

Delivery of public lighting services in South Australia

Report prepared for the Local Government Association of SA

3 September 2014



WALLMANS
LAWYERS

Part A: Introduction

1. Context

- 1.1. The majority of public lighting services in South Australia are provided by a distribution network service provider (**DNSP**), although some services are provided by councils. The focus of the paper is on evaluating the ability of councils to adopt an approach to public lighting which differs from that currently in place.
- 1.2. A council's functions under the *Local Government Act 1999* include providing:
 - (a) services and facilities that benefit its area, its ratepayers and residents and visitors to its area; and
 - (b) infrastructure for its community and for development within its area (including infrastructure that helps to protect any part of the local or broader community from any hazard or other event, or that assists in the management of any area).
- 1.3. One component of the infrastructure provided by councils in discharge of these functions is public lighting along streets and in other public spaces.
- 1.4. Councils also have functions and powers with respect to undertaking roadwork, including the installation of street lighting.
- 1.5. In carrying out their functions councils are to uphold and promote adherence to specified principles including:
 - (a) seeking to facilitate sustainable development and the protection of the environment and to ensure a proper balance within its community between economic, social, environmental and cultural considerations; and
 - (b) ensuring the sustainability of the council's long-term financial performance and position.

2. Overview

- 2.1. Part A of the paper sets out the context and key concepts relevant to public lighting services in South Australia.
- 2.2. To determine whether or not there are constraints on council delivering public lighting to their communities under a different model this paper outlines the current regulatory arrangements for:
 - (a) public lighting assets (Part B);
 - (b) public lighting services (Part C); and
 - (c) public lighting charges (Part D).
- 2.3. Options arising from this analysis are discussed in Part E.
- 2.4. A summary of the analysis provided in this paper is set out in Part F.
- 2.5. The electricity utilised to provide public lighting services to councils is currently unmetered. For this reason, metering regulation is not considered in this paper. Metering of public lighting is an option, however, which may be considered by councils.

3. Key concepts

- 3.1. **Connection:** To form a physical link to the distribution network.
- 3.2. **Distribution network:** The network operated by a DNSP for the conveyance of electricity from the transmission network connection point to the point at which assets are connected for the use of electricity conveyed by the network, excluding any connection assets.
- 3.3. **DNSP:** A distribution network service provider. SA Power Networks (**SAPN**) is the DNSP in South Australia.
- 3.4. **Electrical installation:** An 'electrical installation' is defined in the *Electricity Act 1996* to mean a set of wires and associated fittings, equipment and accessories installed in a place for (among other things) the use of electricity that is supplied for consumption in the place, but excludes electricity infrastructure owned or operated by an electricity entity. This means that electrical installations are distinct from the distribution networks to which they are connected. Public lighting assets are electrical installations.
- 3.5. **Negotiated distribution service:** A service provided by a DNSP which is classified by the Australian Energy Regulator (**AER**) as a negotiated distribution service. In South Australia all public lightings services provided by the DNSP are negotiated distribution services.
- 3.6. **Public lighting assets:** Public lighting assets are assets which are dedicated to the function of providing lighting and are in essence comprised of the luminaire and a means of supporting the luminaire. Typically the means of support are either:
- (a) stand-alone columns; or
 - (b) mounting brackets which attach the luminarie to a structure (eg a building or electricity distribution pole (**stobie pole**)).
- 3.7. **Public lighting services:** The provision, operation or maintenance of poles, equipment, fittings or wiring associated with the provision of lighting in a street or other place (regulation 10(1)(a), *Electricity (General) Regulations 2012* (SA) (**Electricity Regulations**)).
- 3.8. **Relevant regulators:** There are a range of regulators relevant to public lighting services:
- (a) councils for lighting type suitability within their council areas;
 - (b) the Technical Regulator for technical and safety issues in the electricity supply industry (including public lighting services);
 - (c) the Essential Services Commission of South Australia (**ESCOSA**) for licensing of DNSP; and
 - (d) the AER for economic regulation of DNSP, including determining access disputes regarding the terms and condition on which negotiated distribution services are provided by the DNSP.

3.9. Types of public lighting services currently provided by the DNSP:

- (a) **Street Lighting Use of System services (SLUoS)**: the provision of public lighting assets and the operation and maintenance of those assets where the DNSP retains ownership of the assets;
- (b) **Customer Lighting Equipment Rate services (CLER)**: the replacement of failed lamps in customer-owned street lights where the customer retains ownership of the assets and is responsible for all other maintenance; and
- (c) **Energy Only services (EO)**: the maintenance of a database relating to street lights and recording and informing customers of streetlight faults reported to the DNSP, where customers retain ownership of the assets and are responsible for all maintenance (including replacement of failed lamps).¹

3.10. Electricity to power public lighting is purchased by councils from a licensed electricity retailer. The electricity retailer bills the council for the electricity used for public lighting and for the charges payable to the DNSP for the conveyance of the electricity through the distributor's network (ie distribution use of system charges (**DUoS**)).

¹ AER, *South Australia Distribution Determination 2010-11 to 2014-15: Final decision* (May 2010), 283.

Part B: Public lighting assets

4. Nature of the infrastructure

- 4.1. Conceptually, public lighting assets are no different to any other chattel and can be owned by councils.
- 4.2. Public lighting assets are in essence comprised of the luminaire which contains the lamps, a means of supporting the luminaire and cabling to connect to the electricity distribution network. Typically, the means of support are either:
 - (a) stand-alone columns; or
 - (b) mounting brackets which attach the luminaire to a structure (eg a building or Pole).
- 4.3. The technology for public lighting has advanced significantly and there are a range of lighting products, including lamp, sensor and metering technologies which can be installed to provide for more energy efficient and economical public lighting. The LGA has commissioned reports into these technologies.²

5. Ownership ability

- 5.1. There are no legal constraints on the ownership of public lighting in South Australia.
- 5.2. On privatisation of South Australian electricity distribution network in 1999 public lighting assets vested in the DNSP.³ The DNSP was required to provide public lighting services in accordance with regulation (including the Electricity Pricing Order).
- 5.3. CLER and EO tariffs were introduced soon after for public lighting services provided by the DNSP where the assets are owned by a council or the State.
- 5.4. There is no automatic vesting by law of the ownership of public lighting assets in the DNSP. Vesting of public lighting assets can only occur by agreement between the person who owns the assets and the DNSP.
- 5.5. Section 209 of the LG Act regulates the ownership of 'public infrastructure' installed in, on, across, under or over a public road by a provider of public infrastructure. By definition public lighting assets are not 'public infrastructure' for the purposes of this section, and, therefore, where the public lighting asset is a fixture of the land ownership of the asset will vest in the owner of the land. This will often be the relevant council.
- 5.6. Where stand-alone public lighting is constructed on council-owned land then the council will own the public lighting asset as a fixture attaching to its land.
- 5.7. If a council was to seek the consent of a DNSP to attach council owned public lighting assets to a stobie pole then the attachment of the asset itself would not vest ownership of the public lighting assets in the DNSP.

² Lucid Consulting Engineers Pty Ltd, *Sustainable Public Lighting: Technical Feasibility Report* (prepared for the Local Government Association of SA) (August 2009); PR Dean Consulting *Local Government transition to Sustainable Public Lighting* (prepared for the Local Government Association of SA) (version 2; December 2010).

³ South Australian Independent Regulator *Public Street Lighting Tariffs: Final Report* (November 2000), 1.

5.8. The DNSP has published information as to its requirements for an external contractor to undertake work on behalf of a customer for a public lighting extension that will be vested in the DNSP.⁴ This information indicates that the transfer of the extension to SAPN takes place at the time that SAPN receives the certificate of electrical compliance in respect of the extension and the person commissioning the works has satisfied all of SAPN's requirements as to construction detailed in NICC-400. This process assumes an agreement to transfer the legal ownership of the public lighting assets.

6. Liability for assets

6.1. Liability for public lighting assets will generally attach to the owner of those assets.

6.2. This general position could be altered by legislation (however, there is no legislation to this effect currently) or by agreement between the asset owner and another person.

7. Construction and installation

7.1. The key issue in respect of the construction and installation of public lighting assets is access to land and to a means of support for the luminaire.

7.2. Provided that there is a proximate point of connection to the distribution network, there is no necessity for public lighting assets to be located on stobie poles owned by the DNSP.

7.3. Councils control land adjacent to roadways and other public land requiring illumination. Council can install public lighting on this land. The luminaire would need to be supported either by stand-alone column or by a bracket attached to other property owned by the council (eg a council owned building). As indicated above, where stand-alone public lighting is affixed to council land, council will be the owner of that infrastructure unless there is legislation or an agreement to the contrary.

7.4. Developers must include public lighting design as an aspect of seeking development approval for a sub-division as the type of public lighting assets will determine ownership (as non-standard luminaire will not be accepted by the DNSP) and operating and maintenance costs.⁵

7.5. NICC-400 published by the DNSP indicates that: *'Appropriate public lighting designs are dependent upon the Commissioner of Highways or councils' nomination of the roads and their subsequent approval'*. Councils, therefore, have a regulatory role in the selection of appropriate public lighting within the council area. AS 1158 *Lighting for roads and public spaces* is used by councils to guide their determinations regarding the adequacy of street lighting.

7.6. The DNSP is able to leverage its existing ownership of stobie poles and its access to land for the purposes of installing electricity infrastructure to enable it to locate public lighting assets. The co-location of these assets historically has been logical as the luminaire is supported on pre-existing infrastructure at a point where it can be readily connected to the distribution network. With the move towards the undergrounding of the electricity distribution system, the advantages of pre-existing stobie poles as a means of support will diminish over time.

⁴ SAPN, *NICC 402 – Information on Network Public Lighting Design by an External Contractor*.

⁵ PR Dean Consulting *Local Government transition to Sustainable Public Lighting* (prepared for the Local Government Association of SA) (version 2; December 2010), 4.

- 7.7. There are processes for the attachment of third party infrastructure to stobie poles. The consent of the DNSP would be required for a council to install its public lighting assets on a DNSP stobie pole.
- 7.8. Clause 7.8.4 of the *Service & Installation Rules* (3 September 2012) (**SIR**) concerns the installation of equipment on a distribution pole. Relevantly clause 7.8.4.1 indicates that equipment shall not be installed upon a distribution pole unless the equipment is installed in accordance with an agreement with the DNSP, the *Code of Engineering Practice for Shared use of Poles* (27 February 1996) (**Poles Code**) and the SIR.

8. Technical requirements

- 8.1. Public lighting design and configuration is regulated. In addition to the technical and safety requirements which apply to public lighting assets regardless of ownership, the DNSP publishes requirements for assets which are to vest in the DNSP.

Technical and safety requirements for public lighting infrastructure

- 8.2. An outline of the technical and safety framework applying under the Electricity Regulations in respect of connection of public lighting assets to the distribution network and the responsibilities of the owners of electrical installations is set out below. These requirements apply regardless of the ownership of the public lighting assets. The prescribed technical and safety requirements are not described in detail in this paper.
- 8.3. Section 59(1) of the Electricity Act requires that a person must not personally carry out the work of connecting electricity supply from a distribution network to an electrical installation unless the person is carrying out the work as an employee or contractor directly or indirectly on behalf of a DNSP (or other prescribed person) or the electricity entity that operates the network has specifically authorised the person to carry out the work. Practically, this means that the consent of the DNSP is required in order for a person to carry out the work of connecting public lighting assets to the distribution network.
- 8.4. A person who owns or operates electricity infrastructure or an electrical installation must take reasonable steps to ensure that the infrastructure or installation complies with, and is operated in accordance with, technical and safety requirements imposed by the regulations and that the infrastructure or installation is safe and safely operated.
- 8.5. Various provisions in Part 6 of the Electricity Act provide that a certificate of compliance may be issued under that Part which can be relied upon in respect of compliance with various technical and safety issues. The issuing of certificates of compliance is governed by the Electricity Regulations. The certificate must be issued by a registered electrical worker and certify that the electrical installation complies with any applicable requirements set out in AS/NZS 3000 and any Australian Standard or Australian/New Zealand standard called up by AS/NZS 3000.

Requirements of the DNSP

- 8.6. Where public lighting assets are to vest in the DNSP, NICC-402 (published by the DNSP) sets out information on network public lighting design by external contractors. Fundamental requirements for lighting design are:
- (a) compliance with the requirements of AS/NZS 1158;

- (b) the ability for the design to be constructed by the DNSP using the DNSP's standards and conventions and applicable Australian Standards (including AS 3000); and
 - (c) compliance with all relevant Acts, codes and standards which the DNSP needs to satisfy.
- 8.7. TS101 *Public Lighting Standard for Overhead and Undergrounded Networks: Technical Standard* (11 June 2014) has been published by the DNSP to provide guidance on the public lighting standards for overhead and underground networks where the assets are either new or an upgraded installation that will be a component of the DNSP's distribution network.
- 8.8. TS101 indicates that the '*Responsibility for the provision of street lighting and road reserves in South Australia is normally controlled by local councils*' or DPTI. Designs for public lighting are to be lodged with the appropriate responsible authority for review and a written agreement must be granted prior to the commencement of any public lighting works associated with electricity reticulation. The DNSP requires any public lighting installation or change to be accompanied by the *Council Design and Public Lighting Agreement document* (NICC-451).
- 8.9. Under TS101 where a lighting installation is to be vested in the DNSP the electrical contractor must be appropriately accredited to undertake the construction to the DNSP's specification.
- 8.10. A different standard applies in respect of CLER, energy only or metered supply where the constructor must satisfy AS/NZS 3000. For CLER or energy only scheme the installation must be isolated from any the DNSP public lighting installation. Energisation of lights for a CLER, energy only or metered connections require a site visit by the DNSP

9. Connection

- 9.1. The DNSP has regulatory obligations under its distribution licence to enable other electricity entities and customers to obtain electricity from the distribution network. In addition, there is a process for the formalisation of connection agreements under Chapter 5 of the National Electricity Rules (**NER**) which can be accessed in some circumstances to secure a connection so as to receive electricity via the distribution network.
- 9.2. These obligations to connect are subject to the electrical installation to be connected satisfying technical and safety requirements. Technical and safety requirements under Part 6 of the Electricity Act and Part 10 of the Electricity Regulations apply to electrical installations (including public lighting assets).
- 9.3. The DNSP publishes the SIR which sets out the requirements for the connection of a customer's electrical installation to the distribution network.
- 9.4. The system regulating the national grid (ie the transmission and distribution network operating in the National Electricity Market jurisdictions) is premised on connections being made to enable the supply of electricity to end users. Connections are to be made to the distribution network where these are consistent with the technical and safety requirements for the relevant electrical installation and the safe and secure operation of the distribution network.
- 9.5. Where a council commissions public lighting assets which are consistent with technical and safety requirements and the safe and secure operation of the

distribution network there should be no barrier to the connection of those assets to the distribution network.

Part C: Public lighting services

10. Provision of public lighting services

- 10.1. Public lighting services can be provided by any person who complies with relevant regulatory requirements. The regulatory requirements differ between the DNSP and other persons (including councils). In summary:
- (a) the DNSP is subject to licensing requirements, obligations to connect to the distribution network, economic regulation and technical and safety requirements;
 - (b) other persons (including councils) must comply with technical and safety requirements.
- 10.2. The DNSP currently provides SLUoS, CLER and EO services to councils. There is no requirement that councils receive any public lighting service from the DNSP.
- 10.3. The DNSP is obligated to provide distribution network services to convey electricity to customers. The service of supplying electricity to public lighting assets is conceptually different to public lighting services. The DNSP is remunerated for the supply of electricity through regulated DUoS charges which are collected on behalf of the DNSP by the electricity retailer when the council pays the retailer for the electricity used by the public lighting assets in its council area.
- 10.4. Where a council owns the public lighting assets it is not required to take any public lighting service from the DNSP. The EO service provides a DNSP maintained database of reported public lighting faults. Councils may consider that they are able to maintain this database in respect of council owned assets and do not require this service.

11. The obligations of public lighting customers

- 11.1. The obligations of public lighting customers will depend upon the service to be provided by the DNSP. In respect of all public lighting, councils, as the relevant authorities, have the role of approving the lighting to be installed on roads (other than State roads) and public places.
- 11.2. In respect of SLUoS services, the public lighting assets are owned by the DNSP. In this circumstance, the only responsibility of the public lighting customer is to pay the relevant tariffs.
- 11.3. In respect of CLER services, the public lighting customer will be responsible for all maintenance of the public lighting assets except for the replacement of failed lamps which is undertaken by the DNSP.
- 11.4. In respect of EO services, the maintenance of the public lighting assets are the responsibility of the customer (including replacement of failed lamps) and the DNSP's only responsibility is to maintain a database relating to street lights and record and inform customers of street light faults.
- 11.5. Where no services are taken from the DNSP, then the public lighting customer has the entire responsibility for providing the public lighting services.

12. Electricity Act and Electricity Regulations

- 12.1. The 'electricity supply industry' is regulated in South Australia by the Electricity Act and Electricity Regulations. The '*electricity supply industry*' includes the provision, operation or maintenance of poles, equipment, fittings or wiring associated with the provision of lighting in a street or other place'.

Licensing

- 12.2. No licence under the Electricity Act is required for the provision, operation or maintenance of poles, equipment, fittings or wiring associated with the provision of lighting in a street or other place.
- 12.3. A DNSP must hold a distribution licence issued by ESCOSA under section 23 of the Electricity Act in order to operate its distribution network.

Obligation to connect and provide distribution services

- 12.4. A DNSP is required by its distribution licence to provide access to its distribution network to enable the other electricity entities and customers to obtain electricity from the distribution network, unless the DNSP is permitted to refuse access under the NER or the Electricity Distribution Code.

Technical and safety regulation

- 12.5. The Technical Regulator regulates technical and safety issue relating to the connection of public lighting assets to the distribution network under provisions of the Electricity Act and Electricity Regulations. These requirements are briefly outlined in part 8 above.

13. Essential Services Commission Act

- 13.1. The 'electricity supply industry' is a regulated industry for the purposes of the *Essential Services Commission Act 2002* (SA). This means that ESCOSA may apply its regulatory powers under the ESC Act to public lighting services.

14. National Electricity Law and National Electricity Rules

Negotiated distribution services framework

- 14.1. DNSPs are required to comply with the National Electricity Law (**NEL**) and NER. The NEL and NER do not apply to councils providing public lighting services using their own assets.
- 14.2. Public lighting services provided by the DNSP in South Australia are categorised as 'negotiated services' for the purposes of economic regulation under the NER. The terms and conditions on which the DNSP provides public lighting services to customers are subject to negotiations between the DNSP and the customers. The negotiations must be in accordance with the requirements of Chapter 6 of the NER.
- 14.3. Where the terms and conditions on which a negotiated service cannot be agreed between the DNSP and the customer the AER may be requested to determine the matter under Chapter 10 of the NEL.

Connection to the distribution network

- 14.4. Chapter 5 of the NEL sets out the procedure for connection to a distribution network. A 'connection agreement' for the purposes of Chapter 5 is:

An agreement between a Network Service Provider and a Registered Participant or other person by which the Registered Participant or other person is connected to the Network Service Provider's transmission or distribution network and/or receives transmission services or distribution services.

- 14.5. A 'distribution service' is a service provided by means of, or in connection with, a distribution system. The provision of electricity via the distribution system to power public lighting is a distribution service.
- 14.6. The process for making a connection application set out in the NER can be utilised by registered National Electricity Market (**NEM**) participants or person intending to be registered NEM participants. There are categories of registered NEM participants which would be open to councils on the basis of being first-tier or second tier customers under the NER.

Part D: Charges

15. Types of relevant charges

15.1. There are three main types of charges relevant to the provision of public lighting. These are charges for:

- (a) public lighting services;
- (b) the conveyance of electricity to the public lighting assets; and
- (c) the electricity.

16. Charges for public lighting services

16.1. Public lighting services in South Australia are negotiated services for the purposes of the NER where a DNSP provides the service. Part D of Chapter 6 of the NER sets out a framework for the negotiation of prices for negotiated distribution services. In determining the prices for public lighting services, NER 6.7.1 relevantly:

- (a) requires prices to be based on the 'cost incurred' by the DNSP determined in accordance with the DNSP's *Cost Allocation Methodology*;
- (b) imposes a 'floor' (the avoidable cost of providing the service) and a 'ceiling' (the stand-alone cost of providing the service) on the price for public lighting services;
- (c) requires price parity between public lighting customer for the same type of public lighting services; and
- (d) requires the price for public lighting services to be sufficient to enable the DNSP to recover the efficient costs of complying with its regulatory obligations or requirements in respect of the provision of the public lighting services.

16.2. In the event that the DNSP and public lighting customer cannot agree on the terms on which public lighting services will be provided by the DNSP then there is recourse to the AER for the determination of an access dispute under Part 10 of the NEL.

17. Charges for the conveyance of electricity

17.1. DUoS charges are levied for the conveyance of electricity through the distribution network. DUoS is collected by the electricity retailer and remitted to the DNSP.

17.2. DUoS charges are subject to regulatory oversight by the AER under Chapter 6 of the NER as direct control services. A distribution determination by the AER sets prices or overall revenue caps for direct control services for a regulatory period (generally five years).

18. Charges for electricity

18.1. Councils will contract with an electricity retailer for the electricity consumed by public lighting in the council area.

- 18.2. Generally, public lighting is been unmetered. The electricity charges are, therefore, determined by reference to load tables for particular types of public lighting assets published by the Australian Energy Market Operator.⁶
- 18.3. With changes to public lighting and metering technology, there may be benefit for councils in moving from the unmetered supply model to metered supply. Exploring this issue is beyond the scope of this paper.

⁶ AEMO, *National Electricity Market Load Tables For Unmetered Connection Points* (18 July 2014).

Part E: Options

19. Options need to be identified against objectives

- 19.1. Options are best identified against objectives. Councils objectives may relevantly relate to:
- (a) fulfilling statutory functions;
 - (b) improving the quality of public lighting;
 - (c) reducing energy consumption;
 - (d) reducing greenhouse gas emission;
 - (e) reducing operation and maintenance costs; and
 - (f) encouraging competition in the provision of public lighting services.
- 19.2. The evaluation of various options can only occur once the objectives are ascertained.
- 19.3. There are various public lighting technologies that could be adopted by a council to deliver these objectives. The purpose of this paper is not to canvas these technologies, but to consider whether there are any constraints on councils adopting these technologies.
- 19.4. Some key issues, constraints on councils and options for alternative models are canvassed below as an aid to future consideration of options for councils.

20. Some key issues

Issue	Answer
Can councils own public lighting assets?	Yes.
Must public lighting assets be constructed, installed, operated or maintained by the DNSP?	No.
Is the DNSP in a unique position with respect to the provisions of public lighting services?	Yes. The DNSP currently owns the majority of public lighting assets. The DNSP is subject to licensing requirements and economic regulation which does not apply to a council providing public lighting services within council area. The DNSP has stobie poles to support luminaires. The relevance of this is likely to diminish overtime with the undergrounding of the distribution network and an increase in stand-alone lighting columns.
Are councils in a unique position in respect of stand-alone public lighting assets?	Yes. Stand-alone public lighting assets are generally fixtures on council owned land and, therefore, council property (unless and until vested in the DNSP).

Do newly installed public lighting assets automatically vest in the DNSP?	No.
Are councils required to engage the DNSP to provide any services in respect of council-owned public lighting assets?	No, subject to any existing contractual agreement with the DNSP.
What are councils' existing roles with respect to public lighting?	Determine adequacy of public lighting generally by reference to AS/NZS 1158. Development approval for sub-divisions. Ownership of land on which public lighting assets are located. Ownership and maintenance of public lighting assets subject to CLER and EO tariffs.
Can councils provide public lighting services in respect of public lighting assets owned by the council?	Yes, either directly or through the engagement of contractors. All services must be provided in a manner which complies with technical and safety requirements.
How will charges for public lighting services vary if council provides the public lighting through council owned assets?	Councils are not obligated to engage the DNSP to provide public lighting services in respect of council-owned public lighting assets. Councils could negotiate service charges with contractors. Councils would pay the direct costs of these services. Councils would continue to pay for the electricity used for public lighting and the DUoS charges for the conveyance of electricity through the DNSP's network.

21. There are few constraints on councils

- 21.1. There is a great degree of flexibility in South Australia in respect of the provision of public lighting services. There are no constraints on councils owning, constructing and maintaining public lighting assets which they own other than compliance with relevant technical and safety requirements.
- 21.2. Councils are already providing public lighting services in some circumstances. Subject to specific contractual obligations to the DNSP, there is no compulsion on councils to continue to engage the DNSP to provide public lighting services.
- 21.3. There are sunk costs in existing public lighting assets used to provide SLUoS services, but the continued use of these assets is not mandated. Alternative, public lighting assets could be constructed and maintained by councils if there was a sufficient business case to shift from the existing SLUoS services.
- 21.4. The means of support for council-owned luminaires could not be stobie poles, unless the DNSP consented to this attachment. One practical consideration would, therefore, be the efficacy and desirability of stand-alone lighting. Part of this consideration may be any payment of the written down value of public lighting assets to the DNSP as compensation for the early retirement of these assets. This, however, should not be a consideration where the relevant public lighting assets are fully depreciated or have been gifted to the DNSP.

22. Options for alternative models for the delivery of public lighting services

22.1. There is a range of alternative options open to councils in respect of the delivery of public lighting services. The purpose of this paper is not to identify these exhaustively or to evaluate them.

22.2. Given the current regulatory framework options which could be evaluated include:

- (a) maintaining the status quo provision by the DNSP of SLUoS, CLER and EO services;
- (b) increased council ownership of public lighting assets and either:
 - (i) provision of CLER and EO services by the DNSP; or
 - (ii) council directly providing or contracting for the provision of public lighting services;
- (c) collaborations between councils in respect of public lighting ownership or public lighting services to achieve economies of scale in respect of the provision of these services.

Part F: Analysis table

	DNSP	Council
Public lighting assets		
Nature of infrastructure	Distinct electrical installation connected to distribution network. Luminaire and means of support (stand-alone pole or bracket for attaching to another structure).	Distinct electrical installation connected to distribution network. Luminaire and means of support (stand-alone pole or bracket for attaching to another structure).
Ownership ability	Yes.	Yes.
Liability	Attached to ownership (unless agreement to the contrary).	Attached to ownership (unless agreement to the contrary).
Construction and installation	Yes, statutory easement and co-location with electricity infrastructure.	Yes, on council owned property.
Technical requirements	Satisfy council requirements as to lighting type. Technical and safety requirements.	Council regulates as to lighting type. Technical and safety requirements.
Connection to distribution network	DNSP is the network owner.	DNSP has a legal obligation to connect (subject to technical and safety requirements).
Operation, maintenance and repair (OMR)	Yes, on assets owned by DNSP or where DNSP is contracted to provide OMR services.	Yes, on assets owned by the council.
Public lighting services		
Provision of services	Yes.	Yes (either directly or by council engaging contractors).
Obligations of council	Dependent on type of service (SLUoS, CLER or EO) provided by DNSP	Council would have entire responsibility for public lighting services if no service is provided by the DNSP (subject to any agreement with a contractor selected by Council to manage the public lighting services).
Licensing/registration	Yes. Electricity Act, distribution licence, NER registration.	No.
Economic regulation	Yes. Negotiated services (Chapter 6, NER).	N/A (Councils pay direct cost for public lighting services provided by councils).

Technical and safety regulation	Yes. Electricity Act and Electricity Regulations.	Yes. Electricity Act and Electricity Regulations.
Charges		
Public lighting services	Regulated by Chapter 6, NER.	Council incurred costs (either direct or through council engaged contractor).
Distribution use of system charges	N/A.	DUoS paid to retailer on behalf of DNSP regardless of ownership of public lighting assets.
Electricity	N/A.	Paid for within retail charges for the electricity regardless of ownership of public lighting assets.

Part G: References

Legislation

Electricity Act 1996 (SA)

Electricity (General) Regulations 2012 (SA)

Essential Services Commission Act 2002 (SA)

Local Government Act 1999 (SA)

National Electricity Law

National Electricity Rules

Technical standards

AS/NZS 1158 *Lighting for roads and other public spaces*

AS 3000 *Electrical Installations (known as the Australian/New Zealand Wiring Rules)*

SAPN, *NICC-400*

SAPN, *NICC-402 Information on Network Public Lighting Design by an External Contractor*

SAPN, *NICC-451 Council Design and Public Lighting Agreement document*

SAPN, *TS101 Public Lighting Standard for Overhead and Undergrounded Networks: Technical Standard* (11 June 2014)

SAPN, *Service & Installation Rules* (3 September 2012)

----- *Code of Engineering Practice for Shared use of Poles'* (27 February 1996)

Reports

AER, *South Australia Distribution Determination 2010-11 to 2014-15: Final decision* (May 2010)

Lucid Consulting Engineers Pty Ltd, *Sustainable Public Lighting: Technical Feasibility Report* (prepared for the Local Government Association of SA) (August 2009)

PR Dean Consulting *Local Government transition to Sustainable Public Lighting* (prepared for the Local Government Association of SA) (version 2; December 2010)

PriceWaterhouseCoopers *Barriers to Energy Efficient Street Lighting* (July 2011)

South Australian Independent Regulator *Public Street Lighting Tariffs: Final Report* (November 2000)