to a customer. Despite this, it may be appropriate for a customer to be required to make a capital contribution to some of the augmentation costs. For example, in NSW the existing Independent Pricing and Regulatory Tribunal of NSW (IPART) Capital Contributions Determination 2002 distinguishes two general exemptions where customers may be required to fund augmentation and these exemptions relate more to equity and economic efficiency. Section 31 of the NSW Electricity Supply Act also requires that if a customer is required to provide a capital contribution, the customer can choose an ASP to undertake the work.

The new Chapter 5A states that a *retail customer* (other than a *non-registered embedded generator* or a *real estate developer*) cannot be required to make a capital contribution towards the cost of the *augmentation* (insofar as it involves more than an *extension*) if the relevant threshold set in the DNSPs' *connection policy* is not exceeded.

The NSW DNSPs understand that component (c) within Connection Services is seeking to cover augmentation works performed by DNSPs below the relevant threshold set in the DNSPs' connection policy. That is, the costs of augmentation that are recovered through distribution network use of system charges.

The NSW DNSPs propose that component (c) be amended to: *Augmentation* undertaken by a DNSP which is not an *extension*.

Subject to this clarification the NSW DNSPs support the AER's proposed classification of component (c).

[5] As discussed at the AER workshop on 19 July 2012, the AER may consider whether the addition of the commentary "consistent with the DNSPs approved *connection policy*" would be appropriate.

2.2.2.4 Inclusion of sub-group (d): *Incidental Services in Fee-based and Quoted Services*

We understand *Incidental Services* is a grouping of the support services that DNSPs render to accredited service providers. The AER's Final Decision for the Connection Charge guidelines creates some uncertainty around services provided before a connection offer is accepted and how those services would be classified. [6]

In addition, the AER is proposing to establish *fee based services* and *quoted services.* NSW DNSPs consider that the characteristics and form of regulation of *incidental* services are consistent with those proposed for *fee-based* and *quoted services*. For this reason, NSW DNSPs are not opposed to including the list of services considered to be *Incidental Services* under fee-based or quoted services (as appropriate). This will avoid potential duplication or overlap of service types. Please refer to Section 2.4 for more detail.

2.2.3 Summary

NSW DNSPs support the AER's intention to establish a service classification for all services relating to a new or altered connection to the distribution system called *Connection Services*.

We seek confirmation:

1. that the services relating to the ongoing maintenance and eventual replacement of components of the *distribution system* are included in the AER's classification of *Network Services*; and
2. services covered by Connection Service classification are not limited to services provided to *retail customer*s.

We also request the following amendments:

- component (a): *Augmentation* of *premises connection assets* at the *retail customer*'s *connection point* is rephrased as "augmentation at the premises *connection point;*
- component (b);*Extensions* is clarified to only include extensions not performed by the DNSPs;
- the service classification of *Network Services* proposed in the F&A paper is amended to include extensions performed by the DNSP (and not limited circumstances);
- *augmentation (*not performed by the DNSP) is included in component (b) or alternatively a new category is established to cover this works;
- the AER consider amending component (c) to : *Augmentation* undertaken by a DNSP which is not an *extension;* and
- the AER incorporates the services considered to be *Incidental Services* under fee-based and quoted services.

2.3 METERING SERVICES (TYPES 5, 6 AND 7)

The AER seeks comment on its preliminary position to classify metering services (types 5, 6 and 7) as direct control assets, and further, as alternative control services.

2.3.1 Overview

In response to the AER's Consultation Paper, the NSW DNSPs expressed the view that metering types 5-7 services should remain standard control services, the costs of which should be recovered as part of DUoS charges. The reasons for this position included the significant inter-dependencies between metering services and other network services and the potential impacts on demand management

[6] See page 30, Final Decision Connection charge guidelines: under Chapter 5A of the National Electricity Rules, For retail customers accessing the electricity distribution network, 20 June 2012.

opportunities associated with a change in classification and regulatory restrictions on opening types 5-7 metering services market to increased competition.

The NSW DNSPs' view remains that metering types 5-7 services should remain standard control services, with costs recovered as part of DUoS charges. In this submission we reiterate some of the comments in the NSW DNSPs' February submissions in response to the Consultation Paper. We also provide additional information on the regulatory framework for metering types 5-7 services, the functions and activities that comprise metering services and the implications of the AER's proposed change in service classification on network service providers, consumers and the broader electricity market.

Current policy direction at the state and federal levels is for metering to maximise opportunities for improving demand management capabilities and efficient utilisation of the network, and to empower customers to better manage their energy consumption and costs. The draft Energy White Paper makes the comment that "Smart meters can lead to greater efficiencies in network management and underpin more competitive market outcomes. They are a facilitative tool that can provide information and opportunity for consumers to have a greater say in their energy choices".[7] The NSW DNSPs consider that continuing to classify metering types 5-7 services as standard control services, charged as part of DUoS facilitates this policy objective. Our detailed reasoning is set out below.

Classification issues

In the F&A Paper, the AER states that "having regard to the requirements of the Rules, the AER considers that all type 5, 6 and 7 metering services should be classified as direct control services." [8] The NSW DNSPs agree with this classification of metering types 5-7 services as direct control services.

The Rules require that once the AER has classified a service as a direct control service, it must have regard to the factors in clause 6.2.2(c) of the Rules to determine whether a service should be classified as a standard control or alternative control service. In the F&A Paper, the AER has set out its reasoning for a change in classification from standard control service to alternative control service by reference to the factors in clause 6.2.2(c). We outline our response to the AER's comments below.

2.3.2 Transparency of costs

AER comment: The costs of type 5, 6 and 7 metering services, as standard control services, are currently recovered through DUoS under a weighted average price cap mechanism. Classifying types 5, 6 and 7 metering services as alternative control services would provide more transparency in the cost of providing these services. This may lead to greater potential for competition in the future.

The NSW DNSPs agree that transparency of costs is a positive outcome for customers and the industry generally. We note that transparency of costs provides the AER with information to make a sound regulatory decision on the efficient capital and operating allowance required to provide metering services to customers. However, it is unclear:

- why the proposed change in classification of metering types 5-7 services is necessary to promote the objective of increased transparency in costs;
- how increased transparency in the cost of providing types 5-7 metering services may lead to greater potential for competition in the future, particularly given the regulatory restrictions in the Rules[9] on opening the market to increased competition; and

7 Commonwealth Government Department of Resources, Energy and Tourism Draft Energy White Paper 2011: Strengthening the Foundations for Australia's Energy Future, p. xxiii

8 Page 29: AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

9 NER, clause 7.2.3

- why increased contestability in the market for types 5-7 metering services is in the interests of consumers in any event given the potential for price increases associated with increased competition.

The NSW DNSPs consider that there are alternative methods for improving metering services costs transparency, including by making information available to stakeholders through reporting and regulatory decision processes. This would be less administratively complex than applying and implementing a different service classification and form of control.

Cost transparency will not facilitate a competitive market

The AER's Consultation Paper refers to the views of a retailer stakeholder who considers that the current classification for metering types 5-7 services presents barriers to competition, as customers are not receiving the true price signal for the service. The assumption underlying this statement is that transparent metering charges facilitate competition if a potential market entrant believes it can offer a lower price. There are a number of flaws in the argument that cost transparency will facilitate competition in the metering services market in a manner that meets the NEO.[10]

The main argument against increased cost transparency facilitating competition is the regulatory restriction under the Rules on who may provide metering provider services and metering data provider services. Under the Rules, the role of the network service provider in relation to types 5-7 metering is broader than just provision, installation and maintenance services. The Rules provide that for types 5-7 metering installations connected to the Local Network Service Provider's (LNSP) network, the LNSP is the "responsible person" for both:

- providing, installing and maintaining type 5-7 meters (meter provider services)[11]; and
- collecting metering data from each metering installation for which it is responsible, the processing of that data and the delivery of the processed data to the metering database and to parties entitled to that data under Rule 7.7(a), except as otherwise specified in clause 7.2.1A(a) (metering data provider services)[12].

This means that under the Rules, the responsible person has overall responsibility for both metering provider services and metering data provider services. The responsible person remains responsible for compliance with the Rules and cannot transfer its legal obligations in this respect to another person. These provisions of the Rules impose a regulatory restriction on opening the market for both metering provider services and metering data provider services to increased competition.

The NSW DNSPs would also like to clarify an apparent misunderstanding within the F&A paper regarding the roles and relationships of market participants in the context of Type 5-7 metering services and the responsible person role. In the F&A paper [13]the AER states that:

> *"As the responsible person, a DNSP may provide a Market Participant with a standard set of terms and conditions. The Australian Energy Market Commission (AEMC) determine the eligibility and registration of Market Participants, however it is still at each NSW DNPS's discretion to appoint a Market Participant as the Responsible Person."*

It is the Australian Energy Market Operator (AEMO) not the AEMC which is responsible for the registration of Market Participants under Chapter 2 of the Rules. However registration of market participants is distinct from the registration of metering providers and meter data providers which is carried out separately by AEMO under Chapter 7, specifically clause 7.4.3 and 7.4.2A of the Rules. DNSPs have no role in the accreditation and registration of metering providers and metering data

10 The National Electricity Objective (NEO) as set out in section 7 of the National Electricity Law is to "promote efficient investment in, and efficient use of, electricity for the longer term interests of consumers of electricity with respect to price, quality, reliability and security".
11 NER, clauses 7.2.1(a) and 7.2.3
12 NER, clause 7.2.1(a)(2) and 7.2.3(a)(2)
13 Page 29; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

providers. Registered metering providers and meter data providers are not Market Participants registered under Chapter 2 of the Rules.

Clause 7.2.3(a)(2) of the Rules appoint DNSPs as the responsible person for Metering Types 5-7. The Responsible Person role is carried out by the DNSP, which must either provide these services itself (if it is registered with AEMO as a metering provider and metering data provider) or engage providers who are so registered, as outlined in clauses 7.2.5(a)(1) and (c1)(1). Clause 7.2.3(d) referred to by the AER and the following Rules clauses provide the process for a set of terms and conditions upon which the DNSP provides the responsible person services to be agreed with the Financially Responsible Market Participant (FRMP), i.e. the retailer at that connection point.

In light of this, we emphasise that DNSPs do not have any control over the persons who may be registered to provide metering data provider and meter provider services and consequently this is not a factor relevant to whether NSW DNSPs have significant market power in the provision of metering services.

The AER states in the F&A Paper that for the purposes of its proposal to change the classification of metering types 5-7 services, "metering is limited to the costs of providing, installing and maintaining standard meters and services provided to non-contestable customers".[14] It is not clear from the F&A Paper how the AER is proposing to classify meter data provider services and whether the AER is proposing to classify this aspect of the Responsible Person role as an alternative control service or whether the AER considers that it would remain part of standard control services (for example, as part of the network services grouping). The NSW DNSPs request clarification from the AER on this issue.

No price benefits for customers

Although the X-factors (future price changes) for standard control services would appear to be lower in the NSW DNSPs' regulatory determinations if metering costs were excluded from DUoS, in reality customers would still be required to pay for metering services, but as a separately identified charge. This is because the AER would not include existing and new metering assets in forecasting metering operating expenditure when calculating the X factors. Customers may see this as an increase in the fixed charge for their electricity service.

Taking into account the materiality of the metering costs in question, there is questionable value in extracting them from DUoS charges in any event. The main costs associated with meter provision services are associated with installation services (between $300 and $500 per installation). As this work is done contestably in NSW (unlike in other jurisdictions), the customer already directly incurs this cost, so it does not form part of DUoS charges. Most other costs incurred in providing metering services (other than the meter equipment) are not sufficiently attributable to customers to justify charging customers separately for these costs (see section 2.3.7 for further details).

Cost reflective pricing

Over the past decade, one of the NSW DNSPs (Ausgrid) has required the installation of manually read interval meters (type 5) for replacement and new connections. There are currently approximately 600,000 interval meters in Ausgrid's network area. The main benefit of installing interval meters is that it facilitates implementation of cost reflective tariffs that signal the additional cost of providing supply at peak demand times. Benefits may arise from capital expenditure deferral for network investments associated with peak demand reductions. From an economic perspective, the installation of interval meters provides a positive externality to all customers. The benefits of this technology (lower X-factors from lower capital costs) accrue to the whole customer base, including customers with accumulation (Type 6) meters.

14 Page 28; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

Interval meters and associated metering services, however, are more expensive than an accumulation metering solution. Under an alternative control services regime, depending on the form of control applied, some customers with interval meters could be disadvantaged because they are likely to pay a higher charge for metering services but would not receive the full benefit of those services. In contrast, customers with accumulation meters would effectively benefit unfairly by paying a lower metering charge but still receive the (price) benefit from any capital deferral resulting from the installation of interval meters. This outcome is an example of the "free rider" economic problem.

This unfairly disadvantages those customers with interval meters and would act as a disincentive for customers to install interval meters to manage their energy use. A more equitable arrangement would be to share the costs of metering across the customer base, reflecting the shared benefits that arise from demand management and lower capital investment. Although this could still be achieved if metering types 5-7 services were classified as an alternative control service, doing so would be inconsistent with the objective of cost-reflective charging for individual customers.

Unbundling of charges

In terms of establishing a cost reflective separate charge for types 5-7 metering services, it is difficult to unbundle the assets used to provide a metering service from the assets in the RAB for standard control services. This is because some assets can serve more than one function across the business (only one of which is metering). From an operating expenditure perspective, the DNSPs would also need to identify the direct expenditure and common costs that relate to the metering services.

2.3.3 Existing contestable arrangements and market efficiencies

Leaving aside the regulatory restrictions on increasing contestability, there are already contestable components of metering types 5-7 services, efficiencies associated with economies of scale and broader network, consumer and market benefits associated with types 5-7 metering services which militate against opening types 5-7 metering services to increased competition. We outline below each of the functions involved in metering types 5-7 services and the extent to which these services are already contestable or efficient.

Meter provision

The metering provision aspects of metering provision services include procuring meters and associated activities including meter testing, quality control, logistics and contract management activities. Testing of meter products to ensure compliance with regulatory and contractual requirements, along with the logistics associated with forecasting, ordering, storing, distributing and tracking meters and managing supplier contracts are all part of meter provision activities. The costs associated with these activities are appropriately charged as part of DUoS as they are attributable to the broader customer base. The actual meter unit itself has a more direct nexus with individual customers; however, this is only a very small component of metering provision costs.

The NSW DNSPs consider that the capital costs of a meter unit over the life of the meter are not sufficiently material to warrant changes to the current charging and billing regime to provide visibility of specific meter hardware costs to customers. One of the main implications of cost-reflective charging for meters and customer visibility of these costs is that it would be likely to drive 'least cost' metering solutions, meaning customers would be more likely to request the installation of an accumulation meter rather than an interval data meter. This would have implications for broader future meter-based demand management opportunities and runs counter to current policy direction at the state and federal level around interval data metering.

In terms of efficiency, meters are procured by the NSW DNSPs under strategic supply agreements entered into as a result of competitive tender arrangements. The network service providers' economies of scale in relation to purchasing arrangements for meters, in combination with the competitive tendering arrangements referred to above, mean that meter hardware costs are already at an efficient level. If the AER's objective in changing the service classification for types 5-7 meter services is to drive efficient prices in the meter equipment market, it is difficult to see how a change in service classification would achieve this objective, as network service providers are the primary customers in this market.

Meter installation

In NSW, ASPs install and upgrade meters at customer premises. These meters are provided to ASPs and customers at no additional charge. The customer selects and engages the ASP directly for meter installation work and pays the ASP directly for that work.

If the AER's objective in classifying metering types 5-7 services as an alternative control service is to drive visibility of metering installation costs or to further contestability in the market for metering installation services, it is difficult to see how a change in classification would achieve this result as metering installation services are already effectively provided in a competitive market and the customer has full visibility of metering installation charges.

Meter maintenance

Meter maintenance activities (currently charged as part of DUoS) are predominantly to manage compliance with regulatory requirements (for example, meter sample testing). These activities are appropriately recovered through DUoS charges across the broader customer base as they are not attributable to individual customers. Rather, these activities represent a DNSP managed insurance protection against faulty meters. For example, meters may be grouped into "deemed populations" within a network area. As part of metering maintenance, those populations are randomly sampled to ensure the meters are working accurately. If the population fails the random sample test then NSW DNSPs are required to replace all meters in that population. This makes it difficult to attribute the cost of the meter replacement to a single customer given it was caused by a group of customers in a deemed population. The impact on each individual customer that had their meters replaced would be significant. Meter maintenance costs are very cyclical, making it difficult for individual customers to manage.

Meter maintenance activities associated with specific individual customers (for example, special meter reads) are already currently classified and treated as miscellaneous services and separately charged to the retailer or customer in accordance with regulated fees and rates.

The NSW DNSPs' view is that where a metering maintenance activity is attributable to a particular customer, a more appropriate approach may be to treat that activity as a fee-based or quoted service in the 2014-19 regulatory period. This approach is consistent with the way in which metering-related miscellaneous services are currently treated. There is no need to change the classification of all metering types 5-7 services to address some minor activities in the meter maintenance area that have a closer nexus with individual customers. A better solution would be to excise maintenance activities attributable to specific customers and treat those as fee-based or quoted services.

Meter reading and meter data processing

Most of the costs associated with providing metering data services are in the area of manual meter reading and meter data management. There are substantial economies of scale if all meters within an area are read by a common service provider. Competition in the market would also lead to significant inefficiencies if every time a customer moved or changed retailers resulting in a change of metering service provider, the meter needed to be replaced (see section 2.3.7 for further details).

2.3.4 Development of competition in the market for 5-7 metering services

AER's comment: There is potential for the development of competition in the market, particularly in the provision of parallel or multiple metering services.

It is already possible for non-market metering (i.e. private metering as distinct from national electricity market revenue metering) to be procured, installed and maintained contestably at customer premises. A change in service classification is not necessary to achieve the objective of development of competition in the market for parallel or multiple metering services.

2.3.5 Administrative burden and cross-subsidisation

AER's comment: There would be no material effect on administrative costs of the AER, NSW DNSPs or users or potential users. This is because classifying metering services as alternative control services would still require the DNSPs to forecast metering costs separately, similar to the last regulatory review. However, there may be an increase in the need to ensure the accuracy of these forecasts. Notwithstanding, the metering bill would be issued to the retailer in the aggregate. This would result in more transparent metering costs that would encourage greater efficiency. That is, a greater emphasis on forecasting the cost of types 5, 6 and 7 metering services would reduce the likelihood of cross-subsidisation between metering services and network services.

The NSW DNSPs' view is that there is not currently significant cross-subsidisation of metering services because very few metering activities are attributable to customers. The contestability arrangements in NSW mean meter installation costs are already borne by customers. Services with a more direct nexus with customers are currently treated as miscellaneous services and charged accordingly. All these factors support the continued classification in NSW of metering types 5-7 services as standard control services, charged as part of DUoS.

The NSW DNSPs also consider that applying a different form of control would result in a greater administrative cost burden for the reasons set out below.

More internal resources required

Similar to public lighting, significantly more resources would be required to develop a proposal if metering was classified as an alternative control service. For example, the NSW DNSPs would need to undertake significant work in achieving financial ring-fencing, developing cost models, RAB values and tax values to apply in a mini building block determination or to support any alternative form of control. This could be further complicated if the AER decides to apply a building block approach to each type of meter.

Difficulty in unbundling existing assets

One of the key problems in establishing a separate charge for metering is identifying the asset classes for metering services in the RAB and determining the value and remaining life of the asset base. For example:

- metering data and other IT systems are an integral part of metering services, however these assets provide other services such as data for energy forecasts, customer management and planning purposes;
- the frequency injection system that communicates with load control meters is located in zone substations and comprises part of the asset value of zone substations. This value would need to be excised from the RAB, and a remaining life calculation would need to be undertaken.

Establishing an individual price for the meter

It is also unclear how the AER would determine a charge for the type of meter installed at the customer's premises as the type (i.e. type 5 or 6) and the number of meters and load control devices (for example, frequency injection relays) and the number of phases vary for each site. The AER would need to determine an annual revenue requirement for each meter type, and divide the costs by the number of meters. If on the other hand, the AER decides to have one charge for all meters, then the effect of this would be to distribute the costs across customers. The effect of this would be that there would be no direct price signal for the metering technology used, which seems to be contrary to one of the stated objectives of re-classifying the service as an alternative control service.

For these reasons, the NSW DNSPs consider that the administrative burden of unbundling metering charges from DUoS for metering types 5-7 services exceeds the benefits. We consider the current classification and form of control in NSW to be appropriate.

Synergies with other network services

The view of the NSW DNSPs is that metering is not a stand-alone metrology service that can easily be separated from other standard control services. It is integrally linked to the distribution network as it is a vehicle for network strategies around demand management, network innovation, investment expenditure and pricing that together deliver the greatest possible benefit in the long term interests of consumers and maximise the long-term economic welfare of consumers, consistent with the national electricity objective.[15]

Interval meters provide network service providers with increased opportunity to charge cost reflective tariffs to customers. Such tariffs enable signalling of the cost of supply at peak times, encouraging customers to shift their energy use to off-peak periods. As a result of lower system peak demand, network service providers are able to increase the utilisation of the network, and defer capacity investment in the network. This provides a demand management outcome that reduces the capital costs of providing standard control services, resulting in lower X-factors for all customers.[16] Customers with interval meters and load control devices are effectively enabling all customers to benefit from lower prices. This is because the total benefits do not accrue directly to the customer but are distributed more broadly across the customer base. There are also other interdependencies between metering services and network services including network billing and customer load control. For example meter data is used in a number of other markets; for network service providers to bill retailers (who pass the costs on to customers), for generator billing and for billing wholesale market customers.

As outlined in section 2.3.7, most of the costs associated with meter provider and meter data provider services are not attributable to individual customers. By enabling customer billing and market settlement, metering service benefits accrue predominantly to network service providers, retailers and the market more generally rather than to individual customers. The benefits of interval data obtained from Type 5 meters also accrue to the market and to the broader customer base to the extent that capital expenditure deferral arising from demand management outcomes results in lower price increases in standard control services.

Functionality trade-off between standard and alternative control services

There are other synergies between metering services and other standard control services that also need to be recognised in making any decision on classification or form of control. For example, Ausgrid and Endeavour Energy's customer load control system requires replacement over the next decade. A possible replacement strategy is to replace the existing system (which includes significant frequency injection equipment mainly located in zone substations) by means of additional functionality in consumer meters. This option would reduce future capital expenditure in major substations (which are part of standard control services) at the expense of increased metering capital expenditure. These trade-offs in capital expenditure across various parts of the distribution system would be difficult to address if metering types 5-7 services were classified as an alternative control service with a different form of control.

15 National Electricity Law, section 7

16 At the time of Ausgrid's last proposal, Ausgrid forecast that it would reduce capital expenditure by $29 million as a result of installing interval meters to meet replacement and new connections requirements.

2.3.6 Multiple metering installations

AER comment: The reclassification would enable, but not introduce, the provision of metering installations by third parties providing these services instead of a DNSP. For example, the installation of a second meter that meets a specific customer request.

Multiple metering (i.e. private metering as distinct from national electricity market revenue metering) is already available in the current environment. Non-market metering can be procured, installed and maintained contestably. There is no need for a change in classification of metering types 5-7 services to give effect to this outcome.

2.3.7 Extent to which costs can be directly attributed to individual customers

AER comment: The nature of metering services is that the costs of providing the service can be directly attributed to individual customers.

Most metering costs cannot be directly attributed to individual customers. We explain this by reference to each of the key activities comprising metering provision services and metering data provision services.

Meter provision services

As mentioned above, in the metering provision area, costs are mainly incurred in relation to procurement, quality control, meter product testing, logistics and contract management. These costs are not attributable to individual customers. Meter installation services are provided contestably in NSW and the customer engages and pays the ASP directly for these services, so the individual customer already bears these costs.

There is a more direct nexus between the customer and the meter hardware unit installed at the customer's premises. However:

- the costs of the meter unit are not material over the life of the unit so there is questionable value in excising these amounts from DUoS charges and charging customers separately given the administrative costs involved in doing so;
- the meter is currently provided by the NSW DNSPs at no additional charge, that is, the customer is not separately charged for the meter. Any change in the charging or billing process which resulted in the retailer and presumably the customer seeing a separate meter charge would be likely to have at least two effects. Firstly, there may be customer satisfaction issues around a perceived new electricity charge. Secondly, if the market were ever to become fully contestable, the difference in price between accumulation (type 6) meters and the more expensive interval (type 5 meters) would be likely to drive least cost metering solutions which are not in the longer term interests of consumers and are inconsistent with current government policy objectives;
- the inherent value in metering resides in the information obtained from the meter which enables billing, innovative tariff reform (in the case of interval meters), has numerous synergies with other network services, provides information to the market and is an enabler of demand management initiatives. It is inequitable for metering costs to accrue to the individual customer when the benefits accrue more broadly to the customer base and to the market more generally.

Meter maintenance activities are predominantly regulatory compliance activities (for example, sample meter accuracy testing) and are the responsibility of the Responsible Person under the Rules. These activities are not attributable to an individual customer and costs are appropriately recovered as part of DUoS. Ad hoc requests for investigation of faulty or damaged meters and replacement of metering equipment are site-specific. However, it is inappropriate to charge customers for repair or replacement work in relation to faulty or obsolete meters. Costs for defective meters are addressed to some extent under warranty arrangements with meter suppliers.

Other metering services that are attributable to an individual customer (for example, special meter reads) are already separately classified as miscellaneous services and charged to the retailer or customer in accordance with the applicable regulated fees and charges. The NSW DNSPs are proposing that any activity with a sufficient nexus to individual customers in the metering types 5-7 service space is treated in the next regulatory period as a quoted or fee-based service as appropriate. We propose some of these services as new services in our response to the F&A Paper on fee-based and quoted services.

Meter data provision services

Costs for data processing, IT systems, licences, services and procedures comprise the majority of costs for metering data provision services and are a shared cost, not attributable to individual customers. Physical meter reading costs are also a significant proportion of the costs associated with metering data provision services.

Although data processing costs could be attributed to individual customers, the processing costs vary according to the type of meter installed and how many meters are installed for each national metering identifier (NMI). The NSW DNSPs' view is that the administrative costs involved in charging in this manner outweigh any benefits in attempting to charge individual customers on a cost-reflective basis. Given the arguments above about metering data benefits accruing predominantly to persons other than the individual customer, it is more appropriate for these costs to continue to be included as part of DUoS charges.

2.3.8 Other factors

AER comment: There are no other apparent relevant factors that change the AER's proposed classification.

The NSW DNSPs' view is that the interests of consumers are best served by the network service providers continuing to be responsible for providing metering provision services and metering data provision services. Provision of these services by network service providers and continued classification as standard control services and inclusion in DUoS charges is in the interests of consumers and is consistent with the national electricity objective as it promotes efficient prices, market information and metering solutions that assist in delivering demand management solutions that ultimately benefit the broad customer base in terms of lower prices.

As the market for Types 1-4 metering services is contestable it is instructive to look at this market to ascertain what is likely to happen if metering Types 5-7 services were to be made contestable. In the Types 1-4 metering services market, the Rules provide that the retailer (Market Participant) is the Responsible Person, unless the retailer asks the network service provider to be the Responsible Person and an agreement is reached in accordance with clause 7.2.3 of the Rules.

One of the main effects of contestability in the Types 1-4 metering services market is that it drives higher prices through unnecessary meter churn. For example, if as a result of a customer changing its retailer, the metering provider changes, the new metering provider will replace the customer's meter, irrespective of whether the meter needs changing. The cost of replacing the meter is included in the metering provision service fee charged to the retailer (which ultimately is passed on to customers). The industry currently performs a considerable amount of manual work to ensure meter data and associated records are appropriately aligned where the physical meter change date differs from the date of the change in retailer. Currently this work is sustainable as the volumes in the metering Types 1-4 market are small. However, given the volume of 5-7 metering installations, contestability in this market would significantly increase the costs of providing metering services. Currently, type 4 metering costs per metering point are on average at least five times more expensive that for a type 5 site, even though the physical meter unit used may be the same.

Another factor to be taken into account when assessing the impact of moving Types 5 to 7 metering services to contestability is that one of the potential effects is a lessening of competition in the market. As a change in retailer that requires a change in metering service provider requires customers to replace their meters, this ultimately assists retailers in their retention strategies. These issues would need to be

carefully weighed and considered with other factors before a policy decision is made (and the rules amended) to open up the responsible person function for Types 5 to 7 metering services to competition.

In the current regulated environment, there are also synergies between metering data provider services provided by network service providers and network billing requirements which create network efficiencies. In a contestable market, the network would need to obtain the meter data reads from the retailer's metering data service provider and would still need to process that data for network billing purposes. The current regime avoids the need for double-handling of the data which would be extensive in the mass market.

Meter reading costs are a substantial component of the costs of providing meter data provider services in NSW. These costs would be ameliorated if smart metering was introduced given its remote reading capability. However, the NSW DNSPs' view is that smart metering technology is not yet sufficiently mature to support full implementation in NSW. In the absence of smart metering, if metering Types 5-7 services were to be made contestable, the costs associated with manual local meter reading would increase substantially. Currently, economies of scale available to network service providers means meter reading services can be sourced under competitive tender arrangements and meter reading routes can be planned to maximise efficiencies. Multiple retailers with multiple metering data service providers in a network area would lead to inefficiencies in meter reading services as meter reading routes would be duplicated.

2.3.9 Consistency in classification

AER comment: Metering services are currently regulated in NSW through a weighted average price cap recovered through DUoS charges. This is not the case in all NEM jurisdictions. The AER notes that metering services are classified as alternative control services in other jurisdictions including the Australian Capital Territory. The AER is not seeking to create a situation where contestability is introduced as submitted by the NSW DNSPs. However, consistency and potential for competition are factors the AER must consider when classifying distribution services. Furthermore, where an individual customer requires metering services beyond normal requirements, classification as a standard control service would see these costs smeared across all customers. However, where a customer requests additional or special metering services, classification as alternative control services would enable these services to be charged to the requesting customer.

In the Consultation Paper, the AER sets out the classification, form of control and reasons for classification for metering services (types 5-7) in each jurisdiction. This information is reproduced as Table 1 below for ease of reference.

Jurisdiction	Classification	Form of Control	AER Reasons for classification
NSW	Direct control – standard control service	WAPC	Classified in accordance with the deeming provisions of the transitional Rules.
ACT	Direct control – alternative control service	Total revenue control mechanism	Maximum allowable revenues is subject to movements in the Consumer Price Index (CPI)
South Australia	Direct control – alternative control service	WAPC	The classification of metering services and the application of a separate WAPC aims to facilitate competition by reducing the barriers to entry faced by other providers of metering services in the South Australian market.
Tasmania	Direct control – alternative control service	A price cap	Regulatory barrier exists for businesses to enter this market and provide standard metering services in competition to Aurora.
Victoria	N/A Standard metering services for small customers are comparable to an alternative control service classification given that charges for these metering services were separate to the DUoS charges,		The AER reviews and approves the budgets and charges for the rollout of AMI according to the 2008 AMI Order in Council.
Queensland	Direct control – standard control service	Maximum allowable revenue	The maximum allowable revenue is increased each year by the CPI. There is a lack of potential for competition to develop in this market in the regulatory period.

Table 1: Classification and form of regulation for metering (types 5-7) services by jurisdiction[17]

We note that metering Types 5-7 services are not consistently classified across all jurisdictions and that these services are currently classified as standard control services in both Queensland and NSW. We have assessed whether a change in classification to alternative control services would meet the objectives the AER refers to in its F&A Paper. We have also assessed the AER's proposed service classification against the factors the AER must have regard to in the Rules in classifying services as standard or alternative control services. The results of that analysis are in Table 2 below.

Objective	Does the change in classification to alternative control services meet the objective?
Increase in competition (Rules clause 6.2.2(c)(1))	No, because of regulatory restrictions under clause 7.3.2 of the Rules on opening the market for meter provider and meter data services to increased competition. The Local Network Service Provider is the Responsible Person for these functions under the Rules. Meter installation is already performed contestably by ASPs accredited by NSW DTIRIS.
More efficient pricing	No. Meters and meter reading services are currently procured under strategic supply agreements entered into as a result of competitive tendering arrangements and DNSPs have significant economies of scale. Meter installation services are already supplied contestably in NSW. A change in classification to alternative control services will not affect efficiencies in other metering service functions.
Lower cost to customers	No. Increased contestability in the types 5-7 market is likely to substantially increase prices for consumers in the current environment because of meter churn (where a change in retailer means a change in meter provider) and increased meter reading costs because of loss of economies of scale. It also introduces inefficiencies in the meter data

17 Page 18; AER's Preliminary Consultation paper on classification of Services (Dec 2011).

Objective	Does the change in classification to alternative control services meet the objective?
	management area associated with double handling.
Costs attributable to customers (Rules clause 6.2.2(c)5))	Partly. Metering costs are comprised mainly of opex costs associated with procuring and maintaining meters, meter reading and processing data for billing purposes and for the NEM. As most costs associated with metering services are not attributable to individual customers, they are therefore more appropriately classified as standard control services and charged as part of DUoS. There is a nexus between the actual meter unit and the customer and these costs are more easily attributable to customers (noting that customers currently are not separately charged for this). The benefits of metering services accrue to the broader customer base and the market more generally as the value is in the information derived from the meters rather than in the meter unit itself. For this reason, costs are more appropriately allocated across the customer base. Also, capital costs for the meter unit are not material over the life of the unit. Removing these costs from DUoS does not have a sufficiently material impact to justify a change in service classification. Other metering costs attributable to customers (e.g. special meter reads) are currently classified as miscellaneous services in NSW and charged to individual customers.
Increased cost transparency to the AER	No. A change in service classification is not required to give increased cost transparency to the AER. This objective can be achieved through existing regulatory decision-making and reporting processes.
Increased price transparency to customers	This depends on retailers passing through cost reflective charges to customers and visibility of metering charges on the customer's bill. Customers already have complete visibility of installation costs as these services are provided contestably. The goal of increasing transparency in metering costs for individual customers also fails to recognise that the economic benefits of more costly interval data collection and processing accrue more broadly across the customer base and the national electricity market. The assumption that the individual metering charge on the customer's bill would be cost-reflective is also flawed for the reasons set out in section 2.3.2 above.
Facilitates multiple metering	Contestable provision, installation and maintenance of additional (non-market) metering is already available in the current environment. A change in classification is not required to achieve this objective.
Effects on administrative costs (Rules clause 6.2.2(c)(2))	DNSPs would incur significant administrative costs in preparing a separate proposal for metering services and in making any billing system updates required to facilitate separate charging of customers. It would also be difficult to unbundle metering assets from the existing assets in the RAB.
The regulatory approach applicable to the relevant service immediately before the commencement of the distribution determination for which the classification is made (Rules clause 6.2.2(c)(3))	Metering types 5-7 services are currently classified as standard control services and charged as part of DUoS. Metering-related services that are directly attributable to customers (for example special meter reads) are currently regulated as miscellaneous services and charged to individual customers in accordance with regulated fees and charges. The NSW DNSPs' view is that there is no clearly appropriate reasons to depart from this classification.
The desirability of a consistent regulatory approach to similar services (both within and beyond the relevant jurisdiction) (Rules clause 6.2.2(c)(4))	The contestability regime in NSW distinguishes it from other jurisdictions. The implementation of smart meters in Victoria has implications for the customer relationship, costs around meter reading and potential service offerings from retailers that are not available in other jurisdictions. The NSW DNSPs suggest the introduction of contestability in other jurisdictions to deliver a more competitive outcome would be a consistent regulatory approach. For these reasons, classification as a means of achieving increased contestability or other pricing efficiency objectives will not have a uniform effect across jurisdictions. Given the disparity in outcomes possible across various jurisdictions from a consistent regulatory approach, we do not consider that a consistent regulatory approach to metering types 5-7 services is desirable.

Objective	Does the change in classification to alternative control services meet the objective?
Consistent with the National Electricity Objective	No. Any change in classification designed to effect contestable metering services in the types 5-7 market is not in the long term interests of consumers. A contestable market would not be efficient because services would not be supplied in the long run at the least cost (given that contestability is likely to drive price increases in meter reading and meter replacements), meaning resources would not be used to deliver the greatest possible benefits. The least cost accumulation meter (Type 6) solution is likely to impact innovation and investment because it limits the network service provider's ability to respond in future to changes in consumer needs and productive opportunities. It is also inconsistent with current Government policy direction, which supports interval metering as a means of driving demand management and energy efficiency initiatives.

Table 2: Analysis of the extent to which a change in classification meets economic regulatory objectives and the Rules factors

Given:

- the difficulties in establishing the metering charge for specific customers with sufficient accuracy, which compromises the effectiveness of any price signals;
- the potential customer satisfaction issues associated with separating out the metering charge on a customer's bill;
- that the main component of metering provision service costs attributable to customers is in the area of meter installations (which are already provided contestably in NSW); and
- most of the remaining activities in meter provision and meter data provision services (other than the meter unit itself) do not have a sufficient nexus with individual customers,

we see no discernible benefits or clear rationale for moving away from the existing standard control service classification for metering types 5-7 services in NSW.

We do note, however, that consideration may need to be given to the extent to which the classification of metering services should seek to accommodate any future mandated roll out of "smart" meters by DNSPs.

Clause 6.2.1(d)(1) of the Rules provides that in classifying distribution services that have previously been subject to regulation, the AER must act on the basis that, unless a different classification is clearly more appropriate, there should be no departure from a previous classification (if the services have been previously classified). The NSW DNSPs' view is that based on the analysis above, and for the reasons set out in this paper, there is insufficient basis for the AER to depart from the current classification of metering types 5-7 services as standard control services, as classification as alternative control services is not "clearly more appropriate".

2.4 FEE-BASED AND QUOTED SERVICES

The NSW DNSPs responded to the Consultation Paper in February 2012 setting out their responses to the AER's questions on classification of services, including services currently classified as miscellaneous and monopoly services.

In the F&A paper the AER has set out its preliminary positions on classification of services for the 2014-19 regulatory period, responding in part to the NSW DNSPs' submissions on the Consultation Paper. In the F&A Paper, the AER has proposed a service grouping of "fee-based" and "quoted" services incorporating services previously classified as miscellaneous, monopoly and customer specific services. The AER is proposing to change the classification of these services to alternative control services.

Since responding to the Consultation Paper, the NSW DNSPs have conducted a detailed review of services currently provided to individual customers and services it will be required to provide as a result of the implementation of the National Energy Customer Framework (NECF). As a result of that review, the NSW DNSPs have identified a number of potential new services for classification purposes. While the timing for the introduction of the NECF is not yet finalised, it will be in place for 1 July 2014. These potential new services are listed below.

The NSW DNSPs have also reviewed each service to determine whether it is more appropriate for the service to be charged on a fee basis or on the basis of a quote. In making this decision the NSW DNSPs have taken into account the AER's comments in the F&A Paper that those services that have a generally homogenous nature and scope, for which costs can be 'estimated with reasonable certainty' should be categorised as fee-based services.[18] Services that are of an uncertain nature or scope, or require an element of tailoring to meet the individual customer's needs have been categorised as quoted services.

As submitted by Ausgrid and Endeavour Energy in their responses to the Consultation Paper, there is a broader issue of whether "fixed fee" and "quoted" are appropriate service groupings as they relate to the manner in which services are charged rather than the nature of the services themselves. As subsequently discussed with the AER, it may be more appropriate to have a new overarching category of non-DUoS services relating to individual customers covering all of the current and proposed new miscellaneous and monopoly services, with "fixed fee" and "quoted" services being a subset of this category. The NSW DNSPs note that the name of the new service category needs to be sufficiently distinguishable from existing categories of services and service classifications to avoid confusion in implementing and operating regulatory arrangements in the future.

2.4.1 Fee-based services

The AER seeks interested parties' views on the proposed classification of fee-based services as direct control services, and further as alternative control services.

In the F&A Paper, the AER equates fee-based services with the category of services currently classified as miscellaneous services.[19] Miscellaneous services are non-routine services related to the distribution of electricity. A detailed description of these services is set out in Appendix G of the AER's 2009-14 determination. They include:

- special meter readings and testing for types 5-6 meters;
- supply of conveyancing information – desk inquiry;
- supply of conveyancing information – field visit;
- off-peak conversion;
- disconnection visits (when payment has been received);
- disconnections at the meter box;
- disconnections at the pole top/pillar box;
- rectification of illegal connections; and
- reconnection outside business hours.

Miscellaneous services are currently subject to price control in the form a schedule of regulated fees and charges that form part of the WAPC. Fees are set at a level that is not cost-reflective and only allow for the DNSPs to recover the marginal costs of providing the services, despite there being significant fixed costs involved. The balance of costs associated with provision of these services are currently recovered through DUoS charges.

Potential new fee-based services

The NSW DNSPs' review of miscellaneous and monopoly services has identified the following potential new non-routine services related to the distribution of electricity and provided to individual customers (consistent with the current miscellaneous services classification). Most of these services are currently

[18] Page 31; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".
[19] Page 31; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

provided by the DNSPs, but not charged separately to individual customers. Other services arise as a result of the NECF. Potential new services for classification purposes include:

- network tariff changes for customers: When a customer or retailer requests an alteration to an existing network tariff (for example, a change from an Inclining Block Tariff to a Time of Use tariff), the DNSPs conduct tariff and load analysis to determine whether the customer meets the relevant tariff criteria. Changes are also processed in IT systems to reflect the tariff change;
- B2B service orders from retailers to obtain a final read for customer move-outs or to obtain a start read where a customer is moving in to a site that has been vacant. These services are additional to the special meter reading and testing services currently included as miscellaneous services for the current regulatory period;
- recovery of debt collection costs – dishonoured transactions: The NSW DNSPs currently incur costs, including bank fees when a network customer's or ASP's cheque for the payment of network-related services is dishonoured;
- services provided in relation to a Retailer of Last Resort (RoLR) event. The DNSPs are required to perform a number of services (as a DNSP) when a RoLR event occurs. These include:
    - preparing lists of affected sites, and reconciling data with AEMO listings;
    - handling in-flight transfers;
    - identifying open service orders raised by the failed retailer and determining actions to be taken in relation to those service orders;
    - arranging estimate reads for the date of the RoLR event and providing data for final NUoS bills in relation to affected customers;
    - preparing final invoices for NUoS and miscellaneous charges for affected customers;
    - preparing final debt statements;
    - extracting customer data, providing it to the RoLR and handling subsequent enquiries;
    - handling adjustments that arise from the use of estimate reads; and
    - assisting the retailer with the provision of network tariffs to be applied and the customer move in process.

  As the NSW DNSPs are likely to incur significant costs in responding to and managing RoLR events, we are seeking to recover costs associated with RoLR events through a new miscellaneous service charge covering the above services and other network services the DNSPs provide when a RoLR event occurs. In the NSW DNSPs' view, these charges are consistent with the National Energy Retail Law provisions relating to RoLR cost recovery schemes. In particular, clause 166(3)(b)(ii) contemplates the payment by a RoLR to a distributor of costs associated with service orders that have not been completed as at the transfer date.
- administration of any "RoLR cost recovery scheme distributor payment determination"[20];
- tariff changes requested by customers;
- customer or retailer requested meter accuracy testing;

[20] Made by the AER under Division 9 of Part 6 of the National Energy Retail Law.

- attendance at customers' premises to perform a statutory right where access is prevented;
- disconnects and reconnects – responding to service orders raised by electricity retailers; and
- franchise current transformer (CT) meter install;
- customer-instigated meter change, including meter issue, meter logistics, asset tracking, disposal or refurbishment of meter (under National Measurement Institute Pattern approval). Note this fee will not be charged if it is for a new NMI (because that is covered by the Site Establishment Fee); and
- vacant property reconnect/disconnect – fee based service to recover the costs incurred in making ad-hoc disconnections/reconnections for regular but short periods. This typically occurs when customers ask that the electricity be disconnected to their holiday homes and then requested that they be reconnected prior to their next holiday at the same premises.

The NSW DNSPs also propose that the service of disconnection at the meter box currently being provided is divided into two services, based on whether the disconnect is a technical disconnect (involving the services of an electrician) or a non-technical disconnect (turn off main switch and tape, which does not involve the services of an electrician).

In the F&A Paper, the AER acknowledges "the need to classify services to allow flexibility to DNSP to alter the exact specification (but not the nature) of a service during the regulatory control period" and that lists of services within a broad classification are inclusive and not exhaustive.[21] The NSW DNSPs agree with this position. The AER has also indicated that it may seek further details from the NSW DNSPs to assess proposed new services arising as a result of the NECF.[22] The NSW DNSPs are happy to provide further information on these and other proposed new and additional services if requested.

As most of the above services are relatively standard, the NSW DNSPs' view is that they could be charged on a fee basis. However, some of the services (for example, services relating to RoLR events) may be more appropriately charged on a quoted basis as their scope is still uncertain. The NSW DNSPs are currently conducting a review of the costs involved in providing the above services, including the administration costs in establishing the fees, and will have a final view on which services should be fee-based and which services should be quoted when that costs review is complete. As the current schedule of regulated fees and rates for miscellaneous and monopoly services is not cost-reflective, the NSW DNSPs expect that price increases in these services will be required in the next regulatory period to achieve cost-reflectivity.

2.4.2 Quoted services

The AER seeks comments on the proposed classification of quoted services as direct control services and further, as alternative control services.

In the F&A Paper, the AER equates 'quoted services' with services currently classified as miscellaneous services and some customer specific services in NSW.[23] The NSW DNSPs' view is that it may be appropriate for services currently classified as monopoly services to be treated as 'quoted services'. We note that in the F&A Paper, the proposed category of 'Incidental Services' forming part of the connections service grouping includes services to support contestable connections works and is broadly consistent with services currently classified as monopoly services. As discussed with the AER, the NSW

[21] Page 14; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".
[22] Page 16; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".
[23] Page 35; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

DNSPs propose that services proposed to be included in the incidental services category can instead be included in the quoted services category to avoid duplication across service categories.

The AER has also commented that the characteristic of quoted services is that they are non-standard services for which a fee cannot be determined in advance of a request for the service being received by a DNSP. The NSW DNSPs agree with the principle that quoted services share the common characteristic of being a non-standard service, for which a standard fee is not appropriate.

Monopoly services

Monopoly services are services that have been developed to support the contestable connection regime in NSW. Under the original IPART definition, monopoly services are services that can only be provided by the DNSP. The NSW DNSPs currently offer and provide the monopoly services set out in Appendix G of the AER's 2009-14 determination. Broadly, these services are:

- the provision of design information, design certification and design rechecking services in relation to connection works;
- inspection and re-inspection of certain contestable connection works performed by Accredited Service Providers (ASPs);
- re-inspection of installation work in relation to certain customer assets;
- services relating to access permits;
- access (standby person);
- substation commissioning;
- administration services relating to work performed by ASPs, including processing work;
- notices of arrangement;
- authorisation of ASPs; and
- site establishment services, including issuing of meters and liaising with AEMO or Market Participants for the purpose of establishing National Metering Identifiers (NMIs) in market systems, for new premises or for any existing premises for which AEMO requires a new NMI.

Customer specific services

Customer specific services are any of the following services undertaken at the request of a distribution customer:

- asset relocation works;
- conversion to aerial bundled cable; and
- other services relating to the connection of the Distribution Customer to a DNSPs' Distribution System, excluding Private Power Line Inspections, Monopoly Services, Miscellaneous Services and Emergency Recoverable Works.

Customer specific services are currently classified as unregulated distribution services (subject to IPART's excluded services rule for the 2009-14 regulatory period). In its response to the Consultation Paper, Ausgrid submitted that customer specific services, if undertaken at a person's request (whether by a distribution customer or other third party), should not be regulated because they are not distribution services. This position was based on the view that these services are essentially optional services, should not be seen as part of the right of access to a network and should not be subject to regulation under an access regime such that the DNSPs are required to provide these services (i.e. the DNSPs should have discretion as to whether they provide these services rather than being required to do so).

In its response to the Consultation paper, Ausgrid submitted that from a policy point of view it is difficult to see why, for example, a DNSP should be required to move its assets that are lawfully placed on land simply because a person (whether or not a network user) requests the DNSP to do so. The DNSP is no more in a monopoly position in this regard than any other asset owner. With any other asset owner, if a person wishes the owner to move its assets, this would be a matter for commercial negotiations, which may or may not result in an agreement to move the assets.

In the F&A Paper, the AER has indicated that "grouping these services as quoted services under an alternative control classification still permits commercial negotiations to occur between the parties".[24] The NSW DNSPs' concern is not just around the ability to engage in commercial negotiations, but also that regulation under an access regime requires the DNSPs to provide the services if requested, rather than these services being optional or discretionary. In true commercial negotiations, the DNSP would be able to weigh up the risk and costs associated with providing the service before making a decision as to whether to provide the service. If the service was to be classified as a distribution service (thereby obliging the DNSPs to provide the service on request), the form of control applied would also dictate the extent to which the DNSP is able to truly negotiate on commercial terms for the supply of that service. The AER's preliminary position on customer specific services is that it is part of the service category of 'quoted services' and should be classified as alternative control services in the next regulatory period.[25] The NSW DNSPs are not comfortable that the form of control applied to quoted services would facilitate appropriate cost-reflective and commercial outcomes for these types of services requested by third parties.

Ausgrid also noted in its response to the Consultation Paper that the definition of Customer Specific Services refers to services requested by a "Distribution Customer". "Distribution Customer" is defined in the Rules to mean a "Customer, distribution Network Service Provider, Non-Registered Customer or franchise customer having a connection point with a "distribution network'. Although the NSW DNSPs' view is that Customer Specific Services are not distribution services capable of regulation under the Rules (whether requested by a network user or by some other person), it is clear that the definition limits Customer Specific Services to those requested by network users. Based on this definition, any requests by third parties (other than network users) to undertake asset relocation works, aerial bundled cable works (or the like) cannot be Customer Specific Services.

Although the AER has included Customer Specific Services in its proposed list of quoted services for the next regulatory period, given the above issues, the NSW DNSPs submit that requests by a third party (whether or not a network user) in relation to services currently classified as Customer Specific Services, be treated as non-distribution services, or in the alternative, as unclassified distribution services in the 2014-19 regulatory period. Treating these services as 'unclassified' is closer to the current classification than other alternative classifications and would enable the NSW DNSPs to maintain a degree of consistency with the current approach to these services. The NSW DNSPs' view is that no other classification is clearly more appropriate.

Potential new quoted services

In addition to the current set of monopoly services, the NSW DNSPs have identified the following additional services supporting contestable connections works in NSW. All of these services (apart from the services the DNSPs will be required to provide once the NECF is implemented) are services attributable to individual customers that the DNSPs currently provide, but which are not specifically charged to those customers. Charges instead form part of the costs recovered through DUoS charges.

- services to supply and connect temporary supply to one or more customers (including equipment and related costs) in relation to planned access permits;
- connection process facilitation. DNSPs currently provide a service facilitating the overall process of establishing a connection. This involves a range of activities including:
  - providing ongoing information and advice on the connection process and requirements. In practice, developers and customers need significant assistance in navigating requirements, processes and regulatory obligations in relation to

[24] Page 36; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".
[25] Page 36; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

connections. A significant amount of time is spent by DNSPs in educating customers, addressing specific requirements relating to each connection on a case by case basis and coordinating and negotiating the connection (particularly for major connections). In practice, this results in better outcomes for customers; and

- involvement in project meetings. Major customers (including developers) are normally project managers and the supply connection and asset relocation components of contestable works are part of a much broader project plan. DNSP representatives attend regular project meetings to help coordinate the various overall requirements for the project insofar as they relate to connection;

- customer interface coordination for contestable works. Coordinating internal resources and managing DNSP involvement in the overall connection program consumes a significant amount of the time spent in facilitating major connections. Activities include arranging internal review meetings, reviewing and issuing internal project documentation and coordination of the wide range of internal stakeholders involved;
- carrying out planning studies and analysis relating to distribution (including sub transmission) connection applications;
- services provided in relation to obtaining deeds of agreement for property rights associated with contestable connection works, including processes associated with obtaining registered leases and easements for land on which DNSP assets are located (i.e. those assets assigned or "gifted" to DNSPs on electrification). These property rights are necessary in order to ensure that the DNSP is able to carry out ongoing maintenance in relation to its assets. As DNSPs often connect assets before registered leases or easements have been obtained, it is necessary to obtain deeds of agreement from landowners in the interim;
- services supporting contestable connections works provided outside normal business hours (including level 1 inspections, access permits and substation commissioning);
- preliminary enquiry service, for services provided to connection applicants making preliminary enquiries seeking a written reply to meet the enquirer's particular circumstances. This service arises as a result of the NECF; and
- connection offer service (basic or standard), for services provided by DNSPs in assessing connection applications and making basic or standard connection offers. This service arises as a result of the NECF.

The NSW DNSPs have also given further consideration to whether the AER needs to make any determination in relation to the recovery of expenses for assessing an application for a negotiated connection contract (contemplated by 5A.C.4 of the National Energy Retail Rules (NERR)) and for the expenses incurred in making a site inspection (contemplated by 5A.D.4 of the NERR). We have concluded that the NERR recognise these as expenses incurred and not a fee for service as such and confer a right to recover these expenses as a debt independently of the AER determination process and outside the contractual arrangements contemplated as part of the NECF. We would, however, like to engage with the AER if it is has formed a different view such that these services should be recognised as distribution services and consideration given to classification and whether any form of control needs to be applied.

At this stage our view would be that even if the AER recognised these as distribution services, they should be unclassified to ensure that they could be recovered in a way which was consistent with the NERR. We would also be happy to provide further information as requested on any of the proposed new services referred to above.

Attachment A sets out the NSW DNSPs' preliminary view on whether the potential new services described above should be charged on the basis of standard fees or on a quoted basis. In making this assessment, the NSW DNSPs have taken into account the AER's view that standardised services should be capable of being charged on a fee basis whereas non-standard services involving uncertain scope are more appropriately charged on the basis of a quote.

Quoted services proposed by the AER

In the F&A Paper, the AER has listed a number of services it proposes including as quoted services, including:

- re-arrangement of network assets;
- covering low voltage mains;
- non-standard data services (types 5-7 metering);
- ancillary metering services (types 6-7 metering);
- supply enhancement;
- metering enhancement;
- temporary disconnect/reconnect services;
- after hours provision of any service;
- large customer connections;
- auditing of design and construction; and
- miscellaneous (including high load escort, rectification of illegal connections, conversion to aerial bundled cables, provision of service crew/additional crew).

The AER clarified in subsequent discussions that the above list is not an exclusive list of proposed quoted services, and should be taken as a guide only. The NSW DNSPs' view is that the above services in some cases are a high level description of services that include components already covered by other service classifications or groupings. On this basis, the NSW DNSPs have only used this list of services as a guide to services that could be categorised as quoted services.

2.4.3 Implications of change in classification

The NSW DNSPs flagged in their responses to the Consultation Paper that the current regulated schedule of fees and rates is not cost-reflective and that the potential price increases required to ensure cost reflectivity are likely to cause customer satisfaction issues. There are also likely to be discrepancies in pricing across the three NSW DNSPs given the different characteristics of the networks.

The NSW DNSPs are currently undertaking a detailed costs analysis of each of the services provided to individual customers. We will provide details of proposed pricing to the AER when that work is complete. In the meantime, we have made a preliminary assessment of whether services should be charged on the basis of fees or on a quoted basis (see Attachment A). The NSW DNSPs will form a final view on this assessment once the detailed costs analysis has been completed.

2.4.4 National approach to service descriptions

According to Appendix E of the Consultation Paper:

- services currently classified as miscellaneous services in NSW are described as either "fee-based", "quoted" or "other" in other jurisdictions; and
- services currently classified as monopoly services in NSW are described as either "quoted services or "network" services (i.e. planning and designing the distribution network).

As mentioned above, the NSW DNSPs' view is that there should be a separate overarching category of services grouping all services attributable to individual customers which are charged separately to those customers. The manner in which those services were charged (i.e. either on the basis of a fee or a quote) would be sub-groups of that category. The NSW DNSPs' main concern is that irrespective of how services are defined, grouped or classified, the DNSPs are able to be appropriately recompensed for providing these services. To reiterate comments made in the NSW DNSPs' response to the Consultation Paper:

- in considering whether to move towards a more national approach to service descriptions, it is important to ensure that the services provided across each jurisdiction are in fact

sufficiently similar to warrant the same classification and form of regulation, particularly with respect to contestability differences. There is a risk that in grouping similar-sounding services and applying a common classification, these differences will not be taken into account, which may have operational implications for the provision and funding of those services; and

- the issue of whether any of the services currently defined as miscellaneous and monopoly services should be grouped as quoted or fixed fee services depends to some extent on the form of control to be applied and whether that form of control results in cost reflective prices or not.

2.5 PUBLIC LIGHTING

The AER seeks submissions on the treatment of new luminaire types or new technologies in the provision of public lighting services.

The NSW DNSPs have considered submissions made by councils and, in particular, commentary in respect to improvements in price setting to support the timely implementation of new technologies that may emerge over the 2014-19 regulatory period. The NSW DNSPs are generally supportive of the concept of technologies not covered by the final distribution determination to be subject to an agreed framework or methodology to allow the pricing and introduction of new lighting technologies. However, this view is contingent upon the ongoing classification of these prices as alternative control services as discussed below.

The NSW DNSPs understand the AER's exploration of the negotiated regime to facilitate the adoption of new technologies, however there are other options that would support this outcome with materially reduced complexity and without the need to move to a negotiated classification which may bring with it an unworkable level of administration for councils, DNSPs and the AER.

During the 2014-19 regulatory period, where customers are interested in implementing new technology, the NSW DNSPs would seek to agree prices with customers on the same basis (method of calculation) as that adopted for other assets and become subject to the same arrangements applicable to all other public lighting services at that time. Clarity regarding the approved method of calculating prices by the AER in the final determination would enhance transparency and reduce the potential for disputes between parties under this approach.

Overall the NSW DNSPs believe that this approach will ensure the maximum flexibility for customers to adopt new technologies over the next regulatory period in a manner consistent with AER considerations without the current delays in pricing approval. This approach will also ensure that customers will have sufficient transparency and predictability in the pricing of new technologies to inform their decisions on whether to adopt any emerging technologies.

Although the option set out above addresses the immediate concerns raised regarding the timeliness of adoption of new technologies, the NSW DNSPs seek further clarification from the AER as to the ability to achieve administrative efficiencies within the existing alternative control services regime by establishing principles and procedures to be applied when setting new prices without the need to seek formal review by the AER in the absence of any dispute with customers.

Finally, if the AER does not accept our submission that new technology services can and should be accommodated within the alternative control classification for the 2014-19 regulatory control period, and decides to classify new technology services as negotiated, this will create the need for some arrangement to be established that would allow the reclassification of such services as alternative control services in the next period.

The AER seek comments from interested parties on the proposed classification of public lighting services as direct control services and further, as alternative control services.

The NSW DNSPs support the continued classification of public lighting services as direct control services and further as alternative control services.

The current form of control for public lighting includes five components as shown in Table 3 below.

Service/Asset type	Base year	Trajectory
All assets	Maintenance price based on efficient opex	Increase by actual CPI and AER approved labour cost index
Assets constructed in the regulatory period	Price based on efficient capital expenditure	Increase by actual CPI and AER approved labour cost index
Assets constructed during the regulatory period that are not in the approved price list	Base year capital and maintenance prices to be determined by submission to the AER.	Increase by actual CPI and AER approved labour cost index
Assets constructed prior to the regulatory period	Fixed charge for each customer on regulatory asset base roll forward.	Increase by actual CPI and x-factor for each customer. Also adjusted for any capital recovery for the early replacement of assets.
Assets decommissioned early at customers' request	Variable charge based on the remaining depreciation charges	N/a

Table 3 Five components of public lighting

The NSW DNSPs are broadly supportive of the continuation of the current regime which applies a control on movement in price for public lighting inventory based on:

- establishing a base year capital charge for different inventory types;
- establishing a base year maintenance price allocated to different inventory types based on an efficient level of opex;
- allowance for cost escalation and movements in inventory between years; and
- the recovery of any outstanding investment in any asset replaced before the end of its useful life.

Specifically, the NSW DNSPs' are in favour of retaining the current approach to pricing for public lighting services comprised of one set of prices for existing assets and a second set of prices for new assets. We do not support the AER's proposal to create three sets of time-specific prices (and potentially more) for the same public lighting component.

NSW DNSPs consider that there are a number of issues created by introducing three (or more) sets of prices at each regulatory determination, including increased administrative costs for DNSPs and customers, decreased efficiencies, increased pricing complexity and decreased usefulness for customers in trying to achieve the most effective public lighting solutions. The retention of the current "two price" approach is therefore supported with the methodology and calculation of individual prices to be set out in the DNSPs' regulatory proposals in May 2013.

3.0 CONTROL MECHANISMS

3.1 STANDARD CONTROL SERVICES

The AER seeks submissions on its preliminary position to apply a revenue cap control mechanism to standard control services.

This chapter sets out the NSW DNSPs' response to the AER's preliminary position on the control mechanism to apply to the standard control distribution services provided by the NSW DNSPs in the next regulatory period. This response provides empirical evidence and economic analysis to support the NSW DNSPs' position that the AER retain the existing Weighted Average price Cap (WAPC).

The NSW DNSPs support the continuation of the WAPC based on the analysis presented in this section, we fundamentally support the WAPC on the basis that customers do not bear volume risk or face potentially unacceptable price instability that could otherwise result from the operation of the "unders and overs" account inherent in a revenue cap.

It is noted that the retention of a WAPC will place challenges on the network companies to pursue efficiency initiatives to mitigate the impact of volume movements, particularly in a climate where customers, network businesses and governments are working together to reduce greenhouse gas emissions, curb peak demand growth and place downward pressure on electricity prices for the betterment of the community and the wider economy.

The NSW DNSPs are responding by targeting average distribution network prices as close as possible to the rate of inflation for each of the next six years (including the five years starting on 1 July 2014) and are concerned that a move by the AER to adopt a revenue cap may jeopardise our ability to achieve this outcome by the requirement to adjust prices mechanistically to resolve any "unders and overs" account balances. We also believe that there is an inherent inconsistency between the setting of national energy policies targeted at the price of electricity, but regulating the NSW DNSPs on a revenue cap basis.

The NSW DNSPs have also identified some important modifications to the current WAPC that could be considered by the AER to address any perceived shortcomings.

Should the AER decide not to retain the WAPC as the form of control for standard control services for the NSW DNSPs at the next determination, we recommend that the AER explore the use of a hybrid form of control (as canvassed in this response) as the preferred alternative to the WAPC.

The NSW DNSPs have to date provided substantial information on issues relevant to the control mechanism for standard control services. The information and analysis provided in this submission should be considered in conjunction with the earlier submissions by the NSW DNSPs to the AER on its Consultation Paper on the control mechanism.[26]

3.2 BACKGROUND

The AER is required to decide on the form of control mechanism to apply to standard control services provided by the NSW DNSPs in the next regulatory control period. The available options are set out in Clause 6.2.5(b) of the Rules, namely:

- a schedule of fixed charges;
- caps on the prices of individual services;
- caps on the revenue to be derived from a particular combination of services;
- a tariff basket control mechanism;
- a revenue yield control; and

[26] Note particularly that Ausgrid provided a comprehensive discussion of the economic theory relevant to network pricing and the different forms of control mechanism. Please refer to: AER 2012, Ausgrid Response to the AER Consultation Paper on Control Mechanism, May 2012.

- a combination of any of the above.

In making a decision on the control mechanism to apply to standard control services, the AER must have regard to the factors in clause 6.2.5(c) of the Rules, specifically:

- the need for efficient tariff structures;
- the possible effects of the control mechanism on administrative costs of the AER, the DNSP and users or potential users;
- the regulatory arrangements (if any) applicable to the relevant service immediately before the commencement of the distribution determination;
- the desirability for consistency between regulatory arrangements for similar services (both within and beyond the relevant jurisdiction); and
- any other relevant factor.

The AER has indicated its intention to have regard to three additional factors which it considers are relevant to its choice of control mechanism, namely:

- volume risk and revenue recovery;
- price flexibility and stability; and
- incentives for demand side management.

In addition, Clause 6.2.6(a) of the Rules requires that the basis of the control mechanism for standard control services must be of a prospective CPI-X form, or involve some incentive-based variant thereof, under Part C of Chapter 6 of the Rules.

In making its decision on the form of control mechanism, the AER must do so in a manner that will or is likely to contribute to the achievement of the NEO and in addition the AER must take into account the revenue and pricing principles.[27]

3.3 THE AER PRELIMINARY POSITION ON THE FORM OF CONTROL MECHANISM

The AER's preliminary F&A paper outlines its preference to use a revenue cap form of control mechanism for the standard control services provided by NSW DNSPs in the next regulatory control period. The AER argues that it is in the long-term interests of electricity users to apply a revenue cap because it will ensure that NSW DNSPs recover no more than the AER determined revenue requirement.

The AER acknowledges that it believes a revenue cap is not a perfect form of control mechanism in all circumstances and that there are both negative and positive attributes associated with both the revenue cap and WAPC.[28] Given this acknowledgement, the AERs preliminary position to adopt a revenue cap suggests that the costs of applying a revenue cap, such as weaker incentives for efficient prices and a greater tendency towards unstable prices, are less than the costs the AER perceive to be inherent in using the existing WAPC.

Specifically, the AER have justified their preliminary position for a revenue cap to apply to NSW DNSPs in the next regulatory control period on the following grounds:

- a DNSP subject to a revenue cap is more likely to have stable profits, with revenue being closer to efficient costs, given that the costs of distribution network services are largely fixed in nature and not responsive to small variations in the volume of sales;
- a DNSP can earn revenue under the WAPC in excess of the AER forecast revenue requirement by understating their volume forecast used in the X-factor calculation and by pursuing advantageous tariff re-balancing opportunities during the regulatory control period;

[27] NEL, Section 16.
[28] Page 46; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

- while economic theory suggests that the WAPC is superior to a revenue cap in terms of providing DNSPs with incentives to price efficiently, in practice the DNSPs subject to a WAPC have generally not responded to these incentives, which is supported by the historical lack of tariff reform undertaken by DNSPs since the introduction of the WAPC;
- the WAPC will produce unstable prices between regulatory control periods due to the tendency of actual revenues to vary from the AER forecast revenue requirement at the end of each regulatory control period; and
- while price instability under a revenue cap is undesirable, this is unlikely to be an issue in practice given the immateriality of the unders and overs account in practice. In any event this issue could be addressed by the introduction of tolerance limits to the size of the overs and unders adjustment in any one year.

3.4 THE NSW DNSPs' POSITION ON THE FORM OF CONTROL MECHANISM

The NSW DNSPs support the continuation of the WAPC in New South Wales. Indeed, we believe that the arguments put forward by the AER in support of its preliminary position to adopt a revenue cap form of control mechanism in the next regulatory control period be further considered in light of this submission.

Our support for the continuation of the WAPC is based on sound economic theory and empirical evidence that supports a conclusion that the WAPC provides better incentives to promote the NEO than any alternatives, given the volume and cost circumstances currently faced by the NSW DNSPs.

Our concerns with the AER applying a revenue cap to the NSW DNSPs in the next regulatory control period can be simplified to four core arguments:

- first, a revenue cap does not address the underlying problem of volume risk, but rather transfers this volume risk from DNSPs to end-customers in the form of price instability. The NSW DNSPs believe that simply transferring volume risks to customers is not in the long-term interests of electricity users in the current uncertain environment and, while the short-term interests of customers are not specified in the NEO, it is also not in the short-term interests of customers who are faced with year-on-year pricing fluctuations as customers are left to manage volume variances (through pricing adjustments) under a revenue cap. Indeed, the NSW DNSPs believe that there are changes to the WAPC that can be used to lower volume risks, with these changes having the additional benefit of minimising revenue volatility;[29]
- second, while many of the costs of electricity distribution services are fixed in the short term there remain some short term costs and importantly longer term network costs that do vary with variations in both peak and total demand. This means that applying a revenue cap can lead to DNSPs earning less than efficient costs, which is inconsistent with the Rules in circumstances where unanticipated demand increases result in higher costs, without commensurate increases in revenue. Relevantly, under a revenue cap there is no means by which a DNSP can manage these financial risks;
- third, the financial risks for a DNSP under a revenue cap appear to be asymmetric in the situation where a revenue cap is not the efficient choice of control mechanism in light of the economic circumstances. The asymmetry occurs because the adjustment process required to increase network tariffs to cost reflective levels may be longer than in the situation where network tariffs must be reduced to cost reflectivity. By implication, it can lead to long-term economic distortions in network prices and the DNSP experiencing cash flow difficulties in the short-term, which is clearly not in the long-term interest of electricity users;
- Finally, a revenue cap does not provide DNSPs with the same incentives to promote efficient use of electricity (i.e. allocative efficiency) through innovative network tariff reform compared to a WAPC. This means that ultimately DNSPs do not have incentives to

[29] The AER accepted that this is a negative feature of a revenue cap (refer to p.54 of the AER F&A paper)

promote tariffs that lower network costs and provide consumers with choices to better manage electricity bills – currently a significant concern in the community.

To properly address the arguments raised by the AER in their F&A paper on the form of control mechanism, it is important to revisit underlying economic principles supporting pricing arrangements and then to consider the available empirical evidence in a manner consistent with these principles.

3.4.1 The NSW DNSPs' Interpretation of the National Economic Objective

The AER has noted that it must make their decision on the control mechanism to apply to NSW DNSPs in the next regulatory period in a manner that is or is likely to contribute to the achievement of the NEO.[30]

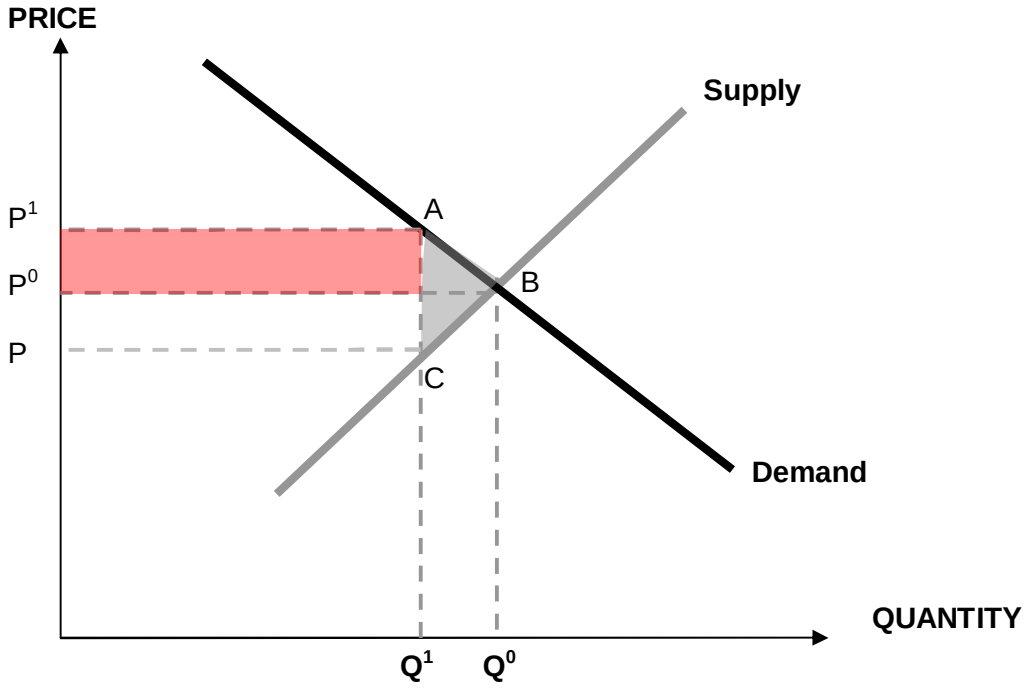
The NSW DNSPs believe that the promotion of the NEO requires the AER to consider the economic welfare implications of its choice of control mechanism. This is not to suggest that any equity implications of the choice of control mechanism should be ignored, but rather that the AER should only consider equity outcomes where it does not result in a loss of potential short and long term economic welfare benefits.

Considering economic welfare requires the AER to consider the implications for consumer and producer surplus, which lie at the heart of the NEO, it follows that a control mechanism that increases overall consumer and producer surplus should be preferred over an alternative that leads to a decrease in consumer and producer surplus.

To illustrate these concepts consider the standard textbook example of a monopolist in an unregulated environment that uses its market power to restrict supply to maximise profitability. The outcomes of this strategy by an unregulated monopolist are illustrated in simple terms in the following figure.

According to economic theory a profit-maximising monopolist will increase prices above the marginal cost of supply, which results in demand falling and a transfer of benefits of consumption from consumer to the producer (i.e. the red shaded area). This reduced consumption, given that its value is higher than the cost of supply, is a loss to society. Economists call this a 'dead-weight loss'.

Figure 1: Economic Welfare Concept of a Deadweight Loss



[30] Page 50; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

A key rationale for economic regulation for distributors is to ensure that they behave as though it is operating in a workably competitive environment. This has the effect of reducing the deadweight loss and so increases welfare to society as a whole.

It is evident from this standard diagram that the reduction in deadweight loss requires prices to reflect the marginal cost of supply. This highlights the importance of providing incentives for distributors to set charges reflective of underlying marginal costs of supply, to ensure that the NEO is promoted and proper regard is had to the pricing principles in the Rules.

It is for these reasons that the NSW DNSPs believe that the AER should consider the implications for economic welfare, consistent with the promotion of the NEO, when evaluating alternative forms of control mechanism.

3.5 THE UNDERLYING RATIONALE OF THE AER'S DISCRETION IN REGARD TO CHOICE OF CONTROL MECHANISM

The Rules provide the AER with considerable discretion about the choice of control mechanism to apply to standard control services. The underlying rationale of this discretion is that there is no single perfect control mechanism from an economic perspective. To achieve an outcome that is consistent with the NEO, the AER must consider the particular circumstances of the DNSP when making its choice of control mechanism. This is the underlying rationale for price caps being more widely adopted for electricity distribution compared to electricity transmission.

The Ministerial Council on Energy's Expert Panel on Energy Access Pricing when examining the role of economic regulation noted that in Australia, electricity transmission has been generally regulated with revenue caps, while gas transmission, and electricity and gas distribution, by price caps. The principal reason for applying revenue caps in electricity transmission is the lumpy nature of the capital investment and the very weak relationship between annual changes in transmission cost and demand or output. The Transmission Network Service Providers (TNSP) also have only a limited ability to influence the demand for their services.[31] Price caps have been widely adopted for electricity distribution businesses, since the relationship between changes in output and changes in cost is stronger. Price caps provide the businesses with flexibility to adjust individual prices as required, and appropriately allocate demand risk to the business.[32]

Relevantly, the Expert Panel highlighted that while the criteria for assessing the control setting method (both form of regulation and form of control mechanism) should be common, there is no reason why the application of each criterion would be the same over the short or medium term, or between different regulated services. Specifically it noted the Panel sees no logical reason for there to be differences in the criteria for determining the control setting method to apply as between electricity and gas, distribution and transmission services. The application of the criteria may justify the use of different control setting methods, over either the medium or long term. Indeed, it was on the Expert Panel's recommendation that the Rules required a focus to be given to the promotion of efficient use of existing assets and proposed new assets.

At the time the Chapter 6 Rules were formulated, it was open to NEM ministers to prescribe a single form of control mechanism to apply to distribution services. Instead the Rules provide limited discretion to the AER to choose between alternative forms of control mechanism, so long as the AER takes into account the rules specified criteria. The rationale for the provision of this discretion was an acknowledgement that the appropriate form of control mechanism for distribution services would likely vary according to the circumstances of a particular DNSP and so no one form of control mechanism would be appropriate for all distributors and for all future regulatory control periods, given they all operate in different circumstances.

In choosing between the forms of control mechanism it is therefore relevant to consider the circumstances facing the DNSP. In line with the descriptions of the main characteristics of each methodology as set out above, those circumstances include any factor that influences the businesses

[31] It could also be argued that applying a revenue cap to TNSPs in this circumstance is an efficient choice of control mechanism because DNSPs are better placed to manage volume risk.

[32] Expert Panel on Energy Access, 2006, *Report to the Ministerial Council on Energy*, April, p.114

ability to directly manage revenue risks associated with demand volatility. These circumstances would include (amongst others):

- expertise and capacity to develop and rely on customer number, energy sales and demand forecasts;
- the scope to implement efficient price structures, which would by influenced by:
  - pricing expertise and capacity within a distributor;
  - the distributors' customer bases' likely responsiveness to alternative pricing structures; and
  - metering capabilities to implement alternative price structures.

These circumstances relate to the Rules requirements by allowing the AER to decide whether efficient tariff structures can be best achieved through a price cap versus a revenue cap form of control mechanism. This highlights the importance of the AER evaluating these circumstances for each distributor separately, to decide on the appropriate form of control mechanism to apply.

The NSW DNSPs are concerned with some of the inferences in the AER F&A paper that suggests the AER believes a revenue cap for distributors is the only appropriate form of control mechanism, *in any and all circumstances*. The NSW DNSPs believe this is contrary to the intent of the Rules. If the AER is considering convergence to only one form of control mechanism, it would be more appropriate to implement this via a Rule change proposal that removes the discretion to select the single form of control mechanism.

To illustrate the important relationship between economic circumstance and efficiency of the control mechanism from an economic perspective, the NSW DNSPs have developed the following conceptual framework, as shown in Figure 2.

The key insight from the above illustration is that given their different economic circumstances the efficient control mechanism for the hypothetical TNSP is a revenue cap, whereas the efficient control mechanism for the hypothetical DNSP is a WAPC. This framework is also highlights the point that if the economic circumstances were to change in the future the efficient choice of control mechanism may no longer be a revenue cap for the hypothetical TNSP and a WAPC for a NSW DNSP.

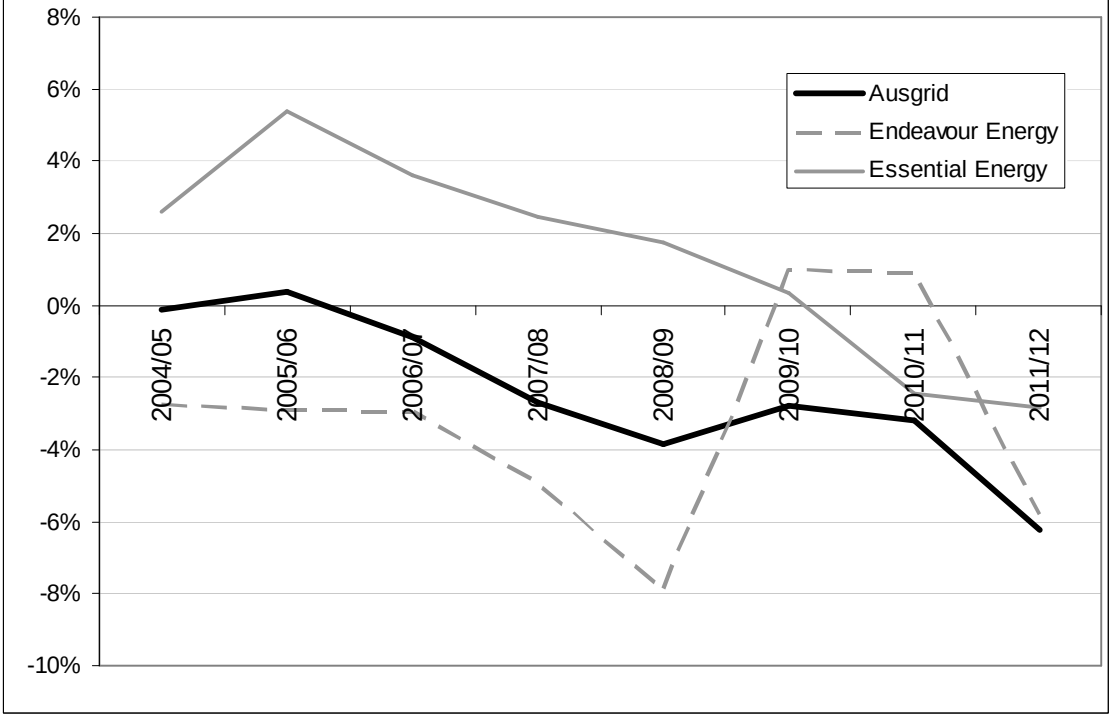
3.5.1 An assessment of the expected circumstances of the NSW DNSP in the next regulatory control period

To assist the AER to apply the above conceptual framework in its decision on the choice of control mechanism for the NSW DNSPs in the next regulatory control period, an assessment of the economic circumstances of the NSW DNSPs during the next regulatory control period is provided below.

Figure 3 highlights that the NSW DNSPs have been exposed to significant long-term forecast volume risk since the introduction of the WAPC in the previous regulatory control period.[33]

[33] It is important to note that the overall volume variances are an imperfect measure of the underlying revenue risk exposure of a DNSP under a WAPC.

Figure 3: Historical Comparison of the Long-term Volume Forecasting Errors under WAPC



The unprecedented level of uncertainty in recent years has resulted in all three NSW DNSPs being exposed to significant downside volume risk under the WAPC. It is reasonable to believe that the current level of uncertainty in our volume environment will persist over the medium-term outlook, particularly in light of the long-run nature of the underlying drivers of this uncertainties, such as economic uncertainties in the US and most other major economies, the longevity of the resources boom, government policy on energy efficiency, investment in embedded generation and the long-run demand responsiveness of recent network price rises.

The NSW DSNPs note that the economic conditions evident prior to the Global Financial Crisis (GFC) that led to relatively stable growth in energy consumption have not been observed during the current regulatory period. This is important not only in terms of assessing the financial performance of the NSW DNSP's before and after the GFC, but also when considering the energy forecasting performance as identified above.

In terms of the scope to implement efficient network prices, the NSW DNSPs believe that they are well placed to continue to pursue efficient tariff strategies, (i.e. aligning volume tariffs more closely with marginal costs) in the next regulatory control period. As part of this effort:

- Essential Energy has achieved its long-term objective to simplify its network tariffs;
- Ausgrid is well positioned to provide strong demand signals to consumers and so provide greater opportunities for consumers to manage bills given progress made in rolling out Type 5 metering in the small customer segment and the knowledge to be gained from the Smart Grid Smart City Initiative; and
- Endeavour Energy has been successful in reforming demand charges to business customers to better signal the costs imposed on the network by customers' use of electricity at peak times.

3.5.2 Potential economic implications of a revenue cap control mechanism

To illustrate the potential economic implications that may arise with a revenue cap form of control mechanism has been made, the NSW DNSPs have undertaken some empirical analysis of the experience of EnergyAustralia under the revenue cap during the 1999-2004 regulatory control period.

The key findings of this empirical research are summarised in Box 1

Box 1: Case study – EnergyAustralia's experience under a revenue cap

EnergyAustralia (Ausgrid's predecessor) was regulated under a Revenue Cap from 1999/00 through 2003/04. The company's pricing behaviour over this period was examined from two perspectives:

- Economic efficiency – that is, to determine whether the changes that the company made to its tariffs over the regulatory period could be seen to have increased cost reflectivity, subject to applicable constraints, and
- Price stability – that is, to assess the extent to which the overs and unders feature of the Revenue Cap form of control created instability in or reduced the cost-reflectivity of the company's prices.

The assessment of the economic efficiency of EnergyAustralia's pricing under the revenue cap considered price changes on the tariffs that cover virtually all of the company's small customers, namely:

- Domestic – "EA010" tariff;
- Residential ToU - "EA025" tariff;
- Small Business ToU – "EA225" tariff;
- Controlled Load 1 – "EA030" tariff; and
- Controlled Load 2 – "EA040" tariff.
    - The analysis provided very mixed results from an economic efficiency perspective:
- Price changes on the EA010 tariff, on which most of the residential load was served at the time, did not seem to follow principles of economic efficiency at all. The fixed charge was increased every year throughout the period, while the energy charge was decreased – exactly the opposite of what would be expected under principles of economic efficiency in an environment of growing peak demand and energy consumption.
- Price changes in the other tariffs assessed – the residential ToU, small business ToU, controlled load 1 and (to a lesser extent, controlled load 2 tariffs – all exhibited price changes at the beginning of the period that were similarly out of step with economic efficiency principles, though this trend was reversed in most of these cases later in the period.

These results do not support the assertion that the Revenue Cap form of price control provides a strong incentive for the DNSP to set cost-reflective prices that provide allocatively efficient price signals to customers on a tariff component basis.

The assessment of the overs and unders account for the period revealed that this feature of the Revenue Cap would have reduced the stability and cost reflectivity of EnergyAustralia's prices during the regulatory period. Specific findings included:

- The magnitude of the closing balance of the unders and overs account at the end of FY 2001 was $225.4m, which represented over 27% of EnergyAustralia's Aggregate Annual Revenues (AAR). This improved only slightly in the following year – reducing to $195.2m, or 23% of the overall AAR.
- Operation of the overs and unders account introduced material within period price volatility – adding 8% to price movements in 2001. It also posed residual pricing issues into the following regulatory period as the higher than forecast demand within the period necessitated $481 million in capital expenditure beyond what had been forecast. This effect has further implications for allocative efficiency.
- In addition, despite the provision for 'overs' in the Revenue Cap, the financial returns to EnergyAustralia's shareholders were 'squeezed' as a result of their inability to manage volume risk under the Revenue Cap.

These results indicate that the Revenue Cap did introduce a material amount of in-period and across-period price variability and that this volatility would not have improved the allocative efficiency of the company's prices. Based on its experience with the Revenue Cap, EnergyAustralia stated to the NSW Regulator that it viewed the commencement of a WAPC control mechanism as providing the incentive for them to set more cost-reflective prices.

3.6 DISTRIBUTION REVENUE PERFORMANCE OF THE NSW DNSPS IN THE CURRENT REGULATORY CONTROL PERIOD

A fundamental difference between a WAPC and a revenue cap is that there is a potential for a DNSP under a WAPC to earn revenue in excess of (or below) the forecast revenue requirement during a regulatory control period. The AER has expressed its concern that the WAPC provides DNSPs with the opportunity to earn revenue in excess of the forecast revenue requirement, and relevantly that such an opportunity is inappropriate in the regulatory framework.

The NSW DNSPs reject the premise underlying the AERs concern, because the scope to earn revenue above or below the revenue requirement is fundamentally important in the regulatory framework to provide incentives to DNSPs to promote more efficient outcomes. Indeed, removing such incentives has the potential to result in worse economic outcomes for consumers in the long run.

In light of the discussion on economic theory in section 3.4.1 it is clear that the potential for a DNSP to earn revenue above or below the forecast revenue requirement under a WAPC is not in and of itself sufficient evidence to support a conclusion that economic efficiency has not been promoted.[34] Therefore, the NSW DNSPs believe that the issue of whether the WAPC produces inferior economic welfare outcomes compared to other forms of control mechanism can only be addressed by a detailed consideration of the available empirical evidence on the impact of the incentive properties under a WAPC on the behaviour of a DNSP, particularly in terms of its impact on economic welfare, as reflected in the effect on the consumption of electricity distribution services.

Given the importance placed by the AER on the outturn revenue outcomes compared to those provided in the earlier determination, Table 4 provides up-to-date information on the actual revenue performance in nominal terms of the NSW DNSPs during the current regulatory control period.

			2010	2011	2012[35]	3 Year Total
Ausgrid	Revenue Requirement (Nominal)#	$m	1,224	1,458	1,738	4,421
	Actual Revenue (Nominal)	$m	1,264	1,522	1,793	4,580
	Revenue Variation (Nominal)	$m	40	63	55	159
	Less impact of actual CPI	$m	22	17	27	67
	Adjusted Revenue Variation	$m	**18**	**46**	**28**	**92**
Endeavour Energy	Revenue Requirement (Nominal)#	$m	750	874	1,024	2,648
	Actual Revenue (Nominal)	$m	778	896	1,002	2,676
	Revenue Variation (Nominal)	$m	28	22	-22	27
	Less impact of actual CPI	$m	13.7	10.3	15.9	40
	Adjusted Revenue Variation	$m	**14**	**11**	**-38**	**-12**
Essential Energy	Revenue Requirement (Nominal)#	$m	857	1,039	1,261	3,157
	Actual Revenue (Nominal)	$m	894	1,018	1,269	3,181
	Revenue Variation (Nominal)	$m	37	-21	8	24
	Less impact of actual CPI	$m	16	12	20	47
	Adjusted Revenue Variation	$m	**22**	**-34**	**-11**	**-23**

Table 4: DUoS revenue performance of NSW DNSPs in Current Regulatory Control Period

Note: #: These figures sourced from AER distribution Post Tax Revenue Model (PTRM) revised by Australian Competition Tribunal. Totals may not add due to rounding.

[34] Similarly it is also the case that the potential for the actual efficient cost to serve to exceed the forecast revenue requirement, such as in the case of EnergyAustralia's experience under the revenue cap, is not of itself sufficient evidence of economic harm.
[35] Draft information based on preliminary 2011/12 data.

The following graph (Figure 4) illustrates the percentage variation between actual and allowed revenues over the first three years of the current regulatory period.

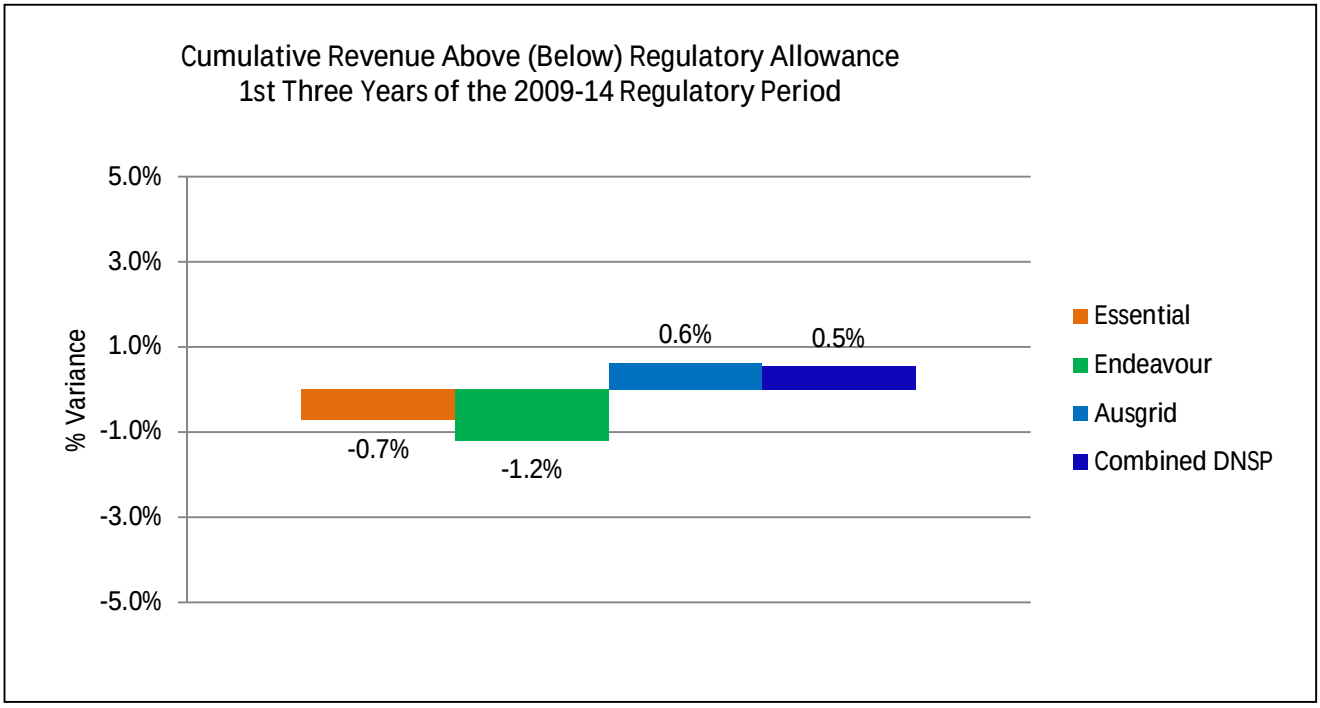


Figure 4 Cumulative Revenue Above (Below) Regulatory Allowance 2009-14 Regulatory Period

As illustrated above, actual revenues for the NSW DNSPs in total have exceeded the AER's smoothed revenues over the first three years of the current regulatory period by a marginal amount (0.5%), or a cumulative total of $56 million on a (CPI adjusted) revenue base of $10.38 billion. Given the extensive uncertainties associated with the onset of the Global Financial Crisis and the residual impacts it and other national / global economic uncertainties have had, the NSW DSNPs do not consider this marginal positive increase on allowed revenues to represent any failing of the WAPC in its current form (or indeed any failing of the NSW DNSPs in their implementation of the WAPC).

All three NSW DNSPs earned distribution revenue in excess of the AER forecast revenue requirement in the first year of the current regulatory control period. With the exception of Ausgrid, the general deterioration in energy consumption has resulted in lower distribution revenues relative to the forecast regulatory revenue requirements for Endeavour Energy (in Year 3) and Essential Energy (Years 2 and 3) of the current regulatory control period. As explained in Ausgrid's earlier submission to the AER, the NSW DNSPs have achieved more stable revenue outcomes in spite of the deterioration in volumes by reforming network tariffs to better align network revenues and costs, and in so doing provide consumers with a greater opportunity to manage bill rises.[36] The AER appear to have accepted that Ausgrid's type of pricing reform outcome represents an efficient response under the circumstances and is consistent with the NEO.[37]

The NSW DNSPs caution against simplistic conclusions being made about the revenue performance of the NSW DNSPs in the current regulatory control period based on the high level observed variances between actual revenue and the AER forecast revenue requirement as outlined above. This because the actual revenue variances are potentially misleading since they are not attributable purely to the workings of the WAPC control mechanism itself given that the influence of other variables has been not been

[36] Ausgrid 2012, Response to the Australian Energy Regulator consultation paper on Form of Control Mechanism, May, p.11.
[37] Page 57; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

taken into account. It is for this reason that the distribution revenue variance for each NSW DNSP in the current regulatory control period has been provided after adjusting for the impact of CPI.

Finally, the NSW DNSPs believe that the appropriateness of distributors earning revenues in excess of revenue requirements should be evaluated taking into account the cost efficiency incentives inherent within the current regulatory framework. This requires an analysis of the likely costs of providing network services absent such incentives against the outturn costs incurred to provide network services, over a medium to long time frame. In the absence of a counterfactual analysis, no conclusions can be appropriately drawn from observations of actual revenue differing from revenue requirements during a single regulatory control period, particularly given the marginal variations as discussed above.

The following discussion has been provided to highlight the nature of these influences under the WAPC and the magnitude of their impact on the distribution revenue outcomes for the NSW DNSPs during the current regulatory control period.

3.6.1 The distribution revenue effects of forecast CPI differences

The NSW DNSPs believe it is important that the random effect of forecast CPI differences that occur under a WAPC are removed from comparisons of actual distribution revenue against the forecast distribution revenue requirement (this matter was outlined in the Ausgrid submission to the AER Consultation Paper on the control mechanism).[38] This is because the revenue impact of differences between forecast and actual CPI are unlikely to affect the behaviour of a DNSP subject to a WAPC given that these forecasting variances are random in nature (i.e. exhibit no systematic positive or negative bias over time).

While the forecast variations associated the treatment of CPI in the annual WAPC compliance process are likely to be random in nature, it is still possible under the WAPC for a DNSP to receive a notional revenue gain or incur a national revenue loss (as compared against the determination's nominal revenue allowance due to CPI forecasting differences between those assumed at the time of the determination and the outturn CPI). Importantly this potential notional revenue effect associated with CPI forecast difference is compounded under the WAPC because of the inclusion of actual prices from the previous year in the WAPC formula.[39] In this respect, it is important to note that the NSW DNSPs have been a beneficiary of a positive CPI difference during the current regulatory control period, particularly due to a significant difference for the outturn CPI in FY 2009/10 compared against forecasts.[40]

The following figure has been provided to illustrate the effect of forecast CPI differences on outturn distribution revenue under a WAPC. In this illustrative example, the only difference that occurs in the regulatory framework is that the lagged actual CPI used in the annual compliance process under the WAPC exceeds the forecast CPI used in the Post Tax Revenue Model to calculate the nominal revenue requirement. It is assumed that this forecast CPI difference occurs only in the first year of the regulatory control period. As shown below, this forecast CPI difference results in the actual DUoS price path being higher than the notional DUoS price path in the PTRM over the entire regulatory control period.

The NSW DNSPs have undertaken empirical analysis to provide an indication of the magnitude of the impact on distribution revenue of variations between forecast and actual CPI under the WAPC for each NSW DNSP during the current regulatory control period. The results of this analysis are shown in the following Table 5.

[38] Ausgrid 2012, A Response to the Australian Energy Regulator consultation paper on Form of Control Mechanism, May, p.15.
[39] The mathematic representation of the WAPC formula is found in: AER 2009, Final Decision, NSW Distribution Determination 2009/10 to 2013/14, April, p.62.
[40] Note that the NSW DNSPs were required to use a lagged actual CPI of 4.35% to demonstrate compliance with the WAPC in FY 2009/10, which is significantly higher than the forecast CPI of 2.47% used to calculate the X-factor in the AER Post Tax Revenue Model.

		2010	2011	2012	3 Year Total
Ausgrid	$m	22.4	17.2	26.9	66.5
Endeavour Energy	$m	13.7	10.3	15.9	39.9
Essential Energy	$m	15.7	12.3	19.5	47.5

Table 5: Indicative revenue effect under a WAPC of forecast CPI errors

The NSW DNSPs emphasise the importance of removing the effects of these CPI forecasting differences when evaluating the revenue performance of the NSW DNSPs under the WAPC during the current regulatory control period. By not removing these effects, there is the potential to inappropriately ascribe the difference between actual revenue outcomes and the revenue requirement to the WAPC – by not comparing on a like-for-like basis.

3.7 THE ECONOMIC IMPLICATIONS OF THE INCENTIVE PROPERTIES UNDER A WAPC

The AER have indicated that it has concerns about the incentives created by the WAPC, specifically it believes that the WAPC creates:

- insufficient incentives to promote efficient pricing, given the observation that DNSPs have generally not responded by reforming tariffs over the preceding regulatory period.[41]
- inappropriate incentives for DNSPs to price inefficiently to achieve windfall revenue gains in an environment where actual volumes exceed forecasts.[42]
- inappropriate incentives to encourage DNSPs to understate their volume forecasts at the time of the network determination.[43]

The following sections examine in detail the validity of these incentive concerns with the WAPC.

3.7.1 Incentives for efficient pricing under a WAPC

The AER acknowledge the importance of the choice of control mechanism to provide incentives for a DNSP to set prices for network services that promote efficient use of networks by consumers.[44] By implication the AER recognises the importance of providing strong incentives for distributors to price in a manner that allow consumers to better manage electricity costs in both the medium to long term.

In the AER's opinion the incentive under a WAPC for distributors to promote efficient use of networks through pricing strategies is simply a theoretical incentive, which is not effective in practice. The NSW DNSPs do not agree with this suggestion. Indeed, The NSW DNSPs believe that the empirical evidence supports a conclusion that the incentives under the WAPC have led to more efficient tariff structures being implemented by distributors.

3.7.2 Implications of different forms of control mechanism on incentive to undertake tariff structural reform

Table 6 demonstrates that DNSPs subject to a WAPC have, generally, more efficient domestic tariff structures than DNSPs under a revenue cap. Most of the DNSPs subject to a WAPC have introduced an inclining block tariff structure for their domestic customers that better reflects underlying economic costs and better signals the impacts of customers' use of electricity at times of peak demand than the traditional flat price structure.

[41] Appendix B, page 124; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".
[42] Pages 55-56; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".
[43] Page 55; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014"..
[44] Page 56; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

Indeed, the available empirical evidence highlights that DNSPs under a revenue cap or an average revenue cap have undertaken relatively little structural reform in the domestic customer segment over the past decade, which we consider to be a direct consequence of the form of control. In addition, the empirical evidence does not support the AER's assertion that the incentive for DNSPs to set inefficient prices under a revenue cap is likely to be limited in practice.[45]

Control Mechanism	DNSP	Flat Tariff	Block Structure	Time of Use Tariff
WAPC	Ausgrid		X	X
	Endeavour		X	
	Essential	X		
	Citipower		X	
	Powercor		X	
	United		X	
	Jemena	X		
	SPAusnet		X	
	ETSA		X	
Average Revenue Cap	ActewAGL	X		
Revenue Cap	Aurora	X		
	Ergon	X		
	Energex	X		
	Western Power	X		

Table 6: Economic Evaluation of Domestic Tariff Structures - Different Control Mechanism

Note: Only primary tariff structures for domestic customers are shown above.

3.7.3 Implications of different forms of control mechanism on incentive to research innovative tariff structures

The incentive properties of the WAPC have also been an important underlying driver of the significant amount of progress made in Australia by DNSPs under a WAPC towards more innovative and more economically efficient tariff structures in recent years. In terms of critical research outcomes, all three NSW DNSPs have developed a considerable knowledge base in relation to dynamic and seasonal peak time of use tariff structures as a result of undertaking both internally and externally funded research projects. More recently, the NSW DNSPs have begun investigating the economic merit of dynamic peak rebates. In this regard it is relevant to note that Ausgrid is about to trial a dynamic peak rebate option for domestic customers as part of its Smart Grid Smart City initiative. This considerable research effort ensures that the NSW DNSPs and the broader industry are well placed to commence the next wave of innovative network tariff reforms in the next regulatory control period.

It is important to note that these research efforts are beginning to flow through to gains in dynamic efficiency as a result of some of the DNSPs under a WAPC applying their research learning in practice by introducing more cost reflective tariffs structures consistent with the promotion of efficient use of network services. For example:

- Endeavour Energy has introduced a seasonal peak-period monthly demand charge for large business customers;
- Ausgrid has introduced a peak-period monthly capacity charge for all customers above 40 MWh per annum;

[45] Page 58; AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

- Ausgrid has recently reformed the inclining block tariff for domestic customers from a two block to a three block structure – consistent with the underlying cost to supply;
- SPAusnet has recently introduced a dynamic peak tariff for large business customers; and
- United Energy has recently introduced a summer peak demand incentive charge component for some of the network tariffs.

In contrast, it appears that limited progress has been made by DNSPs not under a WAPC to improve the efficiency of their network tariffs for the residential customer segment.

3.7.4 Implications of different forms of control mechanism on incentives to re-balance tariffs

The AER concerns over the incentive properties of the WAPC in circumstances where actual sales volumes are above the volume forecast used in the X-factor calculation appear to be based on the observed pricing behaviour of the Victorian DNSPs during the 2006-11 regulatory control period.[46] Specifically the AER cite concerns about some of the tariff re-balancing behaviour of United Energy during this period in support of its conclusion.

The NSW DNSPs believe that the AER's criticisms of United Energy's pricing behaviour during the 2006-11 regulatory control period are unwarranted and not supported by the available empirical evidence. It appears that the AER have arrived at their concerns by comparing United Energy's pricing strategy at this time with that adopted by Ausgrid in the current regulatory control period. We do not consider it appropriate to draw conclusions on the relative merits of a particular pricing strategy given the economic implications of the strategy are dependent on the economic circumstances. Contrary to the AER's conclusions, the NSW DNSPs believe that United Energy's approach to re-balancing of network tariffs is more likely to have contributed to an increase in economic welfare given the economic climate and volume environment at the time.

To highlight the impact on economic welfare of tariff re-balancing in an environment of unanticipated growth in the volume environment, the following illustrative example has been provided to demonstrate the economic implications of tariff rebalancing in a similar environment to that faced by United Energy during the 2006-10 regulatory control period.

[46] Page 58; A AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

Figure 5: Simple Conceptual Illustration – Economic Welfare Impact of Efficient Tariff Re-balancing in High Demand Growth Environment

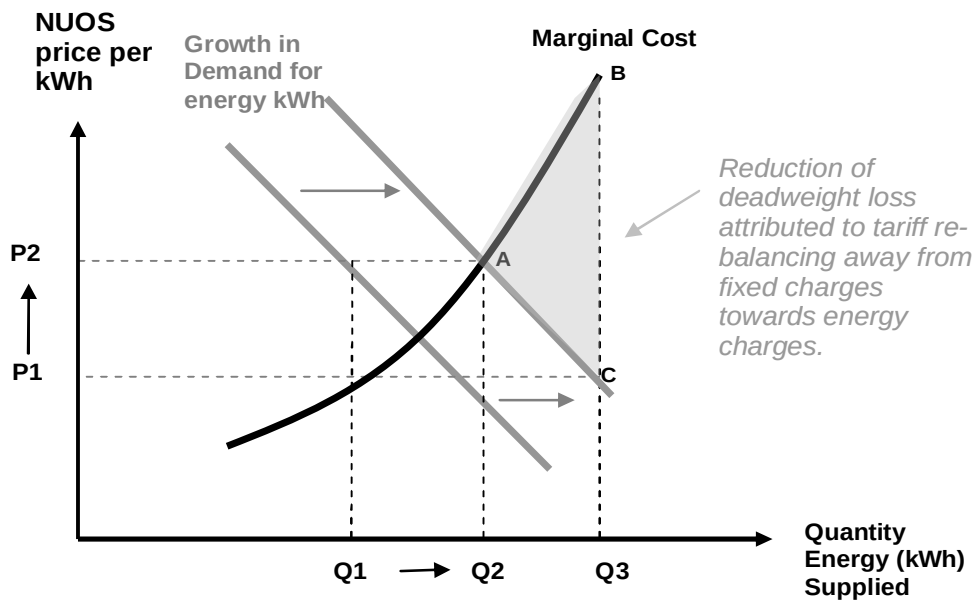


Figure 6 Simple Conceptual Illustration – Economic Welfare Impact of Efficient Tariff Re-balancing in High Demand Growth Environment

The above illustrative example highlights that a re-balancing of network tariffs away from fixed charges towards energy charges has the potential to increase economic welfare depending on the economic circumstances.

It is also important to recognise that DNSPs subject to a WAPC are better placed to pursue opportunities to re-balance network tariffs, and so promote efficient use of networks, compared to DNSPs under a revenue cap. This is because DNSPs subject to a WAPC face revenue consequences if tariffs do not align with costs.[47] The NSW DNSPs believe it follows that DNSPs subject to a WAPC devote more effort to improving the accuracy of short-term volume forecasts compared with DNSPs subject to a revenue cap. The implications are that a DNSP subject to a WAPC not only has a greater incentive than a DNSP under a revenue cap to pursue tariffs that promote more efficient outcomes, but has a greater incentive under a WAPC to devote more resources to improving short-term volume forecasting performance.[48]

In summary, the incentive properties of a WAPC are likely to enhance economic welfare by ensuring that a DNSP subject to a WAPC has the incentive to improve its short-term volume forecasting performance to more effectively pursue the commercial incentives from efficient pricing under the WAPC.

3.7.5 Indicative Estimates of the magnitude of benefits from promoting efficient use of network services under a WAPC

As has been acknowledged by the AER, a key reason for applying a WAPC are the incentives created for a DNSP to implement tariff reforms that promote more efficient use of network services. Over the medium to long term, improvements to the efficiency of network tariffs produce benefits by

[47] For example, in the case of a forecasting error made in relation to the extent to which customers will respond to a change in the structure of a tariff or the re-balancing of a tariff.

[48] It is also relevant to note that this type of re-balancing of network tariffs in an environment of declining economic consumption is likely to contribute to a lower revenue outcome and an exacerbation of the distortion of future prices caused by the operation of the overs and unders adjustment if the DNSP is subject to a revenue cap. It will also contribute to a lower likelihood that the revenues generated by tariffs will recover the efficient cost to serve.

- allowing distributors to avoid network upgrades in response to changing patterns of network demand, which ultimately lead to lower prices for consumers;
- encouraging greater use of networks during off-peak periods where consumers obtain value from cheaper network costs.

These benefits are partially offset by lost value from consumers conserving electricity during high price (most likely peak) periods.

As a matter of principle over the medium to long term, any financial incentives provided to distributors through the WAPC to introduce tariffs that promote more efficient use of networks should not outweigh the ultimate benefits created through the avoided costs and greater use of networks during off-peak periods.

To provide an indication of the size of the benefits resulting from more efficient pricing structures, the NSW DNSPs engaged NERA Economic Consulting to examine the economic benefits of current tariff structures applied by Ausgrid to residential customers. A brief description of the methodology used by NERA and the associated findings are provided below.

NERA's results highlight the ongoing importance of promoting efficient use of network services and provide an indication of the potential benefits that may not have been achieved under a revenue cap form of control mechanism.

Please refer to Attachment B to obtain a detailed understanding of the economic modelling undertaken by NERA.

3.7.6 The economic implications of volume risk

The NSW DNSPs agree with the AER that there is a theoretical incentive under the WAPC for a DNSP to under-state the long-term volume forecasts provided to the AER as part of its regulatory proposal. This incentive is counteracted by the AER undertaking a detailed review of volume forecasts as part of the regulatory determination process, thereby requiring the DNSPs to provide sufficient justifications for the forecasts made. Ultimately, the AER is responsible for determining the appropriate forecasts to apply for the purposes of determining the revenue allowance.

This highlights that a consideration of the incentives under the WAPC to distort volume forecasts requires an empirical consideration of:

- the robustness of the AER's assessment of the long-term volume forecasts provided by DNSPs, and
- the level of uncertainty in the future volume environment and the impact of this uncertainty on the feasible range of future volume outcomes over the forecasting horizon in question.

The NSW DNSPs believe that it can best assist the AER in relation to this issue by exploring the economic implications of the underlying drivers of a DNSPs' exposure to volume risk under a WAPC. The NSW DNSPs consider that there are three dimensions to a DNSP's exposure to volume risk under the WAPC:

- the risk associated with the long-term volume forecast used by the AER in the X-factor calculation;
- the risk associated with the short-term volume forecast used by the DNSP to efficiently set tariffs at each annual reset during the regulatory control period; and
- the risk associated with the making of reasonable estimates under the WAPC to account for tariff reforms undertaken during the regulatory control period.

The economic implications of each of these volume risk drivers are explored in detail below.

The economic effect of forecast volume risk associated with the X-factor calculation under a WAPC

To assess the impact on economic welfare of the presence of long-term volume forecasting risks associated with the X-factor calculation under the WAPC it is necessary to gather empirical evidence in relation to the following issues:

- is the long-term volume forecasting risk under the WAPC symmetrical in nature? If this is not the case is any asymmetry (i.e. positive or negative bias) justified on economic grounds?
- is the magnitude of the volume forecasting risk, particularly in relation to the X-factor calculation under a WAPC justified on economic grounds?

The NSW DNSPs have prepared the following table that provides a summary of the overall accuracy of the long-term volume forecasts used in the X-factor calculation for DNSPs subject to a WAPC across the NEM.

DNSPs currently subject to a WAPC		Regulatory Control Period NSW -1999–2004 VIC 1998–2003			Regulatory Control Period NSW -2004–2009 VIC 2006–2011			Regulatory Control Period NSW -2009–2014 VIC 2011–2015		
		Volume Variance		%	Volume Variance		%	Volume Variance		%
		Actual	Forecast		Actual	Forecast		Actual	Forecast	
Victoria	Jemena	20,236	21,051	-3.9%	21,971	21,468	2.3%	Not Available		
	United Energy	36,236	35,442	2.2%	39,918	39,635	0.7%			
	Citipower	27,142	26,295	3.2%	30,459	29,371	3.7%			
	Powercor	46,519	46,226	0.6%	52,125	52,086	0.1%			
	SPAusnet	33,687	32,229	4.5%	38,443	38,887	-1.1%			
NSW	Ausgrid	125,714	121,963	3.1%	134,391	136,402	-1.5%	80,553	83,978	-4.1%
	Endeavour Energy	74,054	77,713	-4.7%	86,681	90,607	-4.3%	51,525	52,212	-1.3%
	Essential Energy	52,416	53,305	-1.7%	59,505	57,691	3.1%	35,837	36,441	-1.7%

Table 7: Summary of Overall Accuracy of Long-term Volume Forecasting Errors of DNSP currently subject to WAPC

Source: IPART 2004 Distribution *Electricity Determination*, Appendix Section; IPART 1999 *Regulation of NSW Electricity Distribution Networ*ks; AER 2012, *Victorian Electricity Distribution Network Service* Providers, Annual Performance Report 2010, May 2012.

The information in above table provides no empirical support to a conclusion that the long-term volume forecasts are biased in either a positive or negative direction. However, it does support the AER's concern over the overall accuracy of these volume forecasts.

That said whether the size of the volume risks within the X-factor calculation under the WAPC represents an economic problem is more difficult to assess in practice. This is because the link between volume risk and revenue risk is influenced by:

- the level of volume risk at the individual tariff component level;
- the prices in the final year of the previous regulatory control period; and
- the extent to which the pricing strategy of a DNSP has been designed to mitigate the impact on revenue of exposure to volume risk during the regulatory control period.

To illustrate these concepts consider the following hypothetical example using stylised data involving a DNSP exposed to significant volume risk with a simple pricing strategy involving three tariffs with a single kWh charge.

		Regulatory Control Period					
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Total 5 Yr
Tariff A							
Price ($/kWh)	120	135	135	145	155	175	
Actual Quantity (kWh)	200	200	200	200	200	200	1,000
Actual Revenue ($)	24,000	27,000	27,000	29,000	31,000	35,000	149,000
Tariff B							
Price ($/kWh)	10	0	0	0	0	0	
Actual Quantity (kWh)	200	400	100	600	100	1000	2,200
Actual Revenue ($)	2,000	0	0	0	0	0	0
Tariff C							
Price ($/kWh)	150	125	125	105	85	52	
Actual Quantity (kWh)	100	100	100	120	140	180	640
Actual Revenue ($)	15,000	12,500	12,500	12,600	11,900	9,360	58,860
Forecast Volume Risk							
Actual Quantity (kWh)	500	700	400	920	440	1,380	3,840
Forecast Quantity (kWh)	450	450	450	433	417	400	2,150
Forecast Error (%)							79%
Forecast Revenue Risk							
Actual Revenue ($)	41,000	39,500	39,500	41,600	42,900	44,360	207,860
Revenue Requirement ($)	40,000	40,000	40,000	40,000	40,000	40,000	200,000
Forecast Error (%)	-2%	1%	1%	-4%	-7%	-10%	-4%

Table 8: Illustrative Example Using Stylised Data: Importance of volume risk at component level

In the above illustrative example, there are three tariffs, as discussed below:

- Tariff A – This tariff has a single KWh charge with volumes that are highly stable and do not respond to changes in the price level of price.
- Tariff B – This tariff has a single KWh charge with volumes that are highly unstable due to their correlation to temperature.
- Tariff C – This tariff has a single KWh charge with volumes that are stable and highly responsive to changes in the price level.

The considerable forecast volume risk related to Tariff B has resulted in an underlying volume risk associated with the X-factor calculation. It is important to note this risk exposure could have been avoided if the price of Tariff B in the final year of the previous regulatory control period was set to zero, but in this example it is assumed that the DNSP was under a revenue cap in the previous regulatory control period and as a consequence had no incentive to do so.

In response to the increased risks associated with the X-factor, the DNSP re-balanced their tariffs away from Tariff B (high risk) and Tariff B (price elastic) towards the low-risk Tariff A. This illustrative example highlights that the incentives under the WAPC to improve the economic efficiency of tariffs have delivered a stable revenue outcome in an uncertain volume environment, but most importantly these pricing strategies have delivered an increase in economic welfare by enabling customers that are more responsive to price changes on Tariff C to derive value from the associated additional use of electricity, delivered through the distribution network.

Relevantly, the equity implications arising from the recovery of efficient costs from customers on Tariff B because of the random temperature-induced variations in their usage of the electricity network will also be addressed as a result of the incentive properties of the WAPC. This is because a DNSP subject to a WAPC may respond to this situation by reforming the structure of Tariff B (such as to include a fixed charge component).

To better understand the underlying inter-relationships between price, long-term forecast volume risk and the revenue risks associated with the X-factor calculation under a WAPC, the NSW DNSPs engaged NERA Economic Consulting (NERA) to analyse the long-term volume forecast performance of the NSW DNSPs at the individual tariff component level and to use the insights gained from this analysis to recommend improvements to the design of the WAPC to specifically address the key concerns of the AER as outlined in the F&A paper.

The NSW DNSPs believe that it is in the long-term interests of electricity users to address any shortcomings of the WAPC directly, rather than to adopt a revenue cap as a blunt instrument to address the AER's concerns. The AER and the NSW DNSPs are in agreement that DNSPs are better placed than customers to manage volume risks and as such the WAPC remains the appropriate form of control.

The key findings from the NERA Economic Consulting study are summarised below.

Box 3: Managing Forecasting Error Risks within the WAPC

Forecasting energy consumption, customer numbers and maximum demand across a number of individual tariffs is important for two distinct parts of the regulatory framework, namely:

- For the purpose of determining x-factors for each year of the regulatory control period, during a regulatory reset; and
- For the purpose of setting prices in a manner that complies with clause 6.18.5 of the NER, particularly in relation to whether customers are able or likely to response to price signals and the recovery of revenue in a least distortion to the efficient patterns of consumption.

Currently, the forecasts are made at a tariff component level (e.g., forecasts of residential customer numbers subject to the domestic inclining block tariff. This means that any difference in actual outcomes compared against the medium term tariff component forecasts will have implications for revenue outcomes.

Relevantly, forecast errors are generally symmetric. This means that the likelihood that the actual outcome will be above or below the forecast is equal. That said there is some evidence that the change in actual outcomes year on year for some tariff components is negatively correlated). To illustrate this point, the following table sets out the year-on-year variability across Endeavour Energy's tariff components for residential inclining block tariff and low voltage time-of-use, over the past three years.

Table B3.1 – Comparison of forecast errors for Endeavour Energy residential IBT and low voltage TOU tariffs

	FY 2011	FY 2010	FY 2009
Residential IBT			
Customer numbers	1.1%	0.9%	1.0%
Block 1 Energy Sales	-0.2%	-0.8%	2.3%
Block 2 Energy Sales	-7.0%	-7.8%	11.4%
Low Voltage TOU			
Customers	7.1%	7.4%	4.2%
Peak Energy Sales	3.3%	4.0%	-0.2%
Shoulder Energy Sales	3.7%	3.5%	0.0%
Off-Peak Energy Sales	4.0%	4.5%	-1.7%

This example highlights that while block 1 and 2 energy sales fell over financial years 2010 and 2011, over the same period energy sales increased for the low voltage time-of-use tariff.

The magnitude of revenue uncertainty under the current framework is influenced by the use of disaggregated tariff component forecasts to calculate X-factors. These forecasts typically have higher error rates compared against a more aggregated figure. This has the effect of increasing the variability of revenues against forecast.

To illustrate this point consider the following example. Assume there are two tariff components, each with different forecast errors. Table B3.2 sets out the assumed prices and quantities across the two tariff components and in aggregate.

Table B3.2– Illustration assumptions on difference between using tariff component and aggregated forecasts

	Tariff Component 1	Tariff Component 2	Aggregated
Price	$1	$2	$1.7
Quantity			
- Forecast	200	500	700
- Maximum	210	550	760
- Minimum	190	450	640

Now assume that a weighted average price is used against aggregated demand given the same forecasting uncertainties for each tariff component. The resultant upper and lower bound revenue outcomes are less than those when the individual tariff components are used. By implication the risks are reduced. Finally consider the outcomes if the errors are negatively correlated (i.e., when one error is positive the other is negative). In this circumstance the revenue bounds will be further reduced. The following table sets out the variance in revenues that result from summing the tariff component s individually compared with using aggregated quantities.

Table B5.3 – Illustrative revenue variability outcomes given different approaches to aggregation

Revenue	Sum of Tariff Components	Aggregated Tariffs	Aggregated and Negative Correlation
- Expected	1200	1200	1200
- Maximum	1310	1303	1269
- Minimum	1090	1097	1131
Percentage Error	9.2%	8.6%	5.7%

Now assume that a weighted average price is used against aggregated volumes given the same forecasting uncertainties for each tariff component. The resultant upper and lower bound revenue outcomes are less than those when the individual tariff components are used. By implication the risks are reduced.

The conclusion drawn by NERA from their quantitative analysis is that the current approach to calculation of the X factor in the PTRM has the potential to unnecessarily amplify the impact of long-term volume forecasting errors on the X-factor calculation as a consequence of the use of long-term volume forecasts at the tariff component level. There are a number of implications that arise in this situation, as summarised below:

- it is more difficult for the DNSP to provide the AER with reliable long-term volume forecast given the substantial variability in actual volumes at the tariff component due to tariff structural reform, customer transfers and temperature variation; and
- it is also more difficult for the AER to rigorously assess these forecasts given the inherent variability of the volumes at the tariff component level.

The NSW DNSPs believe that this design feature of the current WAPC approach has the potential to exacerbate the magnitude of the economic surplus transfers between the DNSP and their customers over time. While there is a potential for these economic surplus transfers to raise equity concerns in the short-term, the NSW DNSPs note that this is not a valid reason under the NEO to change the control mechanism in the next regulatory control period. This is because economic surplus transfers of this nature are unlikely to undermine the long-term interests of electricity users given the there is no reason to believe that the DNSP will be a net beneficiary of these transfers in the long-run. Nevertheless the empirical research by NERA suggest that it would be possible to address some of these short-term equity issues by changing the quantity weights in the WAPC formula from a tariff component level to a more aggregated level (e.g. tariff class).

The NSW DNSPs wish to discuss in detail with the AER how such an option might operate in practice.

3.7.7 The economic effects of volume risk associated with reasonable estimates made under a WAPC

In the situation where a DNSP under a WAPC proposes to change the structure of existing tariffs and/or to transfer existing customers from one tariff to another tariff, the DNSP is required to make a reasonable estimate of the impact of these changes on the audited actual quantities used in the annual compliance process. As such, there is a potential for volume forecasting errors to occur in relation to these reasonable estimates.

Forecast volume errors made in relation to reasonable estimates have the potential to influence the distribution revenue performance of a DNSP subject to a WAPC. This potential issue is explored in more detail in the illustrative example in Box 4.

While not an economic failing per se, the NSW DNSPs note that these volume forecasting errors have the potential to exacerbate the magnitude of the economic surplus transfers between the DNSP and their customers over time. To the extent that the AER believes that these transfers are a concern from an equity perspective, there are a range of potential options available to the AER to address this concern. The NSW DNSPs believe that any attempt by the AER to address these issues through a change of the control mechanism must not come at the expense of economic welfare, particularly in terms of preserving the existing incentive properties of the WAPC as discussed earlier in this submission.

Box 4: Impact of reasonable estimates of transfers on revenue

Under the Rules, DNSPs subject to a price cap are required to make adjustments to the audited actual quantities to account for proposed changes to tariff structures and the mandated transfer of customers between network tariffs. These adjustments are referred to as reasonable estimates in the Rules. The reasonable estimates and their estimated impact on revenue are annually submitted tot the AER in order to demonstrate compliance.

In the event that a DNSP is not able to fully complete the stated transfers after the pricing proposal has been approved, it is possible for the DNSP to over or under recover revenue as a consequence. The size and direction of the revenue recovery depends on the size and direction of the price difference between the two tariffs concerned.

This can be illustrated using the following simple conceptual example involving a proposal by a DNSP to transfer 10,000 customers from a basic tariff (Tariff A) to a Time of Use tariff (Tariff B). To account for this proposed tariff transfer under the WAPC, the DNSP has made the following reasonable estimates as part of their annual price setting process:

Tariff	Customer Numbers	Consumption (kWh)		
		Peak Period	Off-Peak Period	Total
Tariff A	(10,000)	N/A	N/A	(50,000)
Tariff B	10,000	10,000	40,000	50,000

As shown in the table below, the DNSP has designed the time of use tariff to encourage customers to shift their consumption out of the peak period, when the electricity network is more likely to be constrained.

Tariff	Price (c/kWh)		
	Peak Period	Peak Period	Off-Peak Period
Tariff A	11	N/A	N/A
Tariff B	N/A	12	7

The revenue effect (positive or negative) associated with reasonable estimates is a result of the actual quantities attributed tot the transfer of customers from Tariff A to Tariff B being different for the reasonable estimates made as part of the annual pricing setting process. These differences in quantities can arise because of:

- The actual number of customers transferred from Tariff A to Tariff B is greater/lower than that forecast in the reasonable estimate eg if 9,000 customers were transferred compared to the reasonable estimate of 10,000 in the above example;
- The timing of the customer transfers from Tariff A to tariff B is different to that forecast in the reasonable estimate;
- The actual consumption patterns of customers is different under Tariff A compared to the Tariff B eg if customers on TOU respond to the peak price signal by reducing their consumption.

3.8 PRICE STABILITY

The NSW DNSPs believe that price stability for customers is a key consideration for the AER in selecting a control mechanism given that unexpected movements in prices due to volume variations under a revenue cap can have significant implications for customers in trying to manage their electricity bills. In addition, such movements can exacerbate adjustment costs of users and distort investment and consumption decisions. While it is efficient for the AER to allow network prices to vary over time in response to changes in volumes and costs, it is clearly the case that the imposition of a revenue cap in an uncertain volume environment could lead to unstable pricing outcomes that cannot be justified on economic grounds. It is for this reason that concern over price stability should be also given a significant weighting of importance in the AER's evaluation of the different forms of control mechanism.

To better understand the tendency of a revenue cap to produce severe pricing distortions due to the operation of the overs and unders account, the NSW DNSPs have researched the experiences of EnergyAustralia under a revenue cap during the 1999-2004 regulatory control period. This research provides empirical support to our position that a revenue cap produces poor outcomes for customers and the DNSP, particularly in the current uncertain volume environment faced by NSW DNSPs. Please refer to Box 1 to better understand the potential implications for price stability that arise in the situation where a revenue cap has been applied in an economic circumstance where it would have been a more efficient choice to have applied a WAPC.

3.9 THE ECONOMIC IMPLICATIONS OF ALLOCATION OF VOLUME RISK

The various forms of control mechanism allocate forecast volume risk differently between the DNSP and their consumers. As a matter of economic principle, risks should be assigned to the party best able to manage the associated risk.

The NSW DNSPs believe that there is an overwhelming case for DNSPs to bear the risk of errors in forecast volumes, rather than customers. The DNSPs subject to a WAPC have a proven track record of managing volume risk on behalf of their customer, the forecast volume risk relating to the calculation of the X-factor and annual tariff setting process, reflecting their expertise and willingness to pursue a range of risk mitigation strategies. It is reasonable to argue that allocating this risk to customers, which would result from adopting a revenue cap, is likely to result in economic harm as network usage and appliance investment patterns are distorted by unstable prices. It may also result in an increase in transaction costs as customers attempt to improve their price expectation by trying to understand the underlying drivers of this price volatility. The AER accept that this is a negative feature of a revenue cap[49]

3.10 INCENTIVES FOR DEMAND MANAGEMENT

The AER considers that a revenue cap can provide an incentive to undertake demand management, at least in the short run. This is because under a revenue cap a DNSPs' revenue is fixed over the regulatory control period and it is able to maximise profits by reducing costs. However, the AER has acknowledged that a DNSPs' incentive to undertake demand management under a revenue cap is diminished because a DNSP has the incentive to increase the size of the regulated asset base if it is confident that the allowed return exceeds the actual funding cost.

In respect to the WAPC, the AER believes that the WAPC may provide a disincentive to undertake demand management in the short and long run. This position is based on the view that under a WAPC a DNSPs' profits are directly linked to the volume of electricity distributed. The AER have also pointed out that they believe that the marginal revenue often exceeds marginal cost even under efficient pricing, because the DNSPs' actual revenue requirements are based on large fixed costs.[50]

The NSW DNSPs question the AER's conclusion on these matters because the incentives under the WAPC to improve the efficiency of network prices will provide dynamic signals to customers regarding

[49] Page 54; A AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".
[50] Page 61; A AER June 2012 F&A paper " Framework and approach paper, Ausgrid, Endeavour Energy and Essential Energy, Regulatory control period commencing 1 July 2014".

the economic cost of their network usage and provide feedback to DNSPs for efficiently allocating resources to pursue demand management opportunities or to expand or enhance the network where it is efficient to do so.

The incentives for demand management are likely to be very similar regardless of the choice of form of control mechanism, because they are created by disconnecting costs from revenues over a regulatory control period.

Specifically, under a price cap a distributor has a strong incentive to undertake demand management because:

- reductions in peak demand *always* lower costs by an amount greater than lost revenue given the predominant use of flat time of day tariffs for a high proportion of the customer base of distributors; and
- there are strong incentives to undertake price restructuring to provide price signals that more closely reflect underlying marginal costs

Similarly, under a revenue cap a distributor also has a strong incentive to undertake demand management because (repeated for emphasis):

- reductions in peak demand *always* lower costs by an amount greater than lost revenue given the predominant use of flat time of day tariffs by most distributors.

This highlights that under a revenue cap the distributor has little incentive to undertake tariff reform and so a revenue cap in practice creates *lower incentives for demand management*.

Finally, the NSW DNSPs believe that it is in the long-term interests of electricity users to provide DNSPs with additional incentives to pursue non-tariff based demand side management opportunities. However, it is best to achieve this outcome by retaining the WAPC given the pricing efficiency benefits and addressing the regulatory incentive problem with demand side management by developing an appropriately designed incentive mechanism that enables DNSPs to share in the economic efficiency gains created by investing additional resources in demand side management. Under this approach, retaining the WAPC and addressing the demand management incentive problem in a transparent and well-targeted manner, the AER will achieve the incentive for DNSPs to pursue additional demand management outcomes without undermining efforts to improve the cost reflectivity of network tariffs, as would be the case under a revenue cap.

3.11 HYBRID OPTIONS

The AER welcomes submissions from interested parties on the adoption of a correction factor associated with the WAPC that provides an adjustment when demand forecasts exceed a predetermined level.

As highlighted in this response, the NSW DNSPs support the retention of the WAPC form of control for standard control services for the NSW DNSPs at the next determination. The NSW DNSPs have identified some important modifications to the current WAPC that could be considered by the AER to address the perceived shortcomings of the current approach.

Should the AER decide not to retain the WAPC as the form of control for standard control services for the NSW DNSPs at the next determination, the NSW DNSPs recommend that the AER explore the use of a hybrid form of control (rather than a revenue cap) as the preferred alternative to the WAPC (as discussed below).

The NSW DNSPs note that it is difficult to provide feedback to the AER on this issue because of our considerable uncertainty over the nature and magnitude of the problem that the AER would seek to solve by including a correction factor in the WAPC. Given that the NSW DNSPs have found no empirical evidence that there is an economic problem with incentive properties of the WAPC, it would appear that the AER is seeking feedback on how to resolve equity concerns over the potential short-term transfers of surplus that arise under the WAPC (as discussed in section 3.4.1). Nevertheless, it is important that the NSW DNSPs provide feedback to the AER on how to develop an optimal second-best form of hybrid control mechanism that specifically addresses the possible equity concerns of the AER without undermining the incentive properties of the WAPC, particularly in relation to the pursuit of efficient prices.

It is also relevant to note that under our definition, the average revenue cap as currently applied to ActewAGL is a price cap as there is no revenue or volume forecast correction factor applied under this

control mechanism. Nevertheless, the NSW DNSPs have discussed this control mechanism below given that it shares some of the characteristics of both a revenue cap and price cap.

3.11.1 Definition of a hybrid control mechanism

The NSW DNSPs believe that a hybrid option should be defined as a control mechanism that cannot be characterised as either a pure revenue or price cap on an ex-ante basis. The fundamental design feature of a hybrid option is that forecast volume risks are shared between the DNSP and customers and so hybrid options can fall within a spectrum of being more similar to a pure price or revenue cap form of control mechanism. Some examples of hybrid control mechanisms include:

- a WAPC with an annual or cumulative forecast volume correction mechanism.
- a WAPC with an annual or cumulative revenue correction mechanism.
- a revenue cap with an annual or cumulative revenue correction mechanism.
- an average revenue cap with an annual or cumulative forecast volume correction mechanism.
- an average revenue cap with an annual or cumulative revenue correction mechanism.

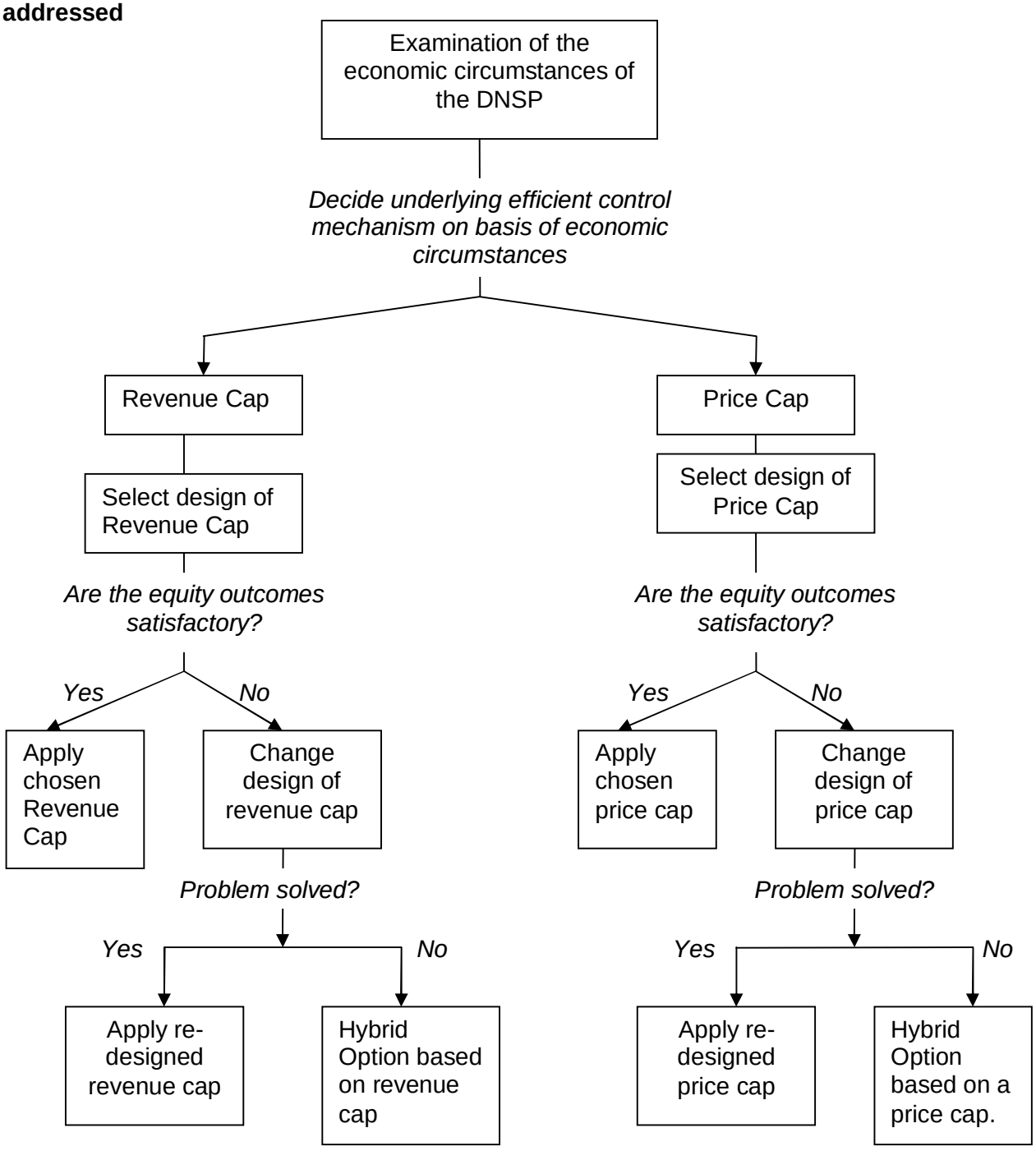
3.11.2 Circumstances where a hybrid control mechanism is an efficient choice of control mechanism

The NSW DNSPs believe that a hybrid control mechanism should only be considered an efficient choice for a control mechanism in the circumstance where a DNSP under a revenue cap has entered an environment where a WAPC would be the most appropriate form of control mechanism from an economic perspective, but the AER decides that the DNSP is not yet in the position to effectively manage the full exposure to volume risks under a WAPC. In these circumstances, it may be reasonable to argue that it is appropriate to adopt a hybrid control mechanism as part of a transitional strategy towards a more appropriate control mechanism in the future.

It is also possible that a hybrid option could be considered in context of trying to address concerns over equity issues associated with a revenue cap or a WAPC. The NSW DNSPs believe that for this rationale to be consistent with the NEO it is necessary to design the hybrid option in a manner that does not undermine economic welfare. The NSW DNSPs that this outcome can only be achieved by adopting a rationale decision process based on the view that the hybrid option is a last resort that should only considered after the alternatives to a hybrid approach are fully explored, and no acceptable alternative approach is found to exist.

It is also the opinion of the NSW DNSPs that economic welfare can only preserved under a hybrid option if the underlying control mechanism is efficient given the economic circumstances of the DNSP. In light of the economic circumstances, the optimal second-best option for the NSW DNSPs must be a hybrid option based on the WAPC as the underlying control mechanism. This rational decision-making process is illustrated in the following figure.

Figure 7: Optimal design approach for a hybrid option if equity concerns must be addressed



Consistent with the decision-making process outlined above, the NSW DNSPs believe that the first issue to consider whether the equity concerns could be address through changes to the existing regulatory arrangements. To shed light on this issue NERA were engaged to examine this issue from both a theoretical and empirical perspective. The key findings of NERA are summarised in the following section.

3.11.3 Potential options to change the design of the WAPC control mechanism

As outlined earlier in our response, the historical evidence highlights that tariff class forecasts are more certain compared with tariff component forecasts. As a consequence setting x-factors based on tariff components will lower the revenue risks and uncertainties as compared to the current approach.

The current formulation of the WAPC applying to the NSW DNSPs is set out in equation (1) below:

$$(1) \qquad \frac{\sum_{i=1}^{n}\sum_{k=1}^{m} p_{ik}^{t} \times q_{ik}^{t-2}}{\sum_{i=1}^{n}\sum_{k=1}^{m} p_{ik}^{t-1} \times q_{ik}^{t-2}} \leq (1+\Delta CPI_t)\times(1-X_t)\times(1-D_t)\pm(passthrough_t)$$

Where:

i=1,…,n tariff classes, and k=1,…,m tariff components.

Relevantly, the quantities used in the formulation of the cap are the tariff components.

The X-Factors determined by the AER at a regulatory reset via the post tax revenue model are calculated by:

- multiplying forecast tariff components (i.e., customer numbers for domestic tariffs, block 1 sales, etc.) by current component charges to estimate tariff revenue for each year of the regulatory control period;
- solving for the X-factor needed to ensure that the present value of revenues each year is equal to the determined annual revenue allowance.

This methodology means that if actual component forecasts differ from those used to set X-factors, then the underlying actual revenue will also differ from the revenue allowance.

To illustrate this point, consider a DNSP with two tariff components, residential energy sales and business energy sales. Now assume that there is a 10 per cent decrease in actual residential energy sales, which is partly offset by a 10 per cent increase in business sales as compared to forecast. Under the tariff component formulation of the WAPC and assuming no tariff changes, this would result in a decrease in revenue in that regulatory period.

On the basis of the above insights into the nature of volume risk, NERA believes that there may be merit in changing the quantity weights in the WAPC formula from an individual component level to a tariff class level. To provide the AER with a clear understanding of this potential option, NERA have provided the mathematical form:

$$(1) \qquad \frac{\sum_{i=1}^{n} p_{i}^{t} \times q_{i}^{t-2}}{\sum_{i=1}^{n} p_{i}^{t-1} \times q_{i}^{t-2}} \leq (1+\Delta CPI_t)\times(1-X_t)\times(1-D_t)\pm(passthrough_t)$$

Where:
i=1,…,n tariff classes;

p_i is the volume weighted arithmetic mean of those tariff components in a tariff class with the same unit of measure (eg, kWh or customer numbers); and

q_i is the sum of the quantities for those tariff components in a tariff class with the same unit of measure

The effect of this formulation is to lower the forecast errors for q_i by simply taking the sum of the tariff components, or simply forecasting the total for the tariff components. This will have the effect of reducing the variability of the underlying revenues.

Taking the earlier illustrative example, assuming that the X-factor had been set with reference to the sum of energy sales across both domestic and business customers, then the 10 per cent decrease in energy sales would have been partly offset by the increase in business sales thereby leading to a reduced forecast error. This would have the effect of lessening the ultimate reduction in revenue to the distributor.

In summary, the proposed modification to the formulation of the WAPC will have the effect of *lowering* the revenue and price risks arising from forecasting errors under the current methodology. This will

reduce the extent that distributors both over and under recover revenues relative to the regulatory revenue allowance.

Noting that the NSW DNSPs believe that a hybrid option is inferior to the existing WAPC (but superior to a revenue cap), the NSW DNSPs are open to engaging with the AER on the NERA option in the context of developing a second-best option.

If the above change in the WAPC approach does not fully address the equity concerns of the AER, the only remaining course of action is to introduce a specific correction factor to the WAPC to address any residual equity concerns. It is important to note that the inclusion of a corrector factor in the WAPC will convert the control mechanism into a hybrid option, as per our definition in section 3.12.1. This issue is explored in detail below:

3.11.4 The optimal design of an forecast error correction factor applied to a WAPC

As discussed above, the NSW DNSPs believe that a forecast error correction factor applied to a WAPC is not required from an economic perspective. This is because there is no empirical evidence to support the hypothesis that the incentive properties of the WAPC are flawed. As a consequence, the NSW DNSPs have assumed that the AER is seeking feedback on how to design a correction factor to address equity concerns over short-term transfers of surplus that could arise under a WAPC, rather than to address economic concerns over the incentive properties of the WAPC.

The NSW DNSPs believe that addressing equity concerns through the inclusion of a correction factor could lead to a complicated hybrid control mechanism. There is a considerable risk that the introduction of complexity into the control mechanism to resolve short-term equity concerns will inadvertently undermine the long-term interests of electricity users. This is likely the reason for the historical reluctance of jurisdictional Regulators to apply a hybrid control mechanism to DNSPs in Australia.

To ensure that the incentives for DNSP to reform their network tariffs to promote efficient use of network services is not lost through the implementation of a hybrid approach, the opinion of the NSW DNSPs is that the inclusion of correction factor or factors in the WAPC to address equity concerns should be designed to specifically target those aspects of the current approach that have the potential to generate the transfers in surplus that are causing these equity concerns. As earlier outlined in our response, the NSW DNSPs believe that the main drivers of the short-term transfers of surplus under the WAPC are the random revenue effects associated with the following factors:

- the long-term forecast volume risk associated with the X-factor;
- the forecasting errors related to CPI; and
- the forecasting errors related to reasonable estimates.

While the potential short-term equity concerns arising from long-term volume forecast risk under the WAPC could be addressed by a change in the quantity weights in WAPC (as discussed above), the NSW DNSPs believe that addressing these concerns in relation to the forecasting errors associated with CPI and reasonable estimates may require the inclusion of a forecast error correction factor in the WAPC.[51] There are a number of options that could be used to correct for forecasting errors of this nature. These include:

- providing a direct volume or revenue correction mechanism that adjusts future forecasts (on either an annual or cumulative basis) based on differences between earlier forecasts and actual outcomes;
- introducing volume or revenue dead band thresholds targeted at that proportion of volume or revenue influenced by these forecasting errors, beyond which a correction is made.

[51] It is also possible to account for the revenue effects of the forecasting errors by making an adjustment to the revenue requirement in the next regulatory control period. This approach will ensure that the incentive properties of the WAPC are not undermined.

Many of the design considerations relevant to the design of unders and overs accounts for a revenue cap, including the determination of appropriate deadband thresholds would also apply to under these correction factors. This means that consideration would need to be given to the merit of making corrections on an annual basis or at the end of a regulatory control period, to balance any implications for price volatility.

The key distinction between this approach and simply introducing a revenue cap is that it targets only that proportion of revenue that is directly influenced by the forecasting errors of concern to the AER.

Finally, if a deadband approach was considered appropriate, consideration would need to be given to the basis for determining the approach deadband thresholds. The NSW DNSPs have provided the AER with an illustration as to how this could be achieve in relation to the forecasting errors under the WAPC. (Refer to Box 5)

Box 5: Deadbands applied to a correction factor to address equity concerns over reasonable estimates forecasting errors

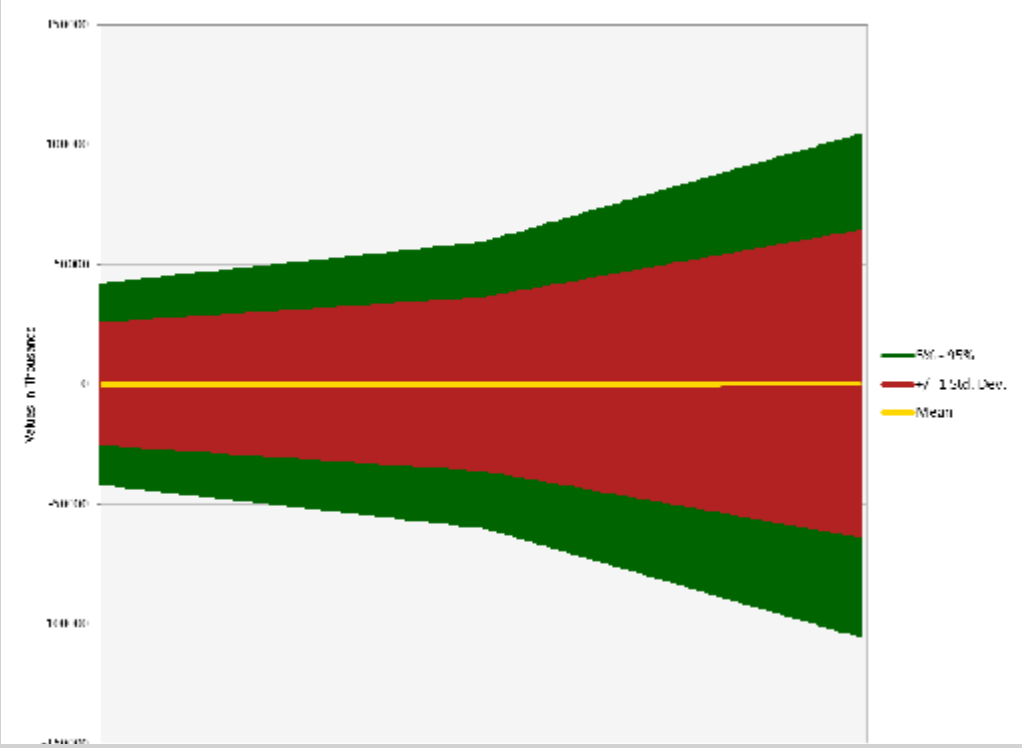
To explore the issue of developing deadbands to apply to a correction factor designed to address the short-term revenue effects that arise under a WAPC due to forecasting errors made in relation to reasonable estimates, the NSW DNSPs engaged NERA to consider this issue as part of their empirical analysis of the forecast volume risk.

The critical consideration in relation to designing a correction factor in relation to reasonable estimates is to ensure that this change to the WAPC does not undermine the incentive properties of the WAPC, particularly in regard to efficient prices. To ensure that this does not happen in practice it is important to consider the empirical nature of these forecasting errors when designing the correction factor.

One approach might be to apply forecasting error dead bands for similar tariffs, to ensure that distributors would not have an incentive to submit forecasts that exceed typical forecasting error limitations.

The figure below provides an example of a 90 per cent confidence interval around the forecast errors for domestic customer numbers for Ausgrid. When converted to percentage terms the forecast errors are approximately 3 per cent for forecasts one year out, 5 per cent for forecasts two years out and 10 per cent for forecasts three years out. While not a definitive analysis on appropriate dead bands, this highlights the type of analysis that should be undertaken to determine appropriate deadbands.

Figure B.1 – Forecast errors for domestic customer numbers, Ausgrid



3.11.5 An economic critique of the average revenue cap

The NSW DNSPs believe that the average revenue cap as it is currently applied in the NEM is a poorly designed price cap. The NSW DNSPs agree with the AER that the incentive properties of this control mechanism are likely to produce inefficient pricing outcomes. A DNSP under this control mechanism has the potential to earn revenue in excess of the forecast revenue requirement, but the potential for economic welfare to be increased by efficient tariff reform is limited by the poor design of the underlying incentives properties of this form of control mechanism. As noted by the QCA, the design of the average revenue cap suffers from a range of disadvantages, such as:

- as all volumes receive the same average revenue cap, there would be an incentive to encourage higher use by more profitable customers through lower prices and discourage use by less profitable customers by raising prices.
- as each additional unit distributed attracts the same per kWh allowance regardless of the actual tariff applied to that unit, DNSPs would have an incentive to increase the units of energy distributed so long as the marginal cost of the incremental unit does not exceed the average revenue allowed – which could see systematic trends in cost and revenue drivers, such as a shift in demand conditions, leading to persistently higher profits.[52]

The empirical evidence also supports the view that the incentives for efficient pricing are particularly weak evident from the available empirical evidence, as discussed in section 3.8.1.

It is for the above reasons that the NSW DNSPs believe that the average revenue cap is not an appropriate choice of control mechanism for the NSW DNSPs given their economic circumstances.

3.12 ALTERNATIVE CONTROL SERVICES

The AER's preliminary position is to apply price cap regulation in the next regulatory control period to:

- *incidental services (a component of connection services)*
- *metering services (types 5 to 7)*
- *fee based services*
- *quoted services*
- *public lighting services*

The AER seeks submissions on the appropriate mechanism for alternative control services.

The NSW DNSPs have discussed the form of regulation to be applied to each of the alternative control services in the relevant sections of this submission.

[52] QCA 2001, Final Determination, Regulation of Electricity Distribution, May, p.28.\

4.0 APPLICATION OF A SERVICE TARGET PERFORMANCE INCENTIVE SCHEME

The AER seeks submissions on its preliminary position to apply the national STPIS to the NSW DNSPs

The AER's F&A paper outlines its likely approach to, and reasons for, applying a STPIS to NSW DNSPs in the 2014–19 regulatory control period. The NSW DNSPs' comments on the AER's proposed STPIS are detailed below.

4.1 TIMING

The NSW DSNPs accept that annual performance will be measured from 1 July to 30 June inclusive, and that performance will be reported from the end of each financial year commencing 1 July 2014.

4.2 REVENUE AT RISK

The NSW DNSPs support a regulatory framework that places appropriate incentives on network businesses to improve service performance for customers. On this basis, we support the introduction of the STPIS, but consider that there are a number of implementation and transitional issues whereby the setting of a revenue at risk target of +/- 5 per cent of revenues at the time of the introduction of the STPIS is excessive. Until such time as the STPIS has been in place and operating over a full five year regulatory control period, and there is clarity over the setting of targets and other aspects of the scheme (including the underlying reliability standards), we believe that a revenue at risk of +/- 2.5 per cent of revenue is a more appropriate threshold to manage risks for customers and the network businesses during the initial establishment of the scheme.

The NSW DNSPs are also currently conducting analysis of STPIS measures over the current regulatory control period, along with the basis of the AEMC's calculation of the VCR used in its recent draft report on the review of NSW reliability standards[53]. The NSW DNSPs will provide the AER with the results of this analysis.

4.3 APPLIED WITHIN A CONTROL MECHANISM

In respect of Ausgrid, the classification of dual function assets as transmission assets complicates the application of STPIS in control mechanisms. Ausgrid's reliability reporting combines the results of its distribution and transmission assets and it is difficult to separate the reliability measures between distribution and transmission. As the reliability targets are combined it was decided that the STPIS reward or penalty should apply to Ausgrid's combined revenue. The NSW DNSPs consider that for administrative ease, the s-factor should only be applied to the control mechanism that applies to distribution services, rather than a separate apportionment to the control mechanism for dual function and distribution.

4.4 S BANK MECHANISM

The NSW DNSPs agree that it is desirable to include an S Bank mechanism that will allow a DNSP to delay a revenue increment or decrement, or a portion of the increment decrement, for one regulatory year.

4.5 RELIABILITY OF SUPPLY COMPONENT

Parameters

The NSW DNSPs support the AER's preliminary position to include unplanned SAIDI and unplanned SAIFI but exclude MAIFI as parameters in the reliability of supply component. NSW DNSPs agree that

[53] **Australi**an Energy Market Commission**, Review of Distribution Reliability Outcomes and Standards, Draft Report - NSW workstream, 8 June 2012 , Sydney**

the exclusion of MAIFI is desirable due to a current inability to collect complete information under the MAIFI definition in the STPIS.

Segmentation

The AER's preliminary position is that the NSW DNSPs' networks will be segmented into CBD, urban, short rural and long rural feeder categories. The NSW DNSPs agree with the proposed network segmentation subject to the exception detailed below.

Endeavour Energy has only one long rural feeder in its distribution network, which makes SAIDI and SAIFI performance in the long rural category extremely volatile. Under the current NSW reliability licence conditions Endeavour Energy is exempt from complying with long rural feeder category reliability standards.

To ensure that Endeavour Energy is not unfairly penalised under the STPIS for having one long rural feeder, and to ensure consistency with the NSW licence conditions, we seek the same exemption to apply for Endeavour Energy for the long rural feeder category under section 2.2(a) of the STPIS for the 2014-19 regulatory control period.

Performance Targets

NSW DNSPs accept that reliability performance targets under the STPIS will be based on average performance over the preceding four years.

Incentive Rates

NSW DNSPs expect that the incentive rates detailed in 3.2.2(b) of the STPIS will remain in place for the 2014-19 regulatory control period, subject to inflation adjustments.

As part of its recently released draft report[54] the AEMC developed a NSW VCR of $94,990MWh, substantially higher than the Victorian VCR of $57,880MWh that currently forms the basis of STPIS incentive rates.

NSW DNSPs recommend retaining the current values contained in the STPIS for the next regulatory control period due to the lack of time available to analyse in any detail the findings of the AEMC's VCR study (which has highlighted some significant changes in some categories). A higher value VCR would mean that fewer projects could potentially be undertaken to achieve the 2.5 per cent revenue cap, therefore restricting reliability benefits to a smaller number of customers.

As per comments above on revenue at risk, the NSW DNSPs are currently conducting analysis of STPIS measures over the current regulatory control period, along with the basis of the AEMC's VCR calculation. Therefore, NSW DNSPs expect the opportunity to propose amendments to incentive rates after this detailed analysis has been completed.

Exclusions

The NSW DNSPs agree that the calculation of T_{med} using 2.5β methodology is appropriate at this stage but again seek the opportunity to propose amendments on completion of detailed analysis.

[54] **Australi**an Energy Market Commission**, Review of Distribution Reliability Outcomes and Standards, Draft Report - NSW workstream, 8 June 2012 , Sydney**

4.6 CUSTOMER SERVICE COMPONENT

Parameters

The NSW DNSPs agree that only the telephone answering parameter of the customer service should be applied in the 2014-19 regulatory control period.

Performance targets

Performance targets for telephone answering will be based on average performance over the last four years of the current regulatory control period. This is the maximum amount of historical data that is available from NSW DNSPs.

We note that definitions for measuring performance have changed over time. It will not be possible for NSW DNSPs to adjust historical performance data to accommodate changes that have been made to the definition of performance targets.

Revenue at risk and Incentive rates

The NSW DNSPs acknowledge that a maximum value of +/- 0.25 per cent will be attached to the telephone answering parameter and that the incentive rate will be minus 0.040.

Exclusions

The NSW DNSPs agree that events excluded under the reliability of supply component are also excluded under the customer service component.

4.7 GSL PAYMENTS

The NSW DNSPs agree that the presence of a jurisdictional scheme in NSW means it is not necessary to apply a GSL scheme to NSW DNSPs.

5.0 APPLICATION OF AN EFFICIENCY BENEFIT SHARING SCHEME

The AER seeks submissions from interested parties on its proposed application of the national EBSS.

The NSW DNSPs are broadly supportive of continuing to apply the national EBSS for the 2014-19 regulatory period.

Although the EBSS has generally operated as intended and expected over the 2009-14 regulatory period to date, the challenges faced by Endeavour Energy and the AER to address the interactions between the retail transaction pass through event and the EBSS highlight that there is some scope to improve the implementation of the scheme without impacting on the underlying incentives of the scheme.

The policy intent of the EBSS was to provide enhanced incentives to manage controllable costs. To give effect to this policy intent the scheme recognises that costs arising from recognised pass through events or which were set using benchmark data are necessarily excluded from the calculation of the EBSS incentive outcomes[55]. The circumstances which arose in relation to Endeavour demonstrate that there is further scope for costs that are uncontrollable, unable to be forecast accurately at the time of the determination or both to be excluded from the calculation of the EBSS incentive outcomes.

To preserve this policy intent and to avoid duplication of incentive benefits or penalties, it would be appropriate to ensure that all costs attributable to pass through events are excluded from the calculation of EBSS outcomes. Achievement of the EBSS policy intent and outcomes is not contingent upon the approval of additional or reduced revenues arising from formal AER assessment of either positive or negative pass through events due to the operation of the broader *ex ante* opex control and incentives.

Where a DNSP faces costs that were not forecast at the time of the AER determination, the *ex ante* incentive regime ensures that the DNSP has strong commercial incentives to minimise these incurred costs. However, the current application of the EBSS would result in a DNSP being penalised twice, once under the *ex ante* opex incentives and once by the EBSS.

Consequently, the NSW DNSPs submit that the EBSS would be enhanced by a mechanism for the exclusion of costs that arise as a result of a pass through type event, but which either are not material to support a pass through application or which have not been the subject of an application for other reasons, such as those which arose in relation to Endeavour Energy which did not seek to increase prices due to a pass through event, but sought to not be penalised under the EBSS for the associated costs. This could be achieved through an amendment to the scheme or through an expansion of the categories of costs which the AER considers to be uncontrollable at the time of the revenue determination.

The NSW DNSPs acknowledge that an amendment to the scheme is unlikely in the time frame for the 2014-19 regulatory proposals and therefore propose that the AER recognise these costs in the list of uncontrollable costs as part of its determination on the application of the EBSS to NSW DNSPs for the 2014-19 period. NSW DNSPs will make further more detailed submissions in this regard as part of the ongoing framework and approach process.

The NSW DNSPs are also conscious that the EBSS may have unintended consequences for other incentive schemes. While the EBSS explicitly recognises the interrelationship with the demand management incentive schemes, it may be appropriate for the EBSS to recognise expenditures relating to other schemes such as the STPIS. The potential interactions of the EBSS with other schemes will necessarily need to be more fully considered once all of the other incentive schemes have been finalised. The NSW DNSPs would appreciate the opportunity to review the EBSS and its operation in conjunction with the AER and other stakeholders once all of the other incentive schemes applicable to the 2014-19 regulatory period have been confirmed.

[55] AER Efficiency Benefit Sharing Scheme, June 2008, section 2.3.2.

6.0 APPLICATION OF A DEMAND MANAGEMENT AND EMBEDDED GENERATION CONNECTION INCENTIVE SCHEME

The AER seeks submissions on its preliminary position to apply the DMEGCIS to the NSW DNSPs.

The NSW DNSPs submit that incentive schemes for DNSPs to seek out and undertake alternatives to traditional network augmentation in response to increases in peak demand is an important element in delivering the NEO in the long term interests of consumers.

It is with the community in mind that we do not support the AER's proposal to restrict the level of funding under the Demand Management Innovation Allowance (DMIA) component of the DMEGCIS and to discontinue the operation of the D-factor scheme from the commencement of the next regulatory period in NSW. We would contend that these two changes result in no positive incentive for DNSPs to encourage greater demand side participation (DSP).

We believe there is scope for increased cost effective demand management (DM) in the NEM and that there are no inherent barriers in the Rules to prevent this occurring. These views are widely shared by stakeholders contributing to the AEMC Power of Choice review. The capacity exists but lies dormant within the existing regulatory framework - what is missing are the incentives to activate DM.

In light of the above, this submission is focused on demonstrating that the inclusion of a higher amount of funding for the DMIA component and the continuation of a simplified D-factor scheme (as set out in section 6.1.2) better reflect the factors set out in clause 6.6.3(b) of the Rules which the AER must have regard to in developing and implementing a DMEGCIS. We note that the AER's determinations should enable the incorporation of the findings of the AEMC's "Power of Choice" Review (when available).

6.1 AN IMPROVED INCENTIVE FRAMEWORK FOR DSP

The three elements required to support efficient levels of DM are:

1. **Support for innovation and development** – a continuation of the DMIA scheme at a viable level sufficient to enable the consideration of wider market benefits under the proposed Regulatory Investment Test – Distribution (RIT-D) as well as to cover initiatives not included in the revenue proposal at the time of the distribution determination.

2. **DSP opportunities identified within the regulatory period (D-factor Incentive Scheme)** – as projects are reviewed (including those under the RIT-D) opportunities should emerge for DM as the most efficient solution from a whole market value chain viewpoint in the long term interests of customers. To ensure efficient DSP is delivered in-line with the National Electricity Law (NEL) objectives, a DMEGCIS should allow evaluations to consider and receive a share of the unpriced transmission and generation benefits not available through market mechanisms that a network DSP option delivers. To achieve this, a simplified D-factor incentive scheme should be applied in the 2014-19 regulatory period**.**

3. **DM within revenue building blocks at regulatory resets** – foreseeable short-term DM as part of efficient capital and operating expenditure would be included within the regulatory period as well as longer-term DM strategy expenditure primarily directed at efficient outcomes in future regulatory periods. Pricing initiatives directed at shifting demand are also part of the reset process. Both the DNSP business case for supporting short and long term DM and the regulated revenues should reflect the benefits to the whole value chain from a DM activity.

6.1.1 DMIA support for Innovation and Development

The overall level of DMIA funding should reflect the size of the opportunity available for DSP across the NEM. The AER states[56]:

> *The total amount recoverable under the DMIA within a regulatory control period will be capped, based on the AER's understanding of typical demand management and or embedded generation connection project costs. It is scaled to the relative size of each DNSP's average annual revenue allowance in the previous regulatory control period.*
>
> *For the next regulatory control period, the AER's proposed amounts for allocation to the ACT and NSW DNSPs are as follows:*
>
> - *ActewAGL—$100 000 per annum*
> - *Ausgrid—$1 million per annum*
> - *Endeavour Energy—$600 000 per annum*
> - *Essential Energy—$600 000 per annum.*

We note that the allocations for the NSW DNSPs are the same amounts approved for 2009-14.
It is therefore noteworthy that the AER approved a $2 million DMIA allocation for Aurora Energy in its 2012-17 Regulatory Determination. Scaled proportionally by revenue or capital spend, a DMIA for Ausgrid should be at least $10-15 million and $6-9 million each for Endeavour Energy and Essential Energy.

We urge the AER to re-consider the proposed innovation allowance amount to a level reflecting both the size of DNSP revenues and investments and the size of future DM opportunities.

6.1.2 Proposal for a simplified "AER D-factor" for the DMEGCIS

The DMIA was originally referred to as a "learning-by-doing fund" and has an important role to play in addressing innovation programs that would be unlikely to be supported based on a commercial business case due to the uncertainty and risks alone. However, a learning-by-doing fund alone will not translate into appropriate levels of DM in the NEM where there are unpriced positive externalities that are not recognised and included in incentive mechanisms. This is why a D-Factor incentive scheme remains critical to the future implementation of DM.

The AER proposes to discontinue the operation of the D-factor from the commencement of the next regulatory control period in NSW. However, this is subject to the exception that expenditure on projects or programs implemented in the last two years of the current regulatory control period will be recoverable in the first two years of the next regulatory control period[57].

We note that the existence of a DMIA component of the DMEGCIS is a stated reason for the proposed discontinuation of the D-Factor scheme. Further it is noted the two schemes have different objectives, with the DMIA being an 'innovation' fund and the D-Factor an 'incentive' fund providing an additional positive incentive to the value of capital deferral from DM as an improvement in capital efficiency.

Although the proposed DMEGCIS may retain a foregone revenue component to offset some of the perceived disincentives to conduct DM within the weighted average price cap, this is not an incentive. Irrespective of whether the form of control is a revenue cap or weighted average price cap, to discontinue the D-Factor, and therefore the incentive component of the DMEGCIS, undermines the purpose of the scheme.

While the D-Factor scheme originally developed by IPART (the 'IPART D-Factor') has some limitations, including its administrative complexity and its tendency to towards a narrow focus, it has also proved

[56] Proposed DMEGCIS ACT and NSW distribution determinations 2014-19, pp 10-11.
[57] Explanatory Statement - Proposed DMEGCIS ACT and NSW distribution determinations 2014-19, p 8.

successful in delivering a larger amount of non–network initiatives than would have otherwise been the case. Further, amounts recovered in annual D-Factor submissions to the AER, including forgone revenue amounts claimed under the IPART D-factor have been modest compared to the delivered benefits.

Rather than discontinue the IPART D-Factor and remove incentives from the DMEGCIS altogether, the NSW DNSPs propose a simplified, within period 'AER D-Factor' that addresses the issues and complexities identified by the AER. As effective DM reduces the need for network expenditure, a simplified D-Factor will improve consumer price outcomes over the longer term. It also acknowledges the strong support from stakeholder submissions to the AEMC Power of Choice Review for the continuation of an incentive mechanism. Moreover, it provides a real incentive rather than merely adjusting for disincentive or providing Research, Development & Demonstration (RD&D) funding.

The components for the simplified AER D-factor scheme are provided at Attachment C.

6.2 CONSIDERATION OF FACTORS IN THE RULES

6.2.1 How NSW DNSPs' DMEGCIS better reflects the factors in the Rules

This submission is focused on demonstrating that the inclusion of a higher amount of funding for the DMIA component and the continuation of a simplified D-factor scheme ("AER D-Factor") better reflect the factors set out in clause 6.6.3(b) of the Rules which the AER must have regard to in developing and implementing a DMEGCIS. Specifically, in regard to the components of clause 6.6.3(b) we submit the following:

- *the need to ensure that benefits to consumers likely to result from the scheme are sufficient to warrant any reward or penalty under the scheme for DNSPs* – this is assured through the calculation of unpriced externalities and the sharing of these benefits with customers and is not addressed under the AER's current proposal as incentives to adopt or implement efficient non-network alternatives do not exist in relation to external benefits. The recovery of amounts are on a "use it or lose it' and "opt in" basis so the risk of overfunding is removed. Positive benefit cost ratios of DM projects indicate sufficient benefits are available to share with consumers.
- *the effect of a particular control mechanism (i.e. price – as distinct from revenue–regulation) on a DNSP's incentives to adopt or implement efficient non-network alternatives* – Irrespective of whether the form of control is a revenue cap or weighted average price cap, to discontinue the D-Factor, and therefore the incentive component of the DMEGCIS, undermines the purpose of the scheme. However, the recovery of foregone revenues removes a disincentive under the weighted average price cap form of regulation.
- *the extent the DNSP is able to offer efficient pricing structures* – the simplified AER D-factor can operate independently of efficient pricing structures or be used in coordination with specific projects or proposals to enhance outcomes.
- *the possible interaction between a DMEGCIS and other incentives schemes* – the proposed AER D- factor can operate under the same principles as the DMIA in its interaction with other incentive schemes. It will not negatively interact with the incentives created by either the EBSS or STPIS as currently specified, nor should these schemes hinder the effectiveness of the DMEGCIS.
- *the willingness of the customer or end user to pay for increases in costs resulting from the implementation of the scheme* – this is inherent in the link between the estimation of the network incentives and external benefits and, while not measured directly, the sharing of benefits proposed for the AER D-factor would operate in a similar manner to the EBSS. Stakeholder support for increased DM demonstrated in the AEMC Power of Choice review process suggests a strong customer willingness to support effective DM initiatives.

- *the effect of classification of distribution services, as determined in accordance with cl.6.2.1, on a DNSP's incentive to adopt or implement efficient embedded generator connections* – the proposed incentive would be available for supporting embedded generator connections.

6.2.2 A response to the AER's reasons for amendments to the current scheme

AER Reasons	NSW DNSPs' response
Unnecessary administrative burden which detracts from the implementation of efficient and effective DM projects or programs.	The modified AER D-Factor scheme is simplified and removes the administrative burden that has been associated with implementing the scheme. As a result, the potential benefits far outweigh the burden.
The lagged operation of the scheme.	The modified AER D-factor scheme removes the implementation costs component which has been a contributor to the lagged operation of the scheme. The modified scheme exhibits no more lag than other incentive schemes.
The D-factor scheme has a high degree of complexity	This issue is resolved through simplifying and replacing the IPART D-Factor with an AER D-factor. A proposed AER D-factor which includes a simplified calculation formula is at Attachment C.
Proposed DMEGCIS is better targeted toward the development of longer term capabilities and efficiencies which may lead to a change in the decision making processes of DNSPs	The proposed DMEGCIS only supports small RD&D expenditure and is not consistent with the NEO and investment evaluation requirements (made explicit in the RIT-D) to consider full market benefits. As outlined in this submission, a higher amount of funding for the DMIA component and the introduction of the AER D-factor scheme will be better targeted towards the achievement of this objective.
The proposed DMEGCIS is sufficient to promote DM and efficient connection of embedded generators in the next regulatory control period.	The proposed scale of the DMIS is less than is required for RD&D purposes and the lack of an operational AER D-factor will result in less efficient DM than would otherwise be the case.
The DMIA access criteria in the proposed DMEGCIS are sufficiently broad to allow the approval of the same scope of projects or programs as permitted by the D-factor scheme	The breath of the criteria is not the issue, it is the size of the funding available. The AER should re-consider the amount to a level reflecting both the size of DNSP revenues and investments and the size of future DM opportunities. Scaled proportionally by revenue or capital spend, a DMIA for Ausgrid should be at least $10-15 million and $6-9 million each for Endeavour Energy and Essential Energy.
Other jurisdictions operate on the basis of a single scheme similar in nature to the DMIA and the proposed DMEGCIS. In the interests of regulatory consistency, incentives for DM in NSW should be brought into line with other jurisdictions.	The DMIA and D-factor have different objectives so adopting only one scheme is not an appropriate solution. We would submit that the development of appropriate incentives and meeting the NEL objectives is a more important goal than consistency in regulation across jurisdictions. In any event, the simplified AER D-Factor is an "opt-in" scheme and may be adopted by other DNSPs if considered appropriate.

Table 9 Response to AER's reasons for amendments to the scheme

7.0 DUAL FUNCTION ASSETS

The AER seeks submissions from interested parties on its proposed approach to dual function assets. Specifically, that Part J of chapter 6A of the NER:

a. should apply to Ausgrid in the next regulatory control period

b. should not apply to Endeavour Energy in the next regulatory control period.

The NSW DNSPs accept the AER's preliminary position in respect of Ausgrid to apply chapter 6A to Ausgrid's Dual Function Assets for the 2014-19 regulatory period. The NSW DNSPs agree that the value of Dual Function Assets represent a material portion of Ausgrid's RAB. Moving away from the well-established approach of separating Ausgrid's network for pricing purposes could lead to significant price, consumption, production and investment impacts. The NSW DNSPs would also agree that changing the current approach would increase administration costs.

The NSW DNSPs accept the AER's preliminary position in respect of dual function assets for Endeavour Energy to not apply Part J of Chapter 6A of the Rules.

8.0 OTHER MATTERS

8.1 COST ALLOCATION METHOD

The AER will request each NSW DNSP to submit a proposed CAM to commence from 1 July 2014 that complies with the requirements of the NER.

We understand that the AER's preliminary position is that all NSW DNSPs need to submit a modified Cost Allocation Method for the period 2014-19 so as to comply with the AER's cost allocation guidelines under the Rules. The AER has indicated it will request NSW DNSPs to submit proposed CAMs that are to commence on 1 July 2014.

It is noted that Ausgrid has prepared and submitted a proposed CAM to the AER on 3 July 2012. Ausgrid has advised that its proposed CAM addresses all the requirements of the AER's cost allocation guidelines and also proposed new cost allocators for shared cost items.

It is also noted that the AER has written to both Endeavour Energy and Essential Energy requesting each of these businesses to submit a proposed CAM by 30 August 2012 that complies with the AER's cost allocation guidelines.

The CAM is an important input into the forecasting process for the regulatory proposal. The NSW DNSPs are eager to understand the proposed timeframe for approval of the CAMs. We will liaise with the AER on likely timeframes for approval.

8.2 AER ASSESSMENT TOOLS

The NSW DNSPs appreciate and welcome early consultation on assessment tools that the AER intend to use as part of the 2014-19 Determination. We are also comforted by indications in recent meetings between the NSW DNSPs, the AER, and the AER's engineering consultants regarding the AER's intended approach in using these tools. In particular, we are encouraged by the AER's acknowledgement that high level tools will never fully address the circumstances of an individual business and therefore can be only used as an informative tool – not as a basis for substitution of well-constructed forecasts.

The NSW DNSPs are still currently analysing the models that have been provided by the AER, and are not in a position to provide detailed comments at this stage. Our comments focus on the principles relating to the use of high level assessment tools including:

- The inherent limitations of using high level tools.
- The best way to use high level tools to inform regulatory decisions.

- Suggested criteria to explain the effectiveness of a high level tool.

8.2.1 The inherent and obvious limitations of using high level tools

The NSW DNSPs support the AER's comments in previous regulatory decisions concerning the inherent limitations of benchmarking between DNSPs. Table 10 below identifies three broad categories of drivers which may explain cost differentials between DNSPs.

Driver	Difference in costs
Network configuration	
Proportion of sub-transmission assets	DNSPs which deliver energy from further up the distribution chain will have higher costs.
Customer mix/ location	Urban density may reduce costs per customer compared with non-urban areas, but at high densities costs will increase due to congestion, property costs traffic control etc. The customer mix (residential, commercial, industrial and agricultural) can substantially impact the design of the different parts of the network such as sub-transmission and mid-voltage (11kV)
Operating circumstances	
Topography	Influences decisions on design, longevity and maintenance of assets on the network.
Licence conditions and requirements	Influences decisions to invest, types of investment, and capital contribution regimes.
Location	Influences price paid to labour, property prices, and costs of undertaking work (traffic congestion etc.)
Capital-operating mix	Influences the relative proportion of opex and capex costs. For instance, leasing fleet would increase opex relative to purchasing vehicle.
Accounting practices	Differences in the way overheads are allocated or reason for expenditure defined can prevent comparison.
Investment cycle	
Age and technology of assets	Will impact on maintenance costs, replacement volumes, and timing of investment
Type/ location of new customers	New large customers will significantly increase the capital costs of the sub-transmission and mid voltage networks. Network extensions may be required to supply new customers in some areas.
Change in licence conditions	A change in licence conditions may require a step up/ down compared to previous levels of expenditure and compared to other DNSPs.
Magnitude and diversity of peak demand	Diversity of peak demand can heavily influence the need to invest at different parts of the network.

Table 10 Drivers and cost differentials

Despite the allure that simple metrics provide, the variety and interplay of unique circumstances makes it almost impossible to undertake 'like for like' comparisons through normalisation and other statistical methods. In Australia, there is even a greater degree of diversity between firms on factors such as urban density, network configurations and topology.

Similarly, there are limitations in using models to estimate expenditure based on drivers of expenditure and past performance. High level models simplify the drivers for investment. For example, a model that estimates augmentation may only consider peak demand and utilisation. However, other factors will

often be at play in driving investment such as location of new customers, embedded generation and diversity in demand at the lower level.

8.2.2 How we understand the AER intends to use these tools

Despite the limitations identified above, the NSW DNSPs agree with the AER that there is merit in constructing tools to assist in high level 'sniff' tests. The weight attached to this analysis should be limited given the natural limitations of the analysis. This is heavily emphasised in the academic literature, for example Nillesen, P.H.L. and Pollitt, M.G. (2007) in a review of the Dutch regulatory framework stated[58]:

> *"I am asked whether there would be any benefit in a rule that requires the regulator to undertake benchmarking. I would say that it would be good regulatory practice for a regulator to consider what if any insights benchmarking could provide in the particular price control under consideration, and to take this into account where appropriate. But as just noted, the circumstances of individual networks can vary greatly, and in my experience there is always an element of unexplained variation where judgement is required. To require the regulator to undertake benchmarking therefore runs the risk of forcing the regulator to attach more weight to benchmarking than the circumstances allow."*

Several other academics have cautioned using high level tools to reject a proposal, without first examining the substance of the proposed expenditure.[59]

The NSW DNSPs' view is that the regulator could use high level analysis to test whether there is a driver at play which explains higher costs. In order to undertake this task, the benchmarking tool would need to be designed to target elements of the program, as opposed to ratio or regression analysis which does not reveal areas for further examination. We understand that the AER's proposed approach would be as follows:

1. A DNSP would submit detailed information supporting the basis of its expenditure proposal.

2. The AER would examine the process used to develop the forecasts including the procedures, policies and strategies of the business.

3. The AER may develop robust high level tools to target elements of the review which do not appear to be prudent or efficient. Where high level analysis suggests an area of cost outside the range of other DNSPs (rather than simply the DNSP with lower costs), it would seek to review the details in support of the proposed expenditure.

4. When undertaking its detailed review, the AER would need to consider the evidence put forward by the DNSP, actual data or circumstances of the business (for instance failure rates, or the consequence of failure).

[58] Nillesen, P.H.L. and Pollitt, M.G. (2007), "The 2001-2003 electricity distribution price control review in the Netherlands: regulatory process and consumer welfare." *Journal of Regulatory Economics*, 31(3): 261-287)

[59] See for instance: Shuttleworth, G (2005), 'Benchmarking of Electricity Networks: Practical Problems with its Use for Regulation', Utilities Policy, 13, pp. 310-317.

8.2.3 The criteria for effective tools

There are dangers in using poorly constructed tools or simplistic analysis as a basis for a conclusion on the efficiency of expenditure forecasts. An example may be rejecting elements of replacement expenditure based on comparison of replacement age with other DNSPs, whilst ignoring bottom up evidence showing the likely probability of injury or catastrophe resulting from a failure to replace in time.

Conversely, poor analysis may lead the regulator to not target an element of the proposed expenditure which may require adjustment. For example, high level analysis may show that maintenance expenditure is in the bounds of other DNSPs. However, a detailed investigation may have found that the costs were significantly high when the ages of the assets were taken into account.

Stakeholders would benefit from an objective view of the robustness of a tool. This could occur through the use of criteria and scoring of different tools. We consider criteria could assist the AER in understanding the weight that should be applied to the analysis, and the desirability of using the outcomes to determine a substitute amount.

Table 11 below suggests criteria that the AER may wish to adopt and refine for the purpose of explaining the effectiveness of the tool being used.

Criteria	Elements of criteria
Logical and fit for purpose	§ The tool should be designed to capture the underlying drivers of expenditure § Provides insights onto areas where the AER should target review. § Is sufficiently constructed to account for varying circumstances
Adherence to statistical principles	§ Data is 'like for like' particularly accounting and reporting data § Sample size is sufficient. § Ensure that 'average' and efficiency frontier are taken into account § Other principles including causation, residual consistent across data range, extrapolation within range, non-biased sample

Table 11 Criteria

9.0 ATTACHMENTS / APPENDICES

Attachment A

Fee Based and Quoted Services

The table below sets out all services the NSW DNSPs either currently provide in relation to individual customers, or will be required to provide once the NECF is implemented. In preparing the list, we identified:

- all services attributable to individual customers that are currently classified as either miscellaneous services or monopoly services;
- all services attributable to individual customers that the DNSPs currently provide, but do not separately charge individual customers; and
- all services the NSW DSNPs will be required to provide to, or in relation to individual customers once the NECF is implemented.

These services have been categorised according to whether they are more appropriately charged on a quote or fee basis, according to the AER's criteria in the Preliminary Positions Paper. The NSW DNSPs will form its final view on the basis for charging services once it completes its costs analysis of these services.

Service description	Characterisation	Classification (2009-14 period)	Quoted	Fee-based
Provision of design information, design certification and design rechecking services in relation to connection works	Monopoly service supporting contestable works	Monopoly service	ü	
Inspection and re-inspection of contestable connection works performed by Accredited Service Providers (ASPs)	Monopoly service supporting contestable works	Monopoly service	ü	
Re-inspection of installation work in relation to customer assets	Service to manage safety obligations	Monopoly service	ü	
Services relating to access permits or a clearance to work (urban)	Monopoly service supporting contestable works	Monopoly service		ü
Services relating to access permits or a clearance to work (rural)	Monopoly service supporting contestable works	Monopoly service		ü
Access (standby person)	Service to manage safety obligations	Monopoly service		ü
Substation commissioning (urban)	Monopoly service supporting contestable works	Monopoly service		ü
Substation commissioning (rural)	Monopoly service supporting contestable works	Monopoly service		ü
Administration services relating to work performed by accredited service providers (ASPs), including processing work	Monopoly service supporting cont. Monopoly service supporting contestable works stable works	Monopoly service	ü	
Notices of arrangement	Monopoly service supporting contestable works	Monopoly service		ü

Authorisation of ASPs	Monopoly service supporting contestable works	Monopoly service		ü
Site establishment services, including issuing of meters and liaising with EMO) or market participants for the purpose of establishing NMIs in market systems, for new premises or for any existing premises for which AEMO requires a new NMI	Monopoly service supporting contestable works	Monopoly service		ü
Services to supply and connect temporary supply to one or more customers (including equipment and related costs) in relation to planned access permits.	Monopoly services to support contestable connection works?	New service (service currently being provided but not charged to individual customers)	ü	
Connection/relocation process facilitation (as described above in this paper)	Monopoly service supporting contestable works	New service (service currently being provided but not charged to individual customers)	ü	
Customer interface coordination for contestable works (as described above in this paper)	Monopoly service supporting contestable works	New service (service currently being provided but not charged to individual customers)	ü	
Preliminary enquiry service – for services provided to connection applicants making a preliminary enquiry requiring site-specific or written response	Monopoly service supporting contestable works	New service	ü	
Connection offer service (basic or standard) – for services provided by DNSPs in assessing the applicant's application and making a basic or standard connection offer	Monopoly service supporting contestable works	New service	ü	
Carrying out planning studies and analysis relating to distribution (including sub transmission) connection applications	Monopoly service supporting contestable works	New service (previously not charged to individual customers)	ü	
Services involved in obtaining deeds of agreement in relation to property rights associated with contestable connection works	Monopoly service supporting contestable works	New service (previously not charged to individual customers)	ü	
Monopoly service provided outside normal business hours (including level 1 inspections, access permits, substation commissioning), excluding reconnections (see below)	Monopoly service supporting contestable works	Reconnection services outside business hours currently classified as a miscellaneous service.	ü	

Investigation, review and implementation of remedial actions associated with ASPs' connection work	Monopoly service supporting contestable works	New service (previously not charged to ASPs/individual customers)	ü	
Special meter reading for type 5-6 meters	Miscellaneous	Miscellaneous		ü
Testing for type 5-6 meters	Miscellaneous	Miscellaneous		ü
Franchise CT meter install	Miscellaneous	New service (service currently being provided but not charged to individual customers)		ü
Supply of conveyancing information – desk inquiry.	Miscellaneous	Miscellaneous		ü
Supply of conveyancing information – field visit	Miscellaneous	Miscellaneous		ü
Off-peak conversion	Miscellaneous	Miscellaneous		ü
Disconnection visits (acceptable payment received)	Miscellaneous	Miscellaneous		ü
Disconnections at the meter box (technical/hard disconnect)	Miscellaneous	Miscellaneous		ü
Disconnections at the meter box (non-technical/soft disconnect)	Miscellaneous	Miscellaneous		ü
Disconnections at the pole top/pillar box	Miscellaneous	Miscellaneous		ü
Rectification of illegal connections	Miscellaneous	Miscellaneous		ü
Reconnection outside business hours	Miscellaneous	Miscellaneous		ü
Network tariff changes for customers: When a customer or retailer requests an alteration to an existing network tariff (for example, a change from an Inclining Block Tariff to a Time of Use tariff), the NSW DNSPs conduct tariff and load analysis to determine whether the customer meets the relevant tariff criteria. The NSW DNSPs also process changes in their IT systems to reflect the tariff change.	Miscellaneous	New service (service currently being provided but not charged to individual customers)		ü
B2B service orders from retailers to obtain a final read for customer move-outs or to obtain a start read where a customer is moving in to a site that has been vacant. Currently these costs are not recovered. These services are additional to the special meter reading and testing services currently included as miscellaneous services for the current regulatory period.	Miscellaneous	New service (service currently being provided but not charged to individual customers)		ü
Recovery of debt collection costs – dishonoured transactions: the NSW DNSPs currently incurs costs, including bank fees when a network customer's or ASP's cheque for the payment of network-related services is dishonoured.	Miscellaneous	New service (service currently being provided but not charged to customers)		ü

Services provided in relation to a Retailer of Last Resort (RoLR) event. The NSW DNSPs are required to perform a number of services as a DNSP when a RoLR event occurs. These include:
• preparing lists of affected sites, and reconciling data with AEMO listings;
• handling in-flight transfers;
• identifying open service orders raised by the failed retailer and determining actions to be taken in relation to those service orders;
• arranging estimate reads for the date of the RoLR event and providing data for final NUoS bills in relation to affected customers;
• preparing final invoices for NUoS and miscellaneous charges for affected customers;
  • preparing final debt statements;
  • extracting customer data, providing it to the RoLR and handling subsequent enquiries;
  • handling adjustments that arise from the use of estimate reads; and
  • assisting the retailer with the provision of network tariffs to be applied and the customer move in process.
	Miscellaneous	New service (service currently being provided but not charged to individual customers)	**ü**	

Administration of any "RoLR cost recovery scheme distributor payment determination"[60]	Miscellaneous	New service	**ü**	
Tariff changes requested by customers	Miscellaneous	New service (service currently being provided but not charged to individual customers)		**ü**
Customer requested meter accuracy testing	Miscellaneous	New service (service currently being provided but not charged to individual customers)		**ü**

[60] Made by the AER under Division 9 of Part 6 of the National Energy Retail Law.

Attendance at customers' premises to perform a statutory right where access is prevented	Miscellaneous	New service (service currently being provided but not charged to individual customers)		**ü**
Disconnects and reconnects – responding to service orders raised by electricity retailers.	Miscellaneous	New service (service currently being provided but not charged to individual customers)		**ü**
Customer-instigated meter change, including meter issue, meter logistics, asset tracking, disposal or refurbishment of meter (under National Measurement Institute Pattern approval). Note this fee will not be charged if it is for a new NMI (because that is covered by the Site Establishment Fee)	Miscellaneous	New service		**ü**
Vacant property reconnect/disconnect – fee based service to recover the costs incurred in making ad-hoc disconnections/reconnections for regular but short periods. This typically occurs when customers ask that the electricity be disconnected to their holiday homes and then requested that they be reconnected prior to their next holiday at the same premises.	Miscellaneous	New service		**ü**

Attachment B

Explanation of NERA approach to modelling the economic welfare benefit of the incentive properties under the WAPC.

Introduction

NERA Economic Consulting (NERA) has been engaged by the NSW DNSPs to develop a framework for, and then quantify if possible, the benefits that arise from the implementation of network tariffs that more closely align with underlying network cost drivers.

- This attachment provides a brief outline of the benefit estimation methodology, assumptions and results.

The economics of network pricing

It is well established in economics that in any market efficient use and supply of a product or service arises at a price that is determined through the interactions of many buyers and sellers. The resultant price reflects the marginal cost of producing the good or service by the marginal supplier, given existing technologies and techniques. It also represents exactly the value received by the marginal consumer using the good or service, at the price they are willing to pay.

As a natural monopoly, electricity distributors do not operate in a market that naturally results in prices being set equal to the marginal cost of supply. As a consequence alternative incentives are required to promote efficient use and supply of network services. It is for this reason that financial incentives are provided through the weighted average price cap to distributors to more closely align tariffs to underlying costs, and similarly the Rules provide an annual pricing compliance framework with principles that require distributors to have regard to the avoidable costs and long run marginal cost of supply when setting tariffs.

A further complication with network services is that the cost of supplying electricity to a customer is not that same for all customers and for each time of day, or day within a year. As a consequence of this variation in the network supply costs, equating tariffs with underlying costs requires the use of tariff structures that provide different prices in circumstances when the underlying cost of supply differs. The emergence of new metering technologies means that it is now practically feasible to provide more targeted price signals. It is for this reason that distributors globally have been examining the merits of more innovative tariff structures including time-of-use pricing, critical peak charges, capacity based charges and inclining/declining block tariffs. All of these alternative price structures seek to more closely link the underlying cost of supply to the prices paid by customers.

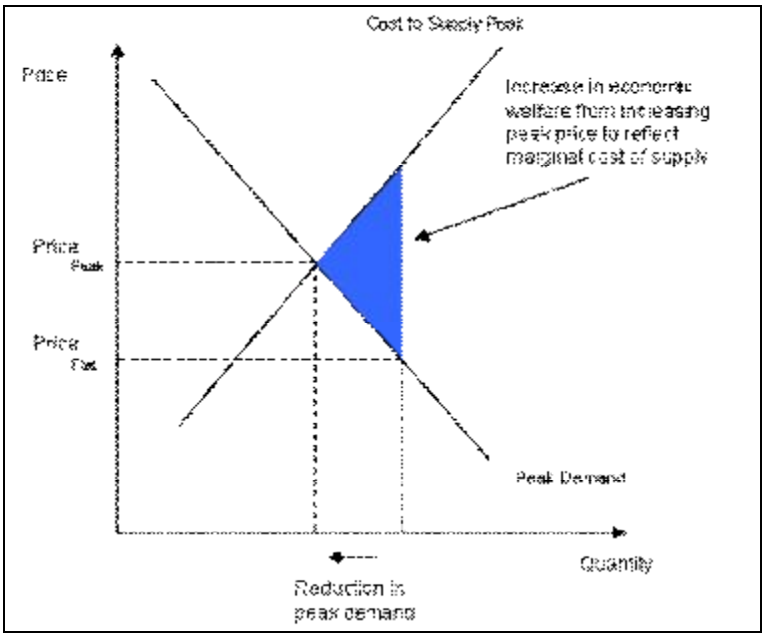
The benefits of aligning prices more closely with costs arise in two distinct ways:

- electricity distributors are able to avoid the costs incurred to supply electricity during those peak periods where the prices and so revenues are less than the cost; and
- consumers obtaining value from using electricity at lower prices for those periods where the cost to supply is less than current prices.

The first benefit can be estimated as an increase in the producer surplus[61] measured as a shift in quantity demanded from a point where the marginal cost is greater than price, which is partly offset by a reduction in the value from consumers using electricity during peak periods – Figure B.1.

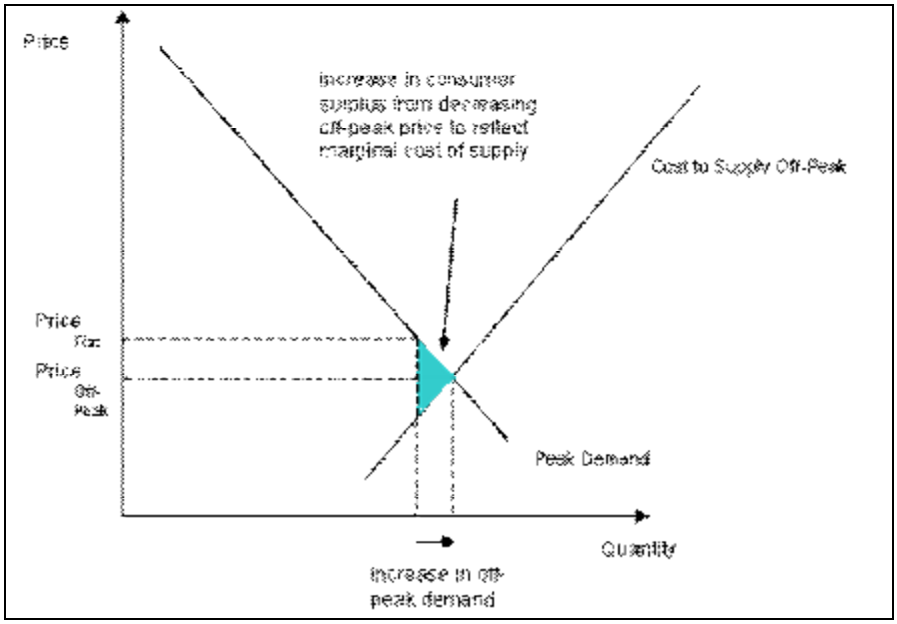
[61] The term producer surplus refers to the difference between the revenue received from selling a product and the costs incurred in supplying the revenue.

Figure B.1: Benefits from aligning peak tariffs with the marginal cost of supply



The second benefit can be estimated as an increase in the consumer surplus, i.e., the difference between the amount that consumers are prepared to pay for their purchases and the amount they actually pay, as a consequence of a reduction in price for those periods where marginal costs are lower than current prices – Figure B.2.

Figure B.2: Benefits from aligning off-peak tariffs with the marginal cost of supply



Finally, the economic welfare is simply the change in the sum of consumer and producer surpluses. The implications of the shift to more cost reflect tariffs is therefore the sum of any associated producer and consumer benefits from aligning tariffs more closely with underlying marginal cost of supply.

Estimating the benefits of more efficient price structures

- To illustrate the potential benefits of more efficient price structures we have used data provided by Ausgrid on forecast 2012-13 price structures, tariffs and sales volumes across all of Ausgrid's residential tariffs. From this base we:
- estimate the implied revenue to Ausgrid from these tariffs by multiplying volumes by tariff price and summing across all of the residential tariffs considered;

- apply assumptions about the own-price elasticity of demand for peak, off-peak and total consumption to estimate a demand curve for each tariff component. The formula for the demand curve was:

  $$Q_t = A \times P_t^h$$

  Where:

  η is the own-price elasticity of demand for that tariff component

  Q_t is the quantity demanded in period t;

  P_t is the price in period t; and

  $$A = \frac{Q_1}{P_1^h}$$

- assume that in the absence of direct incentives to provide more cost reflective tariffs, Ausgrid would implement a simplified flat tariff structure across all residential customers;
- calculate the flat tariff that would result in Ausgrid earning the same revenue as under the current tariff structures, taking into account anticipate responsiveness of demand to the new flat tariff; and
- estimate the change in producer and consumer surplus, assuming that the current tariff structures represent the underlying marginal cost of supplying each unit of demand within the relevant tariff component.

The assumption about current tariffs representing the underlying marginal cost of supply is a simplification given the lack of information about the underlying cost functions for Ausgrid. That said we believe that this approach, while not precise, allows for an order of magnitude estimate of the change in producer and consumer surplus to be measured.

Please see below for a summary of the data and assumptions that have been used in the analysis.

Results

Table A.1 sets out the estimated benefits resulting from a shift from the current pricing structure for residential customers serviced by Ausgrid, compared with the counterfactual of a flat tariff structure.

	Change in Producer Surplus	Change in Consumer Surplus	Change in Economic Welfare
High	20.4	-2.0	18.4
Low	14.7	-3.1	11.7
Midpoint	17.6	-2.5	15.0

Table B1: Estimated indicative benefits of Ausgrid's current residential tariff structure ($ million per year)

The results suggest that the net benefits from the current price structure are likely to be in a range of between $11 million and $18 million each year.

Relevantly, when these benefits are decomposed into the change in producer and consumer surplus, the short term benefits to consumers are negative while the benefits to producers are positive. The intuition underpinning this result is that producers capture the benefits of any near term cost reductions associated from tariff structure changes while consumers lose value through lower consumption as compared to the situation with a flat tariff. That said the regulatory framework would result in any producer surplus benefits being shared with consumers through lower overall costs.

Data and assumptions

Tariff	Component	Network Use of System Charge (c/kwh)	Forecast Volume ('000s MWh)
EA10	Block 1	12.6	3,164
	Block 2	15.0	1,250
	Block 3	19.0	557
EA25	Peak	25.5	522
	Shoulder	5.0	1,248
	Off-Peak	2.6	705
EA50	Block 1	11.2	382
	Block 2	19.7	238
EA225	Peak	20.6	270
	Shoulder	6.4	595
	Off-Peak	2.0	256
EA302	Peak	13.8	397
	Shoulder	6.3	613
	Off-Peak	3.8	714

Table B.2: Current price and volume assumptions – Ausgrid 2012-13

Component	Elasticity High	Elasticity Low
Total	-0.25	-0.2
Peak	-0.08	-0.044
Shoulder	-0.08	-0.044
Off-Peak	-0.04	-0.02

Table B.3: Own-price elasticity assumptions

Attachment C
"AER D-factor" as a component of the DMEGCIS

The proposed DMEGCIS is based on three components:

- first is the demand management innovation allowance (DMIA) an ex-ante allowance in addition to the annual revenue requirement for learn-by-doing projects, capped and based on a use-it-or-lose-it cost recovery.
- second is recognition and sharing of the positive external benefits of network DM in generation and transmission as an ex-post incentive in addition to the annual revenue requirement.
- third is a foregone revenue component as an ex-post calculation of the impact of DMIA and AER D-factor initiatives on the annual revenue requirement, to be applied ex-post if the form of regulation requires it.

A simplified and more appropriately targeted "AER D-factor" is proposed to replace the current "IPART D-factor" as a component of the DMEGCIS for the 2014-19 regulatory control period. The AER will note that the proposed calculation formula removes the implementation and avoided distribution costs and greatly simplifies the calculation.

Access to the AER D-factor

The AER D-factor will be an annual ex-post revenue allowance to be added to the revenue requirements in the year following an investment decision.

The estimated value of unpriced externalities in generation and transmission are to be proposed by the DNSP for acceptance by the AER as part of the determination. The deemed values of unpriced externalities should be based on the long run marginal cost of augmentation – the Market Benefit Allowance (MBA).

The AER D-Factor Criteria

The AER D-factor criteria are similar to the DMIA criteria but differ in that they do not include projects or programs for capability building or research and development. It is a commercial incentive which recognises the need to incorporate unpriced externalities to ensure DNSPs' decisions are aligned with the long term interest of customers.

To be eligible for a D-factor incentive as an addition to the revenue allowance under the AER D-factor, projects and programs eligible for approval must meet the following criteria:

1. DM projects or programs are measures undertaken by a DNSP to meet customer demand by shifting or reducing demand for standard control services through non-network alternatives, or the management of demand in some other way, rather than increasing supply through network augmentation

2. DM projects or programs may be:
    - broad-based DM projects or programs—which aim to reduce demand for standard control services across a DNSP's network, rather than at a specific point on the network. These may be projects targeted at particular network users, such as residential or commercial customers, and may include energy efficiency programs
    - peak DM projects or programs—which aim to address specific network constraints by reducing demand on the network at the location and time of the constraint.
3. DM projects and programs may be tariff or non-tariff based.

4. DM projects or programs may include the connection of embedded generators.

5. Projects or programs would not be fully funded through:

- market mechanisms.
- any other source, including another jurisdictional incentive scheme or any State, Territory, Commonwealth or other government scheme and the DMIA.
- forecast capital or operating expenditure approved in the distribution determination for the regulatory control period under which the scheme applies, or under any other incentive scheme in that determination.

Approval of claims under the AER D-factor

At the end of each regulatory year of the next regulatory control period, the AER will review the AER D-factor Market Benefit Claim (MBC) which is the unpriced externality benefits claimed for the preceding regulatory year[62]. It is to be based on an estimate of the impact of DM projects or programs on shifting or reducing demand through non-network alternatives so as to reduce short or long term costs outside DNSP boundaries.

Annual reporting requirements

Consistent with the current approach, a DNSP to which the scheme applies must submit to the AER a report on its MBCs under the AER D-factor for each regulatory year of the next regulatory control period. A DNSP will be required to submit its annual report under this scheme as part of the AER's annual regulatory reporting requirements for DNSPs.

The AER will review the information provided in a DNSP's annual report to assess whether the MBC is compliant with the AER D-factor criteria.

The AER will publish the annual reports to provide information to stakeholders on the results of DM projects and programs investigated or implemented under the scheme. Reports must therefore be submitted in a form suitable for publication.

A DNSP's annual report must include:

1. the total amount of the AER D-factor benefit created in the previous regulatory year, and how this amount has been calculated.

2. an explanation of each DM project or program for which approval is sought, demonstrating compliance with the AER D-factor criteria with reference to:
    - the nature and scope of each DM project or program.
    - the aims and expectations of each DM project or how each DM project or program was or is to be implemented.
    - the identifiable benefits that have arisen from the DM project or program, including any off peak or peak demand reductions.
3. a statement signed by a director of the DNSP certifying that the full costs of the DM project or program are not:
    - recoverable under any other jurisdictional incentive scheme.
    - recoverable under any other State, Territory or Commonwealth Government scheme.
    - included in the forecast capital or operating expenditure approved in the AER's distribution determination for the regulatory control period under which the scheme applies, or under any other incentive scheme in that determination.

[62] Internal costs and benefits to the DNSP of non-network alternatives are subject to the same efficiency incentives as network alternatives. They will be funded through approved capital and operating expenditures and do not form part of the AER D-factor claim.

- recoverable through an available market mechanism.

Where a project or program extends across more than one regulatory year, a report on the MBC on that project or program in each regulatory year of the regulatory control period will be required.

Compliance assessment and publication of annual report

The AER will assess a DNSP's compliance with the DMIA criteria on the basis of the information provided in its annual report. At the completion of the annual assessment, the AER will publish:

1. all annual reports submitted by DNSPs to which this scheme applies
2. a report stating the MBC approved by the AER, and its reasons for that decision.

Final year adjustment

The AER will calculate a total carryover amount on the basis of the annual assessments in the DMEGCIS to account for any adjustments to revenue requirements.

Calculation

The method of adjustment to allowed revenues by applying the D-factor to the control mechanism would be on the same basis as the existing D-factor and S-factor incentive schemes. This would be set out in the DNSP's distribution determination and is not addressed below. If the control mechanism required, it could include a foregone revenue component.

The amount claimed under the AER D-factor would be the sum of the MBCs for individual projects or programs. The MBC for an individual program or project would be based on the product of the Distribution Demand Reduction (DDR) in forecast peak demand at the distribution level as a result of the project or program and the Market Benefit Allowance.

Elements required in setting a MBA to calculate the amount of the MBC in an AER D-Factor could include:

- avoided transmission and generation costs[63]
  - $0.90million/MW for long run marginal cost of transmission
  - $0.94million/MW for long run marginal cost of generation
- a benefit sharing proportion

Elements no longer required in AER D-factor calculations include:

- implementation costs
- avoided distribution costs

A reduction in demand affects future investment from the time at which it influences forecasts and hence planning decisions. This may come about through explicit forecasts which incorporate the demand reduction or implicitly from the demand reduction reducing actual outcomes and thus the underlying base for forecasts. Therefore, and because implementation costs are no longer required in calculations, the existing lag in the application of the D-factor incentive can be reduced under an AER D-factor.

63 Values based on LRMC is provide in the AECOM Final advice to the AEMC on Electric and Natural gas vehicles http://www.aemc.gov.au/market-reviews/open/energy-market-barriers-for-electric-and-natural-gas-vehicles.html.

Worked example of a simplified D-factor

A demand management program which in year t creates a one year Distribution Demand Reduction (DDR) in forecast peak demand of 1000kVA at the distribution level (through for example increased energy efficiency) would result in the calculation of a Market Benefit Claim (MBC) based on a MBA of $85 per kVA of:

$MBC^t = MBA^t * DDR^t$

$MBC^t = (\$85) * 1000$

$MBC^t = \$85{,}000$