Matters relevant to the framework and approach NSW DNSPs 2014—19

Public Lighting

May 2012

Citelum Australia • 12-16 Parker Street Williamstown, VIC, 3016 • www.citelum.com.au

About Citelum

A specialist in Urban Electrical Equipment, Citelum is a global leader in Urban Lighting and Traffic Management services for local public authorities.

citelum	
city |ˈsitē| noun (pl. cities) 1 a large town: [as modifier] : the city center. • an incorporated municipal center. 2 [with modifier] informal a place or situation characterized by a specified attribute: city. 3 (the City)the financial and commercial district of London, England. ORIGIN Middle English: from Old French cite, from Latin civitas, from civis ‘citizen.’ Originally denoting a town, and often used as a Latin equivalent to Old English burh ‘borough,’ the term was later applied to foreign and ancient cities and to the more important English boroughs.	lumen [1] |ˈlo͞omən|(abbr.: lm) nounPhysics the SI unit of luminous flux, equal to the amount of light emitted per second in a unit solid angle of one steradian from a uniform source of one candela. ORIGIN late 19th cent.: from Latin, literally ‘light.’

The company manages street lighting, artistic lighting, and traffic signal systems, but also installs and operates innovative services, such as:

- recharging stations for electric vehicles,
- video protection networks
- traffic light enforcement radars

From its creation in 1993, Citelum has been committed to integrating a full range of services (from design to operation), which has enabled it to meet the energy-efficiency needs of local authorities. This strategy has made it possible for Citelum to play a key role over the last decade in many of the innovations in maintenance technologies, in remote management at the lighting point, and in the development of the use of electrical networks for connected urban equipment.

Citelum’s Comprehensive Management Contract, based as it is on specific performance commitments, offers guarantees that cities will achieve the level of service they expect. It is designed to meet major public policy challenges, including above all budgetary control, service quality, respect for urban planning goals, enhancing nighttime image, and meeting sustainable development objectives that balance economic, social, cultural and environmental concerns.

Citelum manages the Urban Electrical Equipment of small and medium-sized cities, regional capitals and global megacities with the same degree of attention and professionalism.

The company has a presence in many Capital Cities of Light around the world, including Mexico City, Madrid, Barcelona, Paris, Santiago, Prague, Venice, Naples, Shanghai, Vientiane, Beijing, Salvador, Bahia, and Ho Chi Minh City.

Motivated by the conviction that a sustainable city should also be a beautiful city, Citelum’s teams are dedicated more than ever to replacing the dehumanised, uniform, single-purpose, and energy-intensive lighting of the past with “a different light for the planet,” all over the world.

Citelum operates on 5 continents and places its know-how at the service of 17 Capital Cities of Light, always with the same goal to give each city its own nocturnal identity.

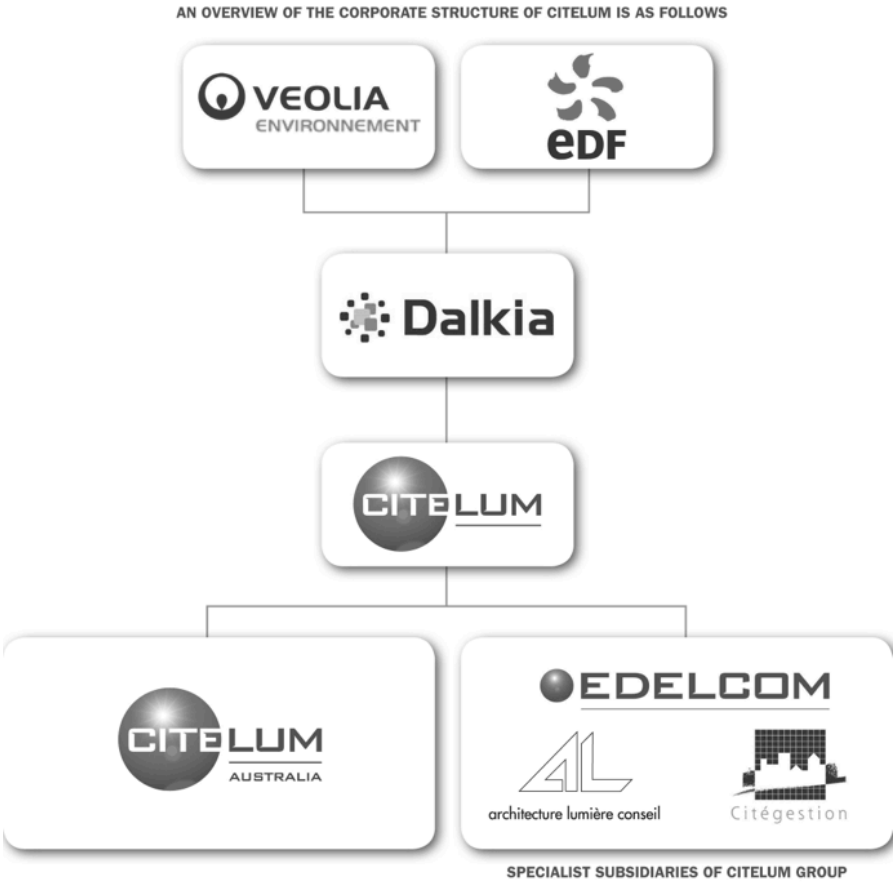
An overview of the contracts Citelum currently holds with key international cities are as follows:

- Barcelona – 45,500 lighting points
- Santiago – 34,500 lighting points
- Mexico City – 39,000 lighting points
- Madrid – 260,000 lighting points
- Salvador de Bahia – 35,000 lighting points
- Prague – 131,000 lighting points
- Kunming – 52,000 lighting points
- Ho Chi Minh – 12,000 lighting points
- Naples – 59,000 lighting points
- Palma Majorca – 37,000 lighting points
- Washington DC - 72,000 lighting points

Corporate Structure

The Citelum Group has three professional subsidiaries each dedicated with products and services that assist Citelum with innovative applications of specialist urban lighting management systems and services.

- Edelcom develop and pursue the technology of Citenergy® to enable state of the art public lighting technology
- Architecture Lumiere are specialist artistic lighting consultants producing superior quality visualisations of lighting plans
- Citegestion produce operational GIS Mapping services and operational management software especially for State of the Art Public Lighting Networks



Date: 11th May 2012

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

Sent: NSWACTelectricity@aer.gov.au

SUBJECT: Matters relevant to the framework and approach NSW DNSPs 2014—19 Public Lighting

Dear Mr Anderson,

Citelum Australia, part of the Citelum Group welcomes to the opportunity to make comment regarding the Framework and Approach for NSW Distribution Network Service Providers (DNSP's) 2014-2019 Public Lighting.

The NSW Public Lighting Market interests the Citelum Group. The Citelum Group seeks to realign the public lighting customers with a service delivery specially tailored to their needs.

Our research indicates that Public Lighting is already technically contestable. The requirement of any payment for written down value for assets could be dealt with under the Roads Act and the State Owned Corporations Act.

We have highlighted the arrangement of transfer of assets between other State Owned Corporations and other departments and clearly they have demonstrated this asset transfer to ensure that legal compliance with other State based Acts.

Presently there appears a governance issue in that the current providers of public lighting in NSW Distribution Network Service Providers (DNSP's) appear to have no reference made within the Roads Act.

Our estimation is that councils across Australia are paying a very expensive price commensurate with the level of service they are receiving. Public Lighting is very important to Councils whereas it represents approximately 2% of a Distribution Network Service Providers total business activity.

Citelum strongly advocates that all public lighting services be classified as negotiated public lighting services on the provision that companies like Citelum can compete without hinderance and that ownership of assets remains with public lighting customers.

We identify the Accredited Service Providers Scheme as being independent and agree that the opportunity to reform the pricing regime into a simpler framework is necessary. The complexity of the current pricing structure is overly burdensome and must place higher administrative costs for the DNSP's required to administer them.

Citelum's priority is to have an open and competitive market, that Customers can engage with professional practices, and cost effective outcomes, with Financial Guarantees.

Throughout Australia, competitive provision of public lighting lighting is starting to occur as councils in Victoria, South Australia and Queensland. In Western Australia, they are considering the benefits of competition in improved service delivery, reduced public debt, reduced energy costs and reduced operating costs.

If you require any further information, relating to this submission, please do not hesitate to contact us on 0407 639 110 or apcarey@citelum.com.au.

Yours sincerely,

Adam Carey
Managing Director Australia NZ

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Glossary

DNSP - Distribution Network Service Provider

RTA - Road Transport Authority

AER - Australian Energy Regulator

EPC - Energy Performance Contract

NSW - New South Wales

REROC - Riverine Eastern Region of Councils

SOC - State Owned Corporation

SSROC - South Sydney Region of Councils

AS3000 - Australian Standards for Wiring Rules

Public Lighting paid for by the ratepayers of NSW to State Owned Corporations funded by the taxpayers of NSW

Background Information

Legislative Map

The following mind-map details the level of information that we believe supports the opportunity for contestability in the NSW Public Lighting market:

Public Finance and Audit Act 1983 No 152

Schedule 1A Oversight of electricity industry restructuring
(Section 63G)

1 Review of Government's overall program for restructuring
(1) The Auditor-General is to review and report to Parliament on the Government's overall program for the authorised restructuring.

(2) The review is to be a review of the following:
(a) the appropriateness of the Government's strategy for the transfer of assets to the private sector for maximising financial value for taxpayers, taking into account the following:
(i) the proposed method of effecting transactions,
(ii) the proposed timing of transactions, including the impact of external factors,
(iii) **any contingent liabilities that will accrue to the State,**
(iv) the impact of the proposed national emissions trading scheme (including current hedging and coal contracts of State electricity corporations),
(v) the sale price of the assets that is reasonably expected having regard to professional advice and the Government's preliminary estimates,
(vi) the impact of increased debt over the past 5 years in relation to the assets,
(vii) any relevant Commonwealth **legislation regarding competition** or foreign ownership,
(viii) any other factors that may impact on the potential sale price of the assets,

(b) the financial impact of the proposed community safety net proposed for the authorised restructuring, in particular the protections for workers, pensioners and low-income earners, including an assessment of the consistency of those benefits with previous transactions involving the transfer of assets to the private sector.

(3) The review of the appropriateness of the Government's strategy for the transfer of assets to the private sector is to be conducted on the basis of a statement of that strategy as provided to the Auditor-General by the Treasurer for the purposes of the review.

2 Report to Parliament
(1) The Auditor-General is to report to each House of Parliament on the results of the review conducted by the Auditor-General under this Schedule as soon as practicable after the review is completed.
(2) If a House of Parliament is not sitting when the Auditor-General seeks to present the report, the Auditor-General is to present the report to the Clerk of the House concerned.

3 Supplementary powers
(1) The Treasurer is to ensure that the Auditor-General has access to such information and resources as may be necessary to enable the Auditor-General to exercise the functions conferred by this Schedule.
(2) For the purposes of this Schedule, the Auditor-General may:
(a) exercise investigatory powers conferred on the Auditor-General under this Act, and
(b) engage any person or body with financial expertise to examine arrangements made or proposed for the purposes of the authorised restructuring and to advise the Auditor-General on those arrangements.
(3) The functions conferred by this Schedule are in addition to, and do not derogate from, any other function of the Auditor-General.

Could we suggest that the NSW Auditor General needs to be kept abreast of any issues relating to competition of the public lighting sector and its oversight of the Electrical Industry Restructuring Act 2008.

National Electricity Rules 6.25

(d) In deciding on a control mechanism for *alternative control services*, the *AER* must have regard to:

(1) **the potential for development of competition** in the relevant market and how the control mechanism might influence that potential; and

(2) the possible effects of the control mechanism on administrative costs of the AER, the Distribution Network Service Provider and users or potential users; and

(3) the regulatory arrangements (if any) applicable to the relevant service immediately before the commencement of the distribution determination; and

(4) the desirability of consistency between regulatory arrangements for similar services (both within and beyond the relevant jurisdiction);
and

(5) any other relevant factor.

Citelum Comment - Could we encourage the AER to consider the background information Citelum has provided in relation to this submission. We would strongly suggest that competition for public lighting services is already at potential development level and that public lighting should classified in such a manner that facilitates open and transparent tendering practices. Customers must be empowered to be able to act and behave as customers. DNSP's must be informed that with competition they are a stakeholder service provider but not an authority.

Purpose of Public Lighting

[1]The performance criteria for road and public space lighting schemes can include any or all of the three basic aims of—

(a) facilitation of safe movement;
(b) the discouragement of illegal acts; and
(c) contributing to the amenity of an area through increased aesthetic appeal.

However as the most common primary aim of a scheme is that of safe movement of people, the series divides road lighting into the two following broad categories:

(i) Category V lighting Lighting that is applicable to roads on which the visual requirements of motorists are dominant, e.g. traffic routes.

(ii) Category P lighting Lighting that is applicable to roads and other outdoor public spaces on which the visual requirements of pedestrians are dominant, e.g. local roads, outdoor shopping precincts, outdoor car parks.

If the common primary aim of a public lighting scheme is that of safe movement of people and Local Government is the Authority with legal status, strong consideration is needed to empower the public lighting customer to ensure they can adequately manage their Occupational Health and Safety duty of care.

[1] Australian Standards ASNZS1158 - Public Lighting

NSW Electricity Network Reforms

The NSW Government has announced a reform of the electricity distribution network in NSW[2].
There are currently three electricity networks – more commonly known as the 'poles and wires' - responsible for the distribution of electricity to homes and businesses.

To help contain the rising costs of delivering electricity, the NSW Government will merge the three distribution networks into a single corporate structure to reduce waste and duplication and generate savings from economies of scale.

A new State owned corporation (SOC) will be created to own and operate the electricity distribution network. Three subsidiary businesses – Ausgrid, Endeavour Energy and Essential Energy – will provide operational services to the SOC under the current brands.

It is expected the reform will deliver in excess of $400 million in efficiency savings over four years, which will be used to fund electricity bill rebates for low income households and families. These reforms will also place downward pressure on electricity prices in future years.

If in this period of transition the NSW Government is looking to improve efficiencies, realignment of the assets needs to be taken over by Local Government Authorities and removed from the regulated business model as the model creates significant cost pressure to councils thereby forcing council rates up. Public Lighting can in effect be a double tax on tax/ratepayers.

[2] www.trade.nsw.gov.au/energy

Public Lighting Customers

Through our research of the Legislation within NSW, it would appear that there is a misunderstanding in relation the nature of the relationship between the Public Lighting Customer and a DNSP. The Roads Act describes Local Government as an authority and the DNSP as a service provider as demonstrated in the following excerpts of NSW Legislation.

7 Roads authorities[3]

(1) RMS is the roads authority for all freeways.

(2) The Minister is the roads authority for all Crown roads.

(3) The regulations may declare that a specified public authority is the roads authority for a specified public road, or for all public roads within a specified area, other than any freeway or Crown road.

(4) **The council of a local government area is the roads authority for all public roads within the area, other than:**

(a) any freeway or Crown road, and

(b) any public road for which some other public authority is declared by the regulations to be the roads authority.

(5) A roads authority has such functions as are conferred on it by or under this or any other Act or law.

97 Utility services to be located in conduits

(1) The roads authority for a public road in which there are conduits for the carriage of utility services across the road may direct any person who is entitled to place utility services in, on or over the road:

(a) to locate any new or replacement services in any such conduit, and

(b) to pay to the roads authority such proportion as may be prescribed by the regulations of the costs incurred by the roads authority in connection with the construction of the conduit.

(2) The direction may specify the manner in which or the standard to which the direction must be complied with.

(3) A provision of an Act that authorises the provision of services in, on or over a public road does not authorise the provision of the services in contravention of this section.

[3] Roads Act 33 Part 7

31 Customer may choose supplier and contractor[4]

(1) For the purpose of complying with any requirement imposed under this Division or under a customer connection contract, a customer may elect:
(a) to have any required electrical or other goods provided by the distribution network service provider (in the case of goods that are available from the distribution network service provider) or by any other person, and
(b) to have any required electrical or other services provided by the distribution network service provider (in the case of services that are available from the distribution network service provider) or by any other person.
(2) A person who provides electrical or other services of a kind prescribed by the regulations must be accredited, in accordance with the regulations, to provide those services

Citelum Comment

Within the Roads Act:

- The Local Government authority "may direct" any person (DNSP or Accredited Service Provider).
- The Road Authority giving the direction may specify the manner in which or the standard to which the direction must be complied with.

Legislated under the Electricity Supply Act:
- The customer to have choice and authority

We note a clear lack of understanding the customer has and suggest that the service provider might've behaved in a manner that could be considered not in keeping with mandate they have been chartered thereby developing a culture where the DNSP is seen as an authority rather than a Service Provider.

4 Electricity Supply Act 1995 No 94

Competition Policy Reform NSW Act

The Competition Policy Reform (New South Wales) Act also subjects SOCs and other NSW Government businesses to Part IV of the Federal *Trade Practices Act 1974 (Competition Consumer Act 2010)* dealing with restrictive trade practices.

The purpose of competitive neutrality policy is the elimination of resource allocation distortions arising from public sector ownership, where publicly owned business activities compete with the private sector.

The intention is that publicly owned businesses should not enjoy any net competitive advantage as a result of public sector ownership.

Under the Competition Principles Agreement (CPA), the NSW Government has been required to:

• ensure that there are independent price oversight of Government businesses which are monopoly, or near monopoly, suppliers of goods and/or services;

• foster competitive neutrality between Government and private businesses where they compete and to publish a corresponding policy statement and implementation timetable by June 1996;

• **reform the structure of public monopolies to facilitate competition;**

• review and reform legislation which unjustifiably restricts competition and develop a corresponding timetable by June 1996;

• provide third party rights to negotiate access to certain specific facilities; and

• apply the CPA to local councils' business activities and publish a corresponding policy statement by June 1996.

State Owned Corporations (SOCs) are subject to certain Federal Statutes such as Part IV of the Commonwealth *Trade Practices Act 1974* that deals with restrictive trade practices. This statute applies to all SOCs as a result of the passing of the Competition Policy Reform (New South Wales) Act 1995.

In general, the objectives of SOCs, regardless of class, are to operate:

• efficiently;
• in a way that **maximises the net worth** of the State's investment;
• in a socially responsible manner;
• in accordance with the principles of ecologically sustainable development; and
• with consideration of regional development.

Citelum Comment - Public Lighting Services being open to competition provide certain requirements for State Owned Corporations to comply with. We would question whether public lighting with ownership of assets by the DNSP is the best vehicle for management as it can create the impact of higher council rates by virtue of the regulated business model.

The Regulated Business Model whereby the maintenance charges are derived from a theoretical valuation is open to over estimation and productivity inputs that create higher than normal public lighting charges. Citelum estimates that on initial appraisal that maintenance savings of at least 20-30% better than currently experienced by NSW Local Councils with higher levels of service all financially guaranteed.

Review of contestable services on the New South Wales electricity network

Some 'recoverable work' is contestable. This is capital work on the electricity network undertaken for a customer, but is not a new connection or an upgrade to an existing connection. An example is the relocation of a power pole to allow a new driveway to be built.

This work is contestable at the discretion of the relevant DNSP, except where it is deemed to be emergency recoverable work (emergency work to repair the network – for example, following a car accident that damages a network asset).

Maintenance of street lighting, including lamp replacement, is also contestable at a **DNSP's discretion[5].**

In December 2009, Industry and Investment NSW released a discussion paper on Public Lighting. Consultation closed on 12 February 2010 and Industry & Investment is finalising its report to Government.

"Customers engage ASPs to undertake their work directly and the relevant DNSP takes on ownership and responsibility for maintenance of work completed on the distribution network, as it owns the network. The DNSP's ownership of the network comes with a range of obligations to ensure the safety and reliability of the network. NSW is unique in its approach as no other Australian jurisdiction allows a customer to engage a service provider of their choice to complete work that the DNSP will own and maintain."

What connection work is currently not contestable?
Certification of design is not contestable. The relevant DNSP certifies that a design for a proposed extension or augmentation meets the standards applicable to the local network. This may include voltage calculations, alignment with existing overhead or underground work, substation design, cable joint terminations or construction materials. In practice, the DNSP approves a design as appropriate for the network at the same time as it certifies it for technical compliance with design requirements.

Citelum Comment - Could we suggest Public Lighting and DNSP that "discretion" is too subjective. It would be more prudent to make all public lighting services negotiated services but ownership of all assets transferred to Local Government using a similar framework to the one undertaken by Policy number 192 [6]between RTA and Local Government.

Citelum suggest there is no fundamental legislative ownership difference between RTA or a DNSP and under the State Owned Corporations Act, assets can be transferred without the apparent payment of written down values.

[5] Review of NSW electricity network contestable services: Review report July 2010

[6] Refer Appendix A Policy Number 192

Australian Standards AS3000 and Public Lighting

Often cited by DNSP's is that for customers to obtain public lighting assets, they must first meet the requirements of AS3000 - Wiring Rules. This has in the past created a barrier that has prevented ease of asset transfer between public lighting customers and service providers. What must be understood is there are two components to AS3000 and most DNSP's cite only the prescribed Part 2 component without informing that the customer may also comply but use Part 1 of the Standard.

Part 1 - Non Prescribed
Part 2 - Prescribed

If the designer chooses Part 2, then Part 1 is deemed to have been complied with, however Part 1 allows flexibility depending on the complexity of the installation.

The principal application of this Standard is to **electrical installations in all types of premises and land** used by electricity consumers. However, the Standard may also be referenced or applied through legislative or other requirements relating to the effect of electrical installations in matters such as the following:

(a) Safety of workplaces.
NOTE: For example, Occupational Health & Safety legislation and associated codes.
(b) Safe design and construction of buildings.
NOTE: For example, National Building Codes [such as the Building Code of Australia (BCA), New Zealand Building Code (NZBC)] and the associated referenced Standards.
(c) Electricity generation, transmission and **distribution** systems.
(d) **Safe connection** to electricity distribution systems.
NOTE: For example, service rules and conditions provided by local electricity distributors.
(e) Qualifications of electricity workers.

1.9.4 Compliance by specific design and installation
1.9.4.1 Use of a Part 1 design and installation solution
Certain electrical installations or portions of electrical installations, because of their unusual requirements, application or intended use, that cannot meet Part 2 of this Standard, may use a specific design and installation method as detailed below.

Such installations may be deemed suitable provided that, having due regard to all the circumstances associated with the intended application, they—
(a) satisfy the fundamental safety principles of Part 1 of this Standard;
and
(b) will result in a degree of safety from physical injury, fire and electric shock not less than that which, in other circumstances, would be achieved by compliance with the particular requirements of this Standard;
and
(c) satisfy the other requirements of this Standard as detailed in this Clause.

The remaining portions of such installations shall comply with Part 2 of this Standard.
If all or part of the design/construction of the electrical installation is not based on the deemed to comply methods in Part 2 of this Standard, this choice must be made by the designer prior to final certification of construction by the person carrying out the construction.

1.9.4.2 Acknowledgment by the owner or operator of the electrical installation
Any departures from Part 2 of this Standard must be formally acknowledged by the owner or operator of the installation.

1.9.4.3 Documentation
The designer shall document the Part 1 design. Such documentation shall be in the English language and detail—
(a) why Part 2 of this Standard was not adopted; and
(b) the verification requirements that are required to be undertaken to
ensure full compliance with this Standard; and
(c) how compliance with Part 1 of this Standard is being achieved; and
(d) the owner or operator's acknowledgment as to any departure from Part 2 of this Standard; and
(e) any requirements where the design requires specific installation use
by the owner or operator of the electrical installation and provide a copy of these requirements to the owner or operator; and
(f) the verification undertaken to ensure full compliance with this Standard, and the results of this verification.
Such documentation shall be retained by the designer and also on-site at the electrical installation, by the person with overall responsibility for the installation.

1.9.4.4 Verification
All parts of an electrical installation that do not comply with Part 2 of this Standard shall be verified as complying with the specific design and with
Part 1 of this Standard prior to being placed in service.
1.9.4.5 Competency requirements of designers
Persons undertaking designs that depart from Part 2 of this Standard shall be competent.

Citelum Comment - Can we agree that within AS3000:

- There are two components by which to comply
- The rules actually allow a 3rd party other than the DNSP to Design and Install assets that may not meet the prescribed nature of Part 2 but can still meet the requirements of Australian Standards as Legislated in NSW Electricity (Consumer Safety) Regulation 2006 PART 1

Electricity (Consumer Safety) Regulation 2006

32 Standards and requirements for electrical installation work: section 31 (1) of Act

(1) For the purposes of section 31 (1) of the Act, electrical installation work is required to be carried out in accordance with the standards and requirements specified in this clause.
Note. Section 31 (1) of the Act makes it an offence for a person to carry out electrical installation work that is not in accordance with such standards or requirements as may be prescribed by the regulations. This clause sets out those standards and requirements.

(2) The following electrical installations, or parts of electrical installations, may not be energised unless the relevant distribution network service provider first authorises it:
(a) any new electrical installation (other than a free-standing electrical installation) that has not previously been energised,
(b) any alteration of, or addition to, an electrical installation (other than a free-standing electrical installation) that will require a change to the network connection or metering arrangements.

(3) Electrical installation work is required to be carried out in accordance with the Australian/New Zealand Wiring Rules.
Note. Persons carrying out electrical installation work on electrical installations connected, or intended for connection, to a distribution system within the meaning of the *Electricity Supply Act 1995* should also have regard to the *New South Wales Service and Installation Rules* published by the Department of Energy, Utilities and Sustainability from time to time.

(4) An electrical installation, or part of an electrical installation, must not be energised unless its safe operation and compliance with the **Australian/New Zealand Wiring Rules** have been established by a safety and compliance test.

(5) A free-standing electrical installation must not be energised unless the stand-alone power system to which it is to be connected complies with the requirements for such systems specified by the Australian Standard entitled AS 4509:1999*, Stand-alone power systems*, as in force from time to time, published by Standards Australia.

Citelum Comment - The Electrical Regulations do not confer between Part 1 or Part 2 of the Australian/New Zealand Wiring Rules and therefore compliance of these rules can be determined within the wiring rules themselves. The Regulations state that the installation should have regard to the Service and Installation Rules but must demonstrate compliance with AS3000. Choosing Part 1 or Part 2 is at the discretion of the designer and installer of the Electrical Installation as long as due process is followed, compliance can be demonstrated.

The authorisation process of the Accredited Service Provider should overcome any issues relating to qualified personnel and compliance to AS3000 Part 1.

Service and Installation Rules

1.5.7 Special Small Services

Special small services refers to an overhead or underground service to connect supply to certain small electrical installations, usually located in public places eg bus stop shelters, public conveniences, floodlights, decorative lighting, locality signs, public telephones etc.

Section 5 provides the detailed requirements for special small services.

1.5.8 Special Situations

The following situations require special consideration. Consult the electricity distributor for advice.

Historic - Consult the owner or the gazetted authority if a building or an environment feature has, or appears to have, historical significance.

Do this before carrying out any work. Isolated or Rural Areas - Special conditions may apply to the provision of supply to these areas.

Old City Districts - You may have to consider alternative methods of supply for old buildings.

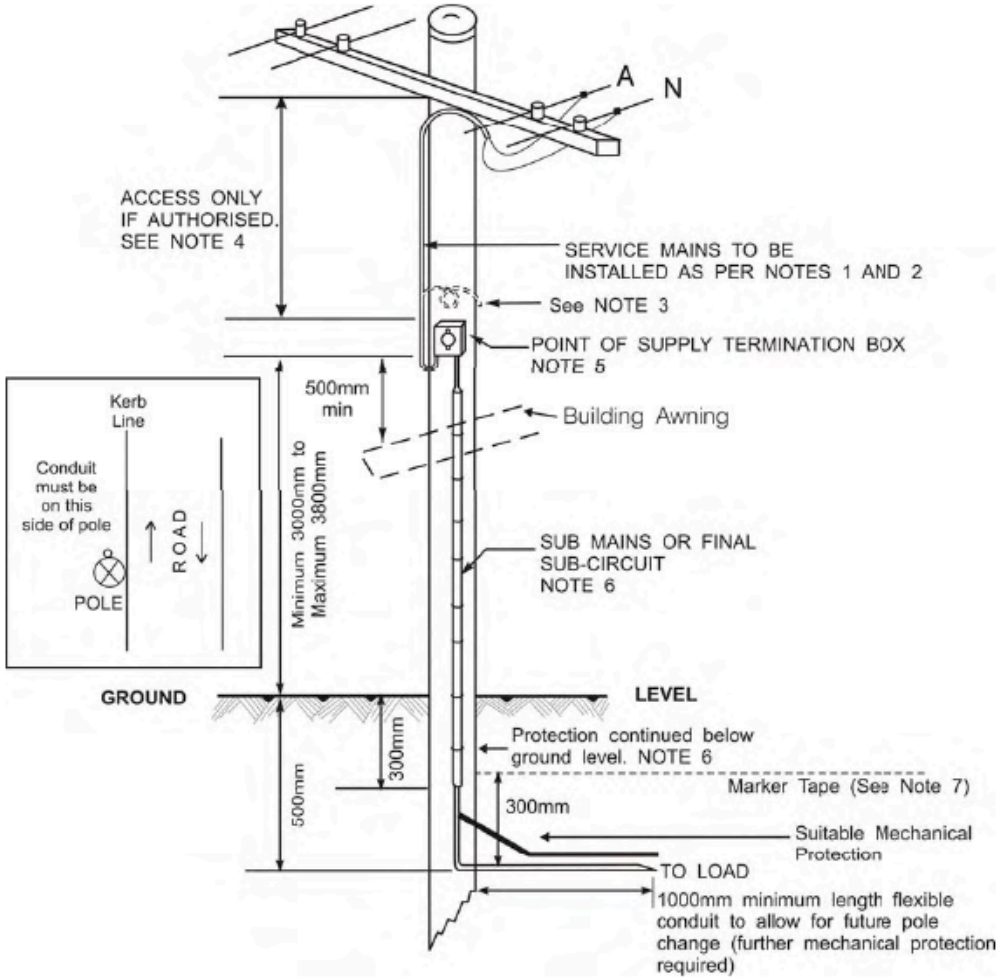
Public Facilities - Services to public facilities (e.g., telephone cabinets, public conveniences, display lighting and traffic lights, etc) usually require special agreements with the electricity distributor.

Shopping Centres - If alterations are required to existing supply arrangements, the customer should contact the electricity distributor for information on whether an overhead, a facade mounted, or an underground supply will be provided.

5.5.4 Installation on the Electricity Distributor's Pole

Refer to Figure 5.1. The method of installation on the electricity distributor's pole must meet the following requirements:

Figure 5.1: Standard arrangements for 230V power supply from overhead mains



The Electricity Supply (Safety and Network Management) Regulation 2002, which is administered by the Department of Energy, Utilities and Sustainability, requires that a person must not carry out work on or near a network operator's transmission or distribution system and a network operator must not allow a person to carry out work on or near its transmission or distribution system unless the person is qualified under the relevant requirements of the network operator's network management plan, to carry out the work; and the work is carried out in accordance with the relevant requirements of that plan.

3.5 Work inside the No Go Zone – Approval of the network operator

The no go zone is the area around overhead power lines into which no part of a person or material or cranes or vehicles or items of mobile plant may encroach without the approval of the network operator.

Note:

• person includes hand tools, equipment or any other material held by a person.

• plant includes the load, controlling ropes and any other accessories associated with the plant.

If the work cannot be carried out without coming inside the no-go zone (closer than the approach distances listed in Table 2 or above the overhead power lines), prior to commencing work the employer must consult with and obtain the written approval of the network operator.

Note: The written approval should be available at the worksite and be able to be produced to a WorkCover Inspector, Principal Contractor, elected OHS representative, authorised representative or network operator.

Citelum agrees that authorised personnel should only be allowed in section 4 however the DSNP should have a process to to allow authorised third parties to maintain public lighting. In other jurisdictions, there is

provision for these allowances and accessibility is covered in both installation rules and safety codes of practice.

Service and Installation Rules - Victoria

Clause 7.8.5.1 – Equipment Installed on a Distributor's Pole

Typical equipment that is subject to an agreement with the relevant distributor and compliance with the Shared Use of Poles Code includes:
• Electrical installations attached to poles for broadband transmissions and mobile library supplies; and

• Parts of electrical installations containing other than the consumers terminals and service protection devices, eg; circuit breakers, residual current devices or toehr control gear and cabling that supply electrical installations such as bus shelters, telecommunications equipment, public lighting, sprinkler systems etc; and

• Lights, Traffic Signals, Antennnas, telecommunication/broadband cablings, signs, banners, decorations etc.

Application for installation of equipment on a Distributor's Pole should be made in accordance with clause 5.4 (Application for Supply) at the earliest opportunity after a decision to proceed is made.
In all cases where equipment other than network assets are located upon a Distributors pole, the customer/person or body responsible for the equipment shall be responsible for the **installation, maintenance and liability associated with their equipment.** This shall include the removal and/or relocation of the equipment if it impedes use of the pole by the Distributor , and the removal and re-instatement of their equipment upon pole maintenance, relocation or replacement.

Services and Installation Rules - South Australia

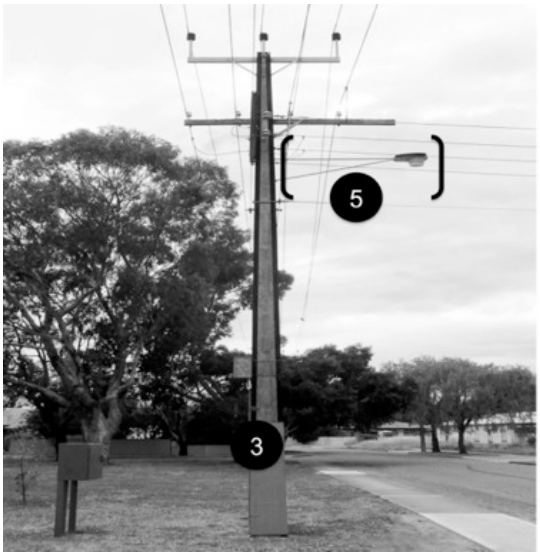
7.8.4 Equipment Installed on a Distribution Pole

7.8.4.1 Use of Pole
Equipment shall not be installed upon a Distribution Pole unless the equipment installed is:

• underground consumer's mains and its associated service protection device and consumer's terminals as detailed in clause 7.7.9.1; or
• a private overhead line and its associated service protection device and consumer's terminals as detailed in clause 7.8.3; or
• installed in accordance with an agreement with ETSA Utilities, the Shared Use of Poles Code, and these Rules, Typical equipment that is subject to an agreement with ETSA
Utilities and compliance with Shared Use of Poles Code
includes:
• electrical installations attached to poles for broadband transmissions and mobile library supplies; and
• parts of electrical installations containing other than consumer's terminals and service protection devices, eg; circuit breakers, residual current devices or other control gear and cabling that supply electrical installations such as telecommunications equipment; and
• lights, traffic signals, antennas, telecommunication/broadband cabling, signs, banners, decorations, etc.

Application for installation of equipment on a Distribution Pole should be made in accordance with clause 5.4 at the earliest opportunity after a decision to proceed is made.

In all cases, where equipment other than network assets are located upon a Distribution Pole, the customer/ person or body responsible for the equipment shall be responsible for the **installation, maintenance and liability associated with their equipment.** This shall include the removal and/or relocation of the equipment if it impedes use of the pole by ETSA Utilities, and the removal and re - instatement of their equipment upon pole maintenance, relocation or replacement. This rule can apply to component 5



Codes of Practice Electrical Safety - Blue Book Victoria

9.2.4 Multiple Ownership

Where the scope of electrical apparatus to be covered is owned by more than one *organisation*, a protocol shall be established between these *organisations* for processing the application and outage requirements.

12 WORK BY PERSONS NOT UNDER THE CONTROL OF THE ASSET OWNER

12.1 GENERAL

An asset owner shall have procedures to facilitate a safe system of access by persons, not under the control of the asset owner, to work near or within *safe approach distance* or, when appropriate, in the vicinity of electrical apparatus. For the purposes of this clause, persons not under the control of the asset owner are persons or *organisations* that have no contractual obligation to the asset owner and are not performing work for the asset owner for the particular task. The asset owner shall ensure appropriate instruction is provided on the electrical hazards.

Citelum agrees that authorised personnel should only be allowed in section 4 however the DSNP should have a process to to allow authorised third parties to maintain public lighting. In other jurisdictions, there is provision for these allowances and accessibility is covered in both installation rules and safety codes of practice.

Transfer of existing assets between State Owned Corporations/ Departments

There exists an existing framework for the transfer of assets between the Road Transport Authority of NSW and other road management authorities. We've established that street lighting is a function and benefit for Public Safety as defined by Australian Standards and from the Road Management Act Local Government as a road authority have the legal status and responsibility under the Road Act and under the Energy Services Corporation Act, the Minister may transfer the assets of public lighting to another body acting on behalf of the Crown, that being Local Government.

7 Roads authorities[7]

(1) RMS is the roads authority for all freeways.

(2) The Minister is the roads authority for all Crown roads.

(3) The regulations may declare that a specified public authority is the roads authority for a specified public road, or for all public roads within a specified area, other than any freeway or Crown road.

(4) The **council of a local government area is the roads authority for all public roads** within the area, other than:
(a) any freeway or Crown road, and
(b) any public road for which some other public authority is declared by the regulations to be the roads authority.
(5) A roads authority has such functions as are conferred on it by or under this or any other Act or law.

Policy 192 Road Transport excerpt[8]

The objective of the policy is to facilitate road safety and effective road asset management by establishing procedures to aid the orderly, efficient and effective transfer of road asset management, through the co-operative and pro-active exchange of key information and co-ordination by and between the RTA and other road authorities or bodies.

This policy has been developed to support the implementation of key tenets of the Roads Act – namely, road safety and the concept that the legal liability for the care, control and management of a road primarily rests with the relevant roads authority for that road.

[7] RoadsAct Number 33 1993

[8] Refer Appendix A

7 Transfer of assets and liabilities etc[9]

(1) Assets, rights and liabilities of the State or an authority of the State and forming part of or relating to an undertaking carried on by or under the authority of a Minister, Department or Administrative Office, or under the executive authority of the State, may be transferred to a company SOC or any of its subsidiaries, in exchange for the issue of shares or **on any other basis**.

(2) The regulations under this Act may make provision for or with respect to the transfer of any such assets, rights and liabilities to a company SOC or any of its subsidiaries.

(3) The regulations under this Act may provide that references in any Act, or in any regulation or other statutory rule under any Act, or in any other instrument, or in any contract or agreement, to:
(a) the State or an authority of the State, in connection with any such assets, rights or liabilities or in connection with any such undertaking, or
(b) (without limiting the above) a Minister, a Department, an Administrative Office or an officer or employee of a Department or Administrative Office, are to be read as references to a company SOC or any of its subsidiaries or to a director, officer or employee of any such SOC or subsidiary.

(4) This section does not apply to assets, rights and liabilities of a statutory corporation unless:
(a) the assets, rights and liabilities can be transferred to the State owned corporation apart from this section, or
(b) an Act of Parliament provides that this section applies to the assets, rights and liabilities of the statutory corporation.

Citelum Comment - Assets transferred on “any other basis” should be considered to harmonise the Roads Act to ensure that the Road Authority responsible for the legislative safety of the road can manage those items assets to provide safety.

Leaving the DNSP as owner of public lighting assets without any contractual agreement between the two parties creates a concern where ultimately the State Government might be at risk as the DNSP is not mentioned in the Roads Act.

[9] State Owned Corporations Act

Competition and Consumer Act 2010

Competition and Consumer Act 2010

44AA Objects of Part

The objects of this Part are to:

(a) promote the economically efficient operation of, use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets; and

(b) provide a framework and guiding principles to encourage a consistent approach to access regulation in each industry.

45 Contracts, arrangements or understandings that restrict dealings or affect competition

(1) If a provision of a contract made before the commencement of this section:
(a) is an exclusionary provision; or
(b) has the purpose, or has or is likely to have the effect, of substantially lessening competition;
that provision is unenforceable in so far as it confers rights or benefits or imposes duties or obligations on a person.

(2) A person shall not:
(a) make a contract or arrangement, or arrive at an understanding, if:

(i) the proposed contract, arrangement or understanding contains an exclusionary provision; or
(ii) a provision of the proposed contract, arrangement or understanding has the purpose, or would have or be likely to have the effect, of substantially lessening competition; or

(b) give effect to a provision of a contract, arrangement or understanding, whether the contract or arrangement was made, or the understanding was arrived at, before or after the commencement of this section, if that provision:

(i) is an exclusionary provision; or
(ii) has the purpose, or has or is likely to have the effect, of substantially lessening competition.

(3) For the purposes of this section, ***competition***, in relation to a provision of a contract, arrangement or understanding or of a proposed contract, arrangement or understanding, **means competition in any market in which a person who is a party to the contract**, arrangement or understanding or would be a party to the proposed contract, arrangement or understanding, or any body corporate related to such a person, supplies or acquires, or is likely to supply or acquire, goods or services or would, but for the provision, supply or acquire, or be likely to supply or acquire, goods or services.

(4) For the purposes of the application of this section in relation to a particular person, a provision of a contract, arrangement or understanding or of a proposed contract, arrangement or understanding shall be deemed to have or to be likely to have the effect of substantially lessening competition if that provision and any one or more of the following provisions, namely:

(a) the other provisions of that contract, arrangement or understanding or proposed contract, arrangement or understanding; and

(b) the provisions of any other contract, arrangement or understanding or proposed contract, arrangement or understanding to which the person or a body corporate related to the person is or would be a party;
together have **or are likely to have that effect**.

50 Prohibition of acquisitions that would result in a substantial lessening of competition

(1) A person must not directly or indirectly:
(a) acquire shares in the capital of a body corporate; or
(b) acquire any assets of a person;
if the acquisition would have the effect, or be likely to have the effect, of substantially lessening competition in a market.

Note: The person will not be prevented from making the acquisition if the corporation is granted a clearance or an authorisation for the acquisition under Division 3 of Part VII: see subsections 95AC(2) and 95AT(2).

(3) Without limiting the matters that may be taken into account for the purposes of subsection (1) in determining whether the acquisition would have the effect, or be likely to have the effect, of substantially lessening competition in a market, the following matters must be taken into account:

(a) the actual and **potential level** of import competition in the market;
(b) the height of barriers to entry to the market;
(c) the level of concentration in the market;
(d) the degree of countervailing power in the market;

Citelum Comment - Can we consider that within NSW a potential competitive market exists and that the practice of vesting assets cease? Vesting Public Lighting assets creates inherent barriers and that there should only be one public lighting arrangement to consider.

Citelum position is that all public lighting is owned by a public lighting customer and maintenance is negotiated and sub-contracted out to either a DNSP or an Accredited Service Provider over a set contract term.

Currently the Local Government council under the Road Act as an authority cannot control nor manage its assets effectively to comply with the Road Act. Local Government must have ownership rights of those assets.

NSW Public Lighting Code 2011 Explanatory Paper

"With respect to an installation only tariff, the provision of public lighting has been defined as an alternative control service, with the potential for the development of competition. There is nothing to prevent a Customer from engaging an accredited contractor, other than the NSW DNSPs, to supply, install and/or maintain a public lighting asset."

SSROC Submission on the NSW Public Lighting Code Review[10]

"SSROC's preferred option is to transfer the ownership of all street lighting assets to local Councils and to form regional vehicles for the provision of public lighting services.

In preparing discussion around these options SSROC considers that there is a strong case to be made that the natural home for these services lies with local government rather than the DNSPs.

At the outset, I wish to re-iterate the on-going challenges for all parties in the absence of a robust governance regime for public lighting in NSW.

Indeed, nearly $80,000,000 is changing hands each year between NSW Councils and the utilities without there being any clear basis for the services provided.

It is Councils in NSW that are responsible for providing public lighting to the community and for all of its consequences, yet they are in the difficult position of having no meaningful control over the service. There are currently no contracts covering the provision of this monopoly service, no binding service regulation in NSW and only a voluntary NSW Public Lighting Code."

REROC stated in response to the possibility of Councils providing public lighting services:

'While we applaud the willingness of the department to canvass all scenarios in relation to the delivery of public lighting, REROC member councils were unanimous in their belief that this particular governance structure was not a viable alternative for non-metropolitan communities and more particularly for rural and remote communities."

The above statement by REROC summarises the findings of I&I NSW that transferring public lighting assets and obligations from PLSPs to Councils is not a viable cost effective option for a majority of Councils in NSW and is therefore not the preferred approach. The Department will however continue to monitor developments in public lighting in NSW with a view to facilitating discussions on future alternative governance models as we approach the later period of the current regulatory determination.

Citelum Comment - $80,000,000 is a significant transfer of public funds without a tender or contractual agreement in place to at least account for the responsible investment of tax payer funds through State Owned Corporations.

Could we respectfully suggest that aligning the governance issues with the responsible authority is the more prudent approach to ensure State Government is complying with all its legislative responsibilities. This shall also provide competitive tension for the supply of the Assets and Services which shall result in investments and cost savings.

[10] Submission made by SSROC Group of Councils 12th Februrary 2010

Preliminary Analysis –Local Government to provide Public Lighting Services

"*Preliminary analysis shows that a service delivery model where local government provides all services is likely to result in a net cost to local government. The table below considers a number of service delivery elements and the likely pros and cons of local government service delivery.*"

COUNCIL TO ASSUME FULL RESPONSIBILITY FOR THE PROVISION OF PUBLIC LIGHTING					
Element	**Current Provision**	**Future Provision**	**Pros**	**Cons**	**Likely net benefit**
Ownership of Infrastructure	DNSP	Councils	Greater control over infrastructure	Would impose additional cost on Councils	N
New capital works	DNSP	Councils	Council would have full control over new infrastructure subject to network technical requirements. Freedom to install new assets such as energy efficient lighting and smart poles	Cost to Councils	N
Inventory control	DNSP	Councils	Council would have greater understanding of the public lighting inventory	Would result in additional cost to Councils through establishment of additional systems/expertise	N
Maintenance of inventory	DNSP	Councils	Councils able to ensure that maintenance standards achieved, also have direct responsibility for negotiating with third parties for maintenance services as required	Cost to Councils, additional systems/expertise	N
Provision of 'night patrols'	DNSP	Councils	Council would be able to ensure that patrols are undertaken	Cost to Councils, additional systems/expertise - cost likely to be similar for DNSP due to small economies of scope/scale	Y
Financial recovery	DNSP	Councils	Nil	Councils may be subject to regulatory control of the AER. AER would be required to regulate approximately 100 local government bodies	N
Responsibility for delivery	Councils	Councils	Status Quo	Status Quo	Y
Billing for Non-Local Government customers	DNSP	Councils	Nil	Cost to Councils, additional systems/expertise	N
Contract for the supply of electricity	DNSP	Councils	Nil	Councils would require additional systems and expertise	N

Citelum Comment - We strongly disagree with the statements made above. Councils would require no additional skill sets other than understanding or questioning basic items of contract tendering. Every item here is dealt with under a contract for services like every other service provision contract the council might enter into.

An independent Specialist Service Provider can provide superior resources and advice to Councils, on a contractual basis, for an agreed term with a beginning and an end, that all parties understand.

- How much is our energy bill?
- Do we have a service contract with our provider detailing the costs and levels of services?
- Is the light on or off?
- Do I have financial penalties linked to the level of service?
- Am I receiving a level of customer service commensurate with our contract?

Customer Wants and what Competition can provide

From the SSROC Region of Councils, we identified some of the concerns within their letter in relation to the Public Lighting Code on 12th February 2010 and make comment where Citelum through its understanding and experience of managing public lighting.

Item	Competition Example
Governance of Street Light	Throughout UK, Europe, Asia and South America, the Local Government authority owns and manages public lighting. USA (New Orleans and Washington DC). Currently in NSW you have Local Government legislated under the Road Management Act but unable to adequately control public lighting.
Support for Enhanced Reporting	Many Public Lighting Reporting Systems are available globally for customers. As most GIS are built on standard database structures, customers should be able to get detailed lighting reports suited to their needs
Need to Make Code Mandatory	The Code is at best basic level of service and we agree that all parts of the code should have some financial penalty attached for not meeting very basic components
Need for Meaningful Penalties	We agree with SSROC position on this and it should apply to all long term costs including maintenance, energy savings, capital finance linked with energy savings.
A maximum repair time for underground faults	We agree that the customer should define the maximum time not only for underground faults but also other areas within the council area that require attention and we continue that these performance measures should be linked contractually to financial penalties
Equitable tariff access for Council-owned lighting	The DNSP should establish an energy only tariff for all unmetered/metered lighting especially where the customer has funded the cost of the capital.
Equitable connection and metering requirements for Council-owned lighting	Under true competition and through the NSW ASP Scheme, these connections should allow customers to obtain the most competitive pricing arrangement
Equitable asset removal / acquisition regime in the limited cases where councils are able to take over lighting	We would refer to Policy number 192 whereby councils can transfer road assets and suggest that this is the most appropriate process for the transfer of assets between the DNSP and the Local Government Authority Every standard street light has a date marked on the street light and this will assist in determining the most appropriate written down value.

Question 1

The AER seeks comments on:

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

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

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

Answer:

A. From an outsiders perspective we have found the separation of assets as incredibly complex arrangement and adds complexity. Public Lighting customers must report on contingent liabilities in their financial reports and any pricing arrangement that helps them understand accrued local government debt must be known.

B. There is merit in classifying public lighting services as negotiated services on the provision that customers understand their rights and obligations under the legislative instruments and are able to receive assets returned to them as a road authority. There appears provision of this occurring between other NSW State Government Departments and we would suggest that there should be no legislative or financial barrier for this to occur should the customer need it to.

C. Citelum have received comments made by public lighting customers expressing a strong dissatisfaction with the current level of public lighting provision. The market has the opportunity to provide a greater level of service at a more competitive rate (20-30%) than what is currently being experienced by public lighting customers.

Question 2

Option 1: Extension of the current arrangements
This approach would see the continuation of the current regulatory arrangement with the introduction of a third capital charge for assets constructed during the 2014–19 regulatory control period. For customers, the three charges (prices) for public lighting under this approach would be:

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

a **new** annuity charge for assets constructed post 1 July 2014.
Operation and maintenance charges would be updated to reflect the most up-to-date data on, for example, wage rates and replacement part costs.

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

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

Answer - Under Australian Standards for Luminaire supply of which Ausgrid Luminaire Design and Installation Standard NS119 requires luminaire manufacturers to mark the luminaires in the following manner to facilitate their identification and maintenance.

We note that they indicate a marking prior to 2009 as 2003 but on each street light the date is evident and it would be suggested that a simple audit of the network showing the dates marked on the streetlights should enable a more accurate calculation of asset valuation should the Local Government Road Authority wish to transfer the assets.

8.2 Luminaire Markings Including Lamp Shape

Luminaire markings must be in accordance with AS/NZS 1158.6. The luminaires are generally marked with coded information on its exterior to facilitate their identification and maintenance.

For example,

S250 C 09	means sodium 250W, clear (tubular) lamp. The luminaire was manufactured in 2009.
M400 99	means mercury 400W lamp. The luminaire was manufactured in 1999.
S150 D A 07	means sodium 150W, diffused (elliptical) lamp, aeroscreen. The luminaire was manufactured in 2007.
MH400 03	means metal halide 400W lamp. The luminaire was manufactured in 2003.

Additionally in the Sydney and Central Coast regions, the codes 'DI' and 'SI' have been specified by Ausgrid for luminaires.

DI	means double insulated luminaire
SI	means single insulated luminaire, and therefore insulating spigots are required for mounting.

Question 3

Endeavour's submission

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

Endeavour Energy would prefer to retain the current two charge approach, with a charge for assets constructed prior to 30 June 2009 based on a RAB roll forward and a single annuity charge for all assets constructed since 1 July 2009.[22] This approach would involve developing a single annuity charge that takes into account the capital costs of assets constructed in the current regulatory period as well as those constructed in the 2014–19 period. Over time, as pre-2009 assets are fully depreciated, there would be a transition to a single price list.

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

The AER seeks comments on Endeavour Energy's submission.

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

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

Answer

A.We would suggest that there is no need for a third price list and it would be questioned as to the public benefit of such a proposal. Someone has to administer and account for any of these ongoing contingent liabilities and adding further complexity would not improve financial reporting requirements or cost accounting processes

B.Could we suggest that if any stranded cost of capital for public lighting assets be transferred into general DUOS charges rather than tied into a public lighting RAB. This way it enables customers further competition without a capital barrier on an asset it is responsible for that it currently cannot control.

If in the future the NSW Government wishes to sell the Electricity Distribution Network, Public Lighting can still be provided for by those best able to meet the needs of the public - local councils and those legislated under the Road Act.

Increasing the Public Lighting RAB's increases maintenance charges which therefore increases council rates. Removing the public lighting RAB separates the true cost of maintenance. Citelum Australia as a private entity currently does not have the legislative benefit of allowing customers to accrue ongoing debt obligations without them fully knowing why, what for and when and a renegotiation of the contract.

Question 4

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

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

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

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

A. Would a simplified pricing structure such as this come at the expense of cost reflective prices?
B. Would this approach permit the entry of third party providers of public lighting services?

Citelum Answer

A. Limited flexibility seems an unusual term to apply to public lighting when so many customers have made comments in relation to their public lighting needs and their desire for a public lighting service to be flexible. Public Lighting is very important to Local Councils but it would seem not as important to a DNSP.

Customers should receive the benefit for investing in the transition to green luminaires on a set term over a set period and the funding of those assets, whether by customer (Rate 2) or DNSP or ASP (Rate 1) should be based on a set contract that has a beginning and an end. The current arrangement provides the DNSP with an ongoing revenue stream with no end date in which the model forces prices upwards.

The approach for simplification is welcomed however it should not come at the expense of the customers needs who ultimately have to account to their ratepayers for the funds that they have been entrusted with.

And since they are transferring their rate payments through local government to State Owned Corporations whose funds are derived by taxpayers, then cost reduction and simplification is welcomed.

B. Citelum strongly disagrees with the concept of a Public Lighting RAB. Maintenance provision of public lighting services should be accounted for solely on the basis of service provision without the impact of the RAB. Creating a framework in which the RAB continues to grow creates barriers for customers who wish to upgrade or seek competitive service provision.

Models of Public Lighting Delivery

We note with interest the proposal by Ausgrid to help customers transition to Green Luminaire by proposing a simplification in the tariff, however we believe that the prudent measure for government is to align the estimated benefits with contractually guaranteed outcomes therefore the public lighting customers who invest in “green” technology are able to demonstrate to their ratepayers improved efficiencies

Some of the models that demonstrate energy saving benefits or stated benefits should have those benefits underwritten by a contractually binding agreement ensuring minimum risk to the customer who makes the investment. This benefit would then

A popular method of public lighting delivery to improve energy efficiency is through the use of an Energy Performance Contract (EPC)

Energy Performance Contract

Energy Performance Partnership Contracts and the Public Energy Performance Contracts are contractual mechanisms that integrate “energy efficiency improvements with guaranteed results over the long-term.

The contact places an emphasis on several key points, including:
• curbing energy consumption;
• meeting contractual deadlines set for repair work;
• systematising preventive maintenance
• breakdown rates;
• identifying breakdowns in real time;
• photometric quality of lighting;
• controlling the environmental impact of services;
• thorough knowledge of all installations;
• transparency of information provided to the contracting authority;
• coordinating Citelum services with local authorities;
• relevant proposals for improvement.

Designed to generate energy savings, this model ensures that the necessary investments are made to meet the “contractually defined level of energy efficiency improvement.”

Ratios for each indicator allow for the use of a bonus/sanction scheme indexed to contractual objectives. This method provides strong incentives for the public lighting operator to meet its commitments.

This model of delivery ensures that the public lighting customers can improve the appearance and performance of the public lighting network with funding linked by the energy savings.

Cities such as Washington DC are using this method of delivery in partnership with Citelum. Other councils throughout Australia are realising the benefits of these programs especially when investing with public funds.

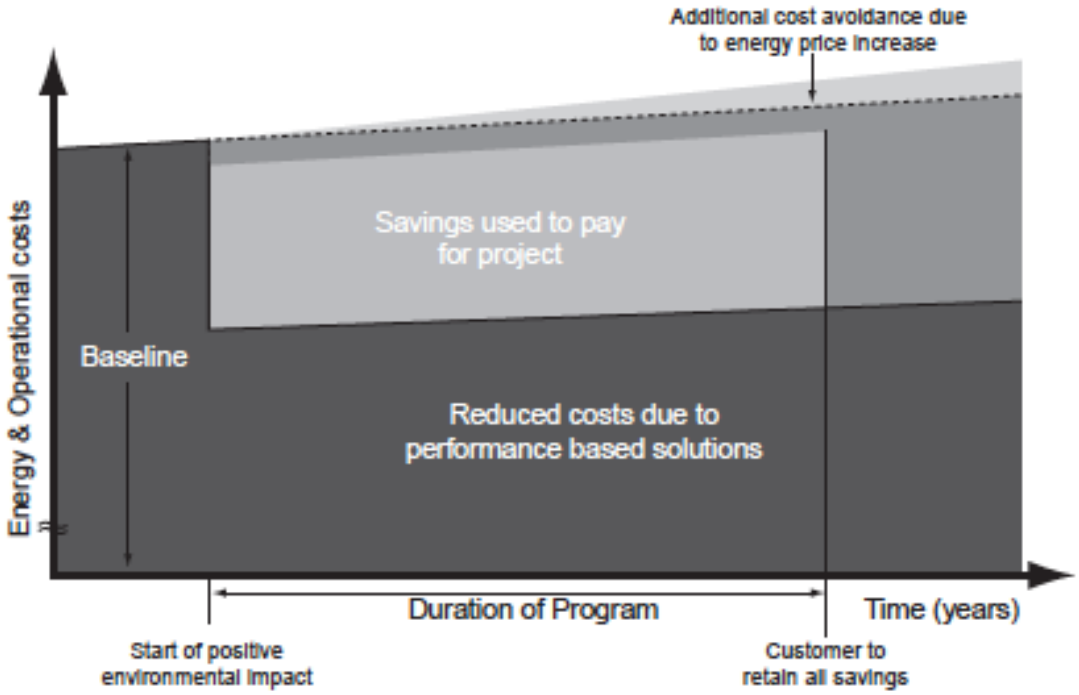
Under the regulated business models, energy efficiency is at odds with the regulatory rules in that the regulated tariff is designed to push prices upwards.

Under a negotiated outcome the public lighting customer can achieved significant improvements in the public lighting network and at the end of the investment period realise signficant savings to

From the graph below, under the Energy Performance Contract, the public lighting investment is offset by the energy savings and at the end of the contract period, the public lighting costs revert to maintenance only with an improved network with reduced energy costs.

The Energy Performance Contract is used to fund:

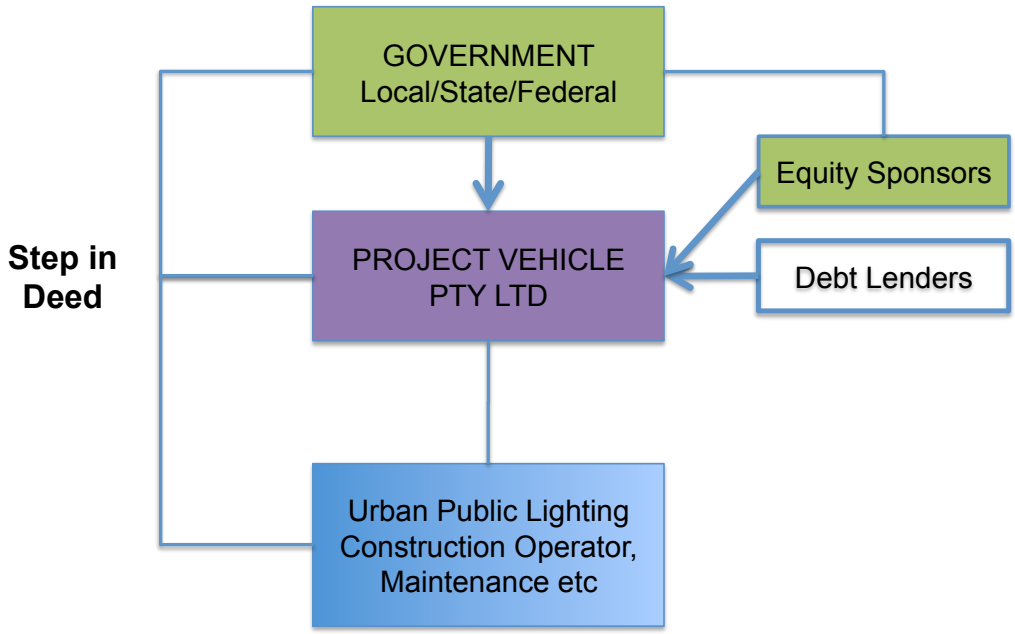
- Energy Efficient Street Lighting
- Computerised Management Systems (CMS) for Public Lighting
- Improved Managesystems
- Public Lighting Audits

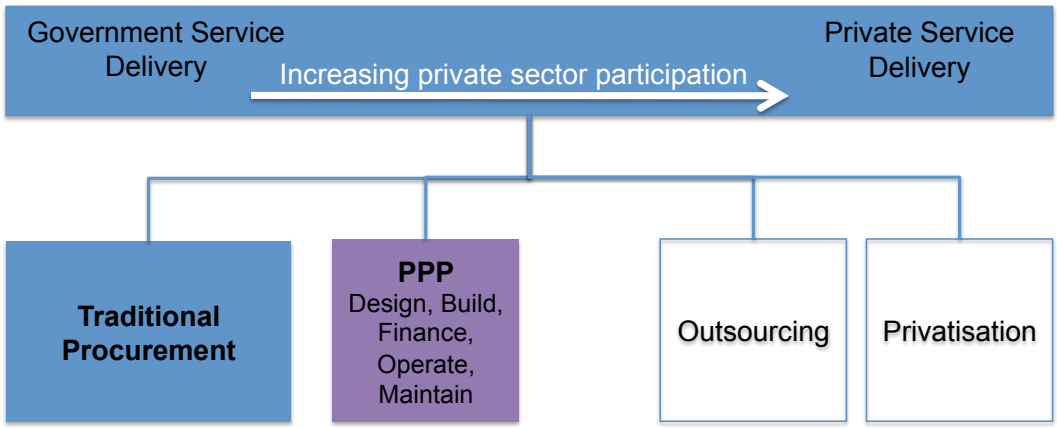


PPP - Public Private Partnership

Public Private Partnerships are used to incorporate the framework of the Energy Performance Contract but to include other added benefits to the community such as:

- Electric Vehicles Charging Stations
- Large Scale Solar Production
- Municipal WIFI
- Improved Traffic Management
- Smart Grid Applications





Examples on Energy Performance Contracts

Washington DC

On 10 February 2012, the District Department of Transportation of Washington D.C. awarded Citelum a comprehensive management contract for street lighting infrastructure and equipment. This five-year contract involves managing energy as well as the design, modernisation and construction work, and the operation and maintenance of the facilities. This has enabled Citelum to achieve a historic breakthrough in the American market by becoming manager of the country's capital city via its urban lighting comprehensive management model.

At the close of an international call for bids Citelum – agent for a grouping with the US company Lighting Maintenance Inc. – was selected to advise the local US authorities on the long term management of a lighting infrastructure of **71,000 lights**.

Upgraded facilities in smart grids

In particular the grouping will ensure the renovation of 35,000 LED lights. In addition, Washington's public lighting will use Citelum designed technological innovations.
The first of these innovations, Citenergy®, installed on 500 lights, enables the electric equipment available on the standard lighting network to be increased without disturbing operations or increasing negative impact on the environment.
It also enables time measurement of energy consumption. The second innovation, **PackWeb®**, facilitates daily maintenance operations (identifying failures, corrective on-site interventions, maintenance, etc.) and the dynamic inventory of the installations. Lastly, the mission will be carried out within the framework of an **Urban Lighting Master Plan.**

Solving the environmental performance /savings equation

- Energy savings of 40 %
- Current budget saving 15%
- Artistic Lighting Design
- LED on 35,000 lighting points
- Computerised Management System

Venice - Smart City

City of Venice Citelum Italy Following an international call for tenders, the Commune of Venice awarded CITELUM the comprehensive management contract for street lighting, traffic signals and related equipment. The contract involves in particular managing 53,000 lights, 100 intersections with traffic lights for a duration of 9 years. High quality environmental targets; Citenergy®; LED lighting; infrastructure for charging electric vehicles; solar marine LED beacons; and Hotspot Wi- Fi are among the contract's unique features.

77% of the Capital invested by the project is being off-set by the energy savings.

Example of a PPP Contract

Sant Fost de Campsentelles - Barcelona

Sant Fost de Campsentelles is a model for cities around the world for its smart use of renewable energy to power its street lighting system. At Citelum, we worked hand-in-hand with the Spanish town to make this goal a reality.

Sant Fost de Campsentelles, a small city near Barcelona, has been attracting a steady stream of new residents since the early 1990s. To support this population growth, city planners have introduced a large-scale urban development program that includes upgrading all the street lighting. In addition to improving operations, the new equipment had to support the city's sustainable development policy. Our Spanish subsidiary teamed up with the city to secure public-private financing and carried out the renovation work under an **Energy Performance Contract**.

A win-win solution for the planet and the city's budget
The Sant Fost project proves that an urban development project can generate both cost savings and environmental benefits with initiatives like:

- A new solar power plant with 8,000 m2 of panels, 70 kWp of output, and the capacity to generate 900,000 kWh/year of power that will be sold to the local electric utility
- Reducing lighting energy consumption by 35% per year to substantially lower the city's electricity bill
- These savings helped finance the investments needed to rebuild the city's entire lighting system and increase the number of lights by 11% for greater capacity and performance.
- Exemplary environmental performance
- Sant Fost's upgrade is, of course, a good example of sustainable urban development. Concretely, the overhauled system will help:
- Cut CO2 emissions by 96 tons/year
- Eliminate light pollution
- Promote clean energy with features like an illuminated walking tour equipped with solar-powered lights
- Streamlined operations

These benefits were made possible not only by installing new materials and systems, but also by using our Luxicom® **remote lighting management** software. To ensure that the new lighting system was fully optimised, we:
Drew on our engineering skills to outline a **City Lighting Masterplan** early on in the project. Used our innovative PackWeb® software to improve day-to-day operations
Sant Fost de Campsentelles, Spain

- 7,900 inhabitants
- 1,811 lights
- Project type: comprehensive street lighting management under a public-private partnership
- Date: 2006
- Project length: 25 years

Technology - Computerised Management Systems

Computerised Management Systems can be funded through an Energy Performance Contract and benefits for the customer mean that they can reduce maintenance costs and energy costs by remotely controlling the network. Within our proposed rate structure we have suggested that a CMS tariff be introduced as the costs for metering are paid for by the customer and should be reflective of that capital and operational contribution the customer makes for the DUOS electricity rate.

Citelum have installed CMS into the following cities:

- Madrid - Spain
- Barcelona
- Paris - France
- Kunming - China
- Ho-Chi Minh - Vietnam
- Washington DC - USA
- OSLO - Norway

CMS enables data to be transferred across an electricity grid so that lighting power and voltage can be adjusted remotely. As a result, the grid operates more smoothly, equipment lasts longer, and the amount of electricity supplied can be matched to the amount needed—without affecting lighting quality.

Even an old-fashioned lamp post can be hooked up to a smart grid.

A small electronic unit is installed inside a lighting column to supply continuous power, which can be used for any type of urban electrical equipment. This smart city platform can leverage the street lighting grid to run additional electrical equipment—without affecting safety, continuity of service, quality, or environmental impact.

This smart system also has the advantage of not requiring any supplemental maintenance work or infrastructure investments.

Computersied Management Systems

Street lighting is one of the first items of expenditure in electricity for local authorities who want today to realise substantial energy savings.

The remote management system meets all the city’s requirements.

It allows:

•Significant energy savings by programming the power variation of each single light. The remote modules installed in the lantern receive their programming, ignition, extinction and variation orders through an efficient and open Power Line Carriage protocol.

•A real-time control of energy consumption through the single light module’s acquisition functions and the reporting functions of the monitoring software.

•An effective and reactive maintenance thanks to the feed-back of information from the field in real-time (failures, alarms, etc...) identified by the modules.

• A real-time control of street lighting through an open monitoring software allowing the remote control of equipment from many manufacturers.

•The transformation of the street lighting network in a data communication network, the first step to build a “Smart Grid City”, which may aggregate all kinds of uses and technologies: charging stations for electric vehicles, video cameras, wireless terminals, traffic and pollution sensors, billboards, etc.

Main Functions of a CMS

Single Light Energy Savings

The objective of the power variation is the adaptation of lighting while maintaining the continuity of service. The single light energy saving technique allows:

- The removal of start over-current and protection of the all appliance (lamp, ballast, ...)
- The maintaining through the time of a constant level of lighting
- The guarantee of the lamp operation through the self- adaptation of the parameter. In the context of characterising the energy performance, the measurement of electrical characteristics needs to be conducted.

That is the reason why CMS incorporates on every single lighting point remote modules, an acquisition card that measures and calculates the main electric single phase parameters of lighting point and its load (Voltage, Intensity, Active Power, Reactive Power, etc...).

This acquisition card supports the functions of stabilisation or regulation of the product, ensures the protection of the terminals, and also proceeds with the counting of the energy consumption on every single lighting point.

Maintenance Optimisation

The single light remote management plays a key role in managing numerous outdoor lighting. It is involved in the piloting of a facility, in the permanent control facilities, in the control and management of the lighting.

- Remote operations on a single lighting point: on / off / dimming
- Creation and modification of operating scenarios.
- Adaptation following the needs of the City, configuring each zone with switching ON / OFF hours and the relevant light levels. The feed-back of the network status

Lighting failure
The lamp no longer works(lamp,ballast or ignitor are Out of Service)

Facility Failure
The concerned module is no longer communicating (fuse out of service or faulty module)

Local control failure
The local control (clock, cell, ...) did not switch ON or OFF on time. The module returns the information and automatically controls the ignition or extinction.

Predictive Failure
Symptoms of irregular operation, to be treated before they become a real lighting failure (eg: deteriorated lamp, old lamp, still functioning but with less reduction and less saving: it will die soon).

Over-temperature
Module overheating (over 85 o C). It switches into security mode, switch off the lamp and return the information in order to plan an intervention before the all appliance or the module deteriorates and become a Light failure.

Management Improvements

Remote operations and the rise of network conditions favour a move optimisation and improved service quality and working conditions:

A predictive maintenance policy adapted to outdated lamps

•The elimination night rounds: the operator is alerted directly of the lamp failures

•Increasing the life-span of the lamps through the precise control of the power supply.

Harmonisation of the street lighting level
Following the power, the type and the age of the lamps. The user can get a uniform light level by programming each lighting points at the dimming rate that suits him the best for the overall vision: -

Comfort optimisation with the proper lighting level at the right time
Light adjustment following the life cycle of the fauna and flora The monitoring of the services and traceability as well as providing information on the intranet allows the contracting authority and its operator to measure the quality of services provided by the teams on the ground and avoid unnecessary travel.

The provision of a historical single database can provide answers to questions from residents during their interrogation of the public lighting functioning

Appendices - Separate Attachment

Appendix A - Policy Number 192