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11 May 2023

Reference: kb:jb 230511  
Enquiries: Ms J Bennett: [REDACTED]

ATTN: Arek Gulbenkoglul  
General Manager  
Australian Energy Regulator  
GPO Box 3131  
Canberra ACT 2601

Dear Arek,

**RE: Essential Energy Determination 2024-29 – Public Lighting Pricing**

The Southern Lights NSW Group is a consortium made up of Central NSW Joint Organisation (CNSWJO), Riverina Eastern Regional Organisation of Councils (REROC), Riverina and Murray Joint Organisation (RAMJO), Dubbo City Council and Broken Hill City Council. Covering 31 Local Government Areas stretching from Bathurst to Balranald to Broken Hill, Southern Lights is one of the largest deployments of smart-enabled LED lighting in Australia, with over 50,000 LED streetlights being deployed across a geographic area that is approximately the size of the United Kingdom. This group encompasses a third of the street lights managed by Essential Energy.

Southern Lights NSW has been engaging with Essential Energy on the full range of technology, service and pricing issues associated with street lighting for some years and over a number of pricing reviews. In the lead-up to Essential Energy's pricing submission, Southern Lights NSW participated in a number of meetings and workshops with the company.

I am writing to comment on the public lighting aspects of Essential Energy's 2024-29 pricing proposal and will do so in response to the specific questions raised by the AER in its Issues Paper of 28 March 2023. However, I would firstly like to note the AER comment from that Issues Paper that, the AER, "...consider Essential's proposal for public lighting services warrants a targeted review to inform our draft decision." Southern Lights NSW strongly supports the need for a targeted review of Essential Energy's public lighting pricing and remains willing to participate in any aspect of this review.

Councils across regional NSW have welcomed the range of benefits from the large-scale LED street lighting conversion that was negotiated by Southern Lights NSW and delivered by Essential Energy over recent years. However, I regret to say that we have very low confidence that Essential Energy's 2024-29 public lighting pricing proposal is appropriate or justified, or that the service is being appropriately managed.

We make this statement because of:

- The large swings in Essential Energy's pricing proposals during the lead up to its pricing submission;
- The significantly higher prices proposed by Essential Energy as compared to the other NSW DNSPs (see below);
- The different Essential Energy interpretation of the NSW Public Lighting Code which has the effect of delivering lower service levels to our councils (see below);
- Persistent council concerns about billing accuracy (see below);
- The extraordinary rate of street lighting staff turnover at Essential Energy in recent years with a resultant frequent change in strategy and approach and, a significant loss of street lighting expertise; and
- The particularly disappointing experience of a failed three-year smart street lighting controls tender process (see below).

Our responses to the consultation questions raised by the AER are as follows:

### 18. Do you consider Essential's public lighting proposal generally incorporates stakeholder inputs from this pre-lodgement engagement? If not, did Essential communicate these potential departure points to stakeholders and provide adequate explanation during prelodgement engagement?

Essential Energy consulted with councils and with Southern Lights NSW from September to November 2022. Essential Energy had initially proposed a 50-60% step-change in pricing which was strongly rejected by councils and their representative organisations. Essential Energy made a number of significant revisions to its pricing model during the course of discussions and, at the end of that process, a number of items remained outstanding (see 'Public Lighting Regulatory Submissions 2024-29 Items for On-going Discussion Nov 22' attached). During the course of these discussions Essential Energy provided public versions of its street lighting pricing model with significant redactions.

Since that point, Southern Lights NSW has not been provided with any further information about the outstanding items or been asked to meet with Essential Energy's regulatory team. A consultant to Southern Lights NSW, Next Energy Lighting, received one call from a new street lighting manager asking for clarification about the seven outstanding items mentioned in the document but did not hear further from either the street lighting manager or the regulatory team thereafter (until an email was received last week). I note that a number of the items considered outstanding in November were with Essential Energy for review or to gather further information and Southern Lights NSW does not consider any of these to have been resolved.

The suggestion on page 94 of Essential Energy's regulatory proposal that there was a co-design process with councils in developing the public lighting pricing proposal is entirely rejected. Southern Lights NSW did offer to establish a true co-design process on a number of occasions, but this was not taken up. To be the best of our knowledge there are no councils in the Southern Lights Group that were approached by Essential Energy to participate in a co-design process. There may be councils outside of the Southern Lights Group, that did participate in this type of process, however, we are in regular contact with our counterpart regional organisations across the Essential Energy footprint, none of whom have advised that they have participated in a co-design process.

## 19. Do you support Essential’s proposed suite of public lighting services and prices?

Southern Lights NSW does not support the public lighting prices proposed by Essential Energy and has a low level of confidence in the underlying assumptions and inputs used to prepare the pricing model. Our key areas of concern that we are both seeking further discussions with Essential Energy on, and that we request the AER investigate are as follows:

### 1. BENCHMARKING

Southern Lights NSW strongly welcomes the AER’s move to adopt a standardized street lighting pricing model for NSW DNSPs in the 2024-29 pricing review. This should facilitate much easier benchmarking across DNSPs at a finer level during the review stage.

In the case of Essential Energy, benchmarking against proposed Ausgrid LED pricing suggests that unexplainably higher prices have been proposed by Essential Energy for directly comparable common lighting types. See table and figures below for FY24/25 pricing proposals showing pricing for the most common categories of LED road lighting at 41-137% higher in Essential Energy’s pricing proposal than in Ausgrid’s:

	17W Residential Road LED (Category P)		76-80W Main Road LED (Category V Low)		140-150W Main Road LED (Category V Med)	
DNSP	Essential Energy <sup>1</sup>	Ausgrid <sup>2</sup>	Essential Energy <sup>3</sup>	Ausgrid <sup>4</sup>	Essential Energy <sup>5</sup>	Ausgrid <sup>6</sup>
OPEX	\$39.12 (68% higher)	\$23.25	\$61.14 (93% higher)	\$31.69	\$61.14 (93% higher)	\$31.69
CAPEX	\$65.39 (28% higher)	\$51.10	\$156.37 (160% higher)	\$60.19	\$159.52 (144% higher)	\$65.45
<b>TOTAL</b>	<b>\$104.51</b> <b>(41% higher)</b>	<b>\$79.20</b>	<b>\$217.51</b> <b>(137% higher)</b>	<b>\$91.88</b>	<b>\$220.66</b> <b>(127% higher)</b>	<b>\$97.14</b>

<sup>1</sup> Essential Energy ‘LED 17W Luminaire StreetLED3 3000K P4/P5’ FY25 capital and opex pricing as per Att 12.04 (current default for this category)

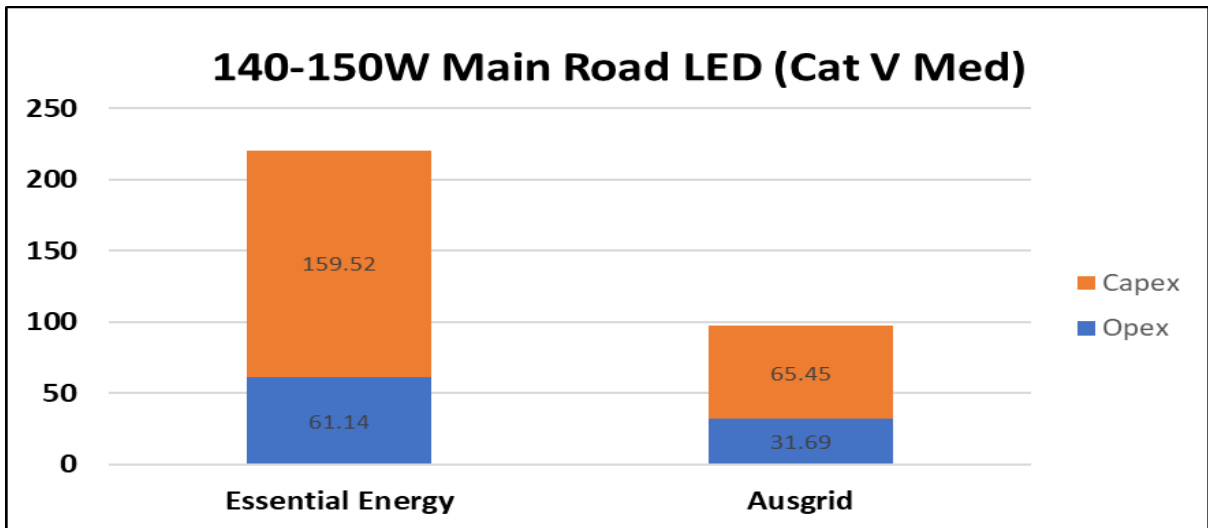
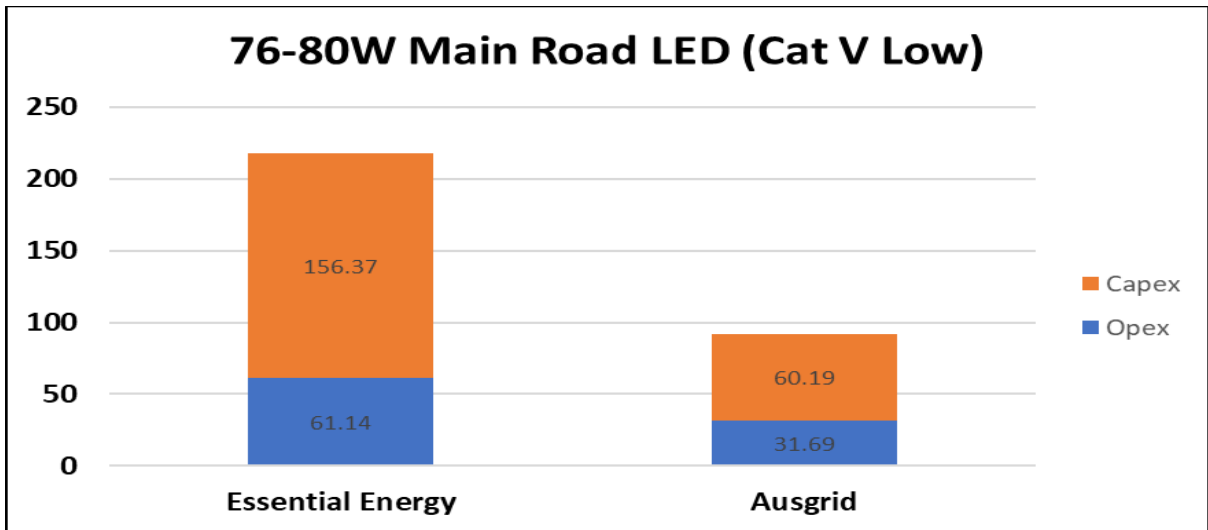
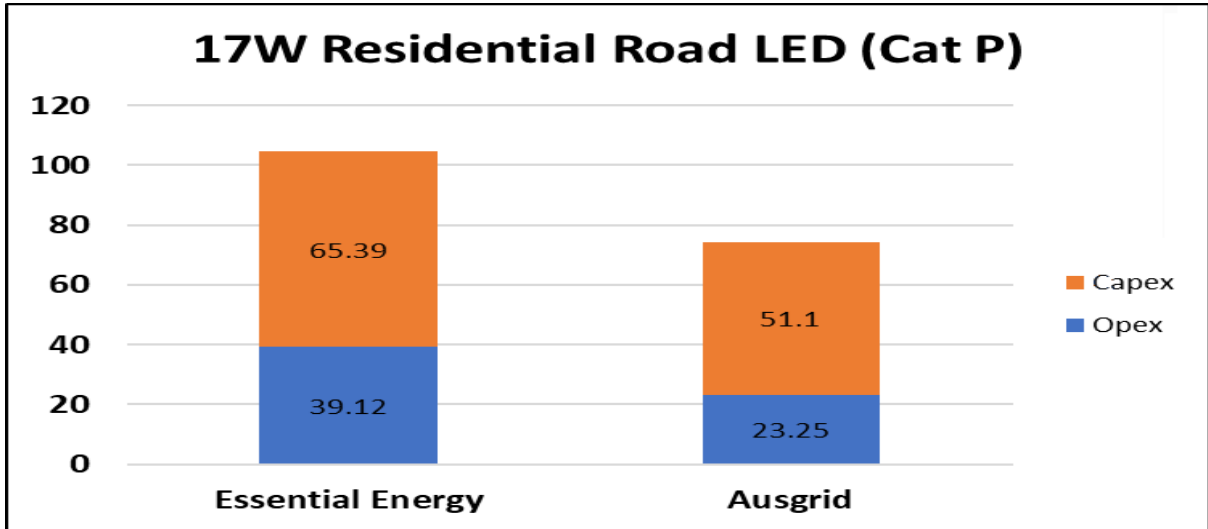
<sup>2</sup> Ausgrid ‘17W LED ALD’ FY25 capital and opex pricing as per Att 9.1b (current default for this category)

<sup>3</sup> Essential Energy ‘LED 80W Luminaire RoadLED Midi 4000K, 9509lm, 661mA’ FY25 capital and opex pricing as per Att 12.04 (current default for this category)

<sup>4</sup> Ausgrid ‘76W LED PH’ FY25 capital and opex pricing as per Att 9.1b (current default for this category)

<sup>5</sup> Essential Energy ‘LED 150W Luminaire RoadLED Midi 4000K, 20321lm, 650mA’ FY25 capital and opex pricing as per Att 12.04 (current default for this category)

<sup>6</sup> Ausgrid ‘140W LED PH’ FY25 capital and opex pricing as per Att 9.1b (current default for this category)



## **2. HIGH OVERHEADS**

We ask that the AER pays particular attention to whether the various overhead rates being applied by Essential Energy are appropriate for public lighting. As we understand it, Essential Energy is applying corporate, divisional and non-network overheads of 43.62% to OPEX charges, and corporate and divisional overheads of 41.78% to CAPEX charges.

Southern Lights NSW believes these rates to be excessive for what is effectively a separate business unit with many of its own systems and administrative staff. In our limited consultations with Essential Energy on pricing, they found it difficult to explain to us the reasoning behind the percentages that were being used.

For reference, our consultants have noted that Ausgrid appears to be applying a corporate and operational overhead rate of 13.8% to public lighting in its 2024-29 public lighting pricing proposal.

## **3. LARGER MANAGEMENT TEAM**

In 2022 consultations, Essential Energy indicated that it intended to hire two additional project management staff for the public lighting team and that these costs were accounted for in its 2024-29 pricing proposal.

Given the completion of the LED upgrade and the Essential Energy decision not to proceed with a smart controls deployment, we are unclear that there is a reasonable basis for expanding the team. We believe that this would make it proportionally larger than other DNSPs. Again, in our consultations with Essential Energy we asked that they provide us with an outline of the roles that the new staff would undertake, they were unable to provide us with the required information.

## **4. PERSISTENT BILLING ISSUES**

Essential Energy has been working with the Bathurst Regional Council for some time to investigate a variety of billing errors related to incorrect tariff assignment when assets are replaced and the inter-related issue of the administration of warranties by Essential Energy.

Southern Lights NSW is of the view that the issues identified by Bathurst (which is to be commended for its diligence and would be more than willing to speak to the AER) are highly likely to be widespread. However, other councils lack the skills and resources to undertake the degree of investigation that Bathurst has consistently made over some considerable time.

Essential Energy has acknowledged in its submission (Essential Energy Att. 13.03.01) that there is a, *“Lack of automated billing solutions resulting in high manual labour, increasing the risk of billing errors”* and a, *“Lack of confidence in [knowledge about historical] ownership and maintenance arrangements of public lighting”*.

An external party was brought in by Essential Energy to assist with data clean-up and Essential Energy has adopted improved reporting of inventory additions and removals. However, despite

the best efforts of all parties, billing issues persist. Similarly, in the last regulatory period councils were informed about a multi-million dollar IT investment by Essential Energy that was also intended to address inventory and billing deficiencies (and were told that this system negated much of the value of a potential investment in smart controls being debated at the time).

The issues identified by Bathurst Regional Council have been widely discussed within Southern Lights NSW, appear persistent and have not been resolved with investments made by Essential Energy to date. Put simply, if customers cannot be confident in their billing, the whole basis of the relationship with customers is in trouble. We are also acutely aware that these persistent issues are consuming significant amounts of Essential Energy staff time.

The AER should therefore consider whether an entirely new approach to managing the public lighting inventory and billing is needed and whether customers really should be paying for any rectification, given the apparent historical misinvestment. We also note that leaving councils exposed to whether a product warranty can be successfully claimed or not appears unreasonable as it places the financial risk with the customer who is unable to enforce the warranty and makes billing overly complex for all parties.

## **5. DIFFERENT INTERPRETATION OF NSW PUBLIC LIGHTING CODE**

Southern Lights NSW has recently undertaken an analysis of the last three quarters of Essential Energy reporting on the NSW Public Lighting Code. That analysis, which has been discussed with both IPART and Essential Energy, identified that the percentage of faults classified by Essential Energy as “Complex” or “Excluded” was 42%-59% of all faults.

This differs markedly from Southern Lights NSW’s understanding of the Code intent. Southern Lights NSW is of the view that these categories are intended to be exceptions, not the norm. Benchmarking against other DNSP data showed that both Ausgrid and Endeavour Energy classified approximately 11% of all faults in 2021/22 as “Complex” or “Excluded”.

Feedback from Essential Energy suggested that all faults involving main road lighting are being classified as “Complex” faults. Southern Lights NSW has expressed significant concerns about this, as “Complex” faults are allowed 25 days average repair times under the Code as compared to 8 days average repair times for “General” faults. Southern Lights is concerned that Essential Energy is “gaming” the Code by shifting General Faults to the Complex category in order to benefit from the longer repair time. Longer repair times have significant road safety implications, particularly on main roads.

With regards to “Excluded” faults, 9% - 19% of Essential Energy faults over the last three quarters were classified as “Excluded”. In contrast, Ausgrid recorded 2% and Endeavour Energy recorded 0.3% of faults as being “Excluded” in 2021/22. “Excluded” faults are generally allowed 100 day average repair times under the Code. Again, Southern Lights NSW has concerns that longer repair times have significant road safety implications, particularly on main roads.

From a pricing perspective, Southern Lights NSW is of the view that the fundamentally different classification of faults by Essential Energy represents a markedly lower level of service than the other DNSPs. This should be considered by the AER in making its assessment.

## **6. NIGHT PATROL COSTS**

Essential Energy has suggested that the cost of undertaking night patrols on main roads (required under AS/NZS 1158) is \$6.25 per year per main road light (Essential Energy Att. 13.03.02 'C\_OPEX Input D70) while Ausgrid has suggested a figure of \$1.84 per year per patrolled light (Ausgrid Att. 9.1b 'C\_OPEX Calc'). Such a large difference in costs seems hard to explain and should be investigated by the AER. We also note that Essential Energy appears to only be patrolling about 25,000 of 35,000 main road lights at present with what is being patrolled not transparent to councils.

## **7. 30-YEAR LED LUMINAIRE REPLACEMENT CYCLE**

In Essential Energy's Att. 13.03.01, reference is made to extending the replacement cycle for LED luminaires 30 years (page 4). Southern Lights NSW is unclear where this assumption, which is not consistent with manufacturers' data, comes from and what implications it has for price modelling.

## **8. FAILED SMART CONTROLS TENDER**

Beyond adopting LEDs, smart controls are the only effective tool to take energy savings further. Indeed, smart street lighting controls can deliver material energy, GHG, light pollution, asset management, maintenance, administrative, transparency, service level, road safety and public security benefits for councils, for utilities and for our communities. Solid international precedent supports this with an estimated 30 million smart street lighting controls deployed worldwide.

Southern Lights NSW engaged with Essential Energy from 2018-2021 on smart street lighting controls including on a major public tender. While both parties put significant good faith efforts behind this effort, the tender was never awarded due to a change in Essential Energy's management view of the project.

Essential Energy subsequently proposed a novel form of partial contestability, suggesting that councils could separately procure smart controls and contract for them to be deployed on Essential Energy luminaires (that would see councils paying to use lighting infrastructure that they have met the capital cost for). Southern Lights NSW has not been able to identify any comparable precedent for this proposal which has significant inherent inefficiencies as well as administrative and legal complexities. No further details have been provided by Essential Energy, despite requests from Southern Lights for detail about how this would work in practice.

Southern Lights NSW is understandably disappointed in this outcome after so much effort and investment by councils and their representative organisations. More broadly, Southern Lights NSW has significant public policy concerns about a DNSP effectively being able to lock councils out of an important lighting technology that is vital to containing costs, reducing emissions and improving service levels (including addressing the significant administrative deficiencies noted above). Councils have now missed the opportunity to co-deploy smart controls with LEDs (as is happening in major upgrades around the world).

We'd again remind the AER and Essential Energy that it is councils, as the road authority, not the DNSPs, that have exclusive legal responsibility for deciding when to light, to what level and in what manner. This kind of outcome on smart controls when councils had clearly articulated a position is simply unacceptable and suggests a system of managing public lighting that is not working in the interests of the community.

## 9. OTHER UNRESOLVED ITEMS

Other items not already mentioned above and agreed with Essential Energy as being unresolved (and summarized in Essential Energy's letter of 9 November 2022) include:

- Assumptions about LED and PE cell failure rates
- LED floodlighting design component assumptions
- Costs of compliance testing of unmetered supply
- Costs of the 6 yearly cleaning and inspection cycle
- Labour productivity assumptions in the model

In each case, Southern Lights NSW was awaiting further review by, information from or discussion with Essential Energy to progress these.

## 20. Do you support Essential's proposed framework for minor public lighting capital works and the pricing that has been proposed?

Southern Lights does not support the proposed framework for minor capital works nor the proposed pricing for the following reasons:

- Essential Energy's proposed charges of \$900-\$1,300 to remove unwanted luminaires (See Essential Energy Workshop 2 slide below) are very high, would far exceed the capital cost of a new installation, would be an appreciable chunk of the NPV of all future charges if the light were just left in place and would present a significant disincentive for energy efficiency/GHG abatement where redundant assets are involved.
- Essential Energy's proposed charges of \$2,000-\$3,300 to add a new light to an existing pole (presumably in addition to on-going capital and maintenance charges) are again very high, would be several fold more than the estimated capital cost of a new installation (based on current capital charges) and would be a significant disincentive for councils to add new lights in response to resident requests, public/road safety concerns or resolving compliance issues.
- There were suggestions made during initial consultation with Essential Energy in 2022 that a separate working group would be formed to review the proposed new MCW framework and charges in more detail. Southern Lights NSW has no knowledge of these discussions being pursued beyond an initial meeting in June 2022.
- Essential Energy has suggested that the new MCW costs include, "Administration effort, Materials, Labour, Fleet & Traffic Control (CAT V only)" (see slide below) however, many of these costs are embedded in already approved capital charges for lights, brackets and poles. This appears confusing.



- The basis of Essential Energy’s proposed MCW costs is largely unexplained and untested. There is only the briefest mention of a new MCW regime in Essential Energy’s pricing proposal and no pricing detail which Southern Lights has been able to identify. While councils support transparent fee-based pricing, any suggestion that councils strongly back these types of high prices is absolutely rejected (see p96 of the proposal). Much more discussion is needed with stakeholders.
- Southern Lights NSW is aware from discussions with SSROC that a previous similar proposal by Ausgrid in 2020 was strongly challenged by councils and, on detailed review, Ausgrid has brought down charges by 40-75% from its initial approach. This further underscores our concern about what may be an ambit cost claim.

**Slide on Minor Capital Works from Essential Energy Consultation Workshop 2**

## Lighting Services: Minor Capital Works

Standardised Rates are proposed for the Construction & upfront effort associated with MCW requests.

Currently costs are recovered in line with the Spot replacement Capital annuity rates. These are not always cost reflective of the works being undertaken.

Standardised rates will allow Councils the flexibility to accurately plan & budget for this work or pass the costs onto third parties or use grants etc.

Standardised rates will allow Essential Energy to resource this work effectively and fairly recover all associated costs e.g. Administration effort, Materials, Labour, Fleet & Traffic Control (CAT V only)

NEW Proposed ANS Fee	2024/25
MCW: Disconnect & Remove - CAT V Luminaire & Outreach (>49W LED)	\$1,308.60
MCW: Disconnect & Remove - CAT P Luminaire & Outreach (<49W LED)	\$912.92
MCW: Construct on existing overhead network - CAT V Luminaire & Outreach (>49W LED)	\$3,337.53
MCW: Construct on existing overhead network - CAT P Luminaire & Outreach (<49W LED)	\$2,006.52
MCW: Feasibility Assessment Fee - 1 asset	\$245.84
MCW: Feasibility Assessment Fee - 2 to 5 assets	\$614.70
MCW: Feasibility Assessment Fee - 6 to 10 assets	\$1,167.98
MCW: Feasibility Assessment Fee - 11 to 20 assets	\$1,721.27
MCW: Feasibility Assessment Fee - 21 to 30 assets	\$2,274.56

\*All costs are indicative only & subject to change as outcomes of the broader proposal are finalised

## 21. Do you have any other comments on Essential’s public lighting proposal and prelodgement engagement?

Southern Lights NSW recognises the challenges faced by Essential Energy in servicing a large area and the challenges for the well-meaning individuals appointed to public lighting roles in a company that has been through successive rounds of restructuring. However, Southern Lights notes that:

- The great bulk of Essential Energy street lighting is concentrated in major regional towns in close proximity to Essential Energy depots;
- Essential Energy installation and repairs take place on roads with considerably lighter traffic volumes than in metro Sydney; and
- The large-scale LED deployment agreed to with councils (and substantially funded by them) has brought enormous reductions in the maintenance burden for Essential Energy.

Essential Energy pricing must be fair, councils accept that there should be reasonable allowances for inherent inefficiencies and its unique circumstances. However, those unique circumstances should not provide Essential Energy with a “free pass” to charge whatever it likes or to embed inefficiencies in its operations because it makes life easier for the organisation. As stated above the majority of the street lights in Essential Energy’s footprint are located in regional cities close to an Essential Energy depot. This should be reflected in their pricing.

Finally, I note that Southern Lights NSW and the councils it represents strongly support the ability of councils and Essential Energy to be able to jointly introduce new technology without unreasonable delay during regulatory periods. Given the speed of technology change, we’d encourage the AER to approve a pricing mechanism by which this can more easily happen at any point. This will help councils to achieve efficiencies, cost savings, and emissions reduction opportunities.

We welcome the AER’s review of Essential Energy 2024-29 public lighting pricing. If you require further information or clarification on comments, please do not hesitate to contact me on [REDACTED]

Yours sincerely,

[REDACTED]

Jenny Bennett  
Project Manager, Southern Lights NSW  
Executive Officer, Central NSW Joint Organisation

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Phone: [REDACTED]

Cc: Scott Phillips, Chief Executive, Local Government NSW.

# Public lighting regulatory submission 2024-29

## Items for ongoing discussion

### Background

Essential Energy has continued its engagement with street lighting customers (testing draft proposal) in a series of meetings held between 23 September to 3 November 2022 between Essential Energy & representatives of Southern Lights Councils. Essential Energy values the collaboration, feedback, and input from Southern Lights throughout this process and whilst we acknowledge that there have been changes made to the modelling under this process, we do also want to make a commitment to Southern Lights to continue this review process into the future and as per the normal regulatory revision process in 2023.

Essential Energy is finalising the Public Lighting model and will submit its Public Lighting proposal and accompanying model to the AER (Australian Energy Regulator) in January 2023 for review.

Essential Energy acknowledges that there are several items in the Public Lighting pricing model that require further review, explanation and decision making over the coming months and as part of the revision process in 2023. The list below identifies those areas still under review and discussion. Importantly this list of items does not restrict the review of additional items (new) as part of the normal regulatory revision process planned for 2023.

Item	Description
1.	<p><b>LED Luminaire &amp; PE Cell Failure Rates-</b></p> <p>Essential Energy will continue to collaborate, review, and gather relevant up-to-date information on all applicable failure rates to be used in the calculation of Opex charges.</p> <p>For the purposes of the draft modelling a placeholder will be utilised for the below cells:</p> <ul style="list-style-type: none"><li>➤ Tab- "Opex Calc": Column K "PE Cell Failure Rate", rows 10 - 42 = <b>1.09%</b></li><li>➤ Tab- "Opex Calc": Column M "Luminaire Failure Rate", rows 10 - 42 = <b>0.64%</b> (blended rate)</li></ul>
2.	<p><b>LED Floodlights design component-</b></p> <p>Essential Energy will continue to collaborate, review, and gather relevant up-to-date information for the appropriate treatment of design labour for the transition to LED floodlights.</p> <p>For the purposes of the draft modelling a placeholder will be utilised for the below cell:</p> <ul style="list-style-type: none"><li>➤ Tab-"I_CAPEX": Column G "Floodlight Design hours/ light" row 42= <b>1.00</b> (hours)</li></ul>

3.	<p><b>Compliance testing of un-metered supply-</b></p> <p>Essential Energy will continue to collaborate, review, and gather relevant up-to-date information for the auditing of un-metered supplies &amp; where efficiencies can be achieved these will be reflected in the revised submission.</p> <p>For the purposes of the draft modelling a placeholder will be utilised for the below cell:</p> <ul style="list-style-type: none"> <li>➤ Tab-"I OPEX Input": Column C "compliance testing of un-metered supply" row 272= <b>\$150,000</b></li> </ul>
4.	<p><b>Night Patrols-</b></p> <p>Essential Energy will continue to review and discuss with councils whether the costs of staging night patrols on Category V roads are best delineated as a separate charge in its pricing model or whether these are best incorporated into the overall Category V Opex charges.</p>
5.	<p><b>6 Yearly LED Luminaire-Cleaning &amp; Inspection Cycle</b></p> <p>Essential Energy will review this item as further information is available.</p> <p>For the purposes of the draft modelling a placeholder will be utilised for the below cell:</p> <p>Tab-"I_Opex Input": Column C "" row 12= \$55.75</p>
6.	<p><b>Street Lighting Management Team</b></p> <p>Essential Energy acknowledges there are concerns about the proposed size of the street lighting management team of 5.1 staff and wish to ensure that those resources are needed, are optimally sized, are appropriately attributed to the street lighting budget and that there is no double-counting (e.g. with respect to corporate overheads). Essential Energy will endeavour to provide Southern Lights with further information to address these concerns.</p>
7.	<p><b>Overhead &amp; Labour Productivity Assumptions</b></p> <p>Essential Energy acknowledges that councils have concerns about some of the overhead and labour productivity assumptions. Essential Energy will endeavour to provide Southern Lights with further information addressing these concerns.</p>