



# Capture of Newly Installed Street Lighting Information

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## 2. Introduction

This Policy has been prepared to set out the design and construction policy associated with new and modified streetlights intended to be handed over to Power and Water.

The responsibility for providing street lighting rests with the road owner. Where a developer is providing street lighting as part of a subdivision or a road owner is providing new street lighting as part of road work, written approval of a specific design category shall be provided by the road owner. Approval by Power and Water of a street lighting drawing refers only to the electrical design and compliance with the Power and Water Standards Manual.

## 3. Further Information

The following sections provide details of the policy. If further information is required, please contact:

Manager Network Engineering  
 Power and Water  
 GPO Box 37471  
 Winnellie NT 0821  
 Fax (08) 89245121  
 Phone (08) 8924 5192

Approved by:	Prepared by:	Issue Date:	Status:
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## 4. Definitions

### **Handover**

All works carried out by constructors/developers shall be formally handed over to Power and Water in the forms set out in Appendices D or E as appropriate.

**Designer** refers to the certified electrical consultant who carries out the street lighting design on behalf of the Department of Infrastructure and Planning, a local Council or a Developer.

### **Design Certification**

The designer shall certify all designs as complying with this Policy in the forms set out in Appendices A and B. The certifications shall be attached to the design drawings submitted to Power and Water for approval.

**Road Owner** means the appropriate Authority (Department of Infrastructure and Planning or local Council) that has legal rights to control all activities on that road.

**Reticulation** is any component of an electricity distribution system including the provision of adequate transformer capacity. An electricity distribution system comprises overhead or underground reticulation (underground cables, aerial conductors, switches, and transformers) up to 22,000 volts, owned by Power and Water, and generally located on a gazetted public road.

### **Technical Requirements**

Technical requirements for the provision of new streetlights shall satisfy Power and Water's publications:

- Installation Rules and Service Rules.
- Design and Construction Guidelines NP 001
- Street Lighting Manual Volume 03
- Underground Manual Volume 02

## 5. Street Lighting Requirements

The responsibility for providing street lighting rests with the road owner. Where a developer is providing street lighting as part of a subdivision or a road owner is providing new or modified street lighting as part of roadwork, approval of a specific street lighting category requirement must be sought from the road owner. Approval by Power and Water of a street lighting drawing refers only to the electrical design and compliance with Power and Water's Standards Manual.

Power and Water will not enter into a street lighting agreement for any streetlight unless it is located within a public road reserve. Where the light is located on private property, it shall be treated as any other consumer's internal electrical installation.

Street lighting systems intended to be handed over to Power and Water for operations and maintenance purposes shall be designed and constructed in

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accordance with Volume 03 of the Standards Manual, including use of standard components. Basic electrical design principles are:

- New street lighting systems shall be controlled using switch wires and electromechanical time switches, strategically located generally in package substations or fused pillars.
- PE cells are not permitted in new street lighting installations in the Darwin, Palmerston or Katherine area, except with express written approval of the Manager Network Engineering (e.g., addition of one light to existing system).
- Cable jointing pits shall not be used on Vehicle Impact Absorbing (VIAC) Columns. Such pits are to be used only with slip base columns.
- In general, three-phase supply shall be installed from the supply source and alternate phases shall be connected to each individual street light along the same bank of lights.
- Installation of street lighting systems shall comply with Australian Standard AS3000 – Wiring Rules with each street light earthed with a dedicated earth conductor.
- All works on existing assets and final connection shall be carried out by Power and Water. Contractors will carry out new works or be authorised to work on decommissioned assets where allowed. Decommissioned assets mean existing assets that are disconnected by Power and Water from all possible sources of electricity supply by means which prevent unintentional energising of the apparatus.
- Only streetlights and fittings from Power and Water's Standards Manual Volume 3 shall be used, except where prior written approval of the General Manager Power Networks is obtained.

Where it is proposed to utilise non-standard equipment, such as bollard lights, on a public road, Power and Water may require the installation of metering equipment adjacent to the supply point, and for all such equipment to be supplied by metered mains. In such cases, the road owner will be responsible for the operation and maintenance of the lights.

### 6. Capturing Street Lighting Information

Information on all new and modified streetlights shall be captured as follows:

#### **6.1 Design Stage**

The road owner or developer shall engage a designer who is an accredited electrical consultant with Power and Water to carry out any design for new or upgraded streetlights.

- The designer shall first contact the Manager Distribution Development or Design Officer to discuss existing electrical reticulation, new power supply requirements, point of supply, new streetlight numbers, and works by the Contractor and by Power and Water. New issued streetlight numbers are to be recorded by the Manager Distribution Development or Design Officer in the Electronic Document Management System (EDMS), file F2005/12925.

## Capture of Newly Installed Street Lighting Information

- The Manager Distribution Development or Design Officer shall issue new streetlight drawing numbers from the Department of Planning and Infrastructure (DPI).
- The designer shall verify on site all information provided by Power and Water's Facility Information System (FIS) prior to carrying out the detailed design. The accuracy of this information cannot be guaranteed, and Power and Water disclaims all liability for errors or omissions for any damage or loss arising from the use or reliance upon the information provided.
- The designer shall prepare and submit design drawings in A1 and A3 hard copies to the Manager Distribution Development or Design Officer (Ben Hammond Complex, Iliffe Street, Stuart Park or mail to PO Box 37471, Winnellie, 0821 NT) for checking and approval. Refer to *NP001.10 Documentation Requirements* for further details. Where appropriate, a copy of the submitted design drawings shall be circulated to Network Services Streetlight Section for comment prior to sending back to the designer for amendment.
- The designer shall submit a Certificate of Street Lighting Compliance (Appendix A) for lighting level requirements and Certificate of Electrical Design Compliance (Appendix B) for electrical design certification at the time of submitting design drawings.
- If satisfactory, the Manager Distribution Development or Design Officer will approve the design drawings.
- The Design Officer will estimate a cost for the final connection and/or associated upgrade works. The final connection quotation will be provided to the road owner / developer / project manager, not to individual electrical contractors submitting their tenders.

### **6.2 Construction Stage**

When the contract is awarded, the road owner / developer / project manager shall inform Power and Water in writing of the successful contractor.

- Prior to any construction works being carried out, the licensed electrical contractor shall submit to the Design Officer:
  - A Street Lighting Installation Program (Appendix C) for auditing purposes.
  - A Notice of Intention (NIW) for the new electrical installation.
- When excavating in the vicinity of high voltage underground cables, the contractor must ensure that an authorised Recipient in Charge (RIC) is employed to receive the Authority to Work in the Vicinity of Electrical Plant (AWV). For further details, refer to the Green Book (Electrical Safety Manual). It is an offence under the *Electricity Reform (Safety and Technical) Regulations* to excavate near underground cables without permission.

## Capture of Newly Installed Street Lighting Information

- Power and Water will carry out random audits on the contractor's work.
- Power and Water may refuse to connect or accept new street lights if the electrical installation does not comply with the approved design.
- At completion, the contractor shall submit to the Design Officer:
  - Certificate of Compliance (CoC)
  - Contractor's Certificate of Completion and Handover (Appendix D)
- The Design Officer shall arrange to carry out a final connection inspection prior to acceptance of the Contractor's Certificate of Completion and Handover. Any defect found shall be rectified as soon as practicable to avoid delays in final connection work by Power and Water.
- Power and Water is required to send copies of all CoCs to the Electrical Safety Regulator for inclusion in an audit program. This may result in random audits by the Electrical Safety Regulator.
- Prior to final connection, the road owner / developer / project manager shall submit:
  - "As Installed" information in A1, A3 hard copy drawings and an electronic copy in .dgn format. For further details, refer *NP01.10 Documentation Requirements*.
  - Developer's Handover of Works with 2 year defects liability period (Refer Appendix E). This document legally hands ownership of new streetlights to Power and Water.

### **6.3 Street Lighting Record Update**

- Upon receipt of "As Constructed" information, the Design Officer shall:
  - Prepare a construction folder containing details of the final connection, and forward to Network Services.
  - Forward copies of design drawings in A3 and digital format to the Facilities Information System (FIS) Records Officer for updating in the database.
  - File A3 drawings in the registry file and A1 drawings in Power Networks' drawing cabinet.
- For every newly installed / upgraded street light the FIS Records Officer shall the update FIS database with:
  - Client name;
  - Luminaire type;
  - Column type;
  - Underground or Overhead supply;
  - Outreach type;
  - Lamp type;
  - Street light number;
  - Street name;
  - Suburb;
  - Date of data input and
  - Year commissioned.
- Records of new / upgraded street lights may then be down loaded from FIS by Retail for billing purposes.



Power Networks – APPENDIX A

**CERTIFICATE OF STREET LIGHTING COMPLIANCE**

PROJECT NAME: .....STAGE: .....

SUBURB: ..... CITY/HUNDRED: .....

STREETLIGHT DRAWING NUMBER(S): .....

ROAD OWNER RESPONSIBLE: .....

I / We hereby certify that street lighting levels of all public roads in the above project comply with the Road Owner's requirements with details as follows:

<u>ROAD NAME</u>	<u>LIGHTING CATEGORY (AS-1158)</u>
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

**SIGNATURE:** ..... **DATE:** .....

**DESIGNER'S NAME:** .....

**CONSULTING FIRM:** .....

**CONTACT PHONE:** ..... **FAX:** .....



Power Networks – APPENDIX B

**CERTIFICATE OF ELECTRICAL DESIGN COMPLIANCE**

PROJECT TITLE: .....

.....

SUBURB: ..... CITY/TOWN/HUNDRED: .....

**DRAWING TITLE**

**DRAWING NUMBER**

DRAWING TITLE	DRAWING NUMBER
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

I / We certify that:

- The design complies with Power & Water’s standard design requirements;
- Voltage drop and pole strength complies – (where applicable - calculations attached);
- The accuracy of the existing network has been checked on site and the design verified;
- All existing services have been identified where practicable.

Signature: ..... Date: ..... / ..... / .....

Name of Designer: .....

Consulting Firm: .....

Contact Phone: ..... Fax: .....

Note that, if incorrect information is provided with a design, and this results in Network Engineering having to make site visits or carry out excessive checking, the design consultant will be required to bear the cost and correct the information before the installation will be connected. If there are any queries, please contact the Manager Distribution Development on (08)89245729.



Power Networks – APPENDIX C

**STREET LIGHTING INSTALLATION PROGRAM**

PROJECT: .....

ROAD OWNER / DEVELOPER: .....

STREET NAME: ..... TOWN / HUNDRED OF: .....

ELECTRICAL  
CONTRACTOR:.....

No. of STREETLIGHTS:.....

APPROVED DRAWING NUMBER(S):.....

	<b>Activity Description</b>	<b>Duration (Days)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Inspection Point</b>
1	Trench Excavation				Witnessed
2	Rag Bolt Installation				Witnessed
3	LV Cable Laying				Witnessed
4	Column Installation				Witnessed
5	LV Pillar Installation				Witnessed
6	Control Box Installation				Witnessed
7	Earthing Installation				Witnessed
8	LV Cable Termination				Witnessed
9	LV Cable Testing				Witnessed

Anticipated Handover Date:     /     /

Signature: .....

Submitted Date:     /     /

Name: .....

Company Name: .....

Note that, if the installation is carried without submission of the installation program for auditing, Power and Water will report the unacceptable incident to Contract Accreditation Limited and may refuse to connect the installation.



**APPENDIX D**

**CONTRACTOR'S CERTIFICATE OF COMPLETION AND  
HANDOVER - POWER NETWORK ASSETS**

---

PROJECT TITLE:

.....

STREET / ROAD: .....

TOWN / HUNDRED OF : .....

DESCRIPTION OF COMPLETED ASSETS BEING HANDED OVER:

.....

.....

REFERENCE DRG. Nos: .....

CONTRACT No: .....

NAME OF CONTRACTOR: .....

POSTAL ADDRESS: .....

**CONTRACTOR'S CERTIFICATION:**

I certify that the above works have been completed in accordance with the project specification and Power and Water standards, that they are ready for commissioning, and are hereby handed over to Power and Water.

I further certify that all employees and agents of myself and/or my company, and all plant, materials and equipment, are clear of the works, and that all employees and agents have been instructed by myself to keep clear of the works.

DATE OF PRACTICAL COMPLETION: ...../...../.....

SIGNED BY: .....

NAME (PLEASE PRINT): .....

DATED: ...../...../.....

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HANDOVER OF WORKS BY DEVELOPER

Town / Hundred of..... Street / Road

.....

Project Title: .....

Details of completed assets being handed over:.....

.....

Developer/Constructor: .....

Postal Address: .....

Subject to the Developer/Constructor carrying out remedial works by the date specified in the attached list of defects, the power supply to the above lots (or the above work, as the case may be) has been practically completed and is now ready to be taken over by Power and Water for operation and maintenance.

The defects Liability Period will commence on...../...../.....

And expire on...../...../.....

As Constructed Drawing/s No.....

.....

Handed over on Date: ...../...../.....

Survey/Easement Drawing/s No.....

Handed over on Date: ...../...../.....

.....  
Signed by DEVELOPER

.....  
(Print Name)

Date: ...../...../.....

.....  
Power and Water Contracts  
Supervisor or Project Officer

.....  
(Print Name)

Date: ...../...../.....

APPROVED

.....  
MANAGER NETWORK  
ENGINEERING

DATE: ...../...../.....