

# Ausgrid's Public Lighting Management Plan

May 2011



## Scope

This publication is Ausgrid's Public Lighting Management Plan, required by the NSW Public Lighting Code 2006.

It is the responsibility of the user of this document to ensure that only the current version is being used. Ausgrid may amend this document at any time.

## Document and Amendment History

| Issue No. | Date      | Approved By                                               | Summary of Changes                                                               |
|-----------|-----------|-----------------------------------------------------------|----------------------------------------------------------------------------------|
| 1         | June 2006 | General Manager - Network                                 | Initial                                                                          |
| 2         | June 2010 | Manager – Street Lighting                                 | Draft Plan, Consultation with all Councils                                       |
| 3         | May 2011  | General Manager – Distribution Operations and Reliability | Update of Plan following consultation with Councils and change to Ausgrid brand. |
|           |           |                                                           |                                                                                  |
|           |           |                                                           |                                                                                  |
|           |           |                                                           |                                                                                  |

## Warning

It is illegal for persons other than licensed electricians, or persons authorised by legislation, to work on the fixed wiring of any electrical installation.

This publication may only be reproduced with the permission of Ausgrid.

All correspondence should be directed to:

Manager - Street Lighting  
Ausgrid  
GPO Box 4009  
SYDNEY NSW 2001

## Enquiries

Email Address: [publiclighting@ausgrid.com.au](mailto:publiclighting@ausgrid.com.au)  
Phone Number: (02) 8001 3480

Ausgrid's current Public Lighting Management Plan is available on Ausgrid's website at [www.ausgrid.com.au](http://www.ausgrid.com.au)

The content of this plan is authorised by the Executive General Manager – Distribution Operations and Reliability

Published and printed by Ausgrid.  
Copyright ©, Ausgrid.

**Ausgrid’s Public Lighting Management Plan**  
**MAY 2011**

**CONTENTS**

|     |                                                     |    |
|-----|-----------------------------------------------------|----|
| 1   | OVERVIEW .....                                      | 1  |
| 1.1 | Objectives .....                                    | 1  |
| 2   | PUBLIC LIGHTING MANAGEMENT .....                    | 2  |
| 2.1 | Public Lighting Management Responsibility .....     | 2  |
| 2.2 | Nominated Representative .....                      | 4  |
| 3   | PUBLIC LIGHTING MAINTENANCE PROGRAM .....           | 5  |
| 3.1 | Outage Detection and Service Availability .....     | 5  |
| 3.2 | Lamp Replacement and Equipment Disposal .....       | 5  |
| 3.3 | Luminaire Cleaning and Inspection .....             | 5  |
| 3.4 | Vegetation Management .....                         | 6  |
| 3.5 | Condition Monitoring and Maintenance Analysis ..... | 6  |
| 4   | EQUIPMENT SELECTION .....                           | 7  |
| 5   | PUBLIC LIGHTING INVENTORY RECORDING .....           | 7  |
| 6   | REPORTING .....                                     | 8  |
| 7   | MINOR CAPITAL WORKS.....                            | 8  |
| 8   | MINIMUM SERVICE STANDARDS .....                     | 9  |
| 9   | GUARANTEED SERVICE LEVELS.....                      | 9  |
| 10  | STANDARD LUMINAIRE LIST .....                       | 10 |
| 11  | NON STANDARD LUMINAIRES .....                       | 10 |
| 12  | SERVICE LEVEL AGREEMENTS .....                      | 11 |
| 13  | ROLE OF PUBLIC LIGHTING CUSTOMERS .....             | 11 |
| 14  | RESPONSIBILITY OF PUBLIC LIGHTING CUSTOMERS .....   | 11 |
| 15  | DEFINITIONS.....                                    | 12 |

# 1 Overview

---

## 1.1 Objectives

Ausgrid recognises how important it is to its public lighting customers, the community and other stakeholders to provide through public lighting a safe, secure and attractive visual environment for pedestrian and vehicular traffic during times of inadequate natural lighting, taking into consideration energy efficiency, economic efficiency, and appropriate technology choices.

The objective of this plan is to provide a management framework that will ensure that Ausgrid's public lighting assets meet the standards set by the NSW Government's Department of Energy, Utilities and Sustainability (DEUS) (now known as the Department of Trade and Investment, Regional Infrastructure and Services, Division of Resources and Energy) and the needs of its public lighting customers.

Ausgrid will endeavour to work with our public lighting customers to help provide them with the best possible service while meeting with the obligations of the NSW Public Lighting Code, June 2006. Ausgrid is committed to ensuring the safe operation of its public lighting assets and gives safety the highest priority over all other aspects of network management.

This Public Lighting Management Plan (the "Plan") has been prepared in accordance with the requirements of the NSW Public Lighting Code, 1 January 2006.

This Plan documents the objectives and strategies developed for the management of Ausgrid's public lighting assets. It does this by providing:

- 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 Ausgrid complies with the Codes, Standards and Guidelines nominated by the Department of Trade and Investment, Regional Infrastructure and Services, Division of Resources and Energy.
- Details of reporting provided to Public Lighting Customers.

## 2 Public Lighting Management

---

Ausgrid's public lighting management strategies are in place to achieve compliance with the New South Wales Public Lighting Code developed by the Department of Trade and Investment, Regional Infrastructure and Services, Division of Resources and Energy. In this plan emphasis has been placed on:

- Condition monitoring and maintenance planning.
- Scheduled lamp replacement programs.
- Fault identification and rectification.
- Equipment selection and procurement programs.
- Luminaire replacement and refurbishment practices.

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

- Progress reports on the initiatives in this plan.
- Responses to inventory queries.
- Network Standards.

### 2.1 Public Lighting Management Responsibility

The Distribution Operations and Reliability division of Ausgrid is the public lighting asset manager and this role includes:

- Developing maintenance and asset replacement strategies.
- Managing the public lighting inventory tables that are used for both public lighting service charges and energy charges.

The Ausgrid distribution area is divided into the following regions:

**Regional Contacts for Councils**

| REGION                        | EAST                                                                              | NORTH                                                                                                                                                                  | SOUTH                                                                                                                                                  | CENTRAL COAST                           | NEWCASTLE                           | LOWER HUNTER                              | UPPER HUNTER                              |
|-------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------|-------------------------------------------|-------------------------------------------|
| <b>CONTACT</b>                | <b>Mr David Twigg<br/>(02)9663 9526</b>                                           | <b>Mr Allan Hopkins<br/>(02) 9477 8210</b>                                                                                                                             | <b>Mr Jeffrey Barnsley<br/>(02) 9394 6520</b>                                                                                                          | <b>Mr Tom Wilcox<br/>(02) 4325 8576</b> | <b>Mr Ed King<br/>(02)4951 9225</b> | <b>Mr Greg Skinner<br/>(02) 4934 9110</b> | <b>Mr David Barr<br/>(02) 6542 9001</b>   |
| <b>LOCAL GOVERNMENT AREAS</b> | Botany Bay<br>City of Sydney<br>Marrickville<br>Randwick<br>Waverley<br>Woollahra | Baulkham Hills<br>Hornsby<br>Hunters Hill<br>Ku-ring-gai<br>Lane Cove<br>Manly<br>Mosman<br>North Sydney<br>Parramatta<br>Pittwater<br>Ryde<br>Warringah<br>Willoughby | Ashfield<br>Auburn<br>Bankstown<br>Burwood<br>Canada Bay<br>Canterbury<br>Hurstville<br>Kogarah<br>Leichhardt<br>Rockdale<br>Strathfield<br>Sutherland | Gosford<br>Wyong                        | Lake Macquarie<br>Newcastle         | Cessnock<br>Maitland<br>Port Stephens     | Muswellbrook<br>Singleton<br>Upper Hunter |

The above regional contacts details are provided to assist Public Lighting Customers to address day to day operational issues, planning, design and project issues.

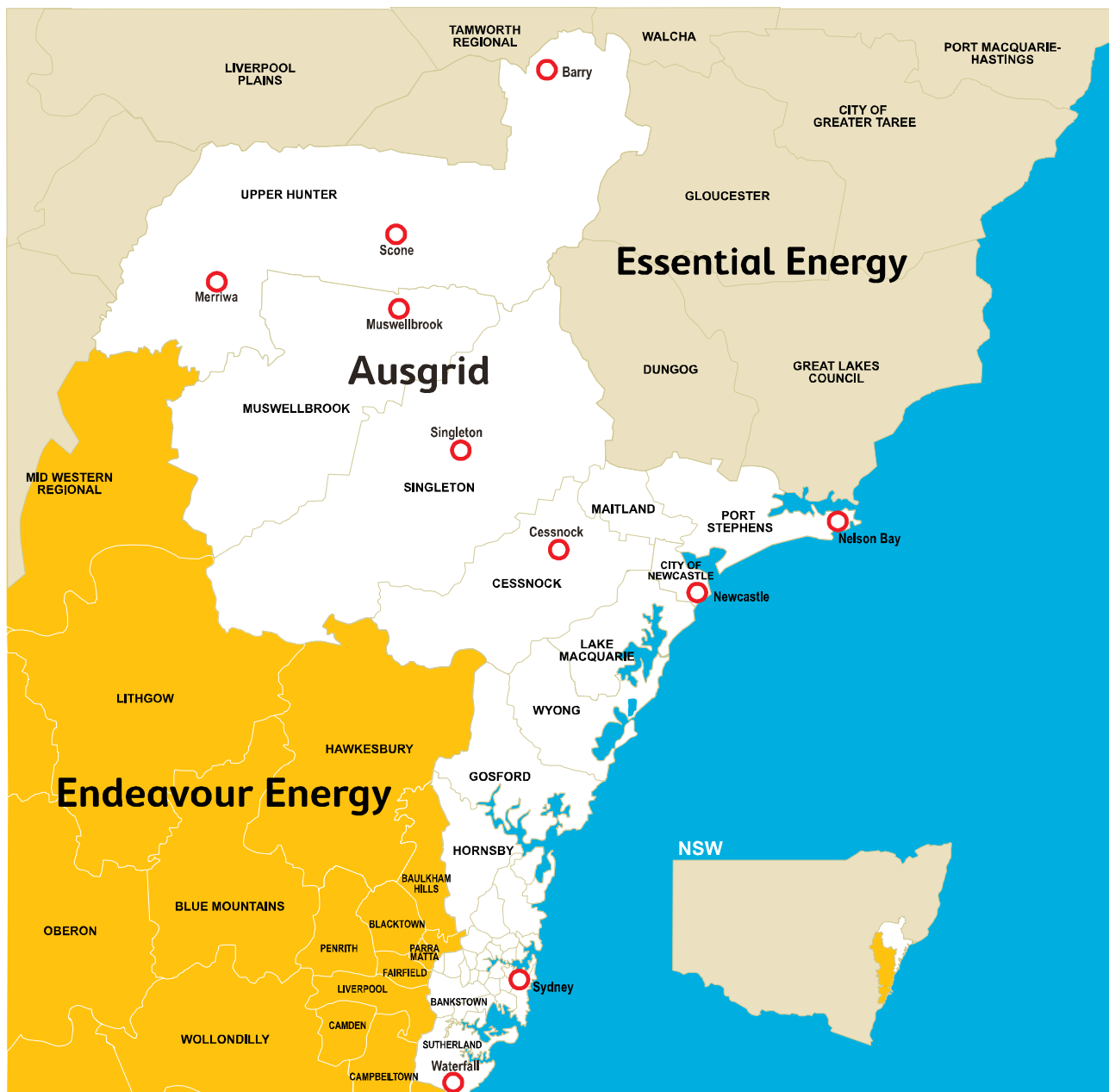


Figure 1: Ausgrid Distribution Area

## 2.2 Nominated Representative

Ausgrid's nominated representative for public lighting services as per the Public Lighting Code is:

### Manager – Street Lighting

Ausgrid  
 GPO Box 4009  
 SYDNEY NSW 2001  
 Phone: (02) 8001 3339

Manager – Street Lighting can be contacted for issues such as policy, public lighting management plan, etc.

## 3 Public Lighting Maintenance Program

---

### 3.1 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 Ausgrid to achieve early indication of public lighting outages.

#### Initiative

Ausgrid 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 – 1800 044 808
- Online – [www.ausgrid.com.au](http://www.ausgrid.com.au)

Ausgrid will also conduct regular night patrols on major roads on a quarterly basis.

### 3.2 Lamp Replacement and Equipment Disposal

#### Objective

To maintain the lamp maintenance factor as required under Australian Standard AS/NZS 1158 - Road Lighting and to reduce the environmental impact of lamp disposal.

#### Initiative

Ausgrid'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. Ausgrid currently schedules lamp replacement at an interval of 30 months. As technology improves and new lamp types become available the lamp replacement interval will be adjusted.

In addition to the lamp replacement program, Ausgrid undertakes to:

- Replace photocells at every second bulk replacement cycle. The replacement frequency will be adjusted as appropriate based on available information.
- Implement an environmentally and economically appropriate recycling program for lamps and luminaires that have been replaced or removed.
- Conduct scheduled lamp replacement in an economically appropriate manner as indicated in Section 3.5.

### 3.3 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, Ausgrid 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
- 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.

## 3.4 Vegetation Management

### Objective

To minimise the impact of vegetation on the management of public lighting assets and the obstruction that vegetation can cause in illuminating the roads. The intent is to maximise the lighting foot print to enhance public safety.

### Initiative

Ausgrid publishes a *Tree Safety Management Plan*; Attachment 12, NS179 Section 3.4 of the current plan (2007) provides minimum clearances from public lighting assets. A copy of this plan can be downloaded from Ausgrid's website ("Trees and Powerlines") or can be obtained by calling 13 15 35.

Ausgrid undertakes to trim any vegetation that is encroaching on the clearance envelope or that will encroach upon the clearance envelope during the next growing or inspection cycle, whichever is the shorter (typically 1 year).

Public Lighting Customers are responsible for any additional trimming required to remove obstruction and facilitate effective distribution of light.

## 3.5 Condition Monitoring and Maintenance Analysis

### Objective

- Meet the requirement for minimum light output from luminaires as lamps age. This is referred to as a maintenance factor in the relevant Australian Standard.
- Evaluate and optimise equipment selection and maintenance intervals in an economically efficient manner.

### Initiative

Ausgrid uses a standardised Maintenance Requirements Analysis (MRA) process to develop system preventive maintenance requirements by analysing the application of Failure Modes, Effects and Criticality Analysis (FMECA).

The FMECA analysis for public lighting is used to define scheduled lamp replacement periods as well as maintenance periods for poles and standards.

Ausgrid will:

- Adopt a scheduled lamp replacement interval which take account of common industry practice, manufacturers' data, and its FMECA maintenance analysis;
- Review data capture processes to ensure that data captured during maintenance meets the requirements of maintenance analysis;
- Modify equipment selection and procurement practices in line with maintenance analysis; and
- From time to time, as identified through field data or other sources of information, examine and replace or repair specific fittings that might lead to unacceptable failure rates.

In keeping with the practices outlined in Australian Standard AS/NZS 1158.1.3 (Road Lighting – Guide to Design, Installation, Operation and Maintenance), Ausgrid undertakes that its record keeping and reporting related to equipment populations and equipment failures shall be sufficient to evaluate and optimise equipment selection and maintenance intervals.

## 4 Equipment Selection

---

Ausgrid procures public lighting equipment by competitive tender process to achieve value for money by leveraging volume purchase opportunities and medium term period contracts.

Ausgrid will consult with Public Lighting Customers on public lighting equipment specifications prior to inviting request for tender for public lighting equipment.

Ausgrid will endeavour to identify, select, and procure equipment that best meets the expectations of Ausgrid and Public Lighting Customers.

## 5 Public Lighting Inventory Recording

---

Ausgrid 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.

Ausgrid will provide Public Lighting Customers within 30 days of receipt of a written notice from the Customer of a query in relation to Ausgrid's public lighting inventory, insofar as it is relevant to that Customer.

The data requirements for public lighting service billing are:

- Pole ID number
- Energised date (initial installation)
- Connection type
- Luminaire type
- Lamp type and nominal rating.
- Asset billing rate
- Support type (pole type)
- Bracket type and length
- Shared indicator (designator for lights on customer boundaries)
- House number or number of metres from nearest cross street
- Street
- Suburb

Ausgrid maintains inventory details and asset information in its public lighting asset register for Public Lighting Customers.

## 6 Reporting

---

Ausgrid will provide to its Public Lighting Customers:

- An annual performance report of progress against this Management Plan for that Customer, including analysis of performance against performance targets and the Guaranteed Service Level set out in section nine of this plan, no later than one month after the end of the financial year; and
- On written request, any other reports and documents relevant to that Customer, including a current version of the public lighting inventory and Management Plan, which the Customer may reasonably require.

## 7 Minor Capital Works

---

Where the Customer requests infill lighting or other minor additions or alterations to existing public lighting assets, Ausgrid will install, operate and maintain any new public lighting assets or alterations to existing public lighting assets where:

- The lighting is to be mounted on Ausgrid's existing electricity distribution poles;
- The distribution poles are supplied with overhead wiring; and
- Standard Luminaires are specified and are to be installed in accordance with relevant network standards.

Where Minor Capital Works are not contestable, Ausgrid will as per the Public Lighting Code:

- Provide design services in a timely fashion being not more than 30 days from the date of a written request by a Customer;
- Provide construction services in a timely fashion being not more than 120 days from the date of receipt of a written approval of a quote by a Customer;
- Provide notice to its Public Lighting Customers of completion of works within 30 days of completion of works; and
- Update the public lighting inventory within 90 days of completion of works.

Where Ausgrid cannot meet these timeframes, Ausgrid will notify the Customer of the expected delay and give reasons as to why delays are expected in relation to a particular work.

Design fees outlined in Ausgrid's Electricity Supply Guideline ES5 – *Charges for Network Miscellaneous and Monopoly Services* will be applicable to Minor Capital Works.

## 8 Minimum Service Standards

---

Ausgrid will operate 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 AS/NZS1158 series of standards pertaining to the lighting of roads and public spaces.

As a minimum, Ausgrid will:

- Operate a 24 hour call centre to receive public and Customer Fault Reports;
- Repair public lighting assets (excluding network supply faults) within eight working days on average per Customer per year from receipt of a Fault Report. However, in priority cases, such as high crime areas, or areas with high night-time activity, supplementary floodlights at pedestrian crossings or groups of three or more lights on 'Category V' roads, Ausgrid will endeavour to complete repairs more quickly; and
- Undertake cyclic maintenance of public lighting assets to ensure the efficient and safe operation of the system.

The Code recognises that 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.

## 9 Guaranteed Service Levels

---

The following Guaranteed Service Levels will be applied.

If a Public Lighting Asset is not repaired within twelve working days from receipt of the fault report (except where subject to unavoidable circumstances and criteria recognised by the Code), Ausgrid will pay \$15 per light: to the Public Lighting Customer for the relevant public lighting asset.

Where the Public Lighting Customer provides a material list of faulty lights, Ausgrid may nominate a reasonable timeframe, being not more than 30 working days from receipt of the list of faulty lights, to repair the public lighting assets (excluding network supply faults). If this timeframe is not achieved, Ausgrid will pay the Customer \$15.00 for each public light not repaired within the required timeframe.

**NOTE:** These Guaranteed Service Levels apply to public lighting customers only and are separate from Guaranteed Customer Service Standards which apply under Ausgrid's *Standard Form Customer Connection Contract* (SFCCC). That contract provides for compensation to be made to customers receiving connection services under the SFCCC where Ausgrid fails to repair street lighting on or before a date agreed date with the customer who reported the fault. The compensation for loss of illumination only applies to customers who's premises abut the part of the street that, but for the fault, would ordinarily be illuminated by the Public Lighting Asset.

## 10 Standard Luminaire List

---

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

Ausgrid's current Standard Luminaire list is published in our Network Standard 119 – Specification for Street Lighting Design Standards. These Network Standard documents are available at [www.ausgrid.com.au](http://www.ausgrid.com.au).

Ausgrid 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. However, Ausgrid will have to consider costs and performance of requested luminaires in the field over a minimum period of 24 months before adding the new product to current list. Also new luminaires and new technological changes must conform as outlined in the Australian Standards AS/NZS 1158 series on Road Lighting.

Ausgrid'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. Ausgrid will endeavour to assist Public Lighting Customers interested in investing in trials of new technologies on technical matters and areas of expertise to the extent a Service Provider is able to.

However Ausgrid'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,
- Ausgrid's internal analysis to ensure that current rigorous maintenance practices can be met and further improved,
- Failure Modes, Effects and Criticality Analysis,
- A full understanding of the performance of the new assets in the field,
- Cost of capital investment and system(s) changes as appropriate; and resourcing a control group for trials,
- Any other risks not experienced by the manufacturers,
- 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).

## 11 Non Standard Luminaires

---

Ausgrid 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 Ausgrid, 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 and Ausgrid does not wish to own and maintain this lighting installation, this lighting installation must be connected in accordance with the NSW Service and Installation Rules and the Australian standards AS/NZS 1158 series on Road Lighting. Where Public Lighting Customers choose non standard luminaires (other than those offered by Ausgrid) these lights will have to be funded and maintained by the customer and will normally be metered.

## 12 Service Level Agreements

---

Public Lighting Customers may require Ausgrid to provide a level of service beyond the requirements of the Code. In these instances, Public Lighting Customers will need to negotiate a Service Level Agreement at variance with the Code. Ausgrid will endeavour to negotiate these services; however additional services may entail additional costs to Public Lighting Customers.

## 13 Role of Public Lighting Customers

---

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

- A single point of contact between Ausgrid and the Customer for both construction and maintenance activities.
- Information to Ausgrid 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 Ausgrid to plan resources to meet customer's capital programs and initiatives.
- 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. For example, for minor capital projects, as per the Public Lighting Code timelines need to be achieved. To enable this it is important that Public Lighting Customers respond to project approvals provided by Ausgrid in a prompt manner to ensure that resources can be allocated to meet Public Lighting Customer expectations.

## 14 Responsibility of Public Lighting Customers

---

Public Lighting Customers are responsible for the following:

- public lighting illumination design (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). This obligation also applies for projects where customers may engage an Accredited Service Provider (ASP), where the ASP has to fulfil this responsibility on behalf of the customer.
- 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.
- nominating a designated Public Lighting Customer Representative.

## 15 Definitions

---

**Distribution Network Service Provider** – has the meaning given to that term in the Electricity Supply Act 1995.

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

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

**Luminaire** – 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.

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

**Minor Capital Works** – installations of up to seven Luminaires.

**Public Lighting** – the term Public Lighting is used throughout the Public Lighting Code to cover lighting schemes for the generality of roads and outdoor public areas (eg, 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:

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

**Public Lighting Assets** – 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 Customer** – a Council (as defined by the Local Government Act 1993), or Local, State or Federal Government agency that has authority over areas with Public Lighting.

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

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

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

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

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