



Technical Bulletin

TB 0248B – Public Lighting Control Circuits

Purpose of the bulletin

To define the street light supply circuit requirements for the overhead and underground LV network where a project/defect tasks require a permanent circuit supply variation.

Endeavour Energy's intent is to as far as reasonably practical move all Public Lighting control points to photoelectric cells (PE cell or approved Smart node control) and remove / reduce the need for additional overhead street lighting circuits.

Greenfield sites

In addition to the requirements in LDI 0001 "Public Lighting Design" all new Public Lighting is to be controlled by individual photoelectric cells (PE cells) or approved Smart node.

Additionally, in overhead reticulated areas no additional street lighting circuits are permitted to be installed unless an LV network does not exist or is not required on the poles (e.g. 11kV line only). In these instances, a dedicated Public Lighting circuit may be installed, however the lights shall be controlled by individual PE cells (e.g. no common control point). In underground areas dedicated street lighting circuits (e.g. 16mm² or 25mm² cables) may also still be installed where it is not practical to get supply from LV pillars, however each light shall be controlled by an individual photoelectric cell or approved Smart node.

Defect Rectification of Public Lighting Control Points / Circuits

As defects of the existing Public Lighting network occur, the strategy outlined below is to effectively migrate the existing network to the current design philosophy (e.g. PE cell or approved Smart node control).

The following is an image of an approved Smart node that when replaced must be emailed/notified to streetlight-maintenance@endeavourenergy.com.au. The following table details the replacement decision where a defect has occurred with the current control scheme. If any issues are not covered in the below table, contact Lead Engineer Mains for further information.

Functional spec:

- 7 pins including IO spares.
- GPS in every SLC device.
- Dual dim capability (1-10V and Dali 1/2) with auto detection.
- 0.5% metering accuracy.
- PE side sensor window, north-facing.
- SLC includes multiple data channels:
 1. Power (W)
 2. Voltage (V)
 3. Current (A)
 4. Energy (kWh)
 5. Power Factor (PF)
 6. Temperature (C)
 7. Burning Hours (hrs)
- Polling intervals are configured for 60min default.
- Last Gasp.
- SLC failure traps:

Power Down/Up, Driver, Lamp/LED, Photocell, Communication, configurable alarm thresholds.



Underground Network

Defect Type	LV Supply Type	Quantity	Defect Management Strategy
All Lighting Related Defects	-	-	To be repaired as per current methodology (e.g. SLCP's to be repaired with SLCP's). No migration to the current greenfield design requirements necessary.

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Overhead Network

Defect Type	LV Supply Type	Quantity	Defect Management Strategy
Defect with Control Point	LV Supply Available	≤ 10 lights on circuit	Disconnect existing SLCP and all lights on control circuit to be converted to PE Cells / connected to the LV Supply. The dedicated street lighting circuit is to be disconnected from the network and defected for removal with a priority to complete
		> 10 lights on circuit	SLCP to be repaired
	No LV Supply Available (e.g. Street Light Circuit Only)	-	SLCP to be repaired or where possible convert Street light circuit to LV supply and update mapping/system
Defect with Dedicated Public Lighting Circuit.	LV Supply Available	≤ 10 lights on circuit (beyond fault)	Convert all lights beyond fault to PE Cell or approved Smart node and connect to the LV Supply. If dedicated street lighting circuit is to be disconnected from the network a priority defect will be raised for the removal of the Streetlight circuit. This does not apply to cascading street lighting circuits (as they need to remain continuous), unless the fault is at the end of the cascading system.
		> 10 lights on circuit (beyond fault)	Street light circuit to be repaired
	No LV Supply Available (e.g. Street Light Circuit Only)	-	Street light circuit to be repaired
Defect with Luminaire	LV Supply Available	-	If rewiring of the luminaire is required and connection to the LV network is practical, move luminaire from the dedicated street lighting circuit to the LV network and install PE cell or approved Smart node control.
	No LV Supply Available (e.g. Street Light Circuit Only)	-	Repair Luminaire

The intent of this technical bulletin is to progressively move the existing dedicated street light control point controlled circuits to individual PE Cell or approved Smart node operated lights, at relatively minimal additional cost.

Implementation / Impacted Specification:

Please be aware that during this transition the current process for securing isolations + testing of the existing street light circuits remains in place. Please note some circuits can have a combination of both PE Cell controlled Street lights and SLCP controlled Street lights.

Staff need to understand and control the risks from Street light circuits on each job before commencing work

The content of the technical bulletin is effective immediately.

The contents of this technical bulletin will be included in the next revision of LDI 0001.

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