Discussion paper

Matters relevant to the framework and approach

NSW DNSPs 2014—19

Public lighting services

April 2012

AUSTRALIAN ENERGY REGULATOR

Request for submissions

Interested parties are invited to make written submissions to the Australian Energy Regulator (AER) regarding this paper by the close of business, Friday 11 May 2012.

Submissions should be sent electronically to: NSWACTelectricity@aer.gov.au

Alternatively, submissions can be sent to:

Mr Warwick Anderson
General Manager – Network Regulation Branch
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

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

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

All non-confidential submissions will be placed on the AER's website at www.aer.gov.au. For further information regarding the AER's use and disclosure of information provided to it, see the *ACCC/AER Information Policy*, October 2008 available on the AER's website.

Enquiries about this paper, or about lodging submissions, should be directed to the Network Regulation branch of the AER on (02) 9230 9133.

Contents

Shortened forms

AER	Australian Energy Regulator
CLER	Customer Lighting Equipment Rate
DNSP	Electricity Distribution Network Service Provider
F&A	Framework and Approach
IPART	Independent Pricing and Regulatory Tribunal of NSW
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
OTTER	Office of the Tasmanian Economic Regulator
RAB	Regulatory Asset Base

1 Introduction

Public lighting is the provision of lighting schemes for roads and outdoor public areas that are managed by or on behalf of a customer. In New South Wales (NSW), these services are primarily provided by the three distribution network service providers (DNSPs): Ausgrid (formerly EnergyAustralia), Endeavour Energy (formerly Integral Energy), and Essential Energy (formerly Country Energy). The customers of public lighting services are principally local councils as well as some state and federal government agencies.

The Australian Energy Regulator (AER) is responsible for regulating DNSPs in the National Energy Market (NEM). Public lighting is one of a number of services provided by DNSPs that are subject to regulation by the AER. The AER's functions and powers are set out in the National Energy Law (NEL) and chapter 6 of the National Electricity Rules (NER). The approaches the AER will take in regulating DNSP operations such as public lighting are set out in the distribution determination, prior to each regulatory reset.

The current regulatory control period for NSW will end on 30 June 2014, after which a new period will run until 30 June 2019. In anticipation of every distribution determination the AER must publish a framework and approach (F&A) paper. The F&A paper classifies which of the DNSPs' services are to be regulated as well as the form of control that will be used to manage prices and revenues, amongst other things. The AER must commence preparation of its F&A paper for NSW by 30 June 2012 and publish its final paper by 30 November 2012.[1] The AER intends to publish its preliminary positions on the matters that must be incorporated in the F&A paper by 30 June 2012. Public lighting will be one component of the F&A paper.

1.1 Purpose of paper

The AER is undertaking early consultation on matters that are relevant to the F&A paper and to the DNSPs' regulatory proposals for the next regulatory control period. The purpose of this paper is to examine the current and possible alternative approaches to regulation of public lighting in NSW. The AER acknowledges the current regulatory arrangements for public lighting in NSW could become more complex in the next regulatory control period and wishes to identify whether there are options to simplify and improve the regulatory treatment of public lighting in NSW. In particular, the AER is seeking views from interested parties on the following:

a. whether the current regulatory approach is satisfactory,

b. if the current regulatory approach has led to new or unexpected difficulties, and if so,

c. should the current regulatory approach be altered for the next regulatory control period?

To assist interested parties to consider alternative approaches to public lighting, the AER invited submissions from the NSW DNSPs on alternative approaches for the next regulatory control period. These alternative approaches form the basis of this discussion paper. The

[1] NER, cl 6.8.1(f).

approaches outlined in this paper are not intended to limit consideration of other approaches that interested parties may wish to identify and submit for consideration.

Attached to this paper are submissions from Ausgrid and Endeavour Energy setting out two alternative regulatory approaches.[2] The AER welcomes submissions from interested parties to assist it in developing its views on public lighting that will be set out in the AER's preliminary F&A paper in June 2012.

[2] These submissions have been provided at the AER's request to assist it in devising this discussion paper and do not form part of Ausgrid or Endeavour Energy's regulatory proposals to be submitted to the AER by 31 May 2013. Essential Energy advised that its preferred treatment of public lighting would be similar to the approach outlined by Endeavour Energy

2 Background

Public lighting services in NSW are regulated under current determinations approved by the AER in 2010. When the determinations were made, aspects of the regulatory treatment of public lighting were prescribed under transitional provisions of the NER. Under these transitional arrangements, the AER was required to adopt certain aspects of earlier determinations made by the previous regulator, the Independent Pricing and Regulatory Tribunal of NSW (IPART), such as the classification of public lighting.[3] For the upcoming regulatory reset the AER is not bound by the transitional provisions. Consequently, the AER is now able to give the regulation of public lighting services more fulsome consideration.

Public lighting is not an explicitly defined term in the NER or NEL. However, the NSW Public Lighting Code defines it as 'lighting schemes for the generality of roads and outdoor public areas that are managed by or on behalf of a customer'. The Code is a voluntary code of practice developed to clarify the relationship between public lighting service providers and customers. Although voluntary, the DNSPs generally comply with the Code when designing their public lighting systems and processes.[4]

2.1 Current regulatory treatment of public lighting

Under the transitional provisions of the NER, the AER was required to classify the construction and maintenance of public lighting assets as an alternative control service for the 2009–14 regulatory control period.[5]

In its determination, the AER decided to regulate public lighting services by setting capital charges as:[6]

- a schedule of fixed prices in the first year for the assets constructed before 1 July 2009 developed using a building block approach,
- a schedule of fixed prices in the first year for assets constructed after 1 July 2009 developed using an annuity capital charge approach, and
- a price path, such as CPI, for the remaining years of the regulatory control period.

The maintenance charges are calculated separately depending on the type of luminaire in use and respective lamp replacement rates. This approach was developed in response to a number of issues raised regarding public lighting services in the lead up to the 2009–14 distribution determination in NSW. The issues include:

- pricing schedules did not reflect the actual cost of providing the service,
- some customers were cross-subsidising others,

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3 Chapter 11 of the NER.

4 Department of Energy, Utilities and Sustainability, NSW public lighting code, 1 January 2006, pp. 10–11.

5 NER, chapter 11, appendix 1, cl. 6.2.3B(b).

6 AER Final decision, New South Wales distribution determination 2009–10 to 2013–14, 2009, pp. 328.

- modelling based on broad assumptions, and
- DNSPs not having comprehensive records on their public lighting assets.[7]

The aim of this regulatory approach was to develop more cost reflective prices for new assets, improve transparency in pricing services and allow greater choice over the service provided (that is, encourage competition).[8]

The approach isolated assets constructed before 1 July 2009 for which there was insufficient age-related data. These assets are regulated under a building block approach until the regulatory asset base (RAB) is fully depreciated. Therefore, customers should see their charges for pre 1 July 2009 assets decline over future regulatory control periods. The move away from a single set of prices by differentiating assets by age was also considered an effective way to remove the issue of cross-subsidisation.[9]

For assets constructed after 30 June 2009, the AER established an approach that:

- was not dependent on volume forecasts;
- adopted efficient labour and materials costs; and
- required comprehensive asset information be provided to customers on a six monthly basis.

The prices determined under this approach were 'caps' and thereby permitted the DNSP or a third party to provide the service at a lower cost. Through this approach, and by classifying public lighting services as an alternative control service, the AER sought to encourage greater competition in the provision of public lighting services and where effective competition emerges, these services could, in the future, be regulated to a lesser extent or unregulated.[10]

If the AER sought to reduce the level it regulates public lighting services, it may classify these services as negotiated distribution services. Terms and conditions of access to negotiated distribution services, including the price of those services, would be determined in accordance with a negotiating framework to be approved by the AER. In the event of a dispute, the AER will arbitrate in accordance with criteria set out in the approved framework[11] but otherwise would takes a 'hands-off' approach to regulating these service.

The current regulatory approach outlined above has now been in place for around five years. The AER appreciates that the new approach may have led to unexpected difficulties. For example, the introduction of multiple price lists may have added complexity to the billing process for customers. Furthermore, the transparency of billing may not have improved due to the number of calculations that are required to determine the correct public lighting charge applicable to a particular customer. Ausgrid submits that its customers find the current

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7 AER Draft decision, New South Wales distribution determination 2009–10 to 2013–14, 2008, pp. 337.

8 For example, the type of luminaire that could be selected by the customer.

9 For example, when councils with predominantly new public lighting assets were generally being charged less than the cost of supplying that service, while councils with older assets were being over-charged.

10 AER Final decision, EnergyAustralia distribution determination 2009–10 to 2013–14, Alternative control (public lighting) services, 2010, pp. vi.

11 NER, cl. 6.22.2(c).

arrangement unsatisfactory due to its complexity.[12] Conversely, Endeavour Energy has reported that its customers have not raised issues with the current regulatory approach.[13]

Given the range of customer experiences, the AER considers it timely to review the current regulatory approach for public lighting in NSW. In formulating possible options, the AER will also consider the regulatory approach to public lighting services across jurisdictions.[14]

Question 1

The AER seeks comments on:

A. What has been the experience for customers under the current regulatory approach to public lighting? For example, do the current arrangements result in pricing that is too complex or lacking in transparency?

B. Should public lighting in NSW continue to be regulated by the AER as an alternative control service or is there merit in classifying the service as a negotiated service or an unclassified (unregulated) service?

C. Has the current approach resulted in greater (or less) competition in the construction or provision of public lighting services?

2.2 Jurisdictional differences

Regulation of public lighting services differs across jurisdictions due to legislative and market characteristics in different Australian states and territories.[15] Public lighting ownership, available economies of scale and scope, applicable legislation, and bargaining power of customers all influence the appropriate regulatory approach.

Queensland

In Queensland, public lighting is provided by Energex and Ergon and regulated as an alternative control service. Energex and Ergon own the vast majority of public lighting assets in their respective regions (90 and 96 percent respectively). These assets are either provided, installed and maintained by the DNSP, or provided and installed by others and gifted to the DNSP who maintains them. Caps are set on the price of individual services in the first year of the regulatory control period, with price paths used to adjust for the remaining regulatory years.[16]

If a competitive market can be demonstrated in the future or if there is a legislative change that public lighting is not a distribution service then the service could become unregulated. In

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12 Ausgrid, Possible options to improve regulation and pricing of public lighting services for Ausgrid's customers, 2012 – see Appendix B.

13 NSW public lighting - Endeavour Energy's initial position discussion, 2012, p.3 – see Appendix A.

14 NER, cl 6.2.2(c).

15 For full details of the AER's determination in each state or territory, please refer to the relevant source document as referenced throughout this paper. The summaries and table included in this consultation paper are provided for assistance only and should not be solely relied upon.

16 For example, when a new housing estate is constructed and the developer provides the public lighting assets, but does not wish to be responsible for the ongoing maintenance of the assets.

the interim, the current alternative control service classification and control mechanism is intended to allow for the development of competition.[17]

Victoria

In Victoria, public lighting assets are largely owned by the DNSPs. The Victorian Public Lighting Code allows a customer to request a third party to alter, relocate, or replace public lighting assets.[18] Under current regulatory arrangements, the alteration and relocation of existing public lighting assets is classified as a negotiated distribution service while the operation, repair, replacement and maintenance are alternative control services. Prices caps were established based on a limited building block approach.[19]

South Australia

In South Australia, ETSA Utilities is the sole DNSP. Public lighting services in South Australia are contestable. Customers do not have to ask ETSA Utilities to provide, operate and maintain their street lighting assets as South Australia operates under a tiered pricing structure (that is, a full public lighting service, customer lighting equipment rate (that excludes maintenance) and energy only). Customers have the option of providing, operating and maintaining their own street lights by using an 'energy only' service or only employing ETSA Utilities to replace failed light bulbs. Most public lighting services in South Australia are provided by ETSA Utilities. However, customers possess significant bargaining power. In light of this, the AER classified all public lighting services as negotiated distribution services in the 2010–15 regulatory control period.[20]

Tasmania

Aurora Energy Pty Ltd (Aurora) is the sole DNSP in Tasmania. Before 2012, Aurora was regulated by the Office of the Tasmanian Economic Regulator (OTTER). Under the current regulatory arrangements, public lighting services are negotiated directly between Aurora and its customers. For the 2012–17 regulatory control period the AER, in its draft decision, proposed that public lighting services be classified as alternative control services.

Trans Tasman Energy Group (TTEG), drawing on its experiences in Victoria, NSW and South Australia, argued that public lighting in Tasmania should mirror that of South Australia. TTEG proposed classifying public lighting as a negotiated distribution service, and to establish a tiered pricing structure similar to that offered by ETSA Utilities. This would provide options for customers, as Aurora does not have a legislative monopoly in the provision of these services.[21] The AER's Final Decision, which will include its final position on public lighting, is expected to be released in May 2012.

Table 2.1 outlines the AER's regulatory approach to public lighting across jurisdictions.

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17 AER, Final framework and approach paper Energex and Ergon Energy 2010–15, 2008, pp. 20-23.

18 Public lighting code, Victoria, 2005, cl. 4.4.

19 AER, Final framework and approach paper for Victorian electricity distribution regulation 2011-2016, 2009, pp. 44-50.

20 AER, Final framework and approach paper ETSA Utilities 2010-15, 2008. pp. 26-28.

21 AER, Framework and approach paper Aurora Energy Pty Ltd, 2010. pp. 25-38.

Table 2.1 Public lighting regulation across jurisdictions

State	Classification of services	Form of control for alternative control services	Issues
NSW	**Alternative control** - All public lighting services.	■ Schedule of fixed prices developed using a building block approach for assets before 1 July 2009. ■ Schedule of fixed prices developed using an annuity approach for assets after 30 June 2009. ■ Price path such as CPI for remaining years.	Insufficient data on the age of public lighting assets. Concerns over price shocks when replacing old assets. Tariffs based on who funded capital for assets.
ACT	Not applicable	Not applicable	ActewAGL does not own any public lighting assets in ACT.
QLD	**Alternative control** - All public lighting services.	■ Caps on the price of individual services in the first year of the regulatory control period. ■ Price paths for remaining regulatory years.	Ergon and Energex contend that public lighting services are not distribution services. Application to the Federal Court of Australia seeking judicial review of the AER's decision to classify public lighting services as a distribution service. Decision is pending.
VIC	**Alternative control** - Operation, repair, replacement and maintenance. **Negotiated distribution** - New public lighting and alteration and relocation of public lighting assets.	■ Price cap established based on a limited building block approach, where DNSPs will be required to forecast their operating expenditure and capital expenditure for public lighting services over the regulatory control period.	Public Lighting Code allows a third party to relocate or replace public lighting assets.
SA	**Negotiated distribution** - All public lighting services.	Not applicable	Contestable and energy only options available. Customers not required to have DNSP provide public lighting services.
TAS	**Alternative control** - All public lighting services (except new public lighting technologies). **Negotiated distribution** - New public lighting technologies.	Public lighting services (except for new public lighting technologies and alteration and relocation of public lighting assets): ■ Price cap using an annuity approach. Alteration and relocation of public lighting assets: ■ Quoted service	Unregulated under OTTER. Insufficient data to develop a building block approach to determine public lighting prices.

3 Future treatment of public lighting

The current regulatory approach to public lighting was developed under transitional provisions to address a number of issues such as prices not reflecting the costs of services and cross-subsidisation. The AER appreciates that while the current approach may have addressed a number of issues inherent in the previous treatment of public lighting, other complexities may have been introduced. Three alternative approaches are summarised below, although it is acknowledged there may be other approaches.

3.1 Regulatory options for 2014–19 control period

Option 1: Extension of the current arrangements

This approach would see the continuation of the current regulatory arrangement with the introduction of a third capital charge for assets constructed during the 2014–19 regulatory control period. For customers, the three charges (prices) for public lighting under this approach would be:

- a continuing charge for assets constructed prior to 30 June 2009 based on a RAB roll forward (this charge will continue until all assets with the RAB have fully depreciated),
- continuation of the annuity charge for 2009–14 assets (this charge provides a steady return of the capital costs of the assets), and
- a **new** annuity charge for assets constructed post 1 July 2014.

Operation and maintenance charges would be updated to reflect the most up-to-date data on, for example, wage rates and replacement part costs.

Question 2

The AER seeks comments regarding the use of this approach. In particular:

A. What are the main advantages and disadvantages of this approach?

Given this addition to the current regulatory approach would increase the complexity of the approach, the AER considered it timely to seek suggestions on alternative regulatory approaches. Consequently, the AER sought suggestions from the NSW DNSPs on how public lighting services could be regulated in the future to form part of this discussion paper. Endeavour Energy and Ausgrid's submissions are included at Appendices A and B respectively.

Endeavour's submission

Endeavour Energy supported a continuation of the current regulatory approach without the introduction of a third price list. It claimed that a third charge would result in significant system costs to administer and unwieldy and overly complex pricing arrangements with little, if any, benefit to its customers.

Endeavour Energy would prefer to retain the current two charge approach, with a charge for assets constructed prior to 30 June 2009 based on a RAB roll forward and a single annuity

charge for all assets constructed since 1 July 2009.[22] This approach would involve developing a single annuity charge that takes into account the capital costs of assets constructed in the current regulatory period as well as those constructed in the 2014–19 period. Over time, as pre-2009 assets are fully depreciated, there would be a transition to a single price list.

Endeavour Energy claimed that its customers were satisfied with the current form of regulation and pricing arrangements which results in two charges for public lighting.[23] Endeavour Energy's submission is provided at attachment A.

Question 3

The AER seeks comments on Endeavour Energy's submission. In particular:

A. What are key advantages and disadvantages of the approach proposed by Endeavour Energy?

B. Would the averaging of capital costs used to calculate the annuity for assets constructed in the 10 year period 2009 to 2019 disadvantage third party providers of these assets?

Ausgrid's submission

Ausgrid submitted a service pricing regime where customers pay a standard charge for the provision of public lighting services of a particular type, regardless of the age of the asset or detail of its construction.

A simplified categorisation of services is suggested by grouping together and using an average price for assets providing similar services into a set of 22 service asset pools, with a matching suite of 17 operation & maintenance related prices. Customers' bills would be calculated by multiplying the simplified inventory of assets by the corresponding price.[24] A tariff basket form of control is proposed that would permit limited flexibility in pricing as well as enable prices to be used to encourage the customer to transition to 'green' luminaires.

Ausgrid notes that the proposed arrangement is analogous to the current approach to distribution network service pricing. Ausgrid suggest that pricing under this approach would be simplified and more equitable.

Question 4

The AER seeks comments on Ausgrid's submission. In particular:

A. Would a simplified pricing structure such as this come at the expense of cost reflective prices?

B. Would this approach permit the entry of third party providers of public lighting services?

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22 Essential Energy did not provide a submission, however at this time, stated its support to the AER of this approach.

23 NSW public lighting, Endeavour Energy's initial position discussion, 2012.

24 Ausgrid, Possible options to improve regulation and pricing of public lighting services for Ausgrid's customers, 2012.

4 Summary of issues for discussion

The 2014–19 regulatory review is the AER's first opportunity to make a distribution determination under chapter 6 of the NER for NSW DNSPs and give proper consideration to the classification and control mechanisms for public lighting services.

This discussion paper seeks input from interested parties in the lead up to the F&A process.

The following is a collated list of issues for discussion identified throughout the body of this discussion paper. The AER seeks submissions, reflecting the relevant requirements of the NER and NEL, from all interested parties by 11 May 2012.

Question 1

The AER seeks comments on:

A. What has been the experience for customers under the current regulatory approach to public lighting? For example, do the current arrangements result in pricing that is too complex or lacking in transparency?

B. Should public lighting in NSW continue to be regulated by the AER as an alternative control service or is there merit in classifying the service as a negotiated service or an unclassified (unregulated) service?

C. Has the current approach resulted in greater (or less) competition in the construction or provision of public lighting services?

Question 2

The AER seeks comments regarding the use of Option 1. In particular:

A. What are the main advantages and disadvantages of this approach?

Question 3

The AER seeks comments on Endeavour Energy's submission. In particular:

A. What are key advantages and disadvantages of the approach proposed by Endeavour Energy?

B. Would the averaging of capital costs used to calculate the annuity for assets constructed in the 10 year period 2009 to 2019 disadvantage third party providers of these assets?

Question 4

The AER seeks comments on Ausgrid's submission. In particular:

A. Would a simplified pricing structure such as this come at the expense of cost reflective prices?

B. Would this approach permit the entry of third party providers of public lighting services?

Appendix A – Endeavour Energy's submission

NSW public lighting – Endeavour Energy's initial positions discussion

Purpose

At the meeting between AER staff and the DNSPs on 2 February 2012, it was suggested a discussion paper could be prepared on possible changes to the regulatory treatment of public lighting in NSW. The aim of the discussion paper would be to canvass alternatives to the current arrangements and seek comments from interested parties in regard to any implication these change may have on users.

Background

Consistent with the transitional NER applicable to the NSW DNSPs, the AER's distribution determination (2009–13) classified street lighting service as an alternative control service. For the reasons stated in the AER's final decision, a price cap control mechanism was applied and an annuity approach was adopted to determine prices for post 1 July 2009 street lighting assets in the current regulatory control period.

AER staff understand that the NSW DNSPs have concerns and have sought clarification on matters associated with the control mechanism (and potentially the service classification). Consequently, AER staff invited each DNSP provide information to assist the AER to prepare a discussion paper outlining possible changes to the treatment of public lighting in NSW. The discussion paper would form the basis for wider stakeholder consultation in the lead up to the AER's Framework & Approach (F&A) proposed positions paper.

Submission structure

The AER provided a list of key matters on which information should be prepared by the DNSPs. This is intended to provide a basic level of consistency; however, it was noted that to the extent that each DNSP has matters that are specific to its circumstances, then it may wish to diverge from the common structure.

Endeavour Energy's Preferred Position

Endeavour Energy's preferred position in relation to the regulation of public lighting from 2014 is for a continuation of the existing arrangements. That is, the service should continue to be regulated as an Alternative Control Service and the existing pricing arrangements of a price cap for pre 1 July 2009 assets and an annuity approach for post 1 July 2009 assets should continue. This is based on the presumption that there would still only be two sets of prices for public lighting from 2014.

The main reason for supporting a continuation of the existing arrangements are firstly, that any change from these arrangements will require further changes to be made to the Endeavour Energy systems which will mean additional costs for street lighting customers with little, if any, benefit.

Secondly, the existing arrangements are simple and easily understood.

It is acknowledged that a single set of prices would be an even simpler pricing arrangement. However, to introduce a single set of prices will require the allocation of costs across the various light types and depending on the lighting mix of the customer they could be better or worse off (with possible price shocks) than under the current system. Moving to a single set of prices risks the re-introduction of cross subsidies which the existing arrangements were designed to remove.

Legacy rates (Tariff Class 1 and 2) in place before 1 July 2009, didn't take into account factors such as column or mast height, outreach or bracket size. The factors considered were type and size of luminaire, and if the luminaire was installed on a pole or on a column. Combining Legacy rates with Annuity rates with the objective of forming a single price list would be complicated and may lead to significant increase in annual charges for Tariff Class 1 and 2 assets.

While the existing arrangements are not perfect, they are understood both by DNSPs and customers and provide an appropriate balance in terms of simplicity, costs to administer and ensuring prices are set at efficient levels.

Regulatory framework[25]

- *Proposed change/refinement (if any) to the overall regulatory framework, justification for the change and suggested new approach.*

  Endeavour Energy is not proposing any change/refinement to the overall regulatory framework.

- *Interaction with the NSW Public Lighting Code (if relevant) including any impacts on compliance.*

  Endeavour Energy's understanding is that the NSW Government has completed a review of the NSW Public Lighting Code, but a revised Code has not been issued. Any changes to the Code will require an assessment of the impact the changes might have on the costs of public lighting and the recovery of these costs from customers.

Service classification

- *Proposed change (if any) to the service classification:*
  - *assessment of matters relevant to NER clause 6.2.1–3*
  - *details of any stakeholder consultations that have been undertaken.*

  Endeavour Energy is not proposing any change to the service classification.

  Endeavour Energy meets with each of its public lighting customers on a 6 monthly basis. At these meetings no issues have been raised to date with the existing form of regulation or the pricing arrangements for public lighting. The main feedback from these customers is that they would like to see an increase in the reporting

[25] Whilst recognising that the issue of whether street lighting is a distribution service under the NER definitions is *sub judice* (Ergon Energy's judicial review application), comments are sought on the assumption that, in any event, street lighting will be subject to a form of regulatory control under the NER.

requirements for public lighting. Endeavour Energy has advised that while increased reporting may be beneficial it will come with an increase in costs which would need to be passed on to the public lighting customers. This issue was also raised as part of the NSW Government's review of the Public Lighting Code, but as stated earlier no revision of the Code has been released.

At present Endeavour Energy sends the reports detailed in the following table to its public lighting customers.

Type of report	**Frequency of report**
Progress on design and construction projects	Quarterly
Bulk lamp change	Quarterly
Maintenance performance	Annually
GIS and Public lighting inventory	Six monthly
Customer service guarantee payments	Annually

Total 12 reports per year

Endeavour Energy provides additional reports for all reasonable requests.

The majority of customers support the frequency and type of reporting by Endeavour Energy.

Control mechanism

- *Assuming the existing alternative control service classification was to continue:*
  - *identify specific concerns (if any) regarding the current control mechanism applied to:*
    - *pre 1 July 2009 regulatory asset base*
    - *post 1 July 2009 assets.*

Endeavour Energy's preferred position is that the existing classification and control mechanism should remain in place for the 2014 Determination. That is, there would continue to be two sets of prices:

- One set of prices for "legacy" (i.e. pre 1 July 2009) assets; and
- One set of prices for "new" (i.e. post 1 July 2009) assets, irrespective of whether the assets were installed during the 2009-14 regulatory control period or the 2014-19 regulatory control period.

For clarity, pre 1 July assets will continue to have a price attached to them until they are replaced, with any assets installed after 1 July 2009 attracting a single price that is set at each regulatory determination.

Over time, as legacy assets are replaced, there will be a transition towards a single price. This allows any inherent cross subsidies contained in pre 1 July 2009 prices to

be unwound in an appropriate transition that does not impose significant price shocks on councils.

Importantly, Endeavour Energy considers that under no circumstance should there be more than two sets of prices (i.e. prices for pre 1 July, prices for 2009-14 and prices for 2014-19) as this would introduce significant system costs to administer and would result in unwieldy and overly complex pricing arrangements.

- *If a control mechanism different to the current control mechanism is proposed (ex. revenue cap), then provide an assessment of matters relevant to NER clause6.2.4–7.*

- *If a change to the service classification is proposed, then consider whether the current control mechanism is appropriate and if not, propose an alternative and provide an assessment of matters relevant to NER clause 6.2.4–7.*

  Endeavour Energy's preferred position is that the existing control mechanism should remain in place for the 2014 Determination.

- *In relation to any proposed change(s) to the control mechanism, address how compliance with the control mechanism will be demonstrated over the next regulatory control period (clause 6.12.1(13)).*

Matters specific to the current control mechanism

- *The current limited building block approach with pre 1 July 2009 assets:*
  - *any change and if so, what are the reasons for change?*

  Endeavour Energy notes that there are (at least) two options for calculating the prices to apply during the 2014 regulatory period for assets constructed prior to 1 July 2009. These include:

  - Rolling forward the existing legacy prices by applying CPI; and
  - Re-calculating the limited building block revenues and then re-setting the prices.

  Endeavour Energy considers that either of the above options may be appropriate, with the first option (applying CPI to existing prices) providing the simplest and most transparent approach, while the second option (a recalculation of the existing limited building block approach) allowing more up-to-date costs to be incorporated into prices. The second option is Endeavour Energy's preferred approach as this will allow for both legacy and annuity price models to be adjusted for the current costs inputs.

- *The current annuity approach for post 1 July 2009 assets:*
  - *reasons for concerns with this approach (if any)*
  - *proposed change and/or refinement (if any) to the annuity approach and justification for the change.*

  It is important in the development of future prices that an appropriate approach to asset valuation and maintenance expenditures is undertaken. Endeavour Energy is comfortable that the current annuity approach for post 1 July 2009 assets is able to accommodate current installation costs and maintenance expenditures while incorporating movements in the return on capital since the 2009 Determination.

It will be important however, for the mechanism for assessing costs and applying the annuity from 1 July 2014 to be clearly articulated so that all stakeholders are clear on the framework to apply to these assets and the basis for which the prices are calculated.

Implications of (any) change/refinement

- *In the context of price and service impacts on users.*

  As Endeavour Energy is not advocating any change to the existing arrangements the only price and service impact on users would be the recognition of more recent costs.

- *In the context of the NSW Public Lighting Code.*

  The current costs are based on the existing Public Lighting Code. Any change to the Code could impact on costs and hence prices and services to users. Any impact would not be quantifiable until the extent of any changes are known.

- *Asset and cost data availability and quality.*

  If no changes or refinements are made to the existing arrangements then Endeavour Energy would expect there to be little impact on the asset and cost data availability and quality. However, any change which requires changes to Endeavour Energy's systems will impact on both the availability and quality of the asset and cost data in the short term until such time as changes to the systems are implemented.

Appendix B – Ausgrid's submission

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9 March 2012

Mr M Neck
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By email: moston.neck@aer.gov.au

Dear Moston,

I understand that the AER is interested in Ausgrid's initial thoughts about the current regulatory and pricing regime for public lighting services and whether there are any other options available which could improve regulatory and pricing arrangements for Ausgrid and for customers.

Our feedback from customers is that the existing regulatory and pricing arrangements for street lighting are overly complex and inefficient. We would agree with this feedback and suggest that there are a number of possible options to improve outcomes for customers.

To this end, we have begun some preliminary investigations on possible options to improve regulation and pricing arrangements. We have also initiated a conversation with customer representatives on possible improvements.

We still have a lot to do so cannot provide a preferred position. However, I have attached for you one potential option we would like to discuss further with both you and with customers. The proposed arrangement focuses on the provision of street light services, rather than the existing complexity of extensive inventories of assets with myriad individual costs. To the extent possible, the proposed arrangements have been modelled on those in place for the regulation and pricing of distribution network services.

This option would appear to greatly simplify the existing arrangements. We believe any simplification would benefit the AER, the DNSPs and street light customers alike. However, we need to investigate this alternative arrangement against existing and other arrangements before landing on a final position on the matter.

It should be noted that in order to meet the timing of the AER's consultation program, this proposal has not yet been fully analysed or socialised in detail with our street light customers or with other DNSPs. Nor, at this stage, has a detailed assessment been made of the implications for Ausgrid's street light billing systems. These are important issues that we do need to properly consider before concluding that it is our preferred option. Nevertheless I believe it is worth the AER considering in its early stage of consulting on various options for public lighting.

If any clarification of this proposal is required, please feel free to contact Brendon Crown on (02) 9269 4351 or Phil McKee (02) 8001 3337.

Yours sincerely,

Brendon Crown
Project Director, Reset 1419 Project

cc: P Birk, Executive General Manager System Planning & Regulation
P McKee, Manager Streetlighting & Live Line

Ausgrid

Possible options to improve regulation and pricing of public lighting services for Ausgrid's customers

March 2011

Street Light Regulation and Pricing

9 March 2012

Contents

1 Background

Ausgrid, like its customers, is looking for a better way to regulate and price for public lighting services. This document provides background information in support of one option to streamline the street light regulatory and pricing arrangements currently in place in NSW.

There are likely to be a number of alternative arrangements the AER will consider and within the available time, Ausgrid has not been able to identify and assess all of them. However, we are engaging internally and with our customers on this particular option with a hope it will better meet the NEO and the Revenue and Pricing Principles and provide satisfactory outcomes for all customers. We would like to analyse this option further and consult with the AER and customers, prior to confirming our preferred approach to regulation of public lighting services.

The option outlined in this paper is directed at improving the outcomes of the existing arrangements for:

- The AER, through a more straightforward regulatory approach that aligns with the regulation of distribution network services;
- Street light customers, through more equitable and much more readily understood pricing; and
- Ausgrid, which will be required to maintain much less complex systems and pricing arrangements.

Street light pricing was the subject of AER determinations in 2009, initially for NSW and with a subsequent revision for Ausgrid[1],[2]. The revenue permitted for street light services was considered in separate categories, as follows:

- Asset related costs (the return on capital and depreciation of street light assets); and
- Street light operation and maintenance.

This discussion paper focused on simplifying the treatment of the both the asset related component of street light pricing and the operation and maintenance component.

1.1 Asset related charges

The AER 2009 determinations partitioned the asset related component of street lights revenue, as follows:

- ***Pre-2009 assets*** – A roll forward model was used to determine the value of these assets. The opening asset base established at the previous IPART determination in July 2004 was rolled forward, to determine the closing value as at 30 June 2009. From this, the AER determined a schedule of fixed prices for the extensive list of pre-2009 assets. There were 277 individual prices in this schedule, in Ausgrid's case.
- ***Post-2009 assets*** – The schedule of capital charges for assets constructed after 30 June 2009 were calculated using an annuity model to determine street light revenues for assets put in place during the 2009-14 regulatory control period. The capital investment of each individual streetlight asset was converted into an annual charge that remains constant in real terms, over the life of the asset.

It is important to note that if a similar procedure is followed in the 2014 determination, the AER would create a third partition of street light assets and a third tier to the asset pricing regime.

1.2 Operation and maintenance charges

The AER also directly determined prices for operation and maintenance of street lights. There were 112 separate prices for the maintenance and lamp replacement of different types of luminaire.

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1 AER, Draft decision - New South Wales draft distribution determination 2009–10 to 2013–14 - Alternative control (public lighting) services, 6 March 2009.

2 AER, Final decision - EnergyAustralia distribution determination 2009–10 to 2013–14 - Alternative control (public lighting) services, 13 April 2010.

2 Existing street light pricing arrangements

This partitioning of the street light asset base in the AER's 2009 determination resulted in the introduction of a complex two-part system of pricing for street light services. For many customers there is:

- A large fixed charge component, representing the capital cost associated with the 277 categories of pre-2009 assets. For most customers, this is more than 50% of their total charge;
- A set of individually calculated charges, for assets installed after 2009. These reflect the cost of individual assets installed and the timing of their installation; and
- A set of maintenance charges based on the applicable 112 different AER-approved charges.

Being based on detailed inventories and with three separate parts to the pricing, the existing arrangements are inherently complex and resource intensive to administer.

Moreover, Ausgrid's feedback from its street light customers would indicate the existing arrangements are also unsatisfactory from the customers' perspective, as the derivation of the each customer's charge is also complex.

3 Comparing Network Use of System Services with Public Lighting Services

The pricing arrangements for transmission and distribution network service have been established for over a decade and are based on the concept of network service, rather than individual asset provision. The arrangements for the establishment of efficient cost structures are set out in the rules and are mature and well understood.

3.1 Network service pricing

With network service pricing, the costs associated with groups of assets performing a similar function are pooled. The network service price for each customer represents a contribution to a number of pools of asset costs, based on the customer's proportionate usage of each pool of assets.

The price to each customer for network service does not depend upon the age of the assets that constitute the individual supply connection. Customers with equal consumption are provided with the same level of network service, regardless of whether the assets forming the connection have been in place for one year or for 50 years. As assets in the pool are renewed in specific areas, this is reflected in the network service price paid by all customers.

This procedure is also used for the individually calculated prices of transmission and large distribution customers. The prices of these customers are based upon the individual supply configuration, but still use averaged costs for the pools of assets involved.

3.2 Service pricing for street lights

The existing price regime for street lights stands in sharp contrast to the arrangements for network pricing. The asset related charges, in particular, are a combination of historic and new asset costs. Each customer's price is not related to the street light services provided but is based upon an extensive inventory of old and new assets.

Whereas the regulatory regime for alternative control services are intended to be more light-handed, in this case the complexity of the regulatory and pricing arrangements far outweigh arrangements for use of system services.

The pricing and regulatory regime for street lights could be dramatically simplified and made more equitable, by the move to a service pricing regime. In such a regime, the customer would pay a standard price for the provision of street light service of a particular type, regardless of the age of each individual street light asset or the detail of its construction.

A given level of street lighting service may be produced by a range of luminaires and installations and would attract a standard charge, although it must be noted that a distinction would still need to be maintained between 'standard' and energy-saving or 'green' lamps and luminaires, since their maintenance and separately determined energy consumption and network service charges differ.

4 Efficient service pricing

The National Electricity Rules (Rules) contains some fundamental pricing principles for distribution network service. They are paraphrased as:

- The revenue recovered for each service should lie between an upper bound representing the stand alone cost of providing the service and a lower bound representing the avoidable cost of not serving those customers;
- The tariff for each service must take into account the long run marginal cost for the service;
- Tariffs must be determined having regard to the transaction costs and whether customers of the service are able or likely to respond to price signals; and
- Tariffs should ensure the recovery of expected revenue with minimal distortion of consumption.

These principles are equally relevant for the pricing of street light services.

These Rules principles, together with some broadly accepted desirable service pricing features, have been used as the basis of Ausgrid's distribution pricing arrangements for over a decade. These desirable features are restated in the present context:

- Economic efficiency is obtained by appropriately allocating costs to the customers using the service (allocative efficiency);
- Pricing should encourage and adapt to innovation and productivity improvements, leading to the efficient use of resources (dynamic efficiency);
- Pricing should deliver equity between customers, and over time; and
- To the extent possible, prices need to be stable, simple and transparent.

4.1 Existing street light pricing arrangements

The current two-part street light pricing arrangements have the following features:

- They fail to meet the distribution pricing principles, in that the prices are not established with regard to the long run cost of service provision.
- The extent of variation in individual street light costs within the fixed charge is complicated and may well distort customer decision making;
- Being excessively complex, the existing pricing and billing arrangements impose high transaction costs on Ausgrid and its street light customers alike;
- Are inequitable, since pre-2009 prices are fixed and customers can pay very different prices for assets providing the same service;
- Are neither simple, nor transparent.

It is apparent that the features of the existing street light pricing regime do not align particularly well with the principles and desirable features of efficient service pricing.

5 Rules requirements

Street light services are, and are expected to remain, classified as alternative control services. In determining the revenue for these services, the AER may (but need not) use the building block determination process for standard control services and prospective CPI minus X form of regulation set out in Part C of the Rules[3].

The associated Rules requirements for these services state that the price control mechanism for these services may consist of:

(1) a schedule of fixed prices; or

(2) caps on the prices of individual services; or

(3) caps on the revenue to be derived from a particular combination of services; or

(4) tariff basket price control; or

(5) revenue yield control; or

(6) a combination of any of the above[4].

The proposed simplifications to the regulatory and pricing arrangements for street light services set out in sections 6 and 7 would:

- Directly use the building block approach to the determination of asset related revenues set out in Part C of the Rules; and
- Apply a tariff basket form of price control.

This proposal therefore complies with the requirements of the Rules.

[3] Rules, clause 6.2.6.
[4] Rules, clause 6.2.5(b).

6 Simpler regulation of the street lighting business

A simpler approach to the pricing of the asset related component of street light services would be greatly facilitated by matching simplifying changes to the regulatory regime. Coincidentally, this would also enable the use of much simpler regulatory modelling, using the well-established Post-Tax Revenue Model (PTRM) used by the AER for distribution regulation.

Street light operation and maintenance charges would remain separately determined, as at present. However, the proposed simplification of the service categories and prices proposed for street light asset charges would be applied to maintenance charges.

By way of example, each customer would pay a uniform charge for a standard bracket. This charge is a proportion of the costs of the pool of standard brackets. This cost pool includes old and new brackets and an allowance for future brackets, to be installed during the regulatory control period.

6.1 Building block determination for asset related charges

This simplification would be achieved by grouping the myriad types of assets employed to provide street light service into a much smaller number of classes of assets, which provide similar types or levels of service. Approximately 22 such asset service pools are envisaged.

The simplified asset grouping is illustrated in Table 1.

Table 1 – Street light assets – categorisation by service

<table>
<tr><th>Street light asset category</th><th>Types of assets (current)</th><th colspan="2">Asset service pools (proposed)</th></tr>
<tr><td rowspan="3">Luminaire</td><td rowspan="3">105</td><td>Standard - 2</td><td>Green - 2</td></tr>
<tr><td colspan="2">Decorative - 5</td></tr>
<tr><td colspan="2">Floodlight - 4</td></tr>
<tr><td>Bracket</td><td>30</td><td>Standard - 1</td><td>TRL - 1</td></tr>
<tr><td>Support</td><td>27</td><td colspan="2">5</td></tr>
<tr><td>Connection</td><td>3</td><td colspan="2">2</td></tr>
<tr><td>Count</td><td>165</td><td colspan="2">22</td></tr>
</table>

The general approach to determining the asset related component of street light service costs in the 2019 review would then be as follows. It is proposed that this asset base calculation would utilise the AER's Roll Forward Model (RFM), used for distribution pricing:

- The pre-2009 asset base would be allocated into these asset service pools and rolled forward to 2014, taking into account disposals, where these have occurred; and
- The assets installed during the current regulatory control period would likewise be allocated into the asset service pools and rolled forward to 2014.

The resultant closing asset base as at 30 June 2014 would be taken into the AER's PTRM for 2014-19. This model would retain the asset service pools and incorporate forecast capex, disposals and depreciation for the regulatory control period.

The PTRM would determine the necessary revenue requirement, to be recovered from customers through street light prices.

6.2 Accounting for street light replacements

The replacement of some street lights will occur during the 2014-19 regulatory control period. This will take place mainly in the following circumstances:

- Replacement of unserviceable luminaires with a modern fitting, providing similar level of service;
- The replacement of older luminaires, such as mercury fittings, that have reached the end of their serviceable life;
- In response to individual customer requests, to replace standard luminaires with high efficiency or decorative fittings, road widening or similar projects.

The bulk replacement of older luminaires will be accounted for in the forecast capex program for the 2014-19 regulatory control period. Their replacements will mostly be higher efficiency 'green' luminaires. The price for each customer will be adjusted, as replacements take place within their territory, where street light service is provided by green fittings. However, it should be noted that the price for each customer will be based on an average of the pool of fittings providing similar service and will not depend upon the installation date of a particular luminaire within the customers' territory.

When a customer requests the replacement of a serviceable luminaire, the customer will be required to contribute the residual value of the replaced asset. This would be determined on the basis of the actual condition if there is more than 10 years of remaining life, or the default age of three quarters of the standard life that was ascribed by the AER in the 2009 determination.

The capex program for the 2014-19 period will also contain forecasts of the expected customer-initiated replacement of serviceable luminaires, offset by the disposal of serviceable equipment and by the capital contributions from customers. This treatment using the AER's regulatory model at the 2019 review will reduce the value of the associated asset pool and costs. In this way, customers will not continue to be charged for the value of assets that they have paid to replace.

6.3 Maintenance costs

The AER's current consideration of 112 separate maintenance costs could similarly be simplified, by grouping the maintenance of assets with similar requirements and effectively averaging the maintenance costs amongst these groups.

It is envisaged that a total of about 13 groups of maintenance charges could be formed, with the differences between the maintenance of 'standard' and 'green' fittings reflecting their different lamp replacement requirements.

7 Simplified pricing of street light services

7.1 Asset related street light services

The 22 pools of assets that provide similar street light services described in section 6 would also be utilised as the basis for the pricing of street light services.

The proposed arrangement is analogous to the approach to distribution network service pricing, where customer tariffs are built up from combinations of the pooled cost of approximately 22 services, such as those provided by zone substations, distribution transformers and the low voltage network.

This simplified suite of asset related street light prices is shown in Table 2.

Table 2 – Street light assets – categorisation by service

Street light service	Street light price (proposed)	
Luminaire	Standard - 2	Green - 2
	Decorative - 5	
	Floodlight - 4	
Bracket	Standard - 1	TRL - 1
Support	5	
Connection	2	
Count	**22**	

Each customer's bill would be calculated by multiplying a simplified inventory of assets that provide the customer with street light service by the corresponding price.

7.1.1 Price control mechanism for asset related charges

The price control mechanism is a separate matter. The simplified suite of standard prices proposed in section 7.1 would lend itself to the application of a tariff basket form of control, specifically the WAPC. This would have the same form as the price control mechanism currently applied to distribution standard control services.

This would permit the DNSPs some limited flexibility in pricing and enable, for example, prices to be used to encourage the customer transition to green luminaires.

Provision for the introduction of new prices for any fittings that may provide new service levels during the regulatory control period would be made in a similar fashion to the distribution pricing arrangement for introducing new tariffs.

7.2 Operation and maintenance

The principle of averaging costs in pools for similar services is also proposed for street light maintenance costs, to facilitate the implementation of efficient and more readily understood pricing. A matching suite of street light operation and maintenance prices is shown Table 3.

Table 3 – Simplified suite of prices for street light operation and maintenance

Street light maintenance	Street light price (proposed)	
Lamp	Standard - 2	Green - 2
	TRL Standard	TRL Green
	Decorative - 5	
	Floodlight - 4	
Connection	2	
Count	**17**	

Again, each customer's bill would be calculated by multiplying the simplified inventory of assets that provide the customer with street light service by the corresponding price.

7.3 Transitional pricing arrangements

Ausgrid recognises that any revision to the allocation of costs for street lighting will create price changes for street light customers.

The total revenues for street lighting will be determined by the AER and are not expected to change materially, as a result of the streamlined regulatory arrangements proposed in this document. However, the move to levellised and simpler customer pricing arrangements will create price rises for some and price falls for others. The extent of these differences for individual customers requires detailed modelling, which has not been completed at this stage. However, based on the changes that took place following the 2009 determination, these differences are expected to be in the order of plus or minus 10-15%. It is anticipated that higher charges would occur for those customers that have a larger proportion of green fittings. This would be offset by lower energy and network charges, leading to small overall changes street light costs.

Subject to detailed modelling, a transitional pricing arrangement could be developed, if required. This would need to transition to the new price regime whilst ensuring that Ausgrid recovered the efficient level of costs determined by the AER.

8 Alignment of proposed street light pricing with pricing principles

In this section, the proposed simplified street light pricing arrangements are compared with the principles and desirable features of service pricing arrangements set out in section 4.

The proposed street light regulatory and pricing arrangements are aligned with those that have been in place for many years for the pricing of distribution network services. The proposal has the following features:

- Prices are more efficient, in that they will not fall beyond the bound of the stand alone cost of the service is and are formulated using the long run costs of providing street light service of a particular type;
- Being greatly simplified, will impose reduced transaction costs on the AER, Ausgrid and street light customers;
- Being averaged, rather than based on replacement costs, prices are much less likely to distort customers' consumption decisions;
- By having separate 'green' and standard prices, will support the transition to a more efficient use of resources;
- With customers being charged the same levellised price for the same level of service, provide a more equitable outcome between customers, and over time; and
- To the extent possible, will result in prices that are stable, simpler, more readily understood, and transparent.