

Explanatory note - non-building based lighting upgrade - part 2: compliance requirements

13 September 2018



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The Department of Environment, Land, Water and Planning develops policy for the [Victorian Energy Upgrades](#) program. The program provides incentives for Victorian households and organisations to make energy efficiency improvements that save money on their energy bills and reduce Victoria's greenhouse gas emissions

The Essential Services Commission administers the program as the 'Victorian Energy Efficiency Target scheme' under the *Victorian Energy Efficiency Target Act 2007*.

For more information, visit veet.vic.gov.au.

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1. Introduction

Under the *Victorian Energy Efficiency Target Act 2007* (the Act), the Essential Services Commission (the commission) is responsible for monitoring compliance with the Act and the *Victorian Energy Efficiency Regulations 2008* (the Principal Regulations).

Accredited persons (APs) are required to adhere to the requirements as outlined in the Act, the Principal Regulations and the *Victorian Energy Efficiency Target Scheme Guidelines* (the Guidelines).

The purpose of this document is to provide guidance to APs to ensure that all non-building based (NBB) lighting upgrades are undertaken in accordance with the requirements under the VEET scheme. In particular, this document contains compliance checklists to provide guidance to APs undertaking NBB lighting upgrades undertaken on a road or in a public or outdoor space or sports field. Monitoring compliance in consultation with the following checklists will help ensure that each AP meets the requirements under the VEET scheme.

1.1. How this document is structured

This document outlines the evidence that APs are required to collect for each NBB lighting upgrade. APs should familiarise themselves with the documents that must be collected and provided to the commission upon request to verify that NBB lighting upgrades have been carried out in accordance with scheme and compliance requirements.

This explanatory note begins by making reference to key concepts and issues relating to NBB lighting upgrades. All APs will need a firm grasp of these key concepts and issues, as they are referred to in the compliance checklists.

Sections 3 and 4 of this document outline the compliance checklists for upgrades conducted under AS/NZS 1158 – Lighting for roads and public spaces, including tunnels and underpasses.

- Section 3 outlines the compliance checklists for upgrades undertaken on assets **not owned** by a distribution network service provider (DNSP) or road management authority (RMA).
- Section 4 outlines the compliance checklist for upgrades undertaken on assets **owned** by a DNSP or RMA and for all other lighting assets.

Section 5 outlines the compliance checklist for upgrades conducted under AS 2560 - Sports field lighting.

It is important that you familiarise yourself with the evidence that is required to be collected for each upgrade, specific to the installation environment. Similarly, it is essential that all APs pay close attention to the document collection requirements for each section outlined in the compliance checklists (i.e. mandatory or optional documents).

Participants seeking guidance on the compliance checklists for building based lighting upgrades should refer to *Explanatory note – building based lighting upgrade part 2: compliance requirements*.

1.2. Before you begin

This is not the only document you will need in order to understand how to participate in this activity. The compliance checklists have been developed with reference to the following documents which can be accessed from the VEET website:

- [Victorian Energy Efficiency Target Act 2007](#) (the Act)
- [Victorian Energy Efficiency Target Regulations 2008](#) (the Principal Regulations)
- [Victorian Energy Efficiency Target Guidelines](#) (the Guidelines)
- [Explanatory note – creating VEECs from prescribed activities](#)
- [Explanatory note – non-building based lighting upgrade - part 1: activity guidance](#)
- Frequently asked questions (FAQ) (see the top right corner of the VEET website).

There is also some specific NBB lighting documentation that is not listed above but which will be referenced in this document. You should download a copy of each of these documents below and refer to them while reading this explanatory note. These documents can all be accessed from the VEET website.

- [Schedule 34 non-building based lighting upgrade application form](#)
- [Non-building based lighting upgrade \(34\) - documentation pack coversheet template](#)
- [Non-building based lighting upgrade \(34\) - assignment form template](#)
- [Non-building based lighting upgrade \(34\) - data summary and compliance declaration templates](#)
- [Non-building based lighting upgrade \(34\) - training identification matrix and installer qualification declaration](#)

The commission has prepared this document to help APs ensure that all NBB lighting upgrades comply with Schedule 34 of the Principal Regulations and to inform APs of the evidence that must be collected and submitted to the commission to verify that the activity submitted is created in accordance with scheme requirements.

However, you should not rely on this document to discharge your legal responsibility and this document should be read in conjunction with the Act, the Principal Regulations and the Guidelines. You should review and have a thorough understanding of Schedule 34 of the Principal Regulations.

1.3. Key concepts and issues

There are a range of concepts and terminology that are specific to undertaking NBB lighting upgrades in the VEET scheme. Even if you're an experienced lighting installer, to successfully participate in the scheme you will need to take the time to familiarise yourself with a range of key concepts and issues.

Please refer to *Explanatory note – non-building based lighting - upgrade part 1: activity guidance* for further information relating to these concepts, which provide context to the specific compliance requirements and associated evidentiary documentation APs are required to maintain for each NBB lighting upgrade.

The compliance requirements are subject to periodic review and update. It is important that you adjust your compliance monitoring practices in accordance with the latest scheme updates and compliance requirements

2. Overview of AS/NZS 1158 – lighting undertaken on a road, or a public or outdoor space

The following two sections contain the compliance checklists for upgrades conducted under AS/NZS 1158 – lighting undertaken on a road, or a public or outdoor space.

2.1. Upgrades of lighting assets not owned by a DNSP or RMA

Section 3 contains the compliance checklist for upgrades conducted on lighting assets **not owned** by a DNSP or RMA. The checklist outlines the evidentiary requirements APs must collect for upgrades undertaken on a road or in a public or outdoor space, where the lighting asset is not owned by a DNSP or RMA.

2.2. Upgrades of lighting assets owned by a DNSP or RMA

Section 4 contains the compliance checklist for upgrades conducted on lighting assets **owned** by a DNSP or RMA. The checklist outlines the evidentiary requirements for upgrades undertaken on a road or in a public or outdoor space, where the lighting assets are owned or maintained by a relevant DNSP or RMA.

3. Compliance checklist: AS/NZS 1158 - lighting assets not owned by a DNSP or RMA

The following compliance checklist outlines the evidentiary requirements that APs must collect for upgrades undertaken on a road or in a public or outdoor space, where the lighting asset is not owned by a DNSP or RMA.

Please see section 4 for the compliance checklist for upgrades conducted on a lighting assets owned by a DNSP or RMA.

3.1. Evidence of assignment of rights to create VEECs

APs must ensure that the assignment form captures all the relevant information in relation to the installation and that it reflects what is submitted to the commission.

Documentation	Description
VEET assignment form, and	All fields of the assignment form must be complete and correctly filled in, including details of the energy consumer, category type(s), installation address or location, project commencement and completion dates, product details, decommissioning method, etc.
VEET documentation pack	<p>For each upgrade, APs must collate a documentation pack, which includes mandatory documentation required to create VEECs for a specific upgrade.</p> <p>Mandatory documents include the VEET upgrade data summary, training identification matrix declaration, installers qualifications list and AS/NZS 1158 compliance declaration, etc.</p>

3.2. Evidence of commercial transaction and energy consumer

APs must have proof of the commercial transaction relating to the installation, including evidence of the energy consumer¹.

Documentation	Description
Tax invoice, or	<p>A valid tax invoice for the work carried out.</p> <p>The invoice must include:</p> <ul style="list-style-type: none">• the name, address and ABN of the energy consumer• the installation address• an itemisation of lighting equipment installed (e.g. lamps, control gear, lighting control devices (LCDs²)). Specifically, the invoice should include the brand(s) and model(s) of all new lighting equipment installed. The listed product(s) must match the Register of products.• the recipient• the supplier. <p>Separately, APs should retain copies of tax invoices relating to purchase and sale of all lighting equipment which is installed as part of the lighting upgrade for the purposes of stock reconciliation and annual AP audits.</p>
Contract with the energy consumer	<p>A contract with the energy consumer. The contract must include:</p> <ul style="list-style-type: none">• the name, address and ABN of the energy consumer• the installation address or location• an itemisation of lighting equipment installed (e.g. lamps, control gear, LCDs). Specifically, the contract should include the brand(s) and model(s) of all new lighting equipment installed. The listed product(s) must match the Register of products.

¹ In accordance with Section 16(2A) of the Act, the energy consumer is the person responsible for the payment of electricity for the upgraded lighting asset. In instances where there are multiple energy consumers, a lead energy consumer must be identified. A lead energy consumer is the nominated energy consumer for the purposes of assigning rights for the VEECs created by a non-building based lighting activity, where multiple bodies or persons are responsible for the payment of electricity for the lighting asset to be upgraded. The onus is on the AP to provide evidence of the energy consumer.

² Itemisation is not required for integrated LCDs. A lamp with an integrated LCD is one which has lighting control capabilities according to the product specification sheet.

3.3. Evidence of area type

APs must provide evidence of the correct area type (i.e. within the scope of AS/NZS 1158) and verification of the correct annual operating hours).

Documentation	Description
Aerial map, and	<p>An aerial map showing the upgrade area.</p> <p>The map must clearly show:</p> <ul style="list-style-type: none">• the site of the upgrade area• the boundary of the upgrade area.
Contract or document(s)	<p>A contract or document(s) showing that the upgrade of the area type is within the scope of the relevant parts of AS/NZS 1158 for Vehicular Traffic (Category V) and/or Pedestrian Areas (Category P) and/or Pedestrian Crossings (PX) and/or Tunnels and Underpasses (TU).</p> <p>Reference should also be made to the applicable AS/NZS 1158 lighting subcategory relating to the installation (e.g. P5).</p>

3.4. Baseline lighting configuration

APs must be able to prove the existence and nature of all pre-existing (baseline) lamps, control gear and LCDs.

Documentation	Description
Lighting diagram, and	<p>A professionally drafted³ lighting diagram with an accompanying legend must be provided per upgrade. The baseline lighting diagram must include:</p> <ul style="list-style-type: none">• Number and type(s) of lamp(s) and control gear in each upgrade area• Number and arrangement of any LCD(s) in each upgrade area including the type of LCD(s) and the group of lamps controlled by the LCD(s)• Accurate dimensions of the area(s).
Geo-tagged photographs, or	<p>The following geo-tagged photographs verifying the nature and configuration of pre-existing lighting equipment must be maintained and provided to the commission upon request:</p> <ul style="list-style-type: none">• One geo-tagged photograph of each different type of:<ul style="list-style-type: none">– pre-existing lamp– the type of pre-existing control gear– any pre-existing LCD(s). <p>The geo-tagged photographs must:</p> <ul style="list-style-type: none">• be clear and in focus• include any relevant markings• include a date stamp showing the date the photographs were taken• include the GPS derived latitude and longitude coordinates. This should be stored in the metadata and generated automatically by the device used to take the geo-tagged photographs. <p>Continued on next page</p>

³ Professionally drafted diagram – diagrams or plans drafted using accepted industry conventions, symbols, perspectives, units of measurements and notations systems and usually generated by a professional draftsman or with the aid of a computer aided design (CAD) system. As per AS/NZS 1158, lighting diagrams may also be referred to as “scaled plans”.

Documentation	Description
Asset register ⁴	<p data-bbox="550 235 1412 291">Extracts from an asset register showing the following:</p> <ul data-bbox="550 291 1412 492" style="list-style-type: none"> <li data-bbox="550 291 1412 380">• the number and specifications of the existing (baseline) lighting equipment (lamp, control gear and LCD(s)) <li data-bbox="550 380 1412 436">• the relevant GIS coordinates or location <li data-bbox="550 436 1412 492">• the related installation date. <p data-bbox="550 515 1412 593">The extract(s) must be certified as true and correct by the energy consumer.</p> <p data-bbox="550 616 1412 739">The extract(s) must also clearly indicate the number, type and arrangement of LCDs in each baseline area and the group of lamps controlled by the LCD(s).</p>

⁴ **An asset register** is an electronic record or database of assets, typically maintained by councils (in this case, only that portion of the asset register relating to lighting equipment is relevant).

3.5. Upgrade lighting configuration

APs must be able to prove the nature of all newly installed (upgrade) lamp(s), control gear and LCDs.

Documentation	Description
<p>Lighting diagram (including information relating to the light technical parameters (LTPs)⁵ for the upgrade area), and</p>	<p>A professionally drafted⁶ lighting diagram with an accompanying legend must be provided per upgrade.</p> <p>The baseline lighting diagram must include:</p> <ul style="list-style-type: none"> • the number and type(s) of lamp(s) and control gear in each area of the upgrade (the brand and model must be clearly shown on the lighting diagram through the use of a legend). The listed product(s) must also match the Register of products. • the number and arrangement of any LCD(s) in each upgrade area, including the type of LCD(s) and the group of lamps controlled by the LCD(s) • accurate dimensions of the upgrade area(s). <p>The professionally drafted lighting diagram must also be accompanied by supporting information detailing the LTPs.</p> <p>The information should demonstrate LTP compliance with the applicable subcategories relating the specific lighting upgrade.</p>
<p>Geo-tagged photographs, or</p>	<p>The following geo-tagged photographs verifying the nature and configuration of newly installed lighting equipment must be maintained and provided to the commission upon request:</p> <ul style="list-style-type: none"> • One geo-tagged photograph of each different type of: <ul style="list-style-type: none"> – upgrade lamp – the type of upgrade control gear – any LCD(s) installed as part of the upgrade. <p>Continued on next page</p>

⁵Please refer to AS/NZS 1158.0 for the relevant definition.

⁶ Professionally drafted diagram – diagrams or plans drafted using accepted industry conventions, symbols, perspectives, units of measurements and notations systems and usually generated by a professional draftsman or with the aid of a computer aided design (CAD) system. As per AS/NZS 1158, lighting diagrams may also be referred to as “scaled plans”.

Documentation	Description
	<p>The geo-tagged photographs must:</p> <ul style="list-style-type: none"> • be clear and in focus • include any relevant markings • include a date stamp showing the date the photographs were taken • include the GPS derived latitude and longitude coordinates. This should be stored in the metadata and generated automatically by the device used to take the geo-tagged photographs.
<p>Asset register, and</p>	<p>Extracts from an asset register showing the following:</p> <ul style="list-style-type: none"> • the number and specifications of the new (upgrade) lighting equipment (lamp, control gear and LCD(s)) • the relevant GIS coordinates or location • the related installation date. <p>The extract(s) must be certified as true and correct by the energy consumer.</p> <p>The extract(s) must also clearly indicate the number, type and arrangement of LCDs in each upgrade area and the group of lamps controlled by the LCD(s).</p>
<p>Evidence that installed LCDs are compatible with the type(s) of lamp(s) installed (where applicable)</p>	<p>A product specification sheet/manufacturers declaration must be maintained and provided to the commission upon request, as evidence that the installed LCDs are compatible with the type of lamp(s) installed.</p> <p>For verification of compatibility you must also indicate the specification of the lamp(s) the LCD is controlling.</p>

3.6. Evidence of electrical compliance

APs must ensure that all work undertaken complies with the relevant standards, and that installers are appropriately licensed.

Documentation	Description
Certificate of Electrical Safety (CoES) ⁷	<p>A CoES must be provided if one is required by law.</p> <p>The certificate must detail:</p> <ul style="list-style-type: none">• the location of the lighting upgrade• the type and number of existing (baseline) lamps, control gear and LCDs• the type and number of newly installed (upgrade) lamps, control gear and LCDs. <p><u>Requirements specific to modification⁸ style installations</u> : where a luminaire has been modified , the CoES must ensure that it:</p> <ul style="list-style-type: none">• complies with Energy Safe Victoria’s requirements• defines the modification work for each type of linear fluorescent luminaire you modify• specifies that the modification work includes electrical isolation of the legacy ballast (and removal and destruction of the capacitor if one was present)• must be retained and be made available to the commission upon request.

⁷ An appendix may be provided with a CoES where there is insufficient space in the ‘description of work undertaken’ box to provide an accurate description of all the electrical installation work performed. Where an appendix is used with a CoES, the following criteria must be fulfilled: (i) each page of the attachment must detail the CoES number (ii) the number of pages contained within the attachment must be detailed on the CoES and (iii) the CoES and each page of the attachment must be signed by the electrician responsible for the lighting upgrade.

⁸ Modification style installations are those where the existing linear fluorescent lamp is replaced with a linear LED lamp, the original starter is replaced with a fuse as supplied with the LED lamp (in accordance with instructions provided with the LED lamp), and the original fluorescent lamp control gear – including both the ballast and capacitor where fitted – is rendered inoperable by removal and destruction of the whole item (or, in the case of the ballast only, by removal and destruction of the terminal block). In instances where the ballast is left in-situ and decommissioned by removal and destruction of the terminal block; if a capacitor is fitted, the capacitor must be removed and destroyed.

3.7. Evidence of decommissioning (non NJ6-D)

This section relates to evidence of decommissioning where the ballast or transformer associated with the lamp is replaced or removed (for upgrades not conducted under NJ6-D).

APs must ensure that all existing lighting equipment (i.e. lamps and control gear) has been decommissioned in accordance with the Principal Regulations.

Documentation	Description
Evidence of decommissioning (see 'Description')	<p>Ballast/transformers and capacitors (where fitted) must be 'rendered permanently unusable' to qualify for decommissioning.</p> <p>If it's possible to reverse any modifications made to the legacy control gear as part of the lighting upgrade, then it does not qualify as decommissioned.</p> <p>Acceptable methods of decommissioning the ballast/choke and fluorescent luminaires are:</p> <ul style="list-style-type: none">• complete removal of all redundant electrical components, inclusive of the ballast and capacitor (where fitted)• removal or destruction of the ballast terminal block and capacitor (where fitted). <p>Note: All modifications to luminaires must be completed in compliance with AS/NZS 3000 (Wiring Rules) & AS/NZS 60598 (Luminaires-General requirements and tests).</p> <p>APs must maintain the following evidence as proof that all removed lighting equipment (including lamps and control gear) has been properly decommissioned (as applicable):</p> <ul style="list-style-type: none">• Geo-tagged photographs of the ballast/transformer showing the absence of the terminal block, or geo-tagged photographs of the removed terminal block.• Geo-tagged photographs of all removed lamps and control gear (where the terminal block is not removed and the existing control gear physically removed) in a pile or in a recycling container.• Geo-tagged photographs of the removed capacitors (for upgrades conducted under NJ6-A, NJ6-B(i) and NJ6-C). <p>Continued on next page</p>

Documentation	Description
	<ul style="list-style-type: none"> • Third-party recycling receipts, clearly showing: <ul style="list-style-type: none"> – an itemised breakdown of the disposed equipment (showing the lamp type and type of control gear) – the date of collection. • Stock reconciliation of all pre-existing and installed lighting equipment.

3.8. Evidence of decommissioning (NJ6-D)

This section relates to evidence of decommissioning where the ballast or transformer associated with the lamp is not replaced (for NJ6-D upgrades only).

APs must ensure that all existing lighting equipment has been decommissioned in accordance with the Principal Regulations.

Documentation	Description
Third-party recycling receipts	<p>Third-party receipts as evidence that all removed lighting equipment has been properly decommissioned (as applicable).</p> <p>The receipts should clearly show:</p> <ul style="list-style-type: none"> • an itemised breakdown of the disposed lighting equipment (showing the lamp type) • the date of collection. <p>Separately, APs must also ensure that they maintain a stock reconciliation of all pre-existing and installed lighting equipment.</p>

3.9. Evidence AS/NZS 1158 compliance

APs must ensure that the completed lighting upgrade complies with all relevant parts of the standard and that all the required values of the LTPs for all the subcategories within the upgrade have been met.⁹

Documentation	Description
AS/NZS 1158 compliance declaration (and supporting documentation)	<p>A declaration signed by a qualified lighting designer¹⁰ responsible for producing the design and verifying that the installation of the lighting upgrade complies with:</p> <ul style="list-style-type: none">• Section 2.11 of AS/NZS 1158.1.1 - Vehicular traffic (Category V) lighting - Performance and design requirements; and/or• Section 2.10 of AS/NZS 1158.3.1 -Pedestrian Area (Category P) lighting - Performance and design requirements; and/or• Section 3 of AS/NZS 1158.4 – Pedestrian Crossings (Category PX); and/or• Section 3 of AS/NZS 1158.5 – Tunnels and Underpasses (Category TU). <p>The compliance declaration also notes that the lighting upgrade demonstrates that compliance with (Category V) and/or (Category P) and/or (Category PX) and/or Category (TU) has been achieved and that all the required values of the LTPs for all the subcategories within the upgrade have been met.</p> <p>Mandatory documentation as specified in Appendix D of AS/NZS 1158.1.1, or Appendix E of AS/NZS 1158.3.1, or Appendix D of AS/NZS 1158.4, or Appendix J of AS/NZS 1158.5 must be maintained and provided as supporting evidence if requested by the commission.</p> <p>A template for this declaration is provided on the VEET website.</p>

⁹ It is recognised that AS/NZS 1158 will be applicable to most but not all NBB lighting environments. If AS/NZS 1158 is found to be not applicable to the NBB lighting environment to be upgraded, then please contact the VEET support team on (03) 9032 1310 or veet@esc.vic.gov.au

¹⁰ The lighting designer responsible for producing the design and verifying that the lighting upgrade complies with AS/NZS 1158 must hold the following *minimum* qualification: **Member - Illuminating Engineering Society of Australia and New Zealand (MIES) or higher**. The qualified lighting designer must be involved at all stages of the design and verification of the lighting upgrade.

3.10. Evidence of power factor

APs must ensure that they abide by all relevant legislation, codes and guidelines relating to power factor values.

Documentation	Description
Evidence of adequate power factor value	<p>If linear LED lamps have been retrofitted into linear fluorescent luminaires without the removal of a legacy ballast and/or capacitor, from 16 May 2016 the power factor of the upgraded lighting circuit must be measured and assessed using a method <u>previously</u> approved by the commission.</p> <p>The aim of the power factor measurement is to ensure the upgrade does not have a detrimental impact on the customer's compliance with section 4.3 of the Electricity Distribution Code (EDC) or an adverse effect on the customer's overall energy use.</p> <p>A copy of the EDC can be found at: http://www.esc.vic.gov.au/document/energy/34914-electricity-distribution-code-version-9-current/</p> <p>Adequate evidence of the approved measurement and assessment approach used, and the result of the power factor measurement must be retained, and be made available to the commission upon request.</p>

3.11. Product requirements

APs must ensure that newly installed lighting equipment is listed as 'approved' on the Register of products.

Documentation	Description
VEET product approval	<p>To create certificates under the VEET scheme, APs must use products listed as 'approved' specifically for the 'NBBL – LED street and public lighting' category on the Register of products at the time of the prescribed activity.</p> <p>The brand and model of the products must match the details of the Register of products. This also includes the brand and model of the remote control gear supplied with the product (where applicable).</p>

3.13. Other

APs must ensure that appropriate records are kept to verify all details of the upgrade which relate to the calculation of greenhouse gas abatement and the creation of certificates.

Documentation	Description
Miscellaneous	<p>VEET Audit and Compliance may request additional supporting evidence to confirm details relevant to the calculation of abatement, the proper creation of certificates as well as subsequent validation and registration of claims.</p> <p>APs must ensure that the maintained documentation constitutes an auditable record of the work undertaken. It is the responsibility of the AP to ensure it meets this standard.</p> <p>If the standard of documentation maintained fails to provide auditable records of the work undertaken, the AP may be required to surrender certificates equal to those that cannot be verified.</p>

4. Compliance checklist: AS/NZS 1158 - lighting assets owned by a DNSP or RMA

The following compliance checklist outlines the evidentiary requirements that APs must collect for upgrades undertaken on a road or in a public or outdoor space, where the lighting asset is owned by a DNSP or RMA.

Please see section 3 for the compliance checklist for upgrades conducted on a lighting assets not owned by a DNSP or RMA.

4.1. Evidence of assignment of rights to create VEECs

APs must ensure that the assignment form and supporting documentation captures all relevant information in relation to the installation, and that it reflects the information submitted to the commission.

Documentation	Description
VEET assignment form, and	All fields of the assignment form must be complete and correctly filled in, including details of the energy consumer, category type(s), installation address or location, project commencement and completion dates, product details, decommissioning method, etc.
VEET documentation pack	For each upgrade, APs must collate a documentation pack, which includes mandatory documentation required to create VEECs for a specific upgrade. Mandatory documents include the training identification matrix declaration, installer qualifications list and AS/NZS 1158 compliance declaration etc.

4.2. Evidence of commercial transaction and energy consumer

APs must have proof of the commercial transaction relating to the installation, including evidence of the energy consumer.¹¹

Documentation	Description
Contract between the energy consumer or electricity user (e.g. VicRoads) and the asset owner (e.g. the DNSP)	<p>A contract must be with the energy consumer.</p> <p>The contract must include:</p> <ul style="list-style-type: none">• the name, address and ABN of the energy consumer• ownership of the luminaire• that the upgrade has been requested and approved in writing from the owner of the luminaire (only applicable where the energy consumer is not the owner of the luminaire).

4.3. Evidence of area type

APs must provide evidence of the correct area type (i.e. within the scope of AS/NZS 1158) and verification of the correct annual operating hours).

Documentation	Description
Contract or document(s)	<p>A contract or document(s) between an RMA and the relevant DNSP showing that the upgrade of the road and/or public space is within the scope of AS/NZ 1158 for Vehicular Traffic (Category V) and/or Pedestrian Areas (Category P) and/or Pedestrian Crossings (PX) and/or Tunnels and Underpasses (TU).</p> <p>Reference should also be made to the applicable AS/NZS 1158 lighting subcategory relating to the installation (e.g. P5).</p>

¹¹ In accordance with Section 16(2A) of the VEET Act, the energy consumer is the person responsible for the payment of electricity for the upgraded lighting asset. In instances, where there are multiple energy consumers, a lead energy consumer must be identified. A lead energy consumer is the nominated energy consumer for the purposes of assigning rights for the VEECs created by a non-building based lighting activity, where multiple bodies or persons are responsible for the payment of electricity for the lighting asset to be upgraded. The onus is on the AP to provide evidence of the energy consumer.

4.4. Baseline lighting configuration

APs must be able to prove the existence and nature of all pre-existing (baseline) lamps, control gear and lighting control devices (LCDs).

Documentation	Description
Public lighting inventory register ¹²	<p>An extract of the relevant public lighting inventory register published by the relevant DNSP showing:</p> <ul style="list-style-type: none">• the specifications of the pre-existing (baseline) lighting equipment (lamp, control gear and LCDs)• the relevant GIS coordinates• the related installation date. <p>Where applicable, the extract must also clearly indicate the number, type and arrangement of LCDs in each upgrade area; and the group of lamps controlled by the LCD(s).</p>

4.5. Upgrade lighting configuration

APs must be able to prove the nature of all newly installed (upgrade) lamps, control gear and LCDs.

Documentation	Description
Public lighting inventory register, and	<p>An extract of the relevant public lighting inventory register published by the relevant DNSP showing:</p> <ul style="list-style-type: none">• the specifications of the new (upgrade) lighting equipment (lamp, control gear and LCDs)• the relevant GIS coordinates• the related installation date. <p>Where applicable, the extract must also clearly indicate the number, type and arrangement of LCDs in each upgrade area; and the group of lamps controlled by the LCD(s).</p> <p>Continued on next page</p>

¹² A **public lighting inventory register** is an electronic record or database of public lighting assets (may be referred to as a “Public lighting register” “Public lighting database” or “GIS database”).

Documentation	Description
Lighting diagram (including information relating to the light technical parameters for the specific upgrade), and	<p>A professionally drafted¹³ lighting diagram with an accompanying legend must be provided per upgrade. The lighting diagram must include:</p> <ul style="list-style-type: none"> • the number and type(s) of lamp(s) and control gear in each area of the upgrade (the brand and model must be clearly shown on the lighting diagram). The listed product(s) must also match the Register of products. • the number and arrangement of any LCD(s) in each upgrade area, including: <ul style="list-style-type: none"> – the type of LCD(s) – the group of lamps controlled by the LCD(s) • accurate dimensions of the upgrade area(s). <p>The professionally drafted lighting diagram must also be accompanied by supporting information detailing the light technical parameters (LTPs). The information should demonstrate LTP compliance¹⁴ with the applicable subcategories relating to the specific lighting upgrade.</p>
Evidence that installed LCDs are compatible with the type(s) of lamp(s) installed (where applicable)	A product specification sheet/manufacturers declaration must be maintained and provided to the commission upon request, as evidence that the installed LCDs are compatible with the type of lamp(s) installed.

¹³ **Professionally drafted diagram** – diagrams or plans drafted using accepted industry conventions, symbols, perspectives, units of measurements and notations systems and usually generated by a professional draftsman or with the aid of a Computer Aided Design (CAD) system. As per AS/NZS 1158, lighting diagrams may also be referred to as “scaled plans”.

¹⁴ Please note: Compliance with Category V and/or Category P and/or Category PX and/or Category TU of AS/NZS 1158 is only achieved if all the required values of the Lighting Technical Parameters (LTPs) for all the subcategories within the lighting upgrade have been met.

4.6. Evidence of electrical compliance

APs must ensure that all work undertaken complies with the relevant standards and that installers (e.g. lineworkers) are appropriately licensed.

Documentation	Description
A document showing evidence of an Electricity Safety Management Scheme ¹⁵ ; or	A document showing evidence of an 'accepted' Electricity Safety Management Scheme, in accordance with the Electricity Safety Act 1998 and the Electricity Safety (Management) Regulations 2009.
Certificate of Electrical Safety (CoES) ¹⁶	<p>A CoES must be provided if one is required by law. The certificate must detail:</p> <ul style="list-style-type: none">• the location of the lighting upgrade• the type and number of existing (baseline) lamps, control gear and LCDs that was removed• the type and number of newly installed (upgrade) lamps, control gear and LCDs.

4.7. Evidence of decommissioning

APs must ensure that all existing lighting equipment has been decommissioned in accordance with the Principal Regulations.

Documentation	Description
Third-party recycling receipts	<p>Third party receipts are required, as evidence that all removed lighting equipment has been properly decommissioned (as applicable). The receipts should clearly show:</p> <ul style="list-style-type: none">• an itemised breakdown of the disposed lighting equipment (showing the lamp type and type of control gear as applicable)• the date of collection <p>Separately, APs must also ensure that they maintain a stock reconciliation of all pre-existing and installed lighting equipment.</p>

¹⁵ Where an Electricity Safety Management scheme plan does not exist, a CoES (where one is required by law) must be provided. In any other case, you may suggest other suitable evidence that demonstrates compliance with relevant electrical standards.

¹⁶ An appendix may be provided with a CoES where there is insufficient space in the 'description of work undertaken' box to provide an accurate description of all the electrical installation work performed. Where an appendix is used with a CoES, the following criteria must be fulfilled: (i) each page of the attachment must detail the CoES number (ii) the number of pages contained within the attachment must be detailed on the CoES and (iii) the CoES and each page of the attachment must be signed by the electrician responsible for the lighting upgrade

4.8. Evidence of AS/NZS 1158 Compliance

APs must ensure that the completed lighting upgrade complies with all relevant parts of AS/NZS 1158 and that all the required values of the LTPs for all the subcategories within the upgrade have been met.¹⁷

Documentation	Description
AS/NZS 1158 Compliance Declaration (and supporting documentation)	<p>A declaration signed by a qualified lighting designer¹⁸ responsible for producing the design and verifying that the installation of the lighting upgrade complies with:</p> <ul style="list-style-type: none">• Section 2.11 of AS/NZS 1158.1.1 - Vehicular traffic (Category V) lighting - Performance and design requirements, and/or• Section 2.10 of AS/NZS 1158.3.1 - Pedestrian area (Category P) lighting - Performance and design requirements, and/or• Section 3 of AS/NZS 1158.4 - Pedestrian crossings (Category PX), and/or• Section 3 of AS/NZS 1158.5 - Tunnels and underpasses (TU). <p>The compliance declaration also notes that the lighting upgrade demonstrates that compliance with (Category V) and/or (Category P) and/or (Category PX) and/or Category (TU) has been achieved and that all the required values of the LTPs for all the subcategories within the upgrade have been met.</p> <p>Mandatory documentation as specified in Appendix D of AS/NZS 1158.1.1, or Appendix E of AS/NZS 1158.3.1, or Appendix D of AS/NZS 1158.4, or Appendix J of AS/NZS 1158.5 must be maintained and provided as supporting evidence if requested by the commission.</p> <p>A template for this declaration is provided on the VEET website.</p>

¹⁷ It is recognised that AS/NZS 1158 will be applicable to most but not all NBB lighting environments. If AS/NZS 1158 is found to be not applicable to the NBB lighting environment to be upgraded, then please contact the VEET support team on (03) 9032 1310 or veet@esc.vic.gov.au

¹⁸ **The lighting designer** (also may be referred to as “design consultant”) responsible for producing the design and verifying that the lighting upgrade complies with AS/NZS 1158 must be approved by the relevant DNSP or Road Management Authority (i.e. VicRoads).

4.9. Product requirements

APs must ensure that newly installed lighting equipment is listed as 'approved' specifically for NBB lighting on the Register of products.

Documentation	Description
VEET product approval	<p>To create certificates under the VEET scheme, APs must use products listed as 'approved' specifically for the 'NBBL – LED street and public lighting' category on the Register of products at the time of the prescribed activity.</p> <p>The brand and model of the products must match the details of the Register of products. This also includes the brand and model of the remote control gear supplied with the product (where applicable).</p>

4.10. Other

APs must ensure that appropriate records are kept to verify all details of the upgrade which relate to the calculation of greenhouse gas abatement and the creation of certificates.

Documentation	Description
Miscellaneous	<p>VEET Audit and Compliance may request additional supporting evidence to confirm details relevant to the calculation of abatement, the proper creation of certificates as well as subsequent validation and registration of claims.</p> <p>APs must ensure that the maintained documentation constitutes an auditable record of the work undertaken. It is the responsibility of the AP to ensure it meets this standard.</p> <p>If the standard of documentation maintained fails to provide auditable records of the work undertaken, the AP may be required to surrender certificates equal to those that cannot be verified.</p>

5. Compliance checklist: AS 2560 - sports field lighting

The following compliance checklist outlines the evidentiary requirements APs must collect for upgrades of sports field lighting, conducted under the relevant parts of AS 2560.

5.1. Evidence of assignment of rights to create VEECs

APs must ensure that the assignment form and supporting documentation captures all relevant information in relation to the installation, and that it reflects the information submitted to the ESC.

Documentation	Description
VEET assignment form, and	All fields of the assignment form must be complete and correctly filled in, including details of the energy consumer, category type(s), installation address or location, project commencement and completion dates, product details, decommissioning method, etc.
VEET documentation pack	<p>For each upgrade, APs must collate a documentation pack, which includes mandatory documentation required to create VEECs for a specific upgrade.</p> <p>Mandatory documents include the VEET upgrade data summary, training identification matrix declaration, installers qualifications list and AS 2560 compliance declaration, etc.</p>

5.2. Evidence of commercial transaction and energy consumer

APs must have proof of the commercial transaction relating to the installation, including evidence of the energy consumer.¹⁹

Documentation	Description
Tax invoice, or	<p>A valid tax invoice for the work carried out.</p> <p>The invoice must include:</p> <ul style="list-style-type: none">• the name, address and ABN of the energy consumer• the installation address or location (where relevant, include the venue name/pitch name or number)• an itemisation of lighting equipment installed (e.g. lamps, control gear, lighting control devices (LCDs²⁰)). Specifically, the invoice should include the brand(s) and model(s) of all new lighting equipment installed. The listed product(s) must match the Register of products.• the recipient• the supplier. <p>Separately, APs should retain copies of tax invoices relating to purchase and sale of all lighting equipment which is installed as part of the lighting upgrade for the purposes of stock reconciliation and annual AP audits.</p>
Contract with the energy consumer	<p>A contract with the energy consumer. The contract must include:</p> <ul style="list-style-type: none">• the name, address and ABN of the energy consumer• the installation address or location or location (where relevant, include the venue name/pitch name or number)• an itemisation of lighting equipment installed (e.g. lamps, control gear, LCDs). Specifically, the contract should include the brand(s) and model(s) of all new lighting equipment installed. The listed product(s) must match the Register of products.

¹⁹ In instances, where there are multiple energy consumers, a lead energy consumer must be identified. A lead energy consumer is the nominated energy consumer for the purposes of assigning rights for the VEECs created by a non-building based lighting activity, where multiple bodies or persons are responsible for the payment of electricity for the lighting asset to be upgraded. The onus is on the AP to provide evidence of the energy consumer.

²⁰ Itemisation is not required for integrated LCDs. A lamp with an integrated LCD is one which has lighting control capabilities according to the product specification sheet.

5.3. Evidence of area type

APs must provide evidence of the correct area type (i.e. within the scope of the relevant parts of AS 2560) and verification of the correct annual operating hours).

Documentation	Description
Contract or document(s)	<p>A contract or document(s) from a relevant authority outlining that the sports field lighting upgrade is within the scope of the relevant parts of AS 2560.</p> <p>Reference should be made to the AS 2560 specific lighting application ((e.g. AS 2560.2.1 – 2003 – Lighting for outdoor tennis)²¹ and the level of competition/level of play (e.g. recreational, amateur, semi-professional and professional) specific to the sports field lighting upgrade being undertaken.</p>

5.4. Baseline lighting configuration

APs must be able to prove the existence and nature of all pre-existing (baseline) lamps, control gear and LCDs.

Documentation	Description
Lighting diagram, and	<p>A professionally drafted²² lighting diagram with an accompanying legend must be provided per upgrade. The baseline lighting diagram must include:</p> <ul style="list-style-type: none">• the number and type(s) of lamp(s) and control gear in each upgrade area• the number and arrangement of any LCD(s) in each upgrade area including the type of LCD(s) and the group of lamps controlled by the LCD(s)• accurate dimensions of the area(s). <p>Continued on next page</p>

²¹ It is understood that sports fields may be multiuse facilities, so it will be necessary to understand the primary sporting use that is driving the lighting upgrade. This should be completed via consultations primarily with the activity client (i.e. the energy consumer), stakeholders involved in the upgrade decision making process (e.g. ground committees), and the qualified lighting designer involved in the design and verification of the upgrade. Once the lighting application has been identified, the relevant parts of AS 2560 should be reviewed.

²² Professionally drafted diagram – diagrams or plans drafted using accepted industry conventions, symbols, perspectives, units of measurements and notations systems and usually generated by a professional draftsman or with the aid of a computer aided design (CAD) system.

Documentation	Description
Geo-tagged photographs, or	<p>The following geo-tagged photographs verifying the nature and configuration of pre-existing lighting equipment must be maintained and provided to the commission upon request:</p> <ul style="list-style-type: none"> • One geo-tagged photograph of each different type of: <ul style="list-style-type: none"> – pre-existing lamp – the type of pre-existing control gear – any pre-existing LCD(s). <p>The geo-tagged photographs must:</p> <ul style="list-style-type: none"> • be clear and in focus • include any relevant markings • include a date stamp showing the date the photographs were taken • include the GPS derived latitude and longitude coordinates. This should be stored in the metadata and generated automatically by the device used to take the geo-tagged photographs.
Asset Register ²³	<p>Extracts from an asset register showing the following:</p> <ul style="list-style-type: none"> • the number and specifications of the existing (baseline) lighting equipment (lamp, control gear and LCD(s)) • the relevant GIS coordinates or location • the related installation date. <p>The extract(s) must be certified as true and correct by the energy consumer.</p> <p>The extract(s) must also clearly indicate the number, type and arrangement of LCDs in each baseline area and the group of lamps controlled by the LCD(s).</p>

²³ An **asset register** is an electronic record or database of assets, typically maintained by councils (in this case, only that portion of the asset register relating to lighting equipment is relevant).

5.5. Upgrade lighting configuration

APs must be able to prove the nature of all newly installed (upgrade) lamp(s), control gear and LCDs.

Documentation	Description
Lighting diagram (including information relating to the light technical parameters (LTPs) ²⁴ for the upgrade area), and	<p>A professionally drafted²⁵ lighting diagram with an accompanying legend must be provided per upgrade.</p> <p>The upgrade lighting diagram must include:</p> <ul style="list-style-type: none">• the number and type(s) of lamp(s) and control gear in each area of the upgrade (the brand and model must be clearly shown on the lighting diagram through the use of a legend). The listed product(s) must also match the Register of products.• the number and arrangement of any LCD(s) in each upgrade area, including the type of LCD(s) and the group of lamps controlled by the LCD(s)• accurate dimensions of the upgrade area(s) - specifically identifying the field of play being upgraded. <p>The professionally drafted lighting diagram must also be accompanied by supporting information detailing the lighting criteria associated with the level of play for the sports field lighting being upgraded.</p> <p>The information should demonstrate that the lighting criteria values have been met²⁶ for the specific lighting application.</p> <p>Continued on next page</p>

²⁴Please refer to AS/NZS 1158.0 for the relevant definition.

²⁵ Professionally drafted diagram – diagrams or plans drafted using accepted industry conventions, symbols, perspectives, units of measurements and notations systems and usually generated by a professional draftsman or with the aid of a computer aided design (CAD) system. As per AS/NZS 1158, lighting diagrams may also be referred to as “scaled plans”.

²⁶ **Please note:** Compliance with AS 2560 is only achieved if all the required values of the lighting criteria relating to the specific level of play (e.g. recreational, amateur, semi-professional or professional levels of play) have been achieved.

Documentation	Description
Geo-tagged photographs, or	<p>The following geo-tagged photographs verifying the nature and configuration of newly installed lighting equipment must be maintained and provided to the commission upon request:</p> <ul style="list-style-type: none"> • At least one geo-tagged photograph clearly identifying the upgrade space • One geo-tagged photograph of each different type of: <ul style="list-style-type: none"> – upgrade lamp – the type of upgrade control gear – any LCD(s) installed as part of the upgrade. <p>The geo-tagged photographs must:</p> <ul style="list-style-type: none"> • be clear and in focus • include any relevant markings • include a date stamp showing the date the photographs were taken • include the GPS derived latitude and longitude coordinates. This should be stored in the metadata and generated automatically by the device used to take the geo-tagged photographs.
Asset register, and	<p>Extracts from an asset register showing the following:</p> <ul style="list-style-type: none"> • the number and specifications of the new (upgrade) lighting equipment (lamp, control gear and LCD(s)) • the relevant GIS coordinates or location • the related installation date. <p>The extract(s) must be certified as true and correct by the energy consumer.</p> <p>Where installed, the extract(s) must also clearly indicate the number, type and arrangement of LCDs in each upgrade area and the group of lamps controlled by the LCD(s).</p>
Evidence that installed LCDs are compatible with the type(s) of lamp(s) installed (where applicable)	<p>A product specification sheet/manufacturers declaration must be maintained and provided to the commission upon request, as evidence that the installed LCDs are compatible with the type of lamp(s) installed.</p> <p>For verification of compatibility you must also indicate the specification of the lamp(s) the LCD is controlling.</p>

5.6. Evidence of electrical compliance

APs must ensure that all work undertaken complies with the relevant standards, and that installers are appropriately licensed.

Documentation	Description
Certificate of Electrical Safety (CoES) ²⁷	<p>A CoES must be provided if one is required by law. The certificate must detail:</p> <ul style="list-style-type: none">• the location of the lighting upgrade• the type and number of existing (baseline) lamps, control gear and LCDs• the type and number of newly installed (upgrade) lamps, control gear and LCDs. <p><i>Requirements specific to modification²⁸ style installations:</i> where a luminaire has been modified , the CoES must ensure that it:</p> <ul style="list-style-type: none">• complies with Energy Safe Victoria's requirements• defines the modification work for each type of linear fluorescent luminaire you modify• specifies that the modification work includes electrical isolation of the legacy ballast (and removal and destruction of the capacitor if one was present)• must be retained and be made available to the commission upon request.

²⁷ An appendix may be provided with a CoES where there is insufficient space in the 'description of work undertaken' box to provide an accurate description of all the electrical installation work performed. Where an appendix is used with a CoES, the following criteria must be fulfilled: (i) each page of the attachment must detail the CoES number (ii) the number of pages contained within the attachment must be detailed on the CoES and (iii) the CoES and each page of the attachment must be signed by the electrician responsible for the lighting upgrade.

²⁸ Modification style installations are those where the existing linear fluorescent lamp is replaced with a linear LED lamp, the original starter is replaced with a fuse as supplied with the LED lamp (in accordance with instructions provided with the LED lamp), and the original fluorescent lamp control gear – including both the ballast and capacitor where fitted – is rendered inoperable by removal and destruction of the whole item (or, in the case of the ballast only, by removal and destruction of the terminal block). In instances where the ballast is left in-situ and decommissioned by removal and destruction of the terminal block; if a capacitor is fitted, the capacitor must be removed and destroyed.

5.7. Evidence of decommissioning (non NJ6-D)

This section relates to evidence of decommissioning where the ballast or transformer associated with the lamp is replaced or removed (for upgrades not conducted under NJ6-D).

APs must ensure that all existing lighting equipment (i.e. lamps and control gear) has been decommissioned in accordance with the Principal Regulations.

Documentation	Description
Evidence of decommissioning (see 'Description')	<p>Ballast/transformers and capacitors (where fitted) must be 'rendered permanently unusable' to qualify for decommissioning. If it's possible to reverse any modifications made to the legacy control gear as part of the lighting upgrade, then it does not qualify as decommissioned.</p> <p>Acceptable methods of decommissioning the ballast/choke and fluorescent luminaires are:</p> <ul style="list-style-type: none">• complete removal of all redundant electrical components, inclusive of the ballast• removal or destruction of the ballast terminal block and capacitor (where fitted). <p><i>Note: All modifications to luminaires must be completed in compliance with AS/NZS 3000 (Wiring Rules) & AS/NZS 60598 (Luminaires-General requirements and tests).</i></p> <p>APs must maintain the following evidence as proof that all removed lighting equipment (including lamps and control gear) has been properly decommissioned (as applicable):</p> <ul style="list-style-type: none">• Geo-tagged photographs of the ballast/transformer showing the absence of the terminal block, or geo-tagged photographs of the removed terminal block• Geo-tagged photographs of all removed lamps and control gear (where the terminal block is not removed and the existing control gear physically removed) in a pile or in a recycling container• Geo-tagged photographs of the removed capacitors (for upgrades conducted under NJ6-A, NJ6-B(i) and NJ6-C)• Third-party recycling receipts, clearly showing:<ul style="list-style-type: none">– an itemised breakdown of the disposed equipment (showing the lamp type and type of control gear)– the date of collection.• Stock reconciliation of all pre-existing and installed lighting equipment.

5.8. Evidence of decommissioning (NJ6-D)

This section relates to evidence of decommissioning where the ballast or transformer associated with the lamp is not replaced (for NJ6-D upgrades only).

APs must ensure that all existing lighting equipment has been decommissioned in accordance with the Principal Regulations.

Documentation	Description
Third-party recycling receipts	<p>Third-party receipts as evidence that all removed lighting equipment has been properly decommissioned (as applicable).</p> <p>The receipts should clearly show:</p> <ul style="list-style-type: none">• an itemised breakdown of the disposed lighting equipment (showing the lamp type)• the date of collection. <p>Separately, APs must also ensure that they maintain a stock reconciliation of all pre-existing and installed lighting equipment.</p>

5.9. Evidence of AS 2560 compliance²⁹

APs must ensure that the completed lighting upgrade complies with all relevant parts of the standard and that all the required values of the lighting criteria within the upgrade have been met.

Documentation	Description
AS 2560 compliance declaration (and supporting documentation), and	<p>A declaration is required, signed by a qualified lighting designer³⁰ responsible for producing the design and verifying that the installation has been created in accordance with the relevant requirements of AS 2560.1 and the relevant requirements of AS 2560 Part 2, relating to the specific lighting application being upgraded (e.g. AS 2560.2.1 – Lighting for outdoor tennis).</p> <p>The compliance declaration also notes that the lighting upgrade meets all of the required values of the lighting criteria as defined in Table 1 of AS 2560 Part 2 (refer to the AS specific lighting application).</p> <p>Supporting documentation as specified in the relevant parts of AS 2560 must be maintained and provided as supporting evidence that the requirements of AS 2560 have been met, if requested by the commission.</p> <p>A template for this declaration is provided on the VEET website.</p>
Post installation audit report/form	<p>An audit report/form is required, detailing a post-installation assessment conducted by the qualified lighting designer (MIES or higher).</p> <p>The document should detail the following aspects of the installation, in addition to any other relevant requirements specific to the sports field lighting application:</p> <ul style="list-style-type: none"> • The location and aiming of the installed luminaries in accordance with the specified design. • Measurements of the illuminance provided by the installation. • Calculation of the average illuminance, uniformity ratios, uniformity gradients and glare factors (as applicable). <p>Continued on next page</p>

²⁹ It is recognised that AS 2560 will be applicable to most but not all sports field lighting applications. If AS 2560 is not applicable to the sports field lighting application to be upgraded, then please contact the VEET support team on (03) 9032 1310 or veet@esc.vic.gov.au

³⁰ The lighting designer responsible for producing the design and verifying that the lighting upgrade complies with the relevant parts of AS 2560 must hold the following *minimum* qualification: **Member - Illuminating Engineering Society of Australia and New Zealand (MIES) or higher**. The qualified lighting designer must be involved at all stages of the design and verification of the lighting upgrade.

Documentation	Description
	<p>Measurements³¹ should be taken with a cosine corrected light meter to determine whether the lighting upgrade meets the relevant values specified in the lighting criteria (Table 1) of the specific lighting application of Part 2 of AS 2560.</p> <p>The lighting criteria values should be met throughout its projected life when considered together with the maintenance assumptions and maintenance schedule outlined in the relevant parts of AS 2560.</p>

5.10. Evidence of power factor

APs must ensure that they abide by all relevant legislation, codes and guidelines relating to power factor values.

Documentation	Description
Evidence of adequate power factor value	<p>If linear LED lamps have been retrofitted into linear fluorescent luminaires without the removal of a legacy ballast and/or capacitor, from 16 May 2016 the power factor of the upgraded lighting circuit must be measured and assessed using a method previously approved by the commission.</p> <p>The aim of the power factor measurement is to ensure the upgrade does not have a detrimental impact on the customer's compliance with section 4.3 of the Electricity Distribution Code (EDC) or an adverse effect on the customer's overall energy use.</p> <p>A copy of the EDC can be found at:</p> <p>https://www.esc.vic.gov.au/document/energy/34937-energy-distribution-code-version-9-current/</p> <p>Adequate evidence of the approved measurement and assessment approach used, and the result of the power factor measurement must be retained, and be made available to the commission upon request.</p>

³¹ Measurements should be taken in accordance with the identified measurements grid used in the lighting design to verify the lighting criteria values. Refer to the relevant parts of AS 2560 for guidance.

5.11. Product requirements

APs must ensure that newly installed lighting equipment is listed as 'approved' on the Register of products.

Documentation	Description
VEET product approval	<p>To create certificates under the VEET scheme, APs must use products listed as 'approved' specifically for the 'NBBL – LED outdoor floodlight' category on the Register of products at the time of the prescribed activity.</p> <p>The brand and model of the products must match the details of the Register of products. This also includes the brand and model of the remote control gear supplied with the product (where applicable).</p>

5.12. Other

APs must ensure that appropriate records are kept to verify all details of the upgrade which relate to the calculation of greenhouse gas abatement and the creation of certificates.

Documentation	Description
Miscellaneous	<p>VEET Audit and Compliance may request additional supporting evidence to confirm details relevant to the calculation of abatement, the proper creation of certificates as well as subsequent validation and registration of claims.</p> <p>APs must ensure that the maintained documentation constitutes an auditable record of the work undertaken. It is the responsibility of the AP to ensure it meets this standard.</p> <p>If the standard of documentation maintained fails to provide auditable records of the work undertaken, the AP may be required to surrender certificates equal to those that cannot be verified.</p>

6. Legal context for this document

The commission has prepared this explanatory note document as a general summary of relevant parts of the:

- *Victorian Energy Efficiency Target Act 2007*
- *Victorian Energy Efficiency Target Regulations 2008*
- *Victorian Energy Efficiency Target Scheme Guidelines*

This document should not be relied upon as substitute for legal advice and should be read in conjunction with the above source documents. In the event of inconsistency between this explanatory note document and the above source documents, the content in the source documents takes precedence.

Document version control

The RM reference for this document is: C/16/13236

Version	Amendments made	Date published
V 1.0	Creation of <i>Explanatory note: Non-building based lighting upgrade – part 2: compliance requirements document</i>	1 August 2016
V 1.1	Update of eligibility for Schedule 34 space type: Carpark – general (open air) upgrades under NBB lighting; and update to decommissioning evidence required for upgrades conducted in metered environments.	1 September 2016
V 2.0	Inclusion of requirements for tunnels and underpasses (TU) and sports field lighting (see sections 5 and 6 of V 2.0 respectively). Update of naming conventions for upgrades conducted under AS/NZS 1158 (see section 5 of V 2.0). Clarification/update of decommissioning requirements (see Section 5.1 and Section 6 of V 2.0).	1 December 2016
V 2.1	Updated product installation requirements (see ‘Product requirements’ in tables under sections 5 and 6 of V 2.1)	1 April 2017
V 2.2	Updated reference to the ‘Principal Regulations’ Update of Certificate of Electrical Safety requirements, allowing an appendix to be provided in given circumstances (see section - ‘Evidence of electrical compliance’)	6 October 2017
V 3.0	Updated to new Victorian Energy Upgrades template	21 December 2017
V 3.1	Updated section 5.11 – Product requirements	13 September 2018