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ELECTRICAL BULLETIN
2012-02

From: David MacLeod,C.E.I.,P.Eng.
Provincial Chief Electrical Inspector

Date: March 16,2012

Subject: Requirements for street or roadway lighting owned and/or operated by an Electrical Utility or Municipality

1. Introduction:

The installation of luminaires used for street or roadway lighting that are owned and/or operated by an electrical utility or municipality fall within the scope of the CSA C22.1 Canadian Electrical Code Part 1 (CEC).

2. Scope:

This bulletin covers the requirements for the replacement or conversion of existing luminaires of a street or roadway lighting system or any new installation of a street or roadway lighting system operating at a nominal system voltage of 347 V or less and installed on or after the date of issuance of this bulletin that are owned and/or operated by an electrical utility or municipality.

3. Application of Bulletin:

This bulletin is based on installations being designed and installed in accordance with recognized national standards such as CSA C22.3 No. 1 Overhead Systems, CSA C22.3 No. 7 Underground Systems, the applicable requirements for lighting systems as outlined in section 30 of the CEC and as indicated in this bulletin.

4. Definitions:

Approved- equipment that has been certified by a certification organization accredited by the Standards Council of Canada in accordance with the requirements of the appropriate CSA standard.

CEC - CSA C22.1 Canadian Electrical Code, Part 1 - 2009 or the most recent adopted version.

Municipality -for the purpose of this bulletin means a town, village, county, district or a regional municipality.

Street or roadway lighting system- is a luminaire or system of luminaires mounted on a pole or support structure that is owned and/or operated by an electrical utility or municipality to provide illumination on any street or roadway and any associated appurtenances.

5. General Requirements:

All street or roadway lighting systems, unless otherwise noted, shall:

1. use approved luminaires
2. use approved retrofit or conversion kits where applicable
3. be bonded and grounded in accordance with section 10-500 & 30-1030 requirements of the CEC (see notes 6 & 7)
4. be provided with an in- line fuse for each luminaire or be fed from a service entrance with over current protection for the street or roadway lighting system (see Section 6 and notes 1 & 2)
5. be performed under an electrical permit and inspected (see notes 3 , 4 & 10)
6. have any existing deficiencies or electrical hazards associated with the street or roadway lighting system corrected at the time of the replacement or conversion of the existing luminaire
7. have a completed conformance report submitted to the electrical inspection department

The Provincial Chief Electrical Inspector may request documentation at any time to substantiate any of the above requirements.

The requirements indicated above apply to all future maintenance work on any street or roadway lighting system.

6. Exemption:

The requirement for an in-line fuse for each luminaire or a service entrance with over current protection to feed the street or roadway lighting system, per section 5(4) above, **is not required** for an **overhead fed** street or roadway lighting system mounted on a power pole that is properly bonded and grounded in accordance with the requirements indicated in this bulletin. (see notes 6,7,8& 9)

7. Inspections:

Inspections of any installation shall be in accordance with the requirements as determined by the Provincial Chief Electrical Inspector and carried out by the electrical inspection department.

8. Existing Installations:

Street or roadway lighting systems installed prior to this bulletin may stay "as is " however when any maintenance work is performed, any existing deficiencies or electrical hazards shall be corrected, in particular grounding, bonding or fusing requirements where appropriate.

9. Continued Maintenance:

An electric utility or municipality is responsible to maintain compliance with the CEC for all street or roadway lighting systems under their ownership and to ensure safety to the general public and to the workers responsible who work on the systems.

The Provincial Chief Electrical Inspector may order any street or roadway lighting system that is considered unsafe to have any hazards corrected.

10. Application of CEC to other lighting systems:

Other similar lighting systems not specifically mentioned in the scope of this bulletin that are owned and/or operated by an electric utility or municipality shall also be required to comply with the appropriate requirements of the CEC and be properly maintained to ensure those lighting systems are kept safe .

Notes:

1. Where a service entrance for the street or roadway lighting system per 30-1002 of the CEC has been provided ,which may consist of a dedicated feed for the street or roadway lighting system and provided with over current protection that complies with 30-104 or 30-1010 of the CEC, an in-line fuse for that portion of the street or roadway lighting is not required.

2. All street or roadway lighting systems that are fed from an under ground service shall have an accessible in-line fuse installed at the base of each pole that complies with the requirements 30-1008 of the CEC **or** be provided with a service entrance as indicated in note 1.

3. Conformity reports shall indicate the locations of the new luminaire upgrades as accurately as possible.

4. Street or roadway lighting conformance reports shall be completed, signed and submitted to the electrical inspection department in order to receive a final inspection.

5.All street or roadway lighting systems shall be installed in a manner to ensure safety to the workers who maintain the system and to the general public with regard to potential step and touch voltages near ground level.

6. Bonding conductor requirements and method of installation for overhead fed street or roadway lighting systems attached to a utility owned power pole may be different than those of the CEC and the utility must be consulted prior to starting any work to determine those requirements.

7. Bonding of roadway and street lighting systems for overhead fed systems is typically achieved by connection to the grounded system neutral or to a down ground conductor at the pole if present and are considered the acceptable methods of bonding for the application of this bulletin.

8. Any street or roadway lighting system mounted on a privately owned structure shall be provided with an in-line fuse.

9. The type of power poles included for the exemption in section 6 are wood, metal, concrete and fibreglass.

10. The contractor should apply for a safe clearance report from the utility prior to starting any overhead street or roadway lighting system installations.

*The Provincial Chief Electrical Inspector may amend, revise or delete any of the above requirements at any time in the future.

**Any questions or request for clarification regarding this bulletin may be forwarded to the Provincial Chief Electrical Inspector David MacLeod, P.Eng. at 902-424-8018 or email: macleodd@gov.ns.ca

*** For other Electrical Bulletins from the Provincial Chief Electrical Inspector visit : http://www.gov.ns.ca/lae/electricalsafety/electricalbulletins.asp

**** See attached Street or Roadway Lighting Conformance Report (1 page) which is required to be completed and submitted in accordance with this bulletin.

Attachment 1
Bulletin 2012-02

STREET OR ROADWAY LIGHTING CONFORMANCE REPORT	
Date:	
Contractor:	
Permit Number:	
Municipality or Utility owned:	
Area description:	

Fixture Type (Model no.)	Quantity

Retrofit or Conversion Kit (Model No.)	Quantity

CEC Requirements		Yes/No - Not Applicable (N/A)
2-022	Existing hazards corrected	
2-024	Luminaires are approved	
2-132	All wiring is free of shorts and grounds	
10-500	System is effectively grounded	
30-1002	Service entrance installed as specified by bulletin	
30-1006 (3 & 4)	Conductors and grounding conductors within 2.5m of access by the public provided with mechanical protection	
30-1008	In-line fusing is installed as specified by Bulletin for U/G fed systems	
30-1030	All non-current carrying metal parts are properly grounded and bonded	
****	The undersigned hereby declares that the above CEC requirements have been	
	reviewed and implemented and the installation is acceptable to be permanently energized	

Electrical Contractor (Print)	
Electrical Contractor (Signature)	