

Submission to the Review of Victorian Energy Efficiency Target regulations

To whom it may concern,

Thank you for the opportunity to provide feedback on the proposed changes to the VEET Regulations. The feedback below concerns public lighting upgrades undertaken in accordance with Part 27 of Schedule 2 of the proposed Regulations, and specifically relates to the bulk upgrade of unmetered street lighting for which a council is the energy consumer and the relevant road management authority, or, where a council and VicRoads are jointly the energy consumer (i.e. "cost-shared" lights).

The issues highlighted relate to:

1. Lighting designer qualifications
2. Lighting design requirements
3. Lighting control devices for unmetered street lighting
4. Derivation of the LCP for incumbent luminaires

The nature of the issue and a recommended approach is outlined for each issue below.

1 Lighting Designer Qualifications

The proposed regulation 16 currently states that:

A certificate cannot be created in relation to a prescribed activity that is a lighting upgrade referred to in Part 27 of Schedule 2 unless—

(a) a lighting design has been prepared for the lighting upgrade which—

(i) is prepared by a lighting designer who is qualified to undertake the lighting design;

It is understood that the ESC will set the qualification requirements for the lighting designer.



If the ESC determines that the lighting designer must be “approved” by the relevant Distribution Network Service Provider (DNSP) or VicRoads (i.e. the lighting designer must appear on the DNSP’s or VicRoad’s published list of approved lighting designers) then this will add a prohibitive cost burden to large-scale “bulk” street light upgrade projects, **such that VEEC creation for these projects will not be financially viable.**

It is recommended that a lighting designer be accepted as “qualified” to undertake the lighting design provided that the council (as the relevant road management authority, energy consumer and project proponent) accepts or “signs off on” the lighting designer, the design process and the resulting design. This acknowledges how such projects currently operate, and have operated successfully over the last decade. It should also be noted that such projects operate in a heavily regulated and controlled environment (involving network assets), and therefore can be considered low risk.

We also note that Public Lighting Method of the NSW Energy Savings Scheme (equivalent to Part 27 Public Light Upgrades under the VEU Program) does not specify lighting designer qualification requirements. We would certainly encourage consistency across similar schemes in different jurisdictions.

2 Lighting Design Requirements

We welcome the suggested lighting design requirements for public lighting upgrades (as per Table 16 of the Proposed Activity Changes document provided for consultation – copied below).

Public lighting (Part 27)	Distributors, councils and responsible road authorities (RRA) defined under the Road Management Act (2004)	<ul style="list-style-type: none"> Lighting design shows the location of each street light and the specification of the existing and replacement lighting equipment Lighting design demonstrates compliance with 1158 or deviations are justified Lighting designer is qualified to undertake the lighting design, as determined by the ESC
---------------------------	--	--

In relation to demonstrating compliance with 1158, and more specifically justifying deviations, we would again recommend that suitable evidence of compliance would be the council (as the relevant road management authority, energy consumer and project proponent) accepting or “signing off on” the design and any compliance issues, provided these are made explicit by the lighting designer during the design process.

This acknowledges the reality that significant proportions of public (street) lighting upgrades currently do not meet 1158, and still will not comply following upgrade.

3 Lighting Control Devices for Unmetered Street Lighting

Unmetered street lights operate under the control of a photoelectric (PE) cell¹, a kind of daylight-linked control, which would fall under the definition of a ‘lighting control device’ (LCD)

¹ The majority of unmetered street lights operate under the control of an integral PE cell. A minority of lights operate on a switch line control wired set up, whereby a centralised PE cell controls multiple lights.



under the Regulations. The effect on operating hours of this PE cell is reflected in the assumed 4,500 annual operating hours of road lighting (refer to Table 86 of the Specifications document provided for consultation– copied below).

Table 1 – Annual operating hours for public lighting upgrades

Type of area	Annual operating hours (per year)
Road, other than the replacement or installation of traffic signals	4500
A public or outdoor space that is not a sports field	4500

However, when attempting to apply Table 84 of the Specifications document provided for consultation (copied below) to this scenario, it is unclear what control multiplier applies to a street light featuring one daylight-linked control.

Table 2 – Control multiplier values for baseline and upgrade calculations for public lighting upgrades, depending on the number and types of lighting control devices (LCDs)

Number of LCDs	Type(s) of LCDs	Control multiplier
None	N/A	1
One	Occupancy sensor that controls 1 to 2 luminaires	0.55
	Occupancy sensor that controls 3 to 6 luminaires	0.70
	Occupancy sensor that controls more than 6 luminaires	0.90
	Programmable dimmer	0.85
More than one	A combination of one occupancy sensor that controls 1 to 2 luminaires, and any other LCD(s)	0.40 or, if greater, the multiple of the two lowest control multiplier values for the combination of LCDs
	A combination of one occupancy sensor that controls 3 to 6 luminaires, and any other LCD(s)	0.50 or, if greater, the multiple of the two lowest control multiplier values for the combination of LCDs
	Any LCDs, except occupancy sensors that control 1 to 6 luminaires	0.60 or, if greater, the multiple of the two lowest control multiplier values for the combination of LCDs

It is recommended the Regulations and supporting documentation be updated to explicitly specify a control multiplier of 1.0 for public (road) lighting, given that the effect of the PE cell control is already accommodated by the 4500 annual operating hours figure.

We note that Public Lighting Method of the NSW Energy Savings Scheme (equivalent to Part 27 Public Light Upgrades under the VEU Program) excludes road lighting from the need to apply a daylight-linked control multiplier. Once again, we would encourage consistency across similar schemes in different jurisdictions.

4 Derivation of the LCP for Incumbent Luminaires

The proposed Regulations permit the use of lamp circuit power (LCP) values from the AEMO load table for unmetered connection points for upgrade luminaires (refer to Table 81 of the



Specifications document). However, Table 83 of the Specifications document must be used to determine the LCP for the incumbent or existing luminaire.

It is recommended that the LCP for the incumbent or existing public (road) lighting luminaire also be derived from the AEMO load table. This acknowledges that all unmetered road lighting luminaire types by necessity are included on the AEMO load table, and the rigorous testing process required by AEMO to have a luminaire added to the table.

We note that Public Lighting Method of the NSW Energy Savings Scheme (equivalent to Part 27 Public Light Upgrades under the VEU Program) permits LCP values for both incumbent and upgrade luminaires to be derived from the AEMO load table. Once again, we would encourage consistency across similar schemes in different jurisdictions.

The feedback above is consistent with advice previously provided by Ironbark to DELWP and the ESC.

Should you have any questions please do not hesitate to contact me on ross@realaction.com.au or 0421 867 728.

Kind regards



Ross McKirdy
Project Manager
Ironbark Sustainability

19th June 2018

