



8 April 2009

Mike Buckley
General Manager
Network Regulation North Branch
Australian Energy Regulator
c/o aerinquiry@aer.gov.au

Dear Mr Buckley,

Re: Supplementary SSROC Submission on AER's NSW Draft Distribution Determination 2009-2014 Alternative Control (Public Lighting) Services

On 3 April EnergyAustralia made a further submission to the Australian Energy Regulator (*Submission on the AER's Public Lighting Supplementary Draft Decision*). The submission, made one week after the deadline set by the AER, largely re-asserts EnergyAustralia's June 2008 proposal on public lighting, rejects the AER's November and March Draft Decisions and questions the AER's decision making process.

SSROC appreciates the opportunity of providing a further submission to AER, however before addressing a number of matters in detail, SSROC wishes to express its concern that EnergyAustralia provided a response well after the set deadline. Actions such as this as well as the continued reiteration of issues previously dealt with by the AER reflect poorly on EnergyAustralia. They also give rise to the perception that EnergyAustralia are not willing to accept the role of an independent regulator. Furthermore, it places substantial burdens on small organisations such as SSROC who are required to respond in constrained timeframes. Also, SSROC does not support EnergyAustralia's questioning of the AER's decision making process. It is our view that AER has acted extremely competently and professionally with a very difficult matter.

On behalf of the 34 Councils in the SSROC Street Lighting Improvement Program, we make the following comments on this additional submission by EnergyAustralia:

Annuity Basis of Calculations

A key feature of EnergyAustralia's position is its re-iteration that an annuity basis of pricing calculations should be applied to pre 1 July 2009 assets.

With respect to historical assets, the application of an annuity basis of calculations was correctly rejected by the AER in its November and March Draft Decisions. Such a novel

application for existing assets would create significant distortions and a windfall for EnergyAustralia.

Councils note that:

- There appears to be no comparable precedent within the Australian electricity sector for EnergyAustralia's novel annuity approach to public lighting of historical assets. Certainly, EnergyAustralia has not cited any precedent in the course of its multiple submissions to the pricing review.
- EnergyAustralia made a previous similar proposal during the 2004-05 pricing reset that was challenged by Councils, not supported by IPART, and subsequently withdrawn by EnergyAustralia.
- While EnergyAustralia has not provided details of its proposed annuity calculation approach (see comments on disclosure concerns below), the previously presented model in 2004-05 treated existing street lighting assets as if they were all new, making no appropriate adjustment for their significant age. As a result, the annuity-based financial calculations significantly overstated the appropriate capital cost recovery for existing street lighting assets.
- IPART's consultants in the 2003/2004 pricing review identified several cautions regarding an annuity basis of depreciation, particularly for existing portfolios of assets,¹ all of which remain unaddressed by EnergyAustralia. Most notably, Allen's stated that, "...there should be a presumption against changing depreciation methodologies part way through the life of an asset, given the potential adverse implications for the time-path of prices from such switching"².

Another key basis cited for use of the annuity model is the assertion by EnergyAustralia in Section 2.2 of its 3 April submission that customers are purchasing a lighting service rather than paying for a particular set of assets. And that, "*The cost of this service is based on the market price of providing new services and is not related to the age of the asset providing the service.*"³

Councils' strongly reject the implicit EnergyAustralia claim that there is equivalency of lighting service between different lighting types and ages of assets. To illustrate this point, we cite three examples:

- Based on input from lighting manufacturers, TF2*20 luminaires send 30-40% of their output into the night sky, fail to meet key requirements of AS1158 and light only 30-40m of roadway to the minimum level required under AS1158.3.1. This stands in contrast to modern luminaires for minor roads (eg modern M80, T5 and CFL) which broadly provide 80m of compliant illumination along the road reserve;
- The current generation of 80W mercury vapour luminaires (eg as per recent EnergyAustralia installations) provide compliance with the minimum requirements of AS1158 of about 80m or 16m further than the previous generation of luminaires⁴. In many cases, this additional capability is sufficient to bring roadways into compliance with AS1158 where they previously did not meet the Standard even if replacing a luminaire of an identical lamp type; and

¹ Allen Consulting Group, "Principles for determining regulatory depreciation allowances"
Note to IPART, September 2003.

² Ibid p10

³ EnergyAustralia's 3 April submission, p8-9

⁴ Based on manufacturers' submissions to a 2004 EOI conducted by SSROC with the cooperation of EnergyAustralia

- Modern energy efficient lighting choices such as 150W HPS, 250W HPS, T5 and CFL lighting deliver the same or better lighting output and AS1158 compliance levels as compared to the previous generation of technologies they replace yet they do this with 35-65% lower energy consumption and GHG emissions.

In short, the choice and age of the luminaire makes a considerable difference to lighting and environment outcomes for the community. Charges have not historically been based on providing a particular standard of lighting service nor has EnergyAustralia claimed to Councils that it delivers lighting to a particular standard. Further, the NSW Public Lighting Code does not set minimum lighting standards as is explicitly discussed in the Foreward to the document⁵.

It would thus be entirely inappropriate to now switch to an untested annuity pricing methodology on the basis of an assumed equivalence in service levels between historical and new assets that is not reflective of the service levels being delivered. This is particularly the case for EnergyAustralia with a considerably larger legacy of obsolete public lighting assets than other DNSPs.

Deferral of Depreciation Charges

EnergyAustralia claims in Section 2.3 of its 3 April submission to the AER that IPART made its final 2005 pricing decision based on a deferral of depreciation charges that EnergyAustralia should now be allowed to recover.

Councils are surprised to see this claim in EnergyAustralia's latest submission as IPART did not in any way recognise in its final 2005 decision that there would be continuing under-recovery in the post 2009 period or a deferral of depreciation. Indeed, in its August 2005 "Statement of Reasons for Decision – EnergyAustralia's Public Lighting Price Proposal"⁶, IPART noted:

- *"EA's proposal therefore involves ongoing under-recovery relative to costs in the initial years, with subsequent price increases from 2006-2008 required to allow EA to recover all of its costs."*⁷ IPART subsequently approved each of the 2006-2008 price increases foreshadowed in its 2005 decision bring EnergyAustralia to allow full cost recovery in its assessment.
- IPART stated that its own consultant's modeling used asset lives that were longer than those suggested by EnergyAustralia resulting in lower than EnergyAustralia's claimed depreciation charges.⁸

In support of its position, EnergyAustralia cites a reference to continuing post-2009 cross subsidies on page 4 of IPART's 2005 decision. However, it is clear from the previous paragraph on page 3 of IPART's decision that the cross subsidies being referred to are between different councils (eg because of a different mix of lighting assets) and not from other types of electricity customers. In short, the IPART 2005 decision does not in any way appear to relate to post-2009 under-recovery of depreciation or substantiate a claim for any other form of under-recovery.

⁵ NSW Public Lighting Code 2006, p ii

⁶ <http://www.ipart.nsw.gov.au/files/Statement%20of%20Reasons%20for%20Decision%20-%20EnergyAustralia%20Public%20Lighting%20Price%20proposal%20-%20August%202005.PDF>

⁷ Ibid, p3

⁸ Ibid, p3

Bulk Lamp Replacement Cycle

In Section 2.4 of its 3 April submission to the AER, EnergyAustralia maintains that a 2.5 year bulk lamp replacement cycle results in the lowest efficient cost. This view is based on analysis done in 2003/2004 of public lighting faults between 1 Jan 1998⁹ and when the report was prepared in late 2003. This analysis is badly outdated, and applies to both lamp types and maintenance practices which are no longer applicable.

Councils note and are concerned that EnergyAustralia has not based its suggested bulk lamp replacement cycle on recent maintenance data, particularly in view of commitment in its 2006 Public Lighting Management Plan to keep its record keeping in accordance with AS1158.3.1 “...sufficient to evaluate and optimise equipment selection and maintenance intervals”¹⁰.

There are several reasons why basing the post 2009 bulk lamp replacement schedule on significantly aged data is unsound:

- 1) **Changes in luminaire mix** – As acknowledged by EnergyAustralia, different lamps have different mortality characteristics and choosing an ‘optimum’ BLR cycle is a compromise based on the portfolio mix¹¹. However, EnergyAustralia’s conclusions in early 2004 were based on a luminaire mix that has changed considerably since that time. For example, based on inventory summaries supplied to SSROC by EnergyAustralia:
 - Between 2004 and 2007, more than 41,000 80W Sylvania Suburban luminaires replaced obsolete tubular fluorescent lamps and other older forms of residential road lighting; and
 - Correspondingly, total tubular fluorescent luminaires, cited as one of the least reliable luminaires by EnergyAustralia in its 2004 analysis¹², reduced in numbers from 104,500 to 61,000 between 2004 and 2007.
- 2) **Co-mingling of photocell failure data** – In the 1998-2003 period over which data was collected, photocells were not being replaced on a regular basis by EnergyAustralia. In its analysis EnergyAustralia recognised that these components degraded over time and concluded that photocells should be changed on every 2nd bulk lamp replacement cycle as a core recommendation of its 2004 report¹³. This conclusion is consistent with AS1158.1.3 Section 14.3.3 which recognises that “*Photoelectric cells age in service and a replacement program may need to be developed for economic management of these components.*”¹⁴ It is also consistent with the Victorian Public Lighting Code which requires photocells to be replaced at least every 8 years¹⁵.

However, a key challenge in interpreting EnergyAustralia’s ‘lamp’ failure data is that photocell failure in this 1998-2003 period (eg before photocells were regularly replaced by EnergyAustralia) is inevitably co-mingled with the data on lamp failure. Photocells are recognised to be the second leading cause of

⁹ EnergyAustralia Network Maintenance Standards - Street Lighting Analysis Report, Revision 04, 9 Jan 2004, p4

¹⁰ EnergyAustralia, Public Lighting Management Plan, Section 3.5

¹¹ Ibid, p7

¹² Ibid, Table 4

¹³ Ibid, p7-8

¹⁴ AS/NZ Road Lighting 1158.1.3 Vehicular Traffic (Category V) lighting – Guide to design, installation, operation and maintenance, p59

¹⁵ Essential Services Commission (Victoria), Public Lighting Code, Apr 2005, Section 2.3.1, p2

luminaire faults¹⁶. Their failure is often inter-linked with lamp failure (eg a malfunctioning photocell can trigger a subsequent lamp failure), and with degradation over time, their failure mode is likely to be highly non-linear when pushed to the end of their operable lives.

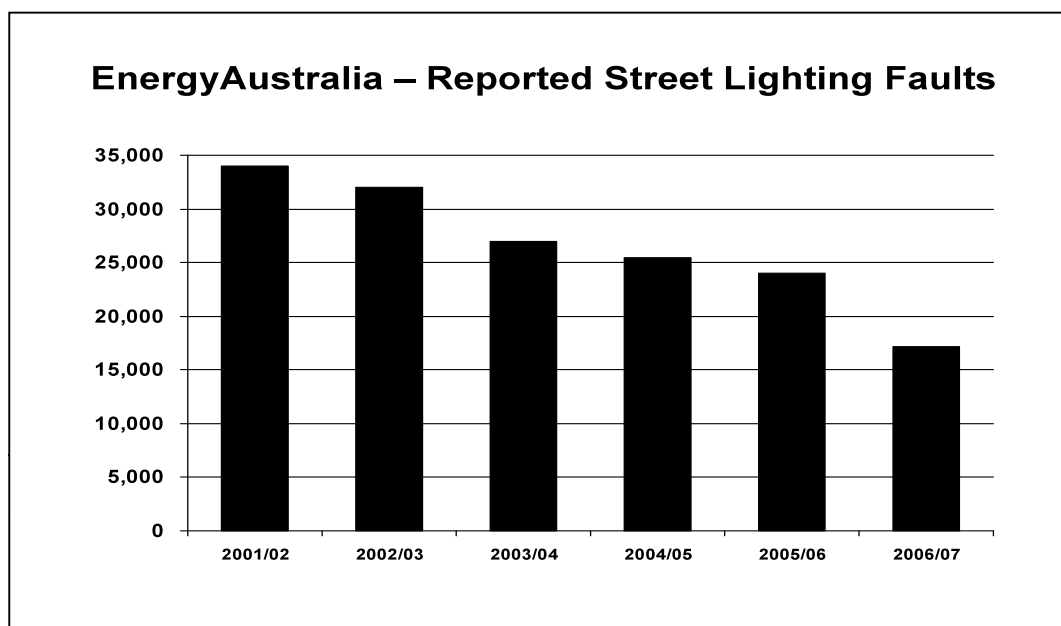
A maintenance regime without regular photocell replacement is likely to show higher apparent 'lamp' mortality than one based on lamp failure in conjunction with photocells that have been regularly replaced. This raises significant questions about the basis of EnergyAustralia's analysis of 'lamp' failures and its conclusions about an optimum bulk lamp replacement schedule.

- 3) **Changes in lamp performance** – In the past 10 years (eg since the start of EnergyAustralia's data collection in 1998), there have been improvements in lamp performance and reliability that are not captured by EnergyAustralia's analysis.

One clear example is cessation of the importation or use of halophosphor tubular fluorescent lamps in the post 2004 period and the adoption of substantially more reliable triphosphor T8 lamps. This change would have brought considerable improvements in reliability to more than 61,000 EnergyAustralia TF2*20, TF1*40 and TF1*80 luminaires. Notably, EnergyAustralia had a trial of triphosphor fluorescent lamps in Mosman in the pre-2004 period which was already showing evidence of increased reliability in the EnergyAustralia analysis of January 2004.¹⁷

- 4) **Changes in luminaire performance** – Luminaires installed post-2004 are generally built to higher standards. For example, the optical chambers of most luminaires now purchased by EnergyAustralia generally have ingress protection (IP) ratings of 6X. Older luminaires, even if they use the same lamp type, frequently have low IP ratings allowing for much greater ingress of dust and moisture with a consequent impact on fault rates. Based on inventories supplied by EnergyAustralia, perhaps 25% of the luminaire population has been replaced with higher performing luminaires in the last regulatory period (eg since the January 2004 analysis was done by EnergyAustralia).

That fault rates have changed markedly in recent years as compared to the 1998-2003 period is demonstrated by EnergyAustralia's total reported street lighting faults¹⁸ as per the graph below.



Reported street lighting faults in the period studied by EnergyAustralia were up to twice as frequent as current fault report rates. They have improved from a combination of reasons cited above and no doubt others. That they have improved so substantially is welcomed by Councils. However, basing charges and the future bulk lamp replacement cycle on analysis of 1998-2003 data seems particularly inappropriate in light of these significant changes to reliability outcomes.

Confidentiality

As per Section 1.2 of EnergyAustralia's 3 April submission, EnergyAustralia has again submitted a revised pricing model in confidence with updates to a variety of key assumptions. Councils re-iterate their strong concerns about the lack of adequate information disclosure by EnergyAustralia in the current pricing review.

During the pricing review process EnergyAustralia has repeatedly declined to substantiate the basis of large proposed increases and a number of anomalies in public lighting pricing by disclosing underlying modelling and cost information to customers. The lack of relevant information has left Councils at an enormous and unreasonable disadvantage in making meaningful comment on proposed pricing throughout the review process. In this monopoly arrangement, EnergyAustralia's approach is keeping captive customers from having adequate information about the underlying cost of the service.

As previously documented, the information sought concerned **how EnergyAustralia's cost-to-serve pricing model worked and key assumptions underpinning this pricing model.**

Councils appreciate that in its March 2009 Draft Decision, the AER made significant efforts to clarify some indicative component capital costs and labour assumptions. However, how these are applied in EnergyAustralia's cost-to-serve model remains largely opaque to Councils despite repeated requests and a lengthy pricing review process. Outstanding information includes:

- the great majority of assumed component capital costs;
- assumed spot replacement rates per annum by component and a basis for how these are applied in the cost-to-serve model;
- the treatment of a variety of assumed 'other' costs that EnergyAustralia refers to in its submissions to the AER; and
- a copy of the pricing model or, failing that, a detailed description of how these various inputs and assumptions are applied to reach proposed pricing.

Councils' information requests have been entirely consistent with information sought and provided to Councils by EnergyAustralia during the last 2004/05 pricing review. In that review, EnergyAustralia's Street Lighting Cost-to-Serve Final Report (Document EA6487/03) was made available to Councils along with at least three supplementary briefings by the authors, PB Associates, and EnergyAustralia management on the approach to modelling and related assumptions.

The information requests made by Councils in this pricing review have been thoroughly documented in:

- A letter from the General Manager of SSROC to the CEO of EnergyAustralia of 16 July 2008 (copy provided to AER);

- A request for the release of such information at the AER's 30 July public forum where the EnergyAustralia CEO responded that he "...cannot see why this information should not be made available, especially if it was available as part of the previous IPART determination"¹⁹;
- A direct request of senior EnergyAustralia management on 14 October 08 which was followed up in writing on 15 October 08; and
- Requests for information to be made available via SSROC submissions to the AER of 8 August 2008, 15 August 2008, 17 November 2008 and 12 February 2009 and numerous individual Council submissions.

As outlined in previous submissions, Councils' information requests are also entirely consistent with the information publicly released during pricing review processes by Victorian Essential Services Commission including its 2004 determination and recent 2008 Review of Energy Efficient Public Lighting Charges²⁰. Component capital costs, consumables costs, assumed failure rates, labour costs and labour assumptions are again all being presented and validated, and revised in an open process.

In Section 17.6.8 of its Draft Determination, the AER states that EnergyAustralia has provided "...a scaled down version of the cost-to-serve model for each council". Councils strongly dispute that the additional information provided on 13 August 2008 constituted a cost-to-serve model or indeed that any new information was provided to Councils in distributions from EnergyAustralia to Councils made via the AER. The information consisted of documents already released by the AER to Councils and a council-specific spreadsheet showing total inventory counts multiplied by proposed component costs. As Councils are already in possession of detailed inventories and EnergyAustralia had already provided total component costs in its Regulatory Proposal, this information was not new nor did it address the significant information gaps raised by Councils. As with EnergyAustralia's Regulatory Proposal, the additional information distributed on 13 August contained only TOTAL capex for each capital item but no breakdown of how this capital cost was arrived at and TOTAL annual opex costs for each lamp type but no breakdown of how these operating costs were arrived at.

In seeking additional information Councils offered, if need be, to abide by any reasonable confidentiality undertakings requested by EnergyAustralia as they did in the 2004/05 pricing review process.

SSROC welcomes further discussion with the AER about any of these items as well as matters raised in previously submitted documents of 8 August 2008, 15 August 2008, 12 February 2009 and 27 March 2009 which each address concerns about repeated inappropriate claims in EnergyAustralia's submissions that have not been adequately addressed by the company.

¹⁹ As per minutes of 30 July 2008 AER Forum

²⁰ <http://www.esc.vic.gov.au/NR/exeres/ECF10921-9F8F-49A3-B904-6254FC6180C6.htm>

Yours sincerely,



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SSROC

CC: SLI Program Councils:

The Council of the Municipality of Ashfield
Bankstown City Council
The Council of the City of Botany Bay
Burwood Council
City of Canada Bay Council
Canterbury City Council
Cessnock City Council
Council of the City of Sydney
Gosford City Council
The Council of the Shire of Hornsby
The Council of the Municipality of Hunters Hill
Hurstville City Council

Kogarah Municipal Council
Ku-ring-gai Council
Lake Macquarie City Council
Lane Cove Municipal Council
Leichhardt Municipal Council
Marrickville Council
Mosman Municipal Council
Newcastle City Council
North Sydney Council
Pittwater Council
Port Stephens Council
Randwick City Council

Rockdale City Council
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