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15 May 2019

Mr. Warwick Anderson
General Manager, Networks Finance and Reporting
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

Emailed: SAPN2020@aer.gov.au

Dear Mr Anderson

SA Power Networks Electricity Distribution Price Review for 2020/21 – 2024/25: Public Lighting

The Local Government Association of South Australian (LGA) welcomes the opportunity to make a submission in relation to the SA Power Networks (SAPN) Electricity Distribution Price Review 2020/21-2024/25 for public lighting. The LGA would like to acknowledge the important role the Australian Energy Regulator (AER) plays in providing a fair and transparent for pricing determinations around public lighting.

The LGA is recognised as the peak representative body for local government in this State and prides itself on being the voice of local government. The LGA provides leadership to councils and representation outwards to State and Federal governments and other key stakeholders.

The LGA is federated nationally with interstate and territory associations in the Australian Local Government Association (ALGA). The LGA is also supported by the Parliament of South Australia in Schedule 1 to the Local Government Act 1999.

The mission of the LGA is to provide leadership to councils for the benefit of the South Australian community.

To achieve this mission the Association has set itself three key initiatives areas:

- Leadership and advocacy: Achieving greater influence for local government in matters affecting councils and communities.
- Capacity building and sustainability: Working with member councils to build capacity and increase.
- Best practice and continuous improvement: Facilitating continuous improvement in councils and the LGA.

Since late 2018, the LGA has chaired a Public Lighting Working Group (PLWG), formed to facilitate a practical and representative interface between SAPN and South Australian public lighting customers, including councils and the SA Government's Department of Planning Transport and Infrastructure (DPTI). It was established as a representative body for negotiating issues under the current regulatory framework and facilitating the practical transition to the new regulatory framework commencing in July 2020.

It is coordinated and chaired by the LGA, and further is comprised of 7 metropolitan and 3 regional councils, a representative from DPTI, with observers including the AER and two consultants that represent a number of councils in South Australia.

The introduction of the PLWG has resulted in a marked improvement in the relationship and level of communication between SAPN and the local government sector. The information provided through the PLWG has enabled councils to have a broader understanding of public lighting services and the ability to provide input into future processes.

The attached response to the Electricity Distribution Price Review 2020/21-2024/25 for public lighting has been developed in conjunction with street lighting experts Ironbark Sustainability with input from the local government representatives of the PLWG.

Also attached is a single appendix, the questions from a survey of South Australian councils undertaken in April-May 2019 for the purposes of this submission.

Please note that a commercial-in-confidence version of this submission is also be provided to the AER separately. It contains further sensitive information referenced in the public version as “commercial in confidence”.

The LGA greatly appreciate the information provided by SAPN, both through official channels such as the AER website, and “cleansed” versions of select documents to assist in our responses. SAPN provided detailed discussion of the inputs to the model and were forthcoming with requested information and data up to the submission of this response.

We look forward to continuing to work with SAPN, the PLWG and the AER during the price review period and value the contribution that the AER has made in determining that equitable and consistent approaches are made to pricing which represent the best value proposition for the community, industry and all levels of government.

Thank you for the opportunity to make this submission. Further enquiries can be forwarded to myself or [REDACTED] (Business Manager, Ironbark Sustainability) at [REDACTED]

Yours sincerely

[REDACTED]

Steve Nolis

Executive Director Commercial

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Attach: Submission to the SAPN Electricity Distribution Price Review Process for 2020-21-2024-25 – Public Lighting
Appendix 1 – questions from survey of South Australian councils

Submission to the SAPN Electricity Distribution Price Review Process for 2020/21-2024/25 – Public Lighting

May 2019

Prepared for

Local Government Association of South Australia

Version	Author	Date	Description of changes
V0a	Paul Brown	14/3/2019	First draft
V0b-c	Alexi Lynch	16/3/2019	Review and various updates on costs and expenditure
V1a	Paul Brown	11/4/2019	Updated
V1b	Paul Brown	15/4/2019	Release copy for comment from sub-committee
V1c	Alexi Lynch	17/4/2019	Release copy for comment from PLWG (councils only)
V1d	Paul Brown	7/5/2019	Review and updates with SAPN data late-April 2019
V1e	Alexi Lynch	13/5/2019	Release copy for public

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About Ironbark Sustainability

Ironbark Sustainability is a specialist consultancy that works with government and business around Australia by assisting them to reduce energy and water usage through sustainable asset and data management and on-the-ground implementation.

Ironbark has been operating since 2005 and brings together a wealth of technical and financial analysis, maintenance and implementation experience in the areas of building energy and water efficiency, public lighting and data management. We pride ourselves on supporting our clients to achieve real action regarding the sustainable management of their operations.

Our Mission

The Ironbark mission is to achieve real action on sustainability for councils and their communities.

Certified



Ironbark are a certified B Corporation. We have been independently assessed as meeting the highest standards of verified social and environmental performance, public transparency, and legal accountability to balance profit and purpose.

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1. Introduction

This document was commissioned by the Local Government Association of South Australia (LGA) and its members to respond to the proposals within the SA Power Networks (SAPN) Electricity Distribution Price Review (EDPR) for public lighting for the 2020/21-2024/25 period.

This document provides a summary of key areas for improvement that relate to the EDPR and more broadly to the strategic plans and asset management plans of SAPN over the coming 5-year period.

The LGA and councils have a healthy and robust collaborative relationship with SAPN and are working closely on a range of activities relating to public lighting. This is similar to the broader approach between SAPN and the Consumer Challenge Panel (CCP) currently working through the (non-public lighting) EDPR where the dialogue is open, challenging, and constructive, and the customers act as a “critical friend”. The LGA has supported program scoping and works between councils and SAPN for many years and specific projects to date have replaced over 50,000 street lights to LEDs.

Since late 2018, the LGA have chaired a Public Lighting Working Group (PLWG), formed to facilitate a practical and representative interface between SAPN and South Australian public lighting customers, including councils and the SA Government’s Department of Planning Transport and Infrastructure (DPTI). It was established as a representative body for negotiating issues under the current regulatory framework and facilitating the practical transition to the new regulatory framework commencing in July 2020.

The recommendations in this document should be considered in light of this collaborative relationship and the EDPR has been taken as an opportunity for councils to document existing views on strategic opportunities for collaboration as well as for comment on specific areas where improvement or clarification on pricing is sought.

1.1 About the LGA

The LGA is recognised as the peak representative body for local government in the state and prides itself on being the voice of Local Government South Australia. The LGA provides leadership to councils and representation outwards to State and Federal governments and other key stakeholders.

The LGA is federated nationally with interstate and territory associations in the Australian Local Government Association (ALGA). The LGA is also supported by the Parliament of South Australia in Schedule 1 to the Local Government Act 1999.

The mission of the LGA is to provide leadership to councils for the benefit of the South Australian community.

To achieve this mission the LGA has set itself three key initiatives areas:

Leadership and advocacy: Achieving greater influence for local government in matters affecting councils and communities.

Capacity building and sustainability: Working with member councils to build capacity and increase sustainability. An integrated and coordinated local government.

Best practice and continuous improvement: Facilitating continuous improvement in councils and the LGA.

1.2 Report Scope

This report focuses on the proposed plans for public lighting management and pricing over the 2020/21-2024/25 period. This is not a comprehensive review of all elements of the proposed EDPR. Lack of comment on other elements of the proposed reforms does not imply LGA support for those elements. LGA member councils may also have made their own submissions, which should be considered separately and in addition to this response.

1.2.1 A Note on Regional Pricing and “Postage Stamp Pricing” for Installations

The SAPN proposal includes a “regional price” for the installation of new and replacement luminaires, where this regional price will allow for the additional costs associated with mobilisation of work crews in regional areas. For example, the “SAPN Regional LED” tariff is higher than the “SAPN LED” tariff referred to in Section 2.5. Regional pricing versus “postage stamp” pricing is the subject of ongoing discussions within the Public Lighting Working Group. The LGA will continue to work on this matter with SAPN and would welcome the opportunity to discuss this matter in further detail with the AER.

1.3 Background to the Assessment of Pricing

The recommendations and comments within this report are based upon information provided by SAPN through the public EDPR process and information that has been provided to LGA through a consultation process during 2018 and 2019. Reference has been made to where the information discussed has been sourced from.

1.3.1 Meetings, Workshops and Documents

SAPN, councils, the LGA and DPTI have met several times in early 2019 to discuss the pricing models and their inputs and assumptions. During these meetings SAPN provided detailed discussion of the inputs to the model, supplied relevant public and non-public versions of the modelling used and summary documents including:

- Public Lighting Pricing Model – 2020-25 RCP (User Guide V0.5)
- SAPN – 14.5 – Public Lighting Asset Management Plan – January 2019 – Public.pdf
- D19-2978 – AER – Industry practice application note Asset replacement planning – 25 January 2019.pdf
- SAPN – 14.6 – Public Lighting Pricing Model – January 2019 – Cleansed

In addition, customers (councils and DPTI) met to discuss the key elements of this submission and to agree to the advocacy and service level items to be rejected, or indeed included in the modelling from SAPN (e.g. include auditing for column condition, reject cleaning of LED luminaires).

2. Public Lighting Cost Model

2.1 General Findings – Failure Rates

There are a number of areas where SAPN have used indicative predicted failure rates which are above historic norms and created new areas of maintenance and replacement without evidence of the need to do so. These include items covered within this report on cleaning of LED luminaires, cable replacements and column replacements. As a result of this, there is concern that additional areas where SAPN have not provided evidence for predicted failure rates may be over-stated and customers will bear the costs.

2.1.1 Recommended Alternative Approach

We recommend that the following options be considered by the AER:

- That actual historic trends and numbers be averaged to allocate failure rates for the above items; or if this is not available
 - The rates allocated within the model and as listed above be decreased by 30% (in line with the average inflation we have seen for cable faults (Section 2.6)).
- That any testing and auditing be carried out independently of SAPN or with SAPN working in collaboration with customers. These activities determine a significant proportion of the costs customers must pay. Experience in assessing the public lighting model indicates that an active role by customers and/or the regulator is required to ensure these activities are not taken advantage of by unreasonably increasing DNSP revenue streams over time. Determination by the AER of how customers can be involved in these activities would be helpful.
- That the AER ensures that any estimated failure rates and their corresponding expenditure items result in costs being recouped by SAPN only in line with the actual replacements that occur (particularly for columns, cables and LED replacements).

Of course, where asset maintenance costs are justified and deliver appropriate asset management practice, customers support this activity if it is delivered in a transparent and cost reflective manner. Over-servicing is to be discouraged.

2.2 Other General Items for AERs Review

In reviewing public lighting pricing the AER has typically considered several elements for review. We would request that the AER benchmark and review the following items in accordance with previous review processes:

- Labour rates and materials pricing
- WACC
- Margins

2.3 Annuity Term for Luminaires

SAPN have proposed an annuity term of 17 years for LED and HID luminaires. In other jurisdictions, this amount matches the expected life of the assets, the expectation of which is outlined within the Australian Standards (Figure 1).

Gerard Lighting has been the main supplier of lighting to SAPN. Evidence of the life is provided publicly, and a screen shot of the current public data sheet is provided in Figure 2. This product sheet is for the StreetLED Mark II which is the “LED17_R” tariff listed by SAPN. Please note the “20 Year Design Life” entry on the bottom left of the sheet.

This increased life is reflective of the views of all manufacturers and DNSPs who have experienced the much lower in field maintenance requirements of LED lighting than those assumed 5 years ago. Further information on failure rates nationally can be provided.

Figure 1: Statement of service life Australian Road Lighting Standards¹

Industry expectations consider that luminaires will have a target service life of at least **20 years**. This requirement nominates recommended materials recognized at the time of

Figure 2: Gerard Lighting data sheet for StreetLED Mark II LED luminaire used by SAPN²

SYLVANIA A SMART CITY SOLUTION

STREETLED MKII (cont.)

SPECIFICATIONS

<p>Electrical Characteristics:</p> <ul style="list-style-type: none"> • Input Voltage: 2160V – 240V 50Hz/60Hz • Power Factor: 0.9 • System watts: 17W-42W • Class I <p>Optical Characteristics:</p> <ul style="list-style-type: none"> • CCT: Available in 4000K and 3000K • CRI: > 70 • Optical chamber sealed to IP66 <p>Mechanical Characteristics:</p> <ul style="list-style-type: none"> • Pressure die cast aluminium body • Weight: 6.1kg • Seld cleaning visor as standard • Stainless steel fasteners, latches and clips • Hinged access cover with quick access clips • Easy to replace visor with quick access clips • RAL 9006 finish as standard • 27mm to 34mm spigot entry • IP66 • 20 years design life 	<p>Control Characteristics:</p> <ul style="list-style-type: none"> • 1-10V Control • NEMA 7 • Smart City ready <p>Environmental & Standards:</p> <ul style="list-style-type: none"> • Ambient Operation Temps: -10 to 40°C • EMC compliant: AS/NZS CISPR15, AS/NZS 60598.1 & AS/NZS TS 1158.6: Luminaires - Performance • IPART, VEET approved (applies to certain models) <p>Options: (MOQ and additional leadtime applies)</p> <ul style="list-style-type: none"> • Surge protection device (SPD) • Fused terminal block • Class II version (Double insulated) • Visor options: Standard, Aeroscreen, Glare Shield, Louver • D2 Cell <p>SMART CITY SOLUTIONS</p> <ul style="list-style-type: none"> • LOWPANG, ZIGBEE, LORAWAN, NBIOT technologies • Devices & sensors for smart city applications • Customised platform integration
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Recommendation: Alter the annuity term to 20 years in accordance with the expected luminaire life to be in line with Australian Standards, manufacturers recommendations and other DNSPs. This will reduce the annual annuity charges to customers.

2.4 Cleaning of LED Luminaires

SAPN propose to include an LED cleaning and testing program which would result in costs to customers of just over \$7m over the 5 years to 2024-25.

2.4.1 Evidence for Alternative Approach

According to the SAPN Public Lighting Strategy, SAPNs responsibility is, *“to maintain the lighting output to at least 70% of the original lighting output. All the following strategies are undertaken to fulfil this requirement.”* The strategy then lists a range of public lighting asset management activities, including LED cleansing and testing.

The 70% assumption is based on a false set of design criteria used many decades ago to assume values associated with meeting Australian Standards for lighting levels. In many jurisdictions, this is now a calculated figure that determines this percentage based on the actual light in question. For example, an 80WMV actually has

¹ SA/SNZ TS 1158.6:2015 page 5

² <https://specify.gerardlighting.com.au/products/roadway/led/streetled-mk-ii>

a maintenance factor (which combines lamp depreciation and dirt build-up) of around 55% after 4 years, whilst many LEDs are as high as 85% after 10 years³.

How is “original lighting output” considered in other jurisdictions?

In Victoria, the five Victorian DNSPs (and VicRoads) work together to share information for the assessment of new public lighting products. As part of this process, technical requirements for new street lighting products have been released⁴.

The Guidelines specify the methodology by which the spacing performance of new SSL street lighting products must be assessed. Spacing analysis is generated by calculating Maintenance Factors (MFs) calculated in accordance with the Australian Standards and as outlined in the Guidelines. The luminaire maintenance factor (LMF) used assumes a clean at 10 yrs.

Following calculation of spacing tables as per the above method, a luminaire’s spacing performance is assessed against benchmark spacing tables. For Category P luminaires, benchmark spacing tables are based on the performance of the 80W mercury vapour, 2x14W T5 and 32W CFL. For Category V luminaires, benchmark spacing tables are based on the performance of the 150W HPS, 250W HPS and 400W HPS.

Theoretical Performance of SAPN Approved lights after 10 years (without clean)

SAPN have approved the Gerard StreetLED MKIII 17W. This luminaire has also been assessed and approved by Victorian DNSPs using the methodology outlined above (assuming a clean not before 10 years). The design outcomes for minor the meeting of minor road lighting standards are (Category P4 and P5) presented in Table 1 and Table 2.

Note – in the tables below **green** cells indicate compliance with spacing benchmarks

Table 1 - StreetLED MKIII 17W semi cut-off P4 spacing table

SYLVANIA STREETLED MKIII 17W													P4
Mounting Height	Road Reserve Width (m)												
	10	11	12	13	14	15	16	17	18	19	20	21	22
5.5m	67.4	67.3	67.2	67.1	67.0	66.8	66.7	66.6	66.4	65.4	64.3	62.8	
6.5m	73.6	73.5	73.4	73.3	73.2	73.0	72.9	72.8	72.7	72.2	71.3	70.3	69.3

Table 2 - StreetLED MKIII 17W semi cut-off P5 spacing table

SYLVANIA STREETLED MKIII 17W													P5
Mounting Height	Road Reserve Width (m)												
	10	11	12	13	14	15	16	17	18	19	20	21	22
6.5m	87.2	87.0	86.9	86.8	86.7	86.6	86.5	86.4	86.2	86.1	86.0	85.9	85.7
7.5m	93.9	93.9	93.8	93.7	93.6	93.5	93.4	93.3	93.2	93.0	92.9	92.8	92.6

³ Evaluation of Low Energy Lights for Minor Road Lighting, Victorian Sustainable Public Lighting Action Group (VSPLAG) – Technical Reference Group, 2008

⁴ SSL Street Lighting Design and Performance Guidelines – Victoria

2.4.2 Recommended Alternative Approach

As no evidence has been provided as to the need for cleaning within the period of the price review, and there is clear evidence that this is not likely to be required:

That no cleaning be included within the Public Lighting price models.

That the figures for testing in 2019/20 (i.e. \$0.03m for a sample of 2,000 lights) be allocated in the 2024/25 period in order to test whether cleaning is required during the next price review period.

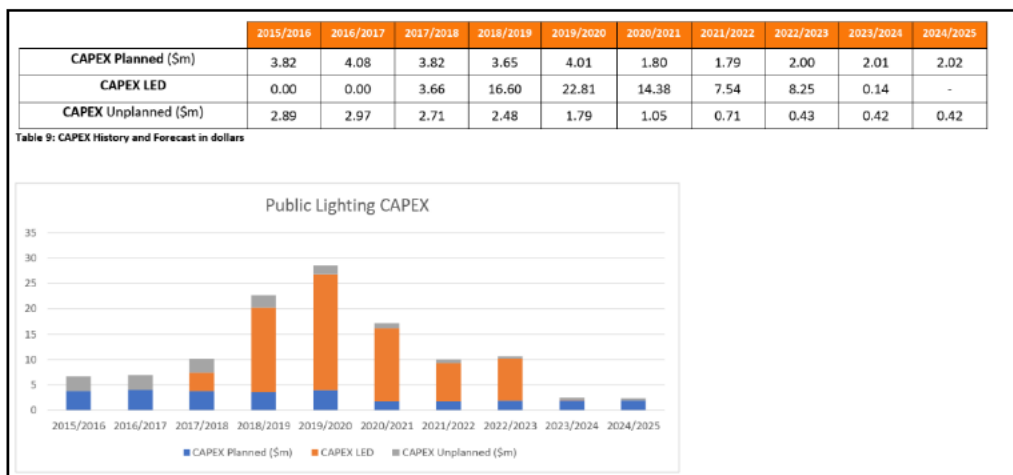
That this testing be **required** to be a collective process between customers and SAPN to ensure transparency and independence is maintained.

2.5 Capex LED

SAPN is expecting a major transition from HID lights to LED's, with 74% of public lighting installations forecast to be converted to LEDs by 30 July 2025. SAPN expect a growth rate of 1,200 (new) public lighting installations per annum, with these installations expected to be LED installations⁵.

SAPN also propose to undertake 46,809 LED Conversions in the 5-year period, on top of 33,000 planned in the 2018-19 year and 44,679 planned in the 2019-2020 year. This amounts to total capital expenditure of \$71.5 million on LED Conversions, including \$29.7 million over the 5-year period.

Figure 3: Historic expenditure and Luminaire Replacement (Figure 6. SAPN Asset Mgt. Plan: 6.1.02 – Public Lighting)



Customers have been informed that these costs are isolated to the “SAPN LED” and “SAPN Regional LED” tariffs, where SAPN pays for the upfront capital costs of the conversion, and councils essentially pay back the capital cost through the tariff. The alternative is the “PLC” tariff (“Public Lighting Customer” LED tariff) whereby councils cover the capital costs either through revenue or borrowing from a traditional lender such as a bank or through the Local Government Finance Authority (LGFA).

The PLC tariff provides a better return on investment over the life of the asset because councils can borrow the money to pay for the conversion through a standard internal budget bid or borrowing through traditional lenders or the LGFA at a low interest rate. Whereas under the SAPN LED tariff, council essentially borrows the money from SAPN and pays it back through the tariff at the weighted average cost of capital (WACC) over the life of the asset (nominally 17.5 years).

Under the PLC tariff, councils can also procure the hardware themselves, either directly through the manufacturer or third parties. SAPN has assumed that a total of 162,018 LED conversions will take place from 2016-2017 to

⁵ From page 25 of SAPN Regulatory Proposal, Attachment 14, Alternative Control Services

2024-2025. This includes years within the proposed EDPR period and before the proposed EDPR period, broken up as follows⁶:

Table 3 – LED Conversions from 2016-17 to 2024-25.

Year	LED Conversions (SAPN LED Tariff)
2016-17	6,287
2017-18	31,243
2018-19	33,000
2019-20	44,679
2020-21	25,743
2021-22	10,006
2022-23	10,878
2023-24	182
2024-25	0
Total	162,018
Total before EDPR period	115,209
Total in EDPR period	46,809

These are LED conversions slated to be changed over on the SAPN LED tariff only. However, a survey of South Australian councils undertaken in April-May 2019 for the purposes of this submission found that the vast majority of councils are planning on changing via the PLC tariff⁷. That is, funding the changeover (or “conversion”) themselves so not requiring SAPN to accrue costs.

Table 4 – Results from survey of SA Councils April-May 2019

Which best describes how far progressed you are towards changing your lights to LEDs	Which tariff are you planning on signing up to?	What year are you planning on beginning a changeover to LEDs	How many "P-category" lights do council currently have on SAPN poles?
We've finished	SAPN LED (funded by SAPN)	Already completed!	2,950
We've finished	SAPN LED (funded by SAPN)	Already completed!	12,000
We've started	PLC (funded by council)	2019	8,500
Considering our options	PLC (funded by council)	2021	3,000
We've finished	PLC (funded by council)	Already completed!	4,980
We've finished	PLC (funded by council)	Already completed!	1,400
Considering our options	PLC (funded by council)	2021	12,000
We've started	PLC (funded by council)	2019	8,792
Considering our options	PLC (funded by council)	2019	1,663
We've finished	PLC (funded by council)	Already completed!	2,480
Considering our options	PLC (funded by council)	Not sure	9,000
We've finished	PLC (funded by council)	Already completed!	3,611
We've started	PLC (funded by council)	2019	2,624
Considering our options	Not sure	2019	1,560
Considering our options	Not sure	2020	3,954
We haven't started yet	Not sure	Not sure	0
I have no idea	Neither/NA	None/NA	1,750

A total of 16 councils responded to the survey, covering 80,264 Category-P (or “residential”) lights. This represents 50.01% of all Category-P lights in the SAPN network. From the survey and councils’ intentions, 72.3%

⁶ From page 25 of SAPN Public Lighting Asset Management Plan (AMP – Supporting Document 14.5)

⁷ See survey questions attached separately as appendix 1

of the lights (58,050) will be changed via the PLC tariff and only 18.6% (14,950) via the SAPN-funded SAPN LED tariff. This includes lights already changed on both PLC and SAPN LED tariffs, as the table below illustrates.

Table 5 – Analysis of results from survey of SA Councils April-May 2019

Total lights in survey	80,264	From survey
Total PLC	58,050	From survey
Total SAPN LED	14,950	From survey
Total "not sure"	7,264	From survey
Total PLC already installed	12,471	From survey
Total PLC to be installed	45,579	From survey
Total SAPN LED already installed	14,950	From survey
Total SAPN LED to be installed	0	From survey
Total "not sure"	7,264	From survey
Total SAPN Lights	229,989	Page 13 Asset Management Plan
Total Category-P Lights	160,501	Page 13 Asset Management Plan
Category-P Lights in survey	50.01%	

Based on this evidence, it is **very likely that SAPN will not undertake the number of planned conversions**, with councils seeking to fund the conversions themselves. Costs associated with SAPNs conversions of LED luminaires must therefore be isolated to the SAPN LED and SAPN Regional LED tariffs.

SAPN has been procuring the hardware at a higher cost than other parties (including South Australian councils), which is leading to unnecessary price increase for councils. There is a concern that SAPN will continue to pay for hardware considerably higher than other stakeholders – for the identical product and where customers are buying the same quantity and even *lower* numbers of lights.

2.5.1 Evidence for Alternative Approach

To assist councils in managing the complex procurement landscape associated with the transition to energy efficient street lighting, Local Government Associations in Victoria and Tasmania formed a partnership with Ironbark Sustainability to support councils from the start to the end of a bulk change program.

The first part of this process included establishing a tender panel for all approved (by any Victorian or Tasmanian DNSP) energy efficient lighting products. This panel is open to all Victorian and Tasmanian councils and allows for a competitive and transparent process for councils to order lights from manufacturers.

This has enabled councils to directly understand the costs of lighting from suppliers. The MAV and LGAT has approved this information to be supplied on a confidential basis to the AER for the purpose of understanding the pricing in the determination⁸.

The LGA submits that the pricing in the determination should utilise the MAV/LGAT tender panel of prices wherever they are relevant. In particular, the pricing is provided based on differing volumes: 0 to 1000, 1,001 to 5,000, 5,001 to 9,999 and 10,000+.

For the purpose of the determination we propose that the volumes for the main light types (all of which have tens of thousands of products within a given DNSP area) utilises at least the 5,001 to 9,999 rates (noting SAPN are proposing to replace over 100,000 street lights). These rates should be applied for those products approved for use on SAPN's network.

Importantly these rates apply to the specific products and model numbers that are **approved by SAPN**. There is no difference in the products being supplied.

⁸ Pricing information sent separately to the AER as commercial in confidence submission and attachment(s)

To inform this submission, a separate (commercial-in-confidence) summary document has been provided referencing the pricing difference between the following procurement pathways:

- Purchasing the hardware (the LED) from SAPN
- Purchasing the hardware (the LED) from Enerven
- Purchasing the hardware (the LED) from the hardware supplier
- Purchasing the hardware (the LED) through the MAV-LGAT hardware panel

As is witnessed, the costs through the MAV-LGAT hardware panel are significantly cheaper than the other options, in some cases around 30-50% lower in price.

It is also worth noting that these prices apply to smaller regional councils in Victoria and Tasmania. For example, a small council such as Break O'Day Council in north-west Tasmania (population 6,000 with only 654 streetlights on residential streets) can currently purchase the identical light at a lower price than SAPN, planning on replacing over 100,000 streetlights on residential streets.

Furthermore, SAPN faces the potential of price increases due to foreign exchange “uplifts”, as happened on 29th March 2019 when their prices for the LED – already higher than what Break O'Day Council can purchase the light for – increased by around 14%. For Break O'Day, and 100 councils in Tasmania and Victoria, the prices are locked in until December 2019⁹.

Finally, even though the MAV-LGAT procurement panel is only open to Tasmanian and Victorian councils, the prices from the panel are not restricted to only Tasmanian and Victorian councils and may be able to be procured in South Australia through LGA Procurement. The prices are available for South Australian councils that benchmark prices with other states. For example, the City of Unley in South Australia purchased the identical product via the hardware supplier and received the same price as available to the likes of Break O'Day Council¹⁰.

While generally prices for hardware (or any “widget”) in most sectors will increase over time, the price of LEDs are decreasing as the technology improves at a rapid rate. This is a global trend that has been witnessed in Australia over the last 5 years, as illustrated through the graph below demonstrating how the price of DNSP-approved LEDs has steadily reduced in price since first being installed en mass in the City of Warnambool in Victoria in June 2014. Through engagement via the MAV Smart Lighting panel, Ironbark is able to track the price trend of this product and with increased competition (through alternative approved LEDs) this price is expected to continue to decrease.

⁹ Contract clause sent separately to the AER as commercial in confidence submission and attachment(s)

¹⁰ Communications between Ironbark Sustainability and suppliers and contract sent separately to the AER as commercial in confidence submission and attachment

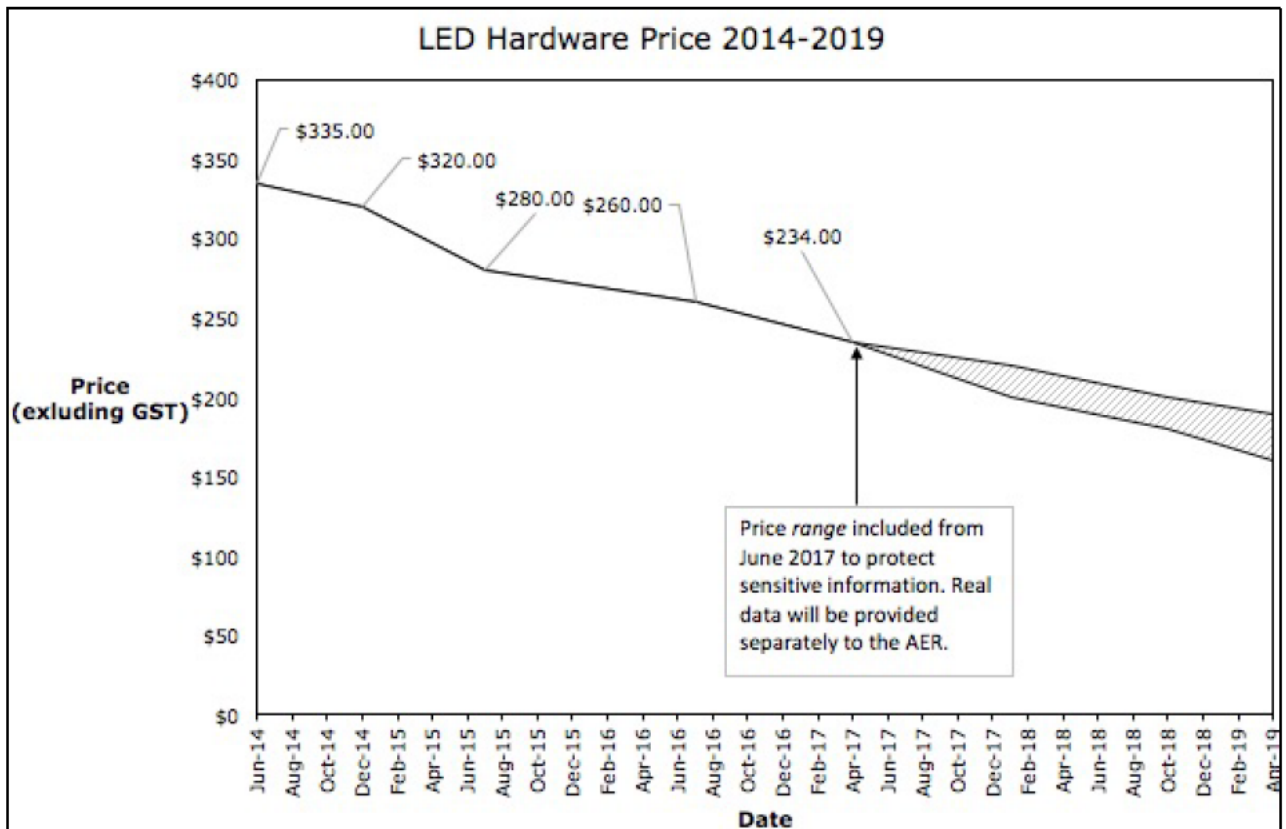


Figure 4: LED hardware price 2014-2019. Note from June 2017 a price range has been included to protect sensitive information that will be provided separately to the AER in a commercial in confidence submission.

2.5.2 Recommended Alternative Approach

The following is recommended of the AER:

- Ensure the costs associated with SAPNs replacement of LED luminaires is isolated to the SAPN LED and SAPN Regional LED tariffs. Noting that SAPN assumes the number of PLC tariff LEDs does not change (when in fact this will increase, subsequently decreasing the SAPN LEDs installed).
- As LED prices are decreasing rapidly over time the price used within public lighting models should be the lowest price available (either that can be achieved by local government procurement processes or the lowest price achieved by SAPN (whichever is lower)). This then provides room for SAPN to competitively negotiate improved pricing without capping customers costs at a much higher than market rate. This should ensure SAPN aggressively continues to look for all possible efficiencies and deliver all achievable price reductions through efficiency and innovation – and at least ensure the price is consistent with what other jurisdictions and indeed the City of Unley can achieve.

2.6 Cables

SAPN propose to change the current maintenance approach for dedicated public lighting underground electrical cables from reactive to a combination of reactive and proactive. This will increase the maintenance activity and costs by up to 10x current costs and by 2022/23 contribute around \$1m to the overall annual system costs.

2.6.1 Evidence for Alternative Approach

The current evidence of cable faults indicates the overall failure rates remaining low and are not escalating. Figure 5 and Figure 6, from the SAPN Asset Management Plan (AMP), indicate that the current failure rate varies widely from year to year (e.g. approx. 600 faults in 17/18 and 1,000 in 15/16) and the subsequent cable replacement program varies as well. End of life for assets typically results in increasing failures. As such it is unclear why the proposed preventative maintenance is in fact required.

Figure 5: Cable Replacement Distance (Figure 12. SAPN Asset Mgt. Plan: 6.1.02 – Public Lighting)

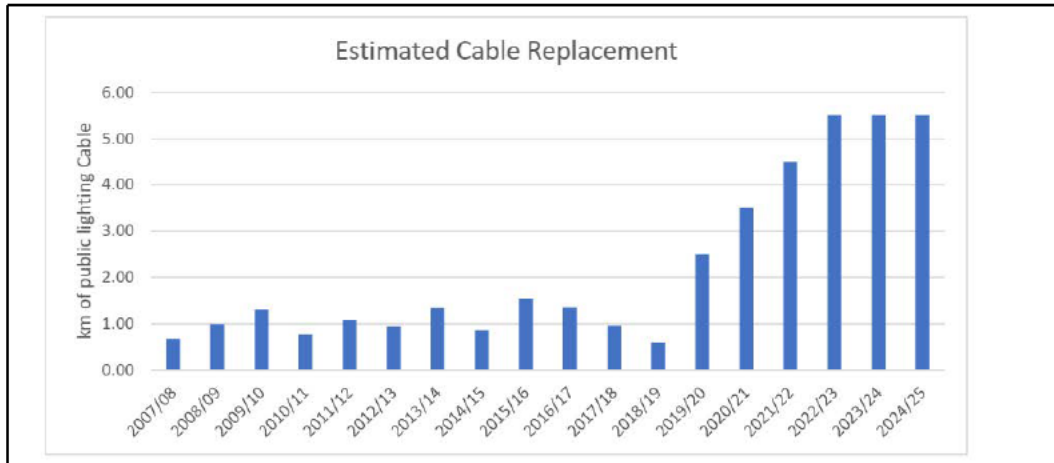
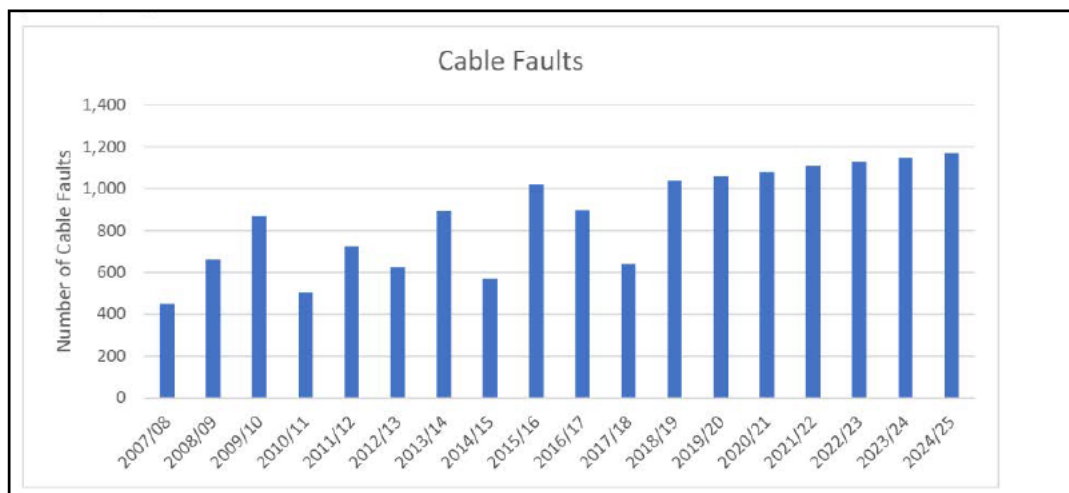


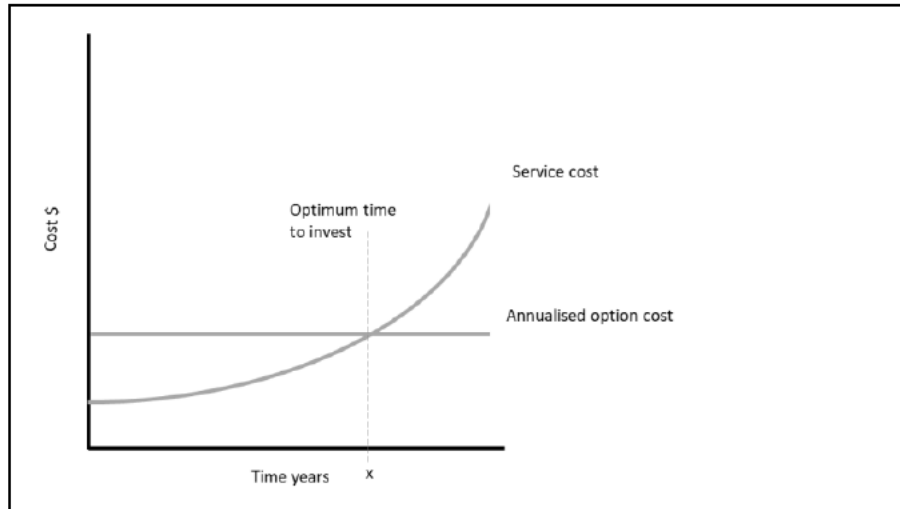
Figure 6: Number of Cable Faults Annually (Figure 11. SAPN Asset Mgt. Plan: 6.1.02 – Public Lighting)



In addition, there is no evidence that the predicted increase in cable faults from 2018/19 onwards will occur given the historical trend demonstrated in Figure 6. The faults oscillate widely and we recommend a predicted fault trend be developed using the average historical trend, not based on planning for an out-of-trend upswing and indicated in this graph. Based on the historical trend the average fault appears to be between 400 and 1,000 faults per year (average of approximately 700). Not the over 1,000 per annum proposed by SAPN.

The AER has prepared, in consultation with Energy Networks Australia, guidance on the optimum time to replace assets. This practice notes includes a summary of economically appropriate times to replace assets as well as the need to assess appropriate options for this replacement. It appears that SAPN have not assessed these assets using this approach.

Figure 7: Stylised representation of economically optimum timing of investment (Figure 1: D19-2978 - AER -Industry practice application note - Asset replacement planning - 25 January 2019.pdf)



Under the current model the costs for customers are based on a per kilometre cost and there appear no synergies in this replacement built into the model. As a result the overall costs appear to increase in direct proportion to the distance being replaced. Figure 8 indicates this will result in a cost increase of approximately 10x between 2018/19 and 2020/22 from this activity.

Figure 8: Summary of cable replacements (Table 12. SAPN Asset Mgt. Plan: 6.1.02 – Public Lighting)

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Planned Cable Replacements (km)							
Metro Cable Replacements	0.5	2.0	3.0	4.0	5.0	5.0	5.0
Regional Cable Replacements	0.1	0.5	0.5	0.5	0.5	0.5	0.5

Additional options that could be assessed include replacing the relevant cable length and lights with solar lighting not connected to the grid (estimated at approximately \$150-\$250,000 per km).

2.6.2 Recommended Alternative Approach

As no evidence has been provided for accelerating cable failures:

- Do not plan for proactive cable replacement program until failure statistics provide evidence of an accelerating rate of failures. This is expected to reduce costs by approximately \$4-5m over the period.
- Assume an average of the 2007/8 through to 2017/18 period is used to estimate the average cable faults for the coming period. This number should be around 700 faults per year. This is expected to reduce costs by approximately \$4-5m over the period.
- Work with customers to develop program options for future replacements taking into account approaches and analysis as recommended by the *AER - Industry practice application note Asset replacement planning*.¹¹

¹¹ D19-2978 - AER -Industry practice application note Asset replacement planning - 25 January 2019.pdf

2.7 Column Audits and Replacements

SAPN propose to inspect the over 68,000 SAPN owned public lighting columns based on a 5 or 10-year auditing cycle. An additional 140-160 columns are proposed for replacement per year above historic norms. No evidence of the need for replacement, above historic norms, has been provided.

Auditing of the columns is planned, with 9,000 columns to be audited each year.

SAPN do not have current information on the age and condition of these assets.

Figure 9: Number of column replacements, historic and future (Figure 9. SAPN Asset Mgt. Plan: 6.1.02 – Public Lighting)

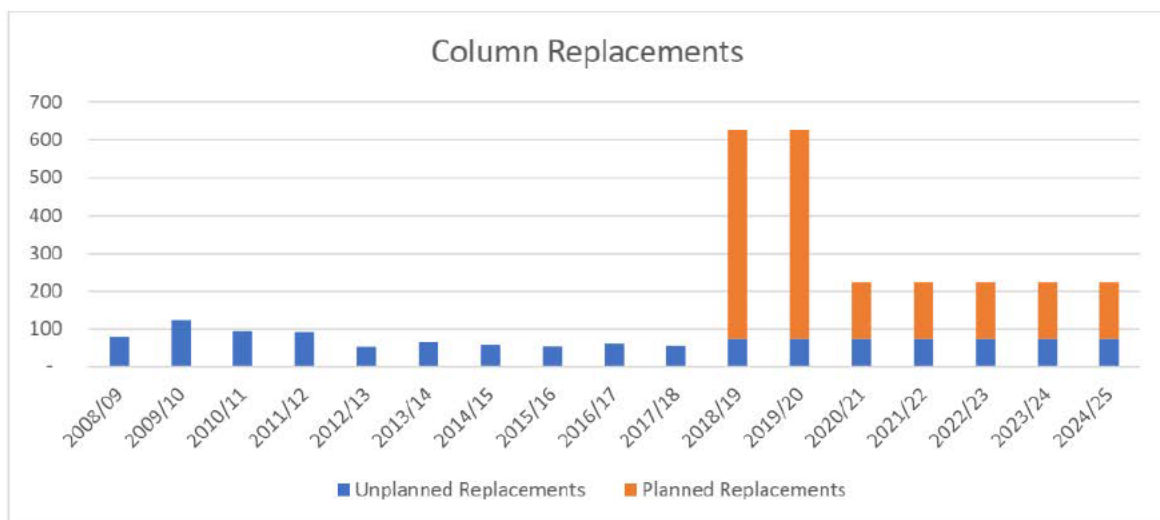


Figure 9 demonstrates that the historic failure rate of columns (2012/13 to 2017/18) was approximately 60 columns per year. SAPN have estimated that this will now move to 73 poles per year¹².

Note: SAPN have indicated (in late April 2019) that there is more detailed information on required column replacements for 2018/19 and 2019/20 based on recent audits completed. This is expected to reduce the overall numbers of Planned Replacements and presumably reduce the Unplanned Replacements in the coming seven-year period.

2.7.1 Evidence for Alternative Approach

Auditing of columns to assess the risk and build a forward-looking asset management program does make sense and is a normal approach by most DNSPs.

Customers require that the number of columns replaced be based on real data – not modelled failure rates that are much higher than historic averages.

2.7.2 Recommended Alternative Approach

- That the AER ensures that data on predicted column replacements be updated based on actual audits to date.
- That the AER ensures the real funding by customers is based on the actual number of columns replaced (not a theoretical number currently identified by SAPN prior to auditing).
- That customers be fully informed by SAPN of the basis for asset management planning, including evidence of asset deterioration.

¹² SAPN - 14.6 - Public Lighting Pricing Model - January 2019 – Cleansed, Worksheet Column Replacement

- That the assumed average replacement required as part of routine maintenance use historic averages from the past 5 years to predict future trends (i.e. the blue columns in Figure 9) to be reduced from 73 columns to 60 columns replaced (unless further evidence to dispute the information provided in the SAPN Asset Mgt. Plan is provided).
- Although not within the timeframe of this determination the significant proposed replacement program prior to 2020 is managed in a similar fashion to the post 2020 period. We request that the AER advise customers of their options in ensuring this occurs¹³.

2.8 Use of Pole Charge

SAPN have included a “use of pole charge” for the majority of street lights. This charge is not based on any actual costs to SAPN. All costs associated with the street lighting system including capital expenditure, depreciation and maintenance are fully recouped by SAPN from customers in other cost elements within the model.

As such there is no economic justification for the “use of pole charge”.

In addition, this charge is not found in any other DNSP public lighting charges that we are aware of that have been regulated by the AER.

2.8.1 Recommended Alternative Approach

That the “use of pole charge” be removed from the model.

¹³ As per final recommendation under 2.5.2, *Recommended Alternative Approach*, above.



Input into SAPN Public Lighting Tariff Price Review: Indication of LED Upgrades

Due COB Monday 6th May 2019

In their recent [public lighting pricing proposal, SA Power Networks](#) are planning a \$72m program for the installation of 124,000 LED lights over the next 5 years. These would all be installed under the *SAPN LED* tariff, meaning SAPN would fund the capital cost of the LEDs and labour.

This has significant implications for future tariff prices and councils. It's not final - public lighting customers can respond to the pricing proposal through the Australian Energy Regulator (AER).

The Local Government Association of South Australia (LGA) is planning a response to the pricing proposal and has engaged street lighting experts Ironbark Sustainability to develop the response. On Wednesday 17th April the draft report was been provided to the local government members of the Public Lighting Working Group (PLWG)*.

One way to try and reduce tariff costs through our response is to gauge an accurate number of councils planning to fund a changeover to LEDs through council funds or borrowing - via the *PLC* tariff - as opposed to those who are waiting or planning to changeover via the *SAPN LED* tariff which essentially means borrowing from SAPN (at a very high interest rate) and paying SAPN back through lighting bills.

When responding to the AER price reviews, a key to getting a good outcome is providing evidence. If the LGA response can provide **evidence** to the AER on the number of councils planning to undertake an LED project via internal funding or financing (through the *PLC* tariff) then we may be able to reduce overall costs.

By filing in the form below, we will be able to provide evidence to the AER as to the number of councils intending on signing up via the *PLC* tariff. This could in turn reduce the number of lights SAPN install which in turn reduces the aforementioned \$72m program and subsequently reduces tariffs.

Filling in the form does not commit you or your council to anything. Your details will not be made public. We are simply gathering evidence for the submission.

The submission to the AER is due on the 15th May 2019. This deadline cannot be changed. So we are seeking responses to this form by **COB Monday 6th May** to ensure information can be summarised and included in the final report.

** Representatives from all South Australian councils were invited to join the Working Group at a workshop held on Wednesday 28 November 2018 at the Precinct Conference Centre in Thebarton. The Working Group is now represented by the following Councils:*

- *City of Charles Sturt*
- *City of Holdfast Bay*
- *City of Mitcham*
- *Mount Barker District Council*

- *City of Mount Gambier*
- *City of Norwood Payneham and St Peters*
- *City of Onkaparinga*
- *City of Port Lincoln*
- *City of Prospect*
- *City of West Torrens*

Which best describes how far progressed you are towards changing your lights to LEDs *

- We haven't started yet
- We are considering our options
- We've approved an LED changeover
- We've started
- We've finished
- I have no idea

If your planning on undertaking a changeover, which tariff are you planning on signing up to? *

- SAPN LED (funded by SAPN)
- PLC (funded by council)
- Not sure
- Neither/NA

What year are you planning on beginning a changeover to LED lights *

- 2019
- 2020
- 2021
- 2022
- 2023
- Not sure
- None/NA
- Already completed!

How many "P-category" lights do council currently have on SAPN poles? (also known as Pedestrian Category lights; lights on residential streets; "minor road lights"). This is for SLUoS lights only, not CLER or EO. An estimate is fine! *

Name *

First Name

Last Name

Council *

Email

Submit



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