

# Standard

01226

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## ENERGEX LIMITED PUBLIC LIGHTING MANAGEMENT STANDARD

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### **1. Foreword**

Energex recognises the importance of public lighting to its customers, the community and other stakeholders for the provision of a safe, secure and attractive visual environment for pedestrian and vehicular traffic, whilst taking into consideration energy efficiency, economic efficiency, and appropriate technology choices.

The objective of this Public Lighting Management Standard (the “Standard”) is to provide a management framework that will ensure that Energex’s Public Lighting Assets meet the industry standards and the needs of its Public Lighting Customers.

Energex will endeavour to work with our Public Lighting Customers to help provide them with the best possible service standards. Energex is committed to the achievement of best practice asset management strategies to ensure the safe and reliable operation of its

Public Lighting Assets.

To meet the objectives and strategies developed for the management of Energex’s Public Lighting Assets, Energex will provide the following:

- A description of the maintenance strategies used to ensure Public Lighting Assets continue to meet required performance criteria;
- A description of the processes for reporting, recording, investigating and repairing faults with Public Lighting assets;
- Details on how Energex complies with the Codes, Standards and Guidelines for Public Lighting Assets; and
- Details of reporting provided to Public Lighting Customers.

### **2. Scope**

This document sets out the performance standards to be met by Energex in the management of public lighting in South East Queensland.

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### 3. Public Lighting Management

In consultation with public lighting customers, Energex will develop management strategies to achieve industry best practice in the management of Public Lighting Assets which align with relevant Public Lighting Standards and Codes and Council public lighting guidelines.

Energex will review new technology and integrate these in the public lighting after appraisal, trials and consultation with public lighting customers.

The Standard has a focus on the following areas:

- Design and construction practices
- Patrols and maintenance programs
- Lamp and associated component replacement programs
- Fault identification and rectification
- Equipment selection and procurement programs
- Luminaire replacement and refurbishment practices

Energex is committed to the initiatives outlined in this Standard and will make available to Public Lighting Customers:

- Progress reports on the initiatives in this Standard
- Responses to customer enquiries
- Public Lighting Policies and Standards

#### 3.1. Public Lighting Management Responsibility

The roles and responsibility for the management of Public Lighting Assets in Energex are given in Table 1.

**Table 1 – Functions and Responsibilities in Energex**

Function	Responsibility
Engineering Policy, Standards and Technology	Development and Maintenance of Public Lighting Design and Construction Manuals
	Development and Maintenance of standards conditions for public lighting services
	Development of maintenance and asset replacement strategies
	Review, trials and introduction of new Public Lighting Assets and Technologies
Network Maintenance and Performance	Implement the maintenance and asset replacement strategies

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Function	Responsibility
Asset Management North and South	Public Lighting Assets in following Council areas: <ul style="list-style-type: none"><li>• Gympie Regional</li><li>• Noosa</li><li>• Sunshine Coast Regional</li><li>• Moreton Bay Regional Council</li><li>• Brisbane City Council</li><li>• Redlands City Council</li><li>• Scenic Rim Council</li><li>• Ipswich City Council</li><li>• Lockyer Valley Regional</li><li>• Somerset Regional</li><li>• Gold Coast City</li><li>• Logan City Council</li></ul>
Public Lighting Services	Electrical Design and Construction of Public Lighting Assets
Field Services Contracts	Public Lighting Construction and Maintenance

### 3.2. Energex points of contact

Energex has nominated a single point of contact for enquiries on each of the following matters:

**Table 2 – Points of Contact in Energex**

General enquiries	Phone 13 12 53
Dispute resolution	Phone 36644955 (Customer Advocacy) or Energex Internet site: Home/Contact us/Forms/Customer Enquiries, Feedback and Complaints <a href="https://www.energex.com.au/contact-us/forms/general-forms/customer-complaints-enquiries-and-feedback-form">https://www.energex.com.au/contact-us/forms/general-forms/customer-complaints-enquiries-and-feedback-form</a>
Maintenance and to report a Street lighting fault	Phone 13 12 53
Report a Street lighting fault online:	Energex Internet site: Home/Contact us/Forms/Faulty Street Light Form – Residential <a href="https://www.energex.com.au/contact-us/forms/general-forms/faulty-streetlight-residential-form">https://www.energex.com.au/contact-us/forms/general-forms/faulty-streetlight-residential-form</a>

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	Councils <a href="https://www.energex.com.au/contact-us/forms/general-forms/faulty-streetlight-councils-form">https://www.energex.com.au/contact-us/forms/general-forms/faulty-streetlight-councils-form</a>
Design, construction and quotations	Public Lighting Services Manager (07) 36646655
Report loss of supply	Phone 13 62 62
Report fallen electrical wires, an electric shock or a life threatening situation	Phone 13 19 62 immediately
Vegetation Management	Phone 13 12 53 or Energex Internet site: Home/Contact us/Forms/Report trees growing into powerlines <a href="https://www.energex.com.au/contact-us/forms/general-forms/trees-growing-into-powerlines-form">https://www.energex.com.au/contact-us/forms/general-forms/trees-growing-into-powerlines-form</a>

### 3.3. Nominated Representatives

Energex's nominated representatives for Public Lighting Services are:

Market Interface Manager

Energex

GPO Box 1461

BRISBANE QLD 4001

Phone: (07) 3664 4531

The Market Interface Manager can be contacted for relationship management and dispute resolution

Public Lighting Services Manager

Energex

GPO Box 1461

BRISBANE QLD 4001

Phone: (07) 3664 6655

The Public Lighting Services Manager can be contacted for issues such as design, construction, technical matters and trials of new technology. Regular meetings can also be arranged as required with Council operational staff.

Engineering Standards and Future Technology Manager

Energex

GPO Box 1461

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BRISBANE QLD 4001

Phone: (07) 3664 4002

The Engineering Standards and Future Technology Manager can be contacted for issues such as policy, the Standard, public lighting design and construction etc.

### 4. Public Lighting Maintenance Program

#### 4.1. Outage Detection and Service Availability

##### Objective

To provide Public Lighting Customers and the community with readily accessible and easy to use methods for reporting Public Lighting Faults to Energex.

##### Initiative

Energex will provide the following channels for a Public Lighting Customer and the general public to report a Public Lighting Fault:

- 24 hour free call number – 13 12 53
- Online <https://www.energex.com.au/contact-us/forms/general-forms/faulty-streetlight-councils-form>

Energex will conduct inspection patrols on the following basis:

##### Off By Night:

These inspection programs ensure that all Public Lighting systems (excepting remote areas where bulk replacements are conducted) are inspected and assessed as follows:

- on a 6 week cycle for major roads
- on a 12 week cycle for minor roads

##### On By Day:

These inspection programs ensure that all Public Lighting systems (excepting bulk replacement areas) are inspected and assessed (patrolled) as follows:

- on a 6 monthly cycle for major roads
- on a 6 monthly cycle for minor roads

#### 4.2. Luminaire Maintenance

##### Objective

To maintain the lamp maintenance factor as required under the Public Lighting Code.

##### Initiative

Energex's lamp replacement program is designed to ensure all lamps are replaced at an appropriate interval to achieve the desired maintenance factor and the required minimum performance requirements in the Public Lighting Code. When a lamp is replaced, Energex may also replace the Photo Electric Cells ("PE Cells").

Energex currently performs public lighting system maintenance as a result of an inspection patrol or reports. However, reports from the general public, local authorities and staff members are used in addition to this baseline approach to further identify faults.

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In certain situations (e.g. rural towns or island communities, isolated roads), it is not cost effective or efficient to patrol the public lighting systems at the above intervals. In these cases an annual inspection is undertaken followed by spot replacement of defects identified.

Energex does not have a bulk change/replacement program in place for lamps and PE Cells.

### 4.3. Luminaire Cleaning and Inspection

#### Objective

To identify and rectify public lighting installations problems before they progress to failure and to maintain lumen output.

#### Initiative

When lamps are replaced, Energex will inspect each luminaire and rectify:

- Lenses that are opaque or substantially discoloured, cracked, improperly secured, damaged or missing;
- Damaged or missing seals;
- Moisture within the Luminaire;
- Damaged or corroded supports, Luminaries, brackets or connections;
- Improperly aligned Luminaire or brackets; and
- Other circumstances or defects which may affect the ongoing performance of the Luminaire.

Lenses and reflectors in serviceable condition will be cleaned using appropriate cleaning compounds.

## 5. Equipment Selection

Energex procures Public Lighting equipment by competitive tender process to achieve value for money by leveraging volume purchase opportunities and medium term period contracts.

Energex will engage with Public Lighting Customers on major Public Lighting equipment specifications prior to inviting request for tender for Public Lighting equipment.

Energex will endeavour to identify, select, and procure equipment that best meets the expectations of Energex and Public Lighting Customers taking into account new technologies and customer expectations.

## 6. Public Lighting Inventory Recording

Energex will maintain a Public Lighting inventory to record the location, type, rated power, date installed and infrastructure required to support the Luminaire and any other information that is required to identify charges and ownership status.

The data requirements for the public lighting inventory are:

- Pole ID and type
- Energised date (initial installation)
- Connection type
- Luminaire type
- Lamp type and nominal rating.
- Asset billing rate
- Support type (pole type)
- Bracket type and length
- Street

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- Suburb
- Council area

### 7. Reporting

Energex will provide to its Public Lighting Customers:

- An annual performance report of progress against this Standard for that Customer, including analysis of performance against performance targets, and
- On written request, any other reports and documents relevant to that Customer, including a current version of the Public Lighting inventory and Standard, which the Customer may reasonably require.
- Planned changes in Categories from Rate 2 to Rate 1 upgrades.

### 8. Design and Construction for Public Lighting

Energex will provide distribution design and estimating, construction and commissioning services in accordance with the Energex Standards, the Public Lighting Code and Council Streetlighting Guidelines (if available).

Energex will perform all work under the control of an appropriate quality system in compliance with ISO 9000 series. The standard response times for the various categories of design and construction work are given in Table 1.

**Table 1 – Response Times for Design and Construction**

Lighting Job Request	Response Target (weeks)
----------------------	-------------------------

Lighting Design only		
Category P	Less than 1km	1km or more
	4	8
Category V (including Pedestrian Xing)	4	12

Electrical Design and Construction – Lighting design by others		
Minor Road – 5 lights or less	On existing Poles	Additional Poles, U/G or O/H mains
	5	9
Minor Road – 6 lights or more	8	12
Major Road – 5 lights or less	5	9
Major Road – 6 lights or more	8	12

Lighting Design, Electrical design and Construction		
All road types	Less than 1 km	1km or more
	12	16



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Glare Complaints	Response Target
Unique Shield	4
Replace with Aeroscreen fitting	3
Fit internal baffle	3
Fit adhesive insert shield	3

In certain circumstances, due to resource availability, material lead times, or access restrictions, Energex reserves the right to negotiate the response target.

Energex will advise the customer if the response targets will be exceeded.

### **9. Charges and Billing**

Charges will be calculated in accordance with the formula and rates set out by the AER.

Energex will provide a quotation to the Public Lighting Customer where charges are applicable. Quotation and appropriate job reference details to be included in a standard format. The Public Lighting Customer shall respond by providing a purchase order as confirmation to proceed.

Written advice will be required if the Public Lighting Customer does not wish to proceed with a project.

Invoices shall be processed through the Energex accounting system and forwarded to the Public Lighting Customer for payment on completion of the project. Part payment or progress payments may be required for large projects to facilitate budget requirements for both parties.

### **10. Minimum Service Standards**

Energex will maintain the Public Lighting Network, efficiently and effectively over the economic life in accordance with 'in-service' values specified for 'Category V' and 'Category P' lighting detailed in the Public Lighting Codes pertaining to the lighting of roads and public spaces.

Energex will:

- Operate a Monday to Friday general enquiry number to receive public and customer fault reports (emergency calls will be handled on a 24/7 basis);
- Repair public lighting assets (excluding network supply faults) within five business days on average per Customer per year from receipt of a Fault Report. Some lights may take up to 2 weeks, particularly if it is high traffic density and traffic control is required, and
- Undertake cyclic maintenance of public lighting assets to ensure the efficient and safe operation of the system.

Longer response times may be unavoidable in the following circumstances:

- Severe weather conditions, large scale power outages and high risk situations where public safety and the restoration of power to consumers receive priority; and
- Where repairs are required in remote locations.

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### **11. Standard Luminaire List**

Energex maintains a list of Standard Luminaires which will be the default for all new and replacement installations.

Energex's current Standard Luminaire list is published in the Queensland Public Lighting Design and Construction Manuals. These Network Standard documents are available at

[https://apps.energex.com.au/service\\_providers/technical\\_docs/asp/technical\\_documents.asp](https://apps.energex.com.au/service_providers/technical_docs/asp/technical_documents.asp)

Energex will consult with Public Lighting Customers on changes to the Standard Luminaire List. Public Lighting Customers are welcome to make requests for consideration to add new luminaires to the current list on offer.

New luminaires and new technological changes that conform to Australian Standards AS/NZS 1158 series on Road Lighting can be considered for adding to the current product list. Costs and performance of requested luminaires need to be assessed in the field over a suitable period of time before being added. Indicative price impacts associated with the new technology will be made available to the public lighting customer.

Energex's aim is to consolidate its list of Standard Luminaires, yet offer a range that fulfils the various lighting levels and not compromise the life expectancy of the asset.

Trialling of new technologies is a matter of investment and public lighting customer interest with a net benefit to the community at large. Energex will endeavour to assist Public Lighting Customers interested in investing in trials of new technologies on technical matters and areas of expertise.

However Energex's decision to make a capital investment on new technologies and new street light products will be based on the following:

- The maturity of the technological product or scheme,
- Energex's internal analysis to ensure that current rigorous maintenance practices can be met,
- Failure modes, effects and criticality analysis,
- A full understanding of the performance of the new assets in the field,
- Cost of capital investment, resourcing and system(s) changes as appropriate,
- The need to confirm risks from trials and mitigation means prior to investment.
- Regulatory pricing approval of the annual charges for the new asset(s).

All trials shall be undertaken in accordance with Energex's Network Material Development and Trial Policy (RED 1222).

### **12. Non Standard Luminaires**

Energex will continue to maintain all existing public lighting assets (except those owned and maintained by Public Lighting Customers) that are on its Standard Luminaire list until the end of their useful life. Where assets are not owned by Energex, replacement of these assets on failure is the responsibility of the public lighting customer.

Where a Customer wishes to own and maintain a new lighting installation this lighting installation must be connected in accordance with the Wiring Rules and Public Lighting Code series on Road Lighting.

Where Public Lighting Customers choose non-standard Luminaires (on non-Energex owned poles) these lights will have to be funded and maintained by the Customer.

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### **13. Service Level Agreements**

Public Lighting Customers may request that Energex provides a level of service that is different to what is required under this Standard. In these instances, Public Lighting Customers will need to negotiate a Service Level Agreement with Energex.

While Energex will endeavour to negotiate a Service Level Agreement for the provision of these varied services, Public Lighting Users should note that Energex may be required to obtain regulatory and other approval to do so (such third party approvals may or may not be forthcoming) and that additional services may entail additional costs to Public Lighting Customers.

### **14. Role of Public Lighting Customers**

The role of Public Lighting Customers is to provide the following:

- A single point of contact between Energex and the Customer for both construction and maintenance activities.
- Information to Energex of the customer's strategic direction in relation to public lighting projects prior to the commencement of the financial year, during the budgeting period (in March of the previous financial year). This enables Energex to plan resources to meet customer's capital programs and requirements.
- Detailed requests (including lighting design briefs) for new lighting installations and upgrade of existing lighting installations to enable smooth and effective workflow to achieve a reasonable outcome. To enable this it is important that Public Lighting Customers respond to project approvals provided by Energex in a prompt manner to ensure that resources can be allocated to meet Public Lighting Customer expectations.

### **15. Responsibility of Public Lighting Customers**

Public Lighting Customers are responsible for the following:

- public lighting illumination requirements (it is the public lighting customers' responsibility to decide what lighting is required for public roads and to ensure that appropriate lighting levels are determined in consultation with the road and traffic authority concerned);
- actioning (or deciding not to action) any issues brought to its attention and also addressing issues such as obstructions by tree branches and other forms of vegetation to street lights; and
- nominating a designated Public Lighting Customer Representative.

### **16. Public Lighting Policy and Standards**

Energex has the following documents which comprise the Public Lighting Policies and Standards:

- RED 576 Standard Conditions for Public Lighting Services
- RED 767 – Public Lighting Design Manual
- RED 796 – Queensland Public Lighting Construction Manual

These technical documents are available on the Energex internet site [https://apps.energex.com.au/service\\_providers/technical\\_docs/asp/technical\\_documents.asp](https://apps.energex.com.au/service_providers/technical_docs/asp/technical_documents.asp)

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### 17. Definitions

The following definitions apply in this Standard:

**AEMO** means the Australian Energy Market Operator.

**Distribution Network Service Provider** means the Corporations that are responsible for electricity distribution in Queensland (e.g. Energex and Ergon Energy Corporation Limited).

**Energex** means Energex Limited.

**Fault** means a Luminaire that is not producing light or whose light output is either materially lower than normal operation or is ineffective.

**Fault Report** means an instance of the Public Lighting Service Provider receiving a report of a Fault via its call centre or website.

**Luminaire** means an apparatus that distributes, filters or transforms the light transmitted from one or more lamps and includes, other than the lamps themselves, all the parts necessary for fixing and protecting the lamps and where necessary circuit auxiliaries together with the means for connecting them to the distribution system.

**Major Lamps** in common use for Major Road lighting mean the following:

- a) High Pressure Sodium 100 watt (S100) and above ; and
- b) Metal Halide 100 watt (H100) and above (Special Precinct lighting only).

**Minor Lamps** are all lamps in common use for Minor Road lighting other than Major Lamps and include Mercury Vapour (maintenance only), High Pressure Sodium, Fluorescent and Metal Halide (Special Precinct lighting only).

**Major Road** means a main or arterial, or distributor road as defined by the Public Body requiring illuminating to the performance, installation and design requirements of Category V1 – V5 lighting as specified in AS/NZS 1158.1.1.

**Minor Road** means a road other than a Major Road as defined by the Public Body requiring illuminating to the performance, installation and design requirements of Category P1 – P12 lighting as specified in AS/NZS 1158.3.1.

**Non-Standard Luminaire** means a Public Lighting fitting other than those appearing on a Public Lighting Service Provider's Standard Luminaire list.

**Public Lighting** is a term used throughout the Public Lighting Code to cover lighting schemes for the generality of roads and including outdoor public areas (e.g., parks, reserves, pedestrian zones, footpaths, cycle paths, car parks and other public areas) that are managed by or on behalf of a Customer. As the primary aim of a Public Lighting scheme is that of safe movement of people, the AS/NZS1158 Lighting for Roads and Public Spaces series of standards divide road lighting into the following broad categories:

- a) **'Category V' lighting** means lighting that is applicable to roads on which the visual requirements of motorists are dominant, for example, traffic routes.

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- b) **'Category P' lighting** means lighting that is applicable to roads on which the visual requirements of pedestrians are dominant, for example, local roads and outdoor public areas.
- c) **'Category PX' Lighting** used for Pedestrian crossings unless otherwise specified by Council. Floodlighting is to provide illumination in the vertical plane so that the person is contrasted against the background. Within Category PX, there are three subcategories (Refer AS/NZS1158.4).

**Public Lighting (Road Lighting)** means lighting for any roadway, pathway or dedicated public thoroughfare, park or precinct (Lighting provided in accordance with the AS/NZS 1158 series).

**Public Lighting Assets** means all assets of the Public Lighting Service Provider or the Public Lighting Customer that are dedicated to the provision of Public Lighting, including lamps, luminaires, mounting brackets and supports on which the fixtures are mounted, supply cables and control equipment (for example, photoelectric cells and control circuitry) but not including the Public Lighting Service Provider's protection equipment (for example, fuses and circuit breakers).

**Public Lighting Code** means the Australian Standard AS/NZS 1158 series.

**Public Lighting Customer** means a Council (as defined by the *Local Government Act 2009* (Qld)), or Local, State or Federal Government agency that has authority over areas with Public Lighting.

**Public Lighting Customer Liaison Representative** means the primary representative of the Public Lighting Service Provider in any dealings with the Public Lighting Customer.

**Public Lighting Network Charges** means charges as approved by the Regulator for the use of transmission and distribution systems to supply Non-Contributed (Rate 1), Contributed (Rate 2) and Unmetered (Rate 3) categories of Public Lighting for the various wattages and types of lamps as published in Energex's Tariff Schedule.

**Public Lighting Policy and Standards** means those standards so described in section 16 of this Standard (from time to time).

**Public Lighting Service Provider** means a Distribution Network Service Provider providing Public Lighting Services.

**Public Lighting Services** means any of the following services that may be provided for the purpose of Public Lighting:

- a) operation of Public Lighting Assets, including handling enquiries and complaints about Public Lighting, and dispatching crews to repair Public Lighting Assets;
- b) maintenance, repair, alteration, relocation and replacement of Public Lighting Assets; and
- c) design of new Public Lighting Assets; installation of new Public Lighting Assets.

**Rate 1 Lighting** means unmetered lighting (non-contributory) Public Lighting supplied, installed, owned and maintained by Energex, the tariff for which includes components supply and installation and recovery over time.

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**Rate 2 Lighting** means unmetered lighting (contributory) Public Lighting for which all supply and installation costs are funded by the Public Body or Developer and then ownership is vested in Energex on completion of the installation after which, Energex assumes responsibility for maintenance of the installation.

**Rate 3 Lighting** means unmetered Public lighting supplied, installed, owned and maintained by the Public Body with records maintained by Energex. Supply is unmetered and has a fixed wattage (light source must be approved and published by AEMO on the NEM Load Tables) and must comply with the AS/NZS 3000 Wiring Rules. Beyond the Point of Supply, reticulation is owned and maintained by the Customer.

**Regulator** means the Australian Energy Regulator

**Standard Luminaire** means a Luminaire appearing on a Public Lighting Service Provider's Standard Luminaire list.

**Wiring Rules** means the current issue of the Australian and New Zealand Standard AS/NZS 3000 Electrical Installations.