



Photoluminescent Lighting Council Standard

PLCS 102(AU) Passive Photoluminescent Exit Signs and Path Markings: Routine Service and Maintenance

SECTION 1 - PRINCIPLES

1.1 Scope

This standard sets out the *routine service* and responsive maintenance procedures necessary to ensure that passive photoluminescent exit signs and path markings installed to meet the Building Code of Australia continue to meet the requirements of the Building Code of Australia.

1.2 Objective

The objective of this standard is to define the process for the *routine service* and responsive maintenance of passive photoluminescent exit signs and path markings to ensure ongoing compliance with the Building Code of Australia, so that these products continue to meet their required functions:

- Exit signs: identifying exits to facilitate evacuation;
- Path markings: providing visibility in an emergency to facilitate safe evacuation

1.3 Application

This standard details the *routine service* and responsive maintenance procedures required for passive photoluminescent exit signs and path markings, and requires that outcomes are recorded accordingly.

1.4 Referenced Documents

This standard refers to the following specifications and regulations:

- a. Building Code of Australia: NCC 2022 Part E4.
- b. Building Code of Australia: NCC 2022 Specification 25

1.5 Definitions

Conformance defect: means missing (or incorrect) information that would be required to facilitate *routine service* and responsive maintenance. For example, missing *installation documentation*.

In-service life: means the time (in years) that a *passive PL sign* or *PL marking* can be expected to maintain sufficient photoluminescent performance, in the absence of any obvious sign of failure, to meet NCC Part E4 and/or NCC Specification 25 in the Building Code of Australia.

Installation documentation: means the documentation detailed in clause 2.1.

Managing entity: means the building owner or their appointed agent.

Minor defect: means a physical defect which does not cause the entire system/sign to be ineffective. For example, an unclean or obstructed *passive PL sign*.

Outstanding defect: means any defect recorded from the previous inspection which remains unresolved.

Passive PL sign: means an exit sign consisting of photoluminescent elements and contrasting elements where the photoluminescent elements need to be maintained in a charged state by external light source(s) such as daylight or electrical lighting.

PL: means photoluminescent.

PL marking / PL escape path marking: means a product containing photoluminescent element(s) where the photoluminescent elements need to be maintained in a charged state by external light source(s) such as daylight or electrical lighting, the product being designed to be installed on or near relevant aspects of the paths of travel to exits, in such a way that there is sufficient visibility to facilitate safe evacuation.

Routine Service: means inspection, testing, and preventative maintenance at pre-determined intervals.

RSM entity: means one or more persons or entities qualified or sufficiently trained to carry out relevant *routine service* and maintenance activities specified elsewhere in this Standard.

Serious defect: means a defect which causes the entire system/sign to be ineffective. For example, a non-operational charging lighting control system.

SECTION 2 - FUNDAMENTAL REQUIREMENTS

2.1 Installation Documentation

The *installation documentation* provides evidence that the installed *passive PL signs* and *PL markings* meet the relevant requirements in NCC 2022 Part E4 and/or NCC Specification 25.

The *installation documentation* also assists the *routine service* and responsive maintenance processes by confirming the physical location of all *passive PL signs* and *PL markings*, and confirms when a *passive PL sign* or *PL marking* will need to be replaced, even if it shows no obvious signs of failure.

The following documents form the *installation documentation* and should have been collated by the *managing entity* on or before the initial installation of any *passive PL signs* or *PL markings*:

- a. Documentation justifying the specified products and the design of the installation, in relation to the relevant requirements in NCC 2022 Part E4 or NCC Specification 25.
- b. Plan detailing the location, brand and model number of the *passive PL signs* and *PL markings*, and their installation date.
- c. *In-service life* (if less than the life of the building) of the *passive PL signs* and *PL markings*.
- d. Location and specification of any artificial lighting (and any associated lighting controls) required to ensure the *passive PL signs* and *PL markings* are maintained in a charged state when the building is occupied.
- e. Photoluminescent luminance test report(s) traceable to the *passive PL signs* and *PL markings* as new.

The *RSM entity* or the *managing entity* shall update the *installation documentation* if any changes are made to the system design or any *passive PL signs* or *PL markings* are replaced.

SECTION 3 - REQUIRED REPORTING AND RECORDS

All (hard/soft copy) records and written reports must be kept and maintained confirming *routine service* and responsive maintenance have been carried out by the *RSM entity* for a period of 2 years.

3.1 Summary Report

At the completion of the procedures detailed in Section 4 the *RSM entity* shall provide the *managing entity* with a summary report detailing any unresolved *serious defects* for immediate remedy.

3.2 Detailed Report

Within one week of carrying out the procedures detailed in Section 4 the *RSM entity* shall provide the *managing entity* with a detailed report containing the following:

- a. Name and/or address of the installation
- b. *Routine service* frequency
- c. *Routine service* date
- d. Applicable building code reference
- e. *Conformance defects*
- f. *Serious defects*
- g. *Minor defects*
- h. *Outstanding defects*
- i. *Managing entity* details

j. *RSM entity* details

SECTION 4 – ROUTINE SERVICE AND MAINTENANCE PROCEDURES

4.1 Required Routine Service and Maintenance Procedures

The *routine service* and responsive maintenance procedures shall be carried out as detailed in Clauses 4.2 and 4.3 of this standard.

4.2 Six-Monthly Procedures

Six-monthly *routine service* (in this case inspection and preventative maintenance) and responsive maintenance are to be carried out by the *RSM entity*.

If the *installation documentation* is available, it shall be used as the template for inspection and maintenance procedures.

If the *installation documentation* is not available, this shall be noted in the detailed report as a *conformance defect*.

Inspection is to be carried out to check the following:

- All products are still configured as at installation and there is no material damage to any of these products.
- All products are clean from general dust build up and any other specific obscuring deposits.
- All products are clearly visible and have not been covered up.
- All *PL markings* mark a clear path and have not been obstructed by physical hazards (furniture, trolleys, partitions, machinery, vehicles, products, storage, racking, etc).
- All *PL markings* can be used to provide clear escape path marking and there has been no change to the configuration of the building which renders the escape path unusable.
- All lights that are required to maintain *passive PL signs* or *PL markings* in a charged state are operational and their positions have not altered from the design.

Preventative maintenance and responsive maintenance is to be carried out to ensure the following:

- All products are still configured as at installation and there is no material damage to any of these products.
- All products are clean from general dust build up and any other specific obscuring deposits (see Note 1 below).
- All products are clearly visible and have not been covered up.
- All *PL markings* mark a clear path and have not been obstructed by physical hazards

(furniture, trolleys, partitions, machinery, vehicles, products, storage, racking, etc).

- All *PL markings* can be used to provide clear escape path marking and there has been no change to the configuration of the building which renders the escape path unusable.
- All lights that are required to maintain *passive PL signs* or *PL markings* in a charged state are operational and their positions have not altered from the design.

Note 1. If there is any visible accumulation of dust or other deposits, clean it in accordance with manufacturer's cleaning instructions.

4.3 Annual Procedures

Annual *routine service* (in this case inspection and test) and responsive maintenance of *passive PL signs* and *PL markings* are to be carried out by the *RSM entity*.

If the *installation documentation* is available, it shall be used as the template for the inspection procedures.

If the *installation documentation* is not available, this shall be noted in the detailed report as a *conformance defect*.

Inspection and responsive maintenance is to be carried out to check the following:

- No products have reached their *in-service life*.

Inspection, test, and responsive maintenance is to be carried out to check the following:

- All charging lighting control systems that are required to maintain *passive PL signs* or *PL markings* in a charged state are operational as specified in the design.

SECTION 5 – REPLACEMENT OF PRODUCTS

Passive PL signs and *PL markings* shall be replaced in the following situations:

- Physical damage has resulted in the product not being clearly visible to occupants;
- The product has passed the *in-service life*.

Replacement products, as well as the system as a whole, must meet the relevant requirements in NCC 2022 Part E4 and/or NCC 2025 Specification 25.