



IPWEA

INSTITUTE OF PUBLIC WORKS
ENGINEERING AUSTRALASIA

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Sent by email to: energy@planning.nsw.gov.au

IPWEA Comments on Draft NSW Public Lighting Code

Dear Jason

The Institute of Public Works Engineering Australasia (IPWEA) is the peak industry body representing over 4,000 engineers and allied professionals (plus a 25,000-strong engineering community) involved in public sector infrastructure. Almost every local council throughout Australia and New Zealand together with private sector consultancies rely upon IPWEA's asset management publications and training, best practice research and industry leadership.

With the support of the Commonwealth Government and a wide array of public and private sector partners, IPWEA's [Street Lighting and Smart Controls \(SLSC\) Programme](#) is leading the national discourse with all tiers of government, industry and electricity distributors about the many benefits of LED street lighting and smart controls including most importantly, the role these new technologies can play in improving road safety and community security.

Enhanced road lighting is acknowledged internationally as having the highest cost-benefit ratio of any road safety measures (since the introduction of compulsory seat belts) and there is a current window of opportunity to cost-effectively upgrade road lighting with a widespread transition to high quality white LED lighting on all roads in NSW. The SLSC Programme is helping all parties navigate the information gaps and reforms required to accelerate the rollout of these new technologies to maximise net benefits to society.

As outlined in the recent [SLSC Roadmap](#), LED street lighting has reached commercial maturity in recent years and the technology is being widely adopted by road authorities internationally to reduce long-term lighting costs by at least 25%, energy consumption by more than 50% as well as improve road safety by supplanting lower quality yellow lighting with high quality white light.

I refer you to the SLSC Roadmap (primarily Section 3) which in summary makes the following important points about lighting and road safety:

- Accidents resulting in serious injuries and death occur mostly on our major roads;
- The risk of accidents involving injury and deaths is acknowledged to be up to twice as likely at night as in the daytime;
- Night time accidents are estimated to be costing the Australian economy \$7-\$10 billion per year;

- Street lighting's primary function is to enhance road safety at night by reducing the risk of accidents and resulting injuries and deaths;
- AS/NZS 1158, the road lighting standard used in NSW and throughout Australia, notes that good quality road lighting can reduce night time road accident rates by some 30% based on a review of a wide range of international road safety studies;
- The globally recognised *Handbook of Road Safety Measures* recognises improved street lighting as having amongst the highest, if not the highest, cost-benefit ratios of all available road safety measures; and
- Research by Clanton & Gibbons in the USA (and others) has identified that significant reductions in driver reaction times can be achieved from deploying high quality white light as found in LEDs as compared to high pressure sodium lighting (yellow light, which currently dominates NSW main roads).

Given the points above and their societal importance, the Department should firstly have **road safety outcomes at the forefront** of its thinking in considering changes to the NSW Public Lighting Code.

Secondly, it should be considering **how the Code can best facilitate widespread upgrading of road lighting in NSW** in a timely fashion. Not only can road lighting in NSW be substantially improved through widespread replacement of legacy lighting with LEDs and smart controls but this is also a significant opportunity for customers to cut the costs of providing this vital community service.

As acknowledged widely in consultations on the SLSC Roadmap (See Section 4.3) and in recent round Australia workshops conducted in every state by the Commonwealth and IPWEA, the greatest concern to many stakeholders is the range of regulatory barriers to modern and efficient LED lighting and smart controls.

Foremost amongst the barriers cited is the absence of a clearly defined basis of service for most Australian street lighting and the lack of alignment between the legal responsibility of road authorities for providing the service and a lack of control over the service. They also regularly cited the lack of incentives under the current system for DNSPs to move to more efficient and reliable lighting. Many consulted in the course of preparing the Roadmap and at the workshops suggested that these misalignments create fundamental challenges for all parties in administering street lighting efficiently and that regulatory and policy reform is urgently needed.

One option is reform of the current DNSP ownership model as the NSW Government is now seeking to do with its NSW Public Lighting Code. This reform will help establish a clear basis of service and resolve many of the challenges if it:

1. establishes a range of minimum service standards;
2. better aligns control over key technology decisions with the responsibilities of the road authorities (including with respect to choosing not just LEDs but also what types of smart controls and emerging inter-related smart city technology to deploy); and
3. enhances transparency of pricing and ensures performance of individual technologies (eg through the regular release of reliability and other performance data)

A second reform option identified in the SLSC Roadmap is the **opening up of competition** under a robust access and contestability framework that would allow councils and main road authorities to choose their service provider and make their own decisions about technology and service levels. There is currently no meaningful competition to the provision of street lighting services in NSW.

NSW should be considering, as other jurisdictions in Australia and internationally with utility-owned lighting are doing, how contestability can be best facilitated. IPWEA notes in this context:

- the recent large tender awarded to a private sector provider in the ACT which will see rapid deployment of 80,000 LEDs with smart controls as well as smart city device deployment;
- the recent transfer of public lighting and subsequent LED and smart controls tenders in the Northern Territory;
- the more rapid take-up of LEDs and especially smart controls in New Zealand where councils already have ownership of public lighting and rights of access to the distribution poles on which they often sit; and
- Internationally, IPWEA has cited legislation in a number of New England states in the US that has been enacted to allow councils to buy back legacy street lighting at the depreciated book value of the assets and granted rights of access to the distribution poles to install new lighting.

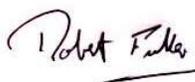
The Department has undertaken important reform work over recent years in broadening contestability of other aspects of electricity service provision. It must now be acknowledged that in this case, it is an anomaly that ownership and control of the end-use appliance, the street light, does not rest with the customer who has exclusive legal responsibility for providing it.

In summary, IPWEA recommends that the Department:

1. Include mechanisms in the Code that puts technology choice appropriately back in the hands of the local authorities/road authorities who have the legal responsibility for providing the service;
2. Include mechanisms in the Code to ensure as much transparency as possible about both price modelling and about technology performance (e.g. the regular release of maintenance and other performance data);
3. Urgently considers altering NSW contestability rules through the Code or other instrument to facilitate councils and other agencies choosing their own street lighting service providers should they so wish; and
4. Accept the detailed proposals of SSROC as outlined in their submission which IPWEA has been provided with and has reviewed. The detail contained in the SSROC submission is highly commended.

IPWEA would be pleased to work with the Department in considering how best to secure measurable road lighting improvements and the consequent road safety benefits that they offer. This review affords a timely and generational opportunity to not only bring the Code into contemporary standards, but for it to actually be a facilitator of future technology adoption toward smart integrated cities and regions for NSW.

Yours faithfully



Robert Fuller
Chief Executive Officer
 IPWEA Australasia