

Public Lighting: Management Plan 2010

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ISSUE 4

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3 PUBLIC LIGHTING OBJECTIVES

Essential Energy's objectives in providing public lighting are to:

- Meet customer and local community needs for effective lighting, reliability, energy efficiency and environmental performance.
- Maintain a safe public lighting system that is compliant with AS/NZS 1158.
- Fulfil regulatory requirements as well as those of Industry and Investment NSW (including those established in the NSW Public Lighting Code, 1 January 2006).
- Minimise the costs to Essential Energy and our customers.

This management plan applies to all public lighting in the Essential Energy distribution area which Essential Energy owns or is responsible for maintaining, and provides a common approach to the management of public lighting. This plan does not apply to security lighting, decorative lighting or other special purpose lighting.

4 PUBLIC LIGHTING MANAGEMENT STRUCTURE & RESPONSIBILITIES

Essential Energy's public lighting is jointly managed by the company's Engineering Services and Infrastructure Operations divisions, with support provided by a number of additional business units.

The division of responsibilities is as follows:

Infrastructure Operations

- Regional General Managers (RGM) for each region liaise with customers about their public lighting needs and provide information about our performance against Essential Energy's Public Lighting Management Plan.
- Responsibility for ensuring the maintenance and installation of streetlights.

Engineering Services Division

- Maintains Essential Energy's Public Lighting Management Plan, policies and procedures to ensure they remain relevant and current.
- Liaises with all relevant parties about Essential Energy's standard luminaires list and changes to the Public Lighting Management Plan.
- Establishes and communicates changes in street lighting policy within Essential Energy.
- Establishes technical lighting specifications (excluding procurement).
- Analyses maintenance data and condition monitoring.
- Conducts performance reports.
- Supports Essential Energy's eight regions on technical lighting matters and negotiating individual street lighting arrangements with customers.

Support services

- Supply Interruption Group – operates a 24 hour supply interruption telephone line to allow customers to report faulty streetlights.
- Regulatory Affairs and Billing Services – prepares and distributes Essential Energy's public lighting bills to customers.

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- Customer Affairs – manages and maintains the company's Guaranteed Customer Service Standards in accordance with the NSW Public Lighting Code.

5 EQUIPMENT SELECTION & REPLACEMENT**5.1 Standard Luminaires**

Essential Energy will use the standard luminaires (outlined in Table 1 below) to replace faulty existing equipment and for requested new installations. Customers may request the installation of other streetlights by contacting their Regional General Manager and recording the agreement as an addendum to their Public Lighting Service Level Agreement.

Essential Energy will consult with customers prior to making any changes to this standard luminaire list.

Luminaire types will be selected on, but not limited to the following criteria:

- Appearance
- Efficiency
- Life-cycle costs
- Promote competition between suppliers where possible

EXISTING LUMINAIRES	CURRENT STANDARD LUMINAIRES
<ul style="list-style-type: none"> • 80W Mercury Vapour • 50 & 70W High Pressure Sodium • All Low Pressure Sodium of 55W or less • Linear Fluorescent Lighting 	42W 'Suburban Eco' Compact Fluorescent (New) or 70W 'Urban' High Pressure Sodium
<ul style="list-style-type: none"> • 150W High Pressure Sodium • 250W Mercury Vapour • 90-135W Low Pressure Sodium 	150W 'Roadster' High Pressure Sodium
<ul style="list-style-type: none"> • 250W High Pressure Sodium • 400W Mercury Vapour • 150-180W Low Pressure Sodium 	250W 'Roadster' High Pressure Sodium
<ul style="list-style-type: none"> • 400W High Pressure Sodium • 700W Mercury Vapour • 310W Low Pressure Sodium 	400W 'Roadster' High Pressure Sodium

Table 1 Matrix - Standard Lights

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5.2 Non Standard Luminaires

Existing non-standard luminaires that are not included in the table above will be addressed on a case-by-case basis in consultation with customers.

Customers can use luminaires that are not on the Essential Energy standard luminaire list however, Essential Energy is not obliged to install or maintain them. Additional charges may apply for the use of non-standard streetlights and customers may need to maintain stocks of spare parts.

Arrangements for the maintenance and installation of non-standard luminaires should be recorded as an addendum to the Public Lighting Service Level Agreement.

6 DESIGN & CONSTRUCTION OF PUBLIC LIGHTING

6.1 Contestable & Non Contestable Works

Essential Energy offers a number of public lighting and electrical design and construction services to customers that meet AS/NZS 1158 (Lighting for Roads and Public Places) and Essential Energy Network Construction Standards.

Essential Energy Network Construction Standards include the following; CEOM7099 Overhead Construction Manual, CEOM7199 Underground Construction Manual and CEOM7004 Contestability Approved Materials Inventory.

Some public lighting work is contestable, meaning it can be undertaken by any suitably qualified Accredited Service Provider.

In applying the NSW contestability framework, Essential Energy follows the principal that only the owner of street lighting infrastructure can maintain, modify or remove public lights or appoint another party to maintain, modify or remove them. Essential Energy's current application of the contestability framework is detailed in Attachment A.

6.2 Compliance with AS/NZS 1158

AS/NZS 1158 has been increasingly recognised in recent years as the appropriate standard for street lighting. However, customers should note that some existing streetlights were installed prior to the implementation of AS/NZS 1158 and were not constructed to meet this standard.

Essential Energy's Design Group may be able to assist you to evaluate the compliance levels of existing installations in your LGA and provide you with recommendations on how to improve compliance with AS/NZS 1158. Please note that this service may attract a fee.

Essential Energy uses AS/NZS 1158 as the basis for lighting designs in all new installations unless otherwise requested by customers in writing and agreed to as an addendum to the Public Lighting Service Level Agreement.

Essential Energy recommends that Customers consider adopting warrants to explicitly recognise other lighting arrangements where AS/NZS 1158 may not be applicable.

UNCLASSIFIED**6.3 Design & Construction in Vandal Prone Areas**

Streetlights in vandal prone areas may require the installation of a wire guard to minimise the chance of repeat offences. Such guards may affect the output of lighting levels.

Customers wishing to erect wire guards will need to lodge a formal written request to Essential Energy and acknowledge that Essential Energy will not be responsible for any impact to light performance.

Essential Energy will notify the customer if further vandalism occurs and commence discussions to determine alternative street lighting options. Customers are responsible for the costs associated with agreed design work and modifications.

7 MAINTENANCE PROGRAM

All street lighting installations require maintenance to repair faults (such as lamp, control equipment, luminaire or connection failure) and to avoid unacceptable reduction in light output of the lamp/luminaire combination (such as through lamp deterioration, dirt accumulation on lenses or inappropriate alignment of the luminaire with the roadway).

Essential Energy will undertake the following, unless otherwise agreed in an addendum to a Public Lighting Service Level Agreement.

- Have primary responsibility for the delivery of public lighting maintenance programs.
- Design its maintenance programs to meet the requirements of the NSW Public Lighting Code, January 2006 which, in general, sets maintenance requirements in accordance with AS/NZS 1158 (Lighting for Roads and Public Places).

7.1 Fault Detection and Service Availability Requirements

Essential Energy will use, or implement, the following initiatives to detect streetlight faults

- **24-hour supply interruption line and community streetlight fault reporting promotion**

Local residents can report faulty streetlights to Essential Energy online at www.essentialenergy.com.au, by visiting an Essential Energy Customer Service Centre or by calling the company's Supply Interruption line on 13 20 80. County Energy will work with its customers to promote this service to residents.

- **Night Patrols for Main Roads**

Essential Energy will conduct night patrols on main roads (Category V roads under AS/NZS 1158) at least once every six months. Night patrols for main roads are a recommended maintenance strategy under AS/NZS 1158.

7.2 Lamp Replacement & Disposal

The objectives of Essential Energy's maintenance program is to ensure that lamps are replaced promptly when faults are detected, lamps are replaced before the minimum recommended lighting levels are reached and that failed lamps are disposed of safely.

Spot Lamp Replacement – Essential Energy will repair or replace faulty streetlights within an average of 8 days of them being reported through a Essential Energy Customer Service Centre, 24 hour Supply Interruption telephone line or Essential Energy's website.

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Where Essential Energy is notified of a fault that involves supplementary floodlighting at a pedestrian crossing or a group of 3 or more lights on a main road, the repairs will be undertaken within 5 working days.

Essential Energy will prioritise the repair of streetlights in areas that have been identified by customers as high crime areas or attracting high night-time activity.

It is recognised under the NSW Public Lighting Code, January 2006 that longer repair times may be unavoidable in some circumstances. Under the Code, Essential Energy and its customers may agree to longer maximum repair times or alternative maintenance arrangements in these situations.

Bulk Lamp Replacement – Essential Energy will replace all streetlight lamps every 36 months under a bulk lamp replacement program. As part of the bulk lamp replacement program, Essential Energy will clean luminaires, inspect and test equipment and, if appropriate, replace photocells.

Essential Energy will liaise with customers to develop a bulk lamp replacement schedule each year. This will allow customers to coordinate their own maintenance activities and to positively respond to public enquiries.

Essential Energy will report on its progress against this schedule in its Annual Street Lighting Performance Report.

The frequency of the bulk lamp replacement program will be reviewed regularly and feedback will be sought from customers on the success of the program.

Lamp Recycling – Aged but operational lamps that are collected or replaced during the bulk lamp replacement program may be sold for beneficial reuse or sent to an appropriate recycling facility to recover glass and metals in accordance with Australian best practice.

7.3 Luminaire Cleaning & Inspection

Essential Energy's maintenance program will ensure that luminaires are cleaned and inspected on a basis that will help maintain recommended minimum lighting levels and provide early identification of defects that could affect performance.

When lamps are replaced, Essential Energy will inspect each luminaire and repair:

- Loose or missing clamps, screws and other fasteners or covers.
- Signs of overheating in wiring and electrical components.
- Missing, broken, cracked, unsecured, opalised or substantially discoloured lenses.
- Damaged or missing seals (usually evidenced by water ingress).
- Damaged or corroded luminaires, brackets, supports or wiring.
- Misaligned luminaires or brackets.
- Other obstructions (including foliage within vegetation clearance requirements) or circumstances which may affect the ongoing luminaire performance.

The inspection and maintenance of streetlights that are attached to a non Essential Energy structure (such as bridges and buildings) will be restricted to the standard public lighting equipment (e.g. – standard luminaire and bracket).

Maintenance of the associated structure, internal conduits or non-standard mounting arrangements is the responsibility of the customer.

UNCLASSIFIED**7.4 Vegetation Management Strategies**

Essential Energy's vegetation management program is designed to enhance public safety, support the delivery of safe and reliable power supplies and educate customers on their responsibilities to clear vegetation beyond the immediate vicinity of luminaires.

Effective vegetation management will:

- Promote electrical safety and provide maintenance access – minimum clearances between electrical infrastructure and vegetation are required to allow ongoing maintenance and to promote public safety. This is detailed further in Essential Energy's Vegetation Management Plan (CEPG8008),
- Promote maximum light distribution – vegetation near luminaires can significantly compromise light distribution. AS/NZS 1158 recommends that a vegetation-free zone be maintained in the vicinity of luminaires.

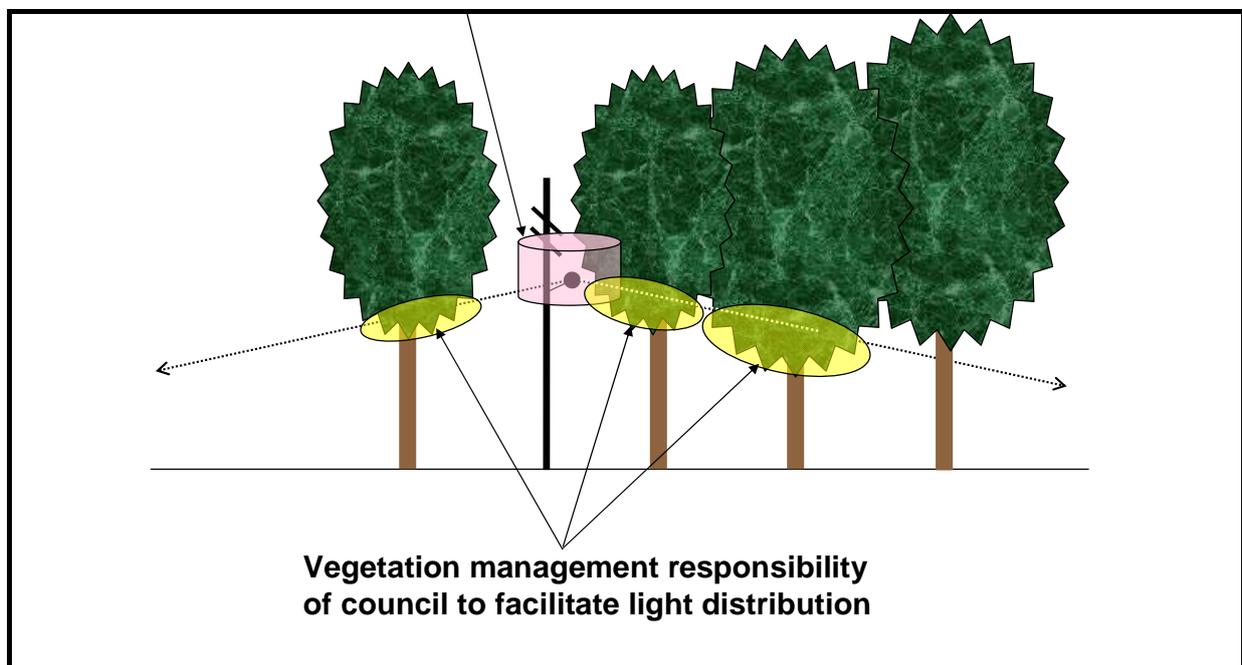


Figure 1 – Vegetation Management Responsibilities

Essential Energy accepts responsibility for keeping safe clearances between vegetation and overhead powerlines or public lighting.

The responsibility for maintaining clearances greater than this and for minimising the impact of vegetation on light distribution lies with the land owner. A number of technical alternatives exist (such as installing longer brackets) that may assist if vegetation management costs are prohibitive.

Customers can discuss these alternatives with Essential Energy design staff or any Level 3 Accredited Service Provider. Alterations will be funded by the customer.

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Essential Energy's vegetation management program does not extend to areas that are serviced by underground powerlines and street lighting - except to provide easy access to the electricity network for Essential Energy employees.

Essential Energy uses the following initiatives to meet its safety and maintenance responsibilities in relation to vegetation management.

Safety and maintenance – Essential Energy informs vegetation contractors undertaking work on behalf of the business, of the required vegetation clearances around overhead luminaires and powerlines.

Light distribution– Essential Energy informs customers of their responsibilities to clear vegetation beyond the immediate vicinity of luminaires through distribution of this management plan and Essential Energy's Vegetation Management Plan (CEPG8008).

7.5 Inspection, Testing, Repair & Replacement of Equipment

The objective of Essential Energy's maintenance program is to ensure that the inspection, testing, repair and replacement of equipment associated with street lighting is undertaken appropriately. This includes equipment such as brackets, supports, switchboards and wiring systems associated with street lighting.

Essential Energy uses the following initiatives to ensure it meets its safety and performance related responsibilities to inspect and maintain equipment associated with street lighting.

- **Associated Equipment Inspection and Maintenance** – Essential Energy undertakes the inspection and maintenance of brackets, some wiring, and supports in conjunction with luminaire inspection. Essential Energy has a program of support inspection and maintenance as well as a network wiring inspection and maintenance program described in CEPG8010 Electricity Network Asset Inspection, CEPG8007 Mains and Distribution Field Equipment Maintenance and CEM7005 Asset Inspection Manual.

7.6 Condition Monitoring

Condition monitoring is a technique involving statistical analysis of samples of street lighting maintenance data from a portion of, or the entire street lighting network. This allows Essential Energy to continuously identify opportunities for improvement in equipment selection, installation practices and maintenance programs.

This will be achieved through the implementation of the following initiative.

- **Improved maintenance recording and analysis** – Essential Energy will implement a program of enhanced maintenance recording (as detailed in the following section). This will enable information about the frequency and causes of faults, including the incidence of the various equipment component failures to be identified in subsequent analysis. This analysis will be undertaken by Essential Energy on a regular basis.

7.7 Maintenance of Poles & Other Support Infrastructure

Essential Energy will inspect network infrastructure associated with street lighting as described in CEPG8010 Electricity Network Asset Inspection, CEPG8007 Mains and Distribution Field Equipment Maintenance and CEM7005 Asset Inspection Manual.

The default replacement for bracket arms on residential roads will be a bracket arm with a minimum outreach of 1.5m (where possible).

7.8 Maintenance Recording & Performance Review

Essential Energy will record all public lighting maintenance in Essential Energy's asset management system against the asset label specific to the repair. Data that will be recorded against the unique support number for each asset includes:

- The date of fault notification or modification request.
- The date of repair or modification.
- Type of failure.
- Any updates required in the inventory (for example, additions, deletions or modifications to current entries).

The objective of this program is to deliver continuous improvements in:

- Inventory accuracy.
- Billing accuracy.
- Condition monitoring.

7.9 Modification of Maintenance Program as Required

It may be necessary and advantageous to modify the maintenance program periodically as a result of condition monitoring, performance review, customer feedback, maintenance audits or technological advances. The objective in continuously seeking opportunities to improve the maintenance program is to improve technical performance, efficiency and productivity, reduce costs and enhance service for customers.

Any changes to the Public Lighting Management Plan will be updated accordingly.

8 INFORMATION PROVISION & REPORTING

Essential Energy will provide customers with an annual report detailing Essential Energy's progress against the Street Lighting Management Plan.

8.1 Asset Inventory & Graphical Information System (GIS) Data

County Energy will provide the customer with a complete asset inventory meeting the requirements of the NSW Public Lighting Code section 8.1 at least 6 monthly or on request as required.

This will include the location, type, rated power, date of installation (where the luminaire was installed after 1 January 2006¹) and infrastructure required to support the luminaire and any other information that is required to identify charges and ownership status for each asset.

Essential Energy will provide GIS data on street lighting assets on a 6 monthly basis.

¹ Commencement date of NSW Public Lighting Code

UNCLASSIFIED**8.2 Annual Performance Reporting**

Essential Energy will provide the customer with an Annual Performance Report in July of each year that includes:

- A Letter
- Annual Performance Report
- CD of data
- An inventory report including:
 - Lamp type
 - Wattage rating
 - Support details
 - Control mechanism
 - Tariff information.

8.3 Billing

Essential Energy will provide street lighting bills in accordance with Section 13.1 and 13.3 of the NSW Public Lighting Code.

These bills will contain adequate information (in conjunction with their inventory report) to allow customers to audit their street lighting inventory against their billing information - including the number of specific lanterns by type, wattage and charges specific to each lantern type and wattage.

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9 PRICING

9.1 Tariff Definitions

- **Tariff Type 1:** Assets constructed prior to 1 July 2009 and funded and maintained by Essential Energy. The Australian Energy Regulator (AER) has determined that Essential Energy can continue to recover Capital for these lights for the next 10 years.
When the customer wishes to replace any of these lights prior to the expiry of their economic life, an amount of unrecovered capital will be required in advance prior to the installation of the new light. The new light can be either tariff type 3 (funded by Essential Energy) or tariff 4 (funded by the customer) as per negotiations.
- **Tariff Type 2:** Assets constructed prior to 1 July 2009 and funded by someone other than Essential Energy. The AER has determined that Essential Energy is responsible for the next replacement of these lights at their expense at the end of their serviceable life. When a light on tariff 2 is replaced it will be placed on tariff 4 and any subsequent replacement will by negotiation become tariff type 3 (funded by Essential Energy) or tariff 4 (funded by the customer).
- **Tariff Type 3:** Assets constructed after to 1 July 2009 and funded by Essential Energy. The SLUOS charges incorporate a capital recovery component.
- **Tariff Type 4:** Assets constructed after to 1 July 2009 and funded by someone other than Essential Energy and the SLUOS charges do not incorporate a capital recovery component.
- **Tariff Type 6:** The Customer or Developer has installed the assets at their cost and owns, operates and maintains the lighting asset. This asset has a point of connection to the Essential Energy Network and attracts a usage (NUOS and Energy) charge only.

10 RESPONSIBILITIES OF THE CUSTOMER

The customer will:

- Promote Essential Energy's streetlight fault reporting phone line and webpage to residents on its website and in communications with local residents as appropriate.
- Consult with the local community about the specific lighting strategies in nominated historical precincts, semi-rural areas and outlying villages and inform them if the proposed lighting strategies do not meet the requirements of AS/NZS 1158 and the reasons for this.
- Implement vegetation management programs to facilitate light egress as per Essential Energy's Vegetation Management Plan (CEPG8008).
- Pay its bills in accordance with Section 13.2 of the NSW Public Lighting Code.
- Consult Essential Energy when developing new, or amending existing subdivision and development guidelines relating to street lighting.

11 DISPUTE RESOLUTION

The parties agree to resolve disputes in accordance with Section 18 of the NSW Public Lighting Code.

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12 ATTACHMENT A – CONTESTABLE & NON-CONTESTABLE WORKS

Some street lighting work is contestable and Accredited Service Providers may provide services for street lighting customers.

Essential Energy is an Accredited Service Provider and will supply quotations on request for contestable works.

In relation to the NSW contestability framework, Essential Energy follows the principal that only the owner of the lighting can maintain, modify or remove streetlights or arrange for another party to maintain, modify or remove them. For clarity in this area, Essential Energy's current application of the contestability framework for street lighting is as follows:

12.1 Design

- **New Installations** - Design of new lighting installations that do not involve existing Essential Energy lighting or network infrastructure is fully contestable. Essential Energy will provide the required network technical information to facilitate design work. Fees may apply for the provision of this information.
- **Modifications to Existing Installations** - Design of lighting upgrades involving existing Essential Energy lighting or network infrastructure is contestable but network design is subject to approval by Essential Energy. Essential Energy will provide network technical information to facilitate design work but fees may apply for the provision of this information. Design work must be undertaken by an Accredited Level 3 Service Provider and if the assets are to be owned and/or maintained by Essential Energy, design approval is contingent upon:
 - Meeting Essential Energy's Network Construction Standards
 - Using equipment that is on Essential Energy's Contestable Approved Materials Inventory.

ESSENTIAL ENERGY DOES NOT APPROVE THE ADEQUACY OF, OR TAKE ANY RESPONSIBILITY FOR, THIRD PARTY LIGHTING DESIGN IN TERMS OF COMPLIANCE WITH AS/NZS 1158 – LIGHTING FOR ROADS AND PUBLIC SPACES.

12.2 Removal of Existing Lighting Infrastructure

- **Essential Energy Infrastructure** - Removal of existing Essential Energy owned luminaires or existing Essential Energy lighting infrastructure is considered recoverable works, and can where practical, be carried out by an Accredited Service Provider. Essential Energy may approve such work upon the request of a customer, however, a transfer of ownership of the assets to the customer is required before approval to remove existing Essential Energy lighting infrastructure will be given. Transfer of ownership may require the customer to pay Essential Energy the unrecovered depreciated capital value of the assets.
- **Customer Infrastructure** – Removal of existing customer-owned lighting infrastructure is contestable. However, if luminaires are mounted on Essential Energy supports, an Accredited Service Provider must undertake this work in accordance with Essential Energy notification, safety and other network requirements.

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12.3 Building New Luminaires on New Supports

The installation of new luminaires that are to be mounted on new dedicated lighting supports (typically underground supplied) is contestable. Connection of the assets to Essential Energy's network is subject to meeting Essential Energy network connection requirements (for example, with respect to isolation). Essential Energy may require the installation of a meter in such cases.

Essential Energy may assume ownership (for example, as gifted assets) and/or maintenance responsibility for new installations; however it is not obliged to do so. Essential Energy will only consider such requests if new installations use equipment from Essential Energy's Contestable Approved Materials Inventory and comply with Essential Energy Design and Construction Standards. Such arrangements must be agreed to prior to construction and be included in the customer Street Lighting inventory by Essential Energy when the assets are placed in service.

If the customer assumes ownership of the street lighting installation, the installation should be constructed to Australian Standard AS3000 compliance with appropriate isolation from the Essential Energy network. The customer would be responsible for the provision of all street lighting services including the maintenance and replacement of the street lighting assets. Essential Energy will not assume responsibility for these installations but may offer to provide maintenance services for them.

12.4 Building New Luminaires on Essential Energy Supports

Adding new luminaires on existing Essential Energy supports is contestable work and can be carried out by an Accredited Service Provider as long as all relevant Essential Energy notification, safety and other network requirements are met. Essential Energy will not approve the adequacy of, or take any responsibility for, third party lighting design and installation in terms of compliance with AS/NZS 1158 – Lighting for Roads and Public Spaces.

Essential Energy may assume ownership (for example, as gifted assets) and/or maintenance responsibility for new lighting installations built by third parties on its supports, however it is under no obligation to do so. Essential Energy will only consider such requests from customers if new installations use equipment from Essential Energy's Contestable Approved Materials Inventory and comply with Essential Energy Design and Construction Standards. Any such arrangements must be agreed prior to construction and be included in the customer Street Lighting inventory by Essential Energy when the assets are placed in service.

If the customer assumes ownership of the street lighting installation, the customer will be responsible for the provision of all street lighting services including the maintenance and replacement of the street lighting assets. The customer must notify Essential Energy of any new installations or additions where the supply is unmetered, to allow Essential Energy to include them in the customer street lighting inventory for billing of energy and network charges. Essential Energy will not assume responsibility for these installations but may offer to provide maintenance services for them.

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12.5 Maintaining New or Existing Luminaires

Essential Energy Infrastructure – Maintenance of Essential Energy owned lighting infrastructure is not contestable. However, if a customer wishes to have another Accredited Service Provider maintain public lighting in its area, Essential Energy in principle, will not object.

In general, a transfer of ownership to the customer will be required before customers can employ another party to maintain such lighting.

The customer will be responsible for the provision of all street lighting services including maintenance and replacement of street lighting assets. Maintenance must be undertaken by an Accredited Service Provider who meets all relevant Essential Energy notification, safety and other network requirements.

The customer must keep Essential Energy informed of any additions or changes to the street lighting to allow Essential Energy to update the street lighting inventory for billing of energy and network charges. Essential Energy will not assume responsibility for these installations but may offer to provide maintenance services for them.

Customer Infrastructure – Maintenance of customer owned lighting infrastructure is contestable. This includes new lighting built by customers and existing lighting under a tariff structure which recognises that the customer owns the lighting infrastructure.

Accredited Service Providers that undertake maintenance work for lighting infrastructure that is mounted on Essential Energy supports must meet all relevant Essential Energy notification, safety and other network requirements.

Customers must inform Essential Energy of unmetered installations to allow Essential Energy to update the street lighting inventory for billing of energy and network charges. Essential Energy will not assume responsibility for these installations but may offer to provide maintenance services to them.

12.6 Application of Contestability to Tariff Types

- **Tariff Type 1:** Assets constructed prior to 1 July 2009
Tariff Type 1 assets were funded and are maintained by Essential Energy. The Australian Energy Regulator (AER) has determined that Essential Energy will continue to recover capital for these lights for the next 10 years.
When the customer wishes to replace these lights prior to the expiry of their economic life, an amount of unrecovered capital will be required prior to the installation of the new light. The new light can be either tariff type 3 (funded by Essential Energy) or Tariff 4 (funded by the customer) as per negotiations.
- **Tariff Type 2:** Assets constructed prior to 1 July 2009
Tariff Type 2 assets were funded by someone other than Essential Energy. The AER has determined that Essential Energy is responsible for the next replacement of these lights at its expense at the end of their serviceable life. When a light on tariff 2 is replaced it will be placed on tariff 4 and any subsequent replacement will by negotiation become tariff type 3 (funded by Essential Energy) or tariff 4 (funded by the customer).
- **Tariff Type 3:** Assets constructed after to 1 July 2009
Tariff Type 3 assets were funded by Essential Energy. The SLUOS charge includes a capital recovery component.
- **Tariff Type 4:** Assets constructed after to 1 July 2009

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Tariff Type 4 assets were funded by someone other than Essential Energy and the SLUOS charges do not incorporate a capital recovery component.

- **Tariff Type 6:** The Customer or Developer installs the assets at their cost.

The customer or developer owns, operates and maintains the lighting asset which has a point of connection to the Essential Energy Network.

13 REFERENCES

The following references were used in drafting this Public Lighting Management Plan or are used by Essential Energy personnel and Accredited Service Providers in undertaking street lighting construction or maintenance:

CECM1000.21 – SSHE Manual: Personal Safety

CECM1000.52 – SSHE Manual: Waste

CEM7005 – Asset Inspection Manual

CEOF9008 - Public Lighting: Service Level Agreement

CEOP8030 – Electrical Safety Rules

CEPG2018 – Polarity and Neutral Identification Testing

CEPG8007 – Mains and Distribution Field Equipment Maintenance

CEPG8008 – Vegetation Management Plan

CEPG8010 – Electricity Network Asset Inspection

AS1939-1990 – Degrees of protection provided by enclosures for electrical equipment

AS/NZS 1158.1.3:1997 – Lighting for Roads and Public Spaces – Part 1.3: Vehicular traffic (Category V) lighting – Guide to design, installation, operation and maintenance – Section 14

AS/NZS 1158.6 – Luminaires

Code of Practice for Electricity Transmission and Distribution Asset Management – EANSW

Electricity Supply Act 1995

Electricity Supply (Safety Plans) Regulation 1997

Network Maintenance Policy (Formerly NorthPower Document Number AMO.03.001)

NSW Public Lighting Code

14 REVISIONS

Issue Number	Section	Details of Changes in this Revision
3	All	Completely Re-written
4	All	Template/Logo change only.