



Subject: Transition to LED Roadway Lighting	
Date: May 7, 2015	Author: Steve Drew
Bulletin Number: 2015-02 Bulletin Type: Requirement	Effective Date: May 11, 2015
Audience	Standards Affected
Ministry Managers, Electrical Services; all holders of the Electrical and Traffic Engineering Manual; all Project Managers and Traffic Engineers; all Design Consultants	Electrical & Traffic Engineering Manual, Electrical & Signing Materials Standards, Standard Specification for Highway Construction

Background:

Until recently, the high cost of LED roadway lighting fixtures made it difficult to justify their use. Any economic advantage realized through energy savings and reduced maintenance was eliminated by high capital costs and long pay-back periods. Recently, the cost of LED fixtures has decreased to the point that they are now competitive with HPS. Economic gains made by reduced energy consumption and maintenance make a strong case for use of LED fixtures. In order to take advantage of these benefits the Ministry will begin a transition to LED roadway lighting, subject to the guidelines detailed below.

The Ministry has an inventory of approximately 25,000 roadway lighting fixtures; therefore, due to logistics and financial constraints, the transition will take place over a number of years. Efforts will be made to ensure HPS fixtures are replaced in continuous sections to avoid random mixing of light sources. Existing 150W, 250W & 400W HPS fixtures may be replaced with LED fixtures providing equal or superior levels and uniformity. A list of approved LED fixtures can be found on the Ministry Recognized Products List (RPL).

LED fixture manufacturers have created a large number of different makes and models suitable for roadway illumination. Permitting the use of all of these different fixture types in would make inventory management difficult and maintenance inefficient. Due to this, until further notice, the Ministry will restrict the make and model of fixtures used in new lighting designs to those listed on the Recognized Products List under *Direct Replacement*. As the transition to LED lighting progresses, fixtures demonstrating superior performance will be considered for use at specific corridors and infrastructure.

Policy:

New roadway lighting installations, with the exception of high-mast, shall use LED fixtures listed on the Recognized Products List under *LED Roadway Luminaires – Direct Replacement*.

Existing roadway lighting installations may have HPS fixtures replaced with LED fixtures listed on the Recognized Products List under *LED Roadway Luminaires – Direct Replacement*.

At continuous lighting installations, HPS and LED light sources should not be randomly mixed. If it is not possible to replace all of the fixtures in a continuous installation, the lighting may be replaced in sections to limit the number of HPS-LED transitions.



At intersections, light sources shall not be mixed. The transition point from continuous HPS to intersection LED may vary at the discretion of Ministry Electrical Engineering personnel.

If a situation arises where safety is compromised by the absence of a fixture, either light source may be used until the correct fixture becomes available.

Each LED fixture shall have the installation date, wattage, and make & model, recorded. These records shall be maintained by the Electrical Maintenance Contractor.

References:

Recognized Products List:

http://www.th.gov.bc.ca/publications/eng_publications/geotech/Recognized_Products_Book.pdf

LED fixtures are listed under:

- ELECTRICAL EQUIPMENT, LIGHTING EQUIPMENT

Electrical & Signing Materials Standards

http://www.th.gov.bc.ca/publications/eng_publications/electrical/electrical_and_traffic_eng/2003_material_standards/volume_1/2003_material_standards-volume_1.pdf

- SECTION 504 LED ROADWAY LUMINAIRES

Corporate Supply Arrangement:

<http://www2.gov.bc.ca/>

- Top menu bar: Click on 'GOVERNMENT',
- Under *Services for Government and Broader Public Sector*, click: 'Buy Goods, Services, and Construction'
- Click: 'Goods and Services Catalogue'
- Scroll down the alphabetical list to: *LED Street Lights*' and click on link.

Contact:

Steve Drew, Senior Electrical Standards Technologist
Traffic, Electrical, Highway Safety and Geometric Design Section
Engineering Branch

Phone: (250) 387-7688

Email: steve.drew@gov.bc.ca