

(Effective 2015/11/15)

Scope

This document covers the installation and inspection requirements for Street and Roadway Lighting Systems that are installed and maintained within the jurisdiction of the Nova Scotia Power Incorporated (NSPI) inspection department as regulated by the *Electrical Installation and Inspection Act*.

References

For additional information on the installation and maintenance requirements of Street and Roadway Lighting systems reference Department of Labour and Advanced Education (DOLAE) Bulletin 2012-02. <http://www.gov.ns.ca/lae/electricalsafety/electricalbulletins.asp>

Definitions

Street or Roadway Lighting System

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.

Municipality

For the purpose of this bulletin, municipality means: a town, village, county, district or a regional municipality.

Support Bracket

For reference in this document a support bracket shall include the metal arm and base plate connecting between the utility pole and the luminaire head. It shall be assumed this includes all mounting hardware. (May also be referenced as a davit arm)

Mass Deployment

Where a permit is obtained for a specific area, the luminaires are being replaced in sequential order, and the number of luminaires is a set value.

Spot Replacement

Where a permit is obtained for no specific area, the luminaires are being replaced in random order, and the number of luminaires is an estimated value.

Approved Equipment

- (a) Equipment that has been certified by a certification organization accredited by the Standards Council of Canada in accordance with the requirements of
- (i) CSA standards; or
 - (ii) Other recognized documents, where such CSA standards do not exist or are not applicable; or
- (b) Equipment that conforms to the requirements of the regulatory authority.

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Section A – General Installation Procedures

- 1) Maintenance, repair, or replacement of the Street or Roadway Lighting system shall be performed by personnel approved by meeting the requirements of the Department of Labour and Advanced Education Occupational Health and Safety Department.
- 2) A municipality, upon acquisition of utility assets, shall upgrade, repair, or replace luminaires and associated wiring and hardware as necessary to meet the minimum requirements of this document within a timeframe agreed upon between the utility and municipality.
- 3) All work shall be performed under a wiring permit and shall be subject to inspection.
- 4) Permits shall be valid for a period of one (1) year.
- 5) A minimum percentage of all street lighting installations shall be subject to inspections. The criteria for the applicable percentage and permit fee structure shall be in accordance with Section D of this document.
- 6) NSPI will inspect the installations in random sequence based on overall geographical area of the project.
- 7) Inspections shall be scheduled in a manner that will provide satisfactory sampling of the overall installation.
- 8) Conformance reports shall be completed in accordance with Section C of this document
- 9) Installations found not in conformance may be subject to additional inspections over and above the criteria set forth in Section D.

Section B – Installation Requirements

The installation shall meet the minimum requirements of Section B of this document and shall be inspected thereto. These include:

- 1) Incorporate an approved luminaire or use an approved retrofit or conversion kit where applicable.
- 2) Be bonded and grounded in accordance with the manufacturer's instructions and shall meet the minimum requirements of sections 10-500 & 30-1030 of the CEC.
- 3) 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 - Note 1)

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- 4) Conductors shall be UV rated where exposed to direct sunlight between the davit arm and termination point. (See note 4)
- 5) Have any existing deficiencies or electrical hazards associated with the Street or Roadway Lighting system corrected at the time of the replacement, retrofit or conversion of the existing luminaire. (See – Notes 4,5,6)
- 6) Liquid tight flex must be installed between the support bracket (also known as davit arm) and the secondary conductor termination location. The liquid tight flex must terminate as close as possible to the lower portion of the support bracket in such a manner to prevent the line and neutral conductors feeding the fixture from being exposed to communication utility personnel working in the communication zone. The flex shall be sealed on each end using a suitable compound. Electrical tape is not permitted.
- 7) Approved straps shall be used to secure the flex to the pole.
- 8) The installation contractor shall ensure the street light support bracket base plate is adequately fastened to the supporting structure and all fastening hardware is installed.
- 9) The luminaire support bracket shall be grounded in one of two ways:
 - a) By connection of the davit bonding conductor to the system down ground if present, or,
 - b) By connection of the davit bonding conductor to the system neutral
- 10) The support bracket bonding conductor shall be a minimum of #6 AWG copper
- 11) If the support bracket does not have a lug for attachment of the bonding conductor, a 5/16 hole shall be drilled in the bottom of the davit arm base plate and an appropriate lug attached.
- 12) Where a system down, and / or, a metallic cable guard exists on the same pole as the roadway lighting system, the installation contractor shall complete a visual inspection with particular emphasis on the following:
 - a) The down ground conductor is still intact and in good repair, and,
 - b) The down ground conductor is securely connected to the grounding electrode (rod or plate), and,
 - c) The down ground non-metallic cover-up (molding) is intact and in good repair for its entire length of the down ground conductor, and,
 - d) Metallic cable guards are bonded to the system down ground conductor

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- e) (See Note 5)

Section C - Conformance Reporting

- 1) A conformance report must be filled out confirming the entire installation has been reviewed and is in conformity with all applicable CEC, DOLAE, and NSPI requirements.
- 2) Conformance reporting templates shall be in accordance with DOLAE Bulletin 2012-02. Use of an alternate template shall be approved by the inspection department prior to use.
- 3) Conformance reports are to be completed by those responsible for the installation and shall be provided to the inspection department for review prior to final acceptance of an installation.
- 4) Where an installation is found not to be in conformance, and the required repairs cannot be completed at the time of the installation, it shall be listed on the report what portions are not in conformance and what is required to bring the installation to an acceptable state.
- 5) Street or Roadway Lighting Systems found to be in a non-conformance state , which cannot be repaired immediately, shall be remedied within 45 days of the conformance report.
- 6) A new conformance report shall be completed upon completion of the repairs mentioned in #4.
- 7) Conformance reports may be submitted in the following manner:
 - a) Fax to 428-7503
 - b) Email to: Permits@nspower.ca
 - c) Mailed to: Nova Scotia Power Inc.
Attention: Inspection Services
25 Lakeside Park Drive
Lakeside, NS
B3T1M9

Section D - Permits and Inspections

A permit shall be obtained from the inspection department prior to commencing work on any new or existing installation.

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Permits and Inspections shall be grouped into two separate categories based on volume. These categories shall be defined as Mass Deployment and Spot Replacement.

Where maintenance work is performed on the Street or Roadway Lighting system, the asset owner shall keep a record of such work and shall incorporate the information as part of the information provided to the inspection department as outlined in Option 2 (5).

Permits shall not be required where the maintenance only requires the replacement of a lamp.

- **Option 1 - Mass Deployment**

- 1) A minimum of 5% or the next whole value of all Street and Roadway Lighting installations shall be subject to inspections.
- 2) Permits shall be finalized when 5% of the original permit installation quantity has been inspected, or additional charges shall be added based on the applicable hourly fee.
- 3) Contractors shall notify NSPI when approximately 25% of an installation has been completed, and shall provide updates to NSPI on 25% intervals until project completion.
- 4) It shall be the permit holder's responsibility to provide a list of areas in which the fixtures have been installed at the time of scheduling an inspection.
- 5) Inspections shall commence within 15 days of notification from the electrical contractor. All inspections shall be completed within 15 days of a final inspection request from an electrical contractor.
- 6) Should a contractor fail to provide adequate notification, of the progress of an installation as outlined in item (3) above, and only requests a final inspection, the inspection process shall commence within 15 days of such a request and shall be completed within 45 days thereafter.

- **Option 2 - Spot Replacement**

- 1) A minimum of 5% or the next whole value, of all Street and Roadway Lighting installations shall be subject to inspections each month.
- 2) Inspections shall be based on 5% of the total estimated quantity of luminaires being replaced for the duration of the permit divided by 12 months.
- 3) Permits shall be finalized when 5% of the original permit installation quantity has been inspected, or additional charges shall be added based on the applicable hourly fee.

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- 4) Inspections will be prescheduled every thirty days throughout the duration of the permit, commencing 30 days after the permit has been issued.
- 5) It shall be the permit holder's responsibility to provide a list of areas in which the luminaires have been installed a minimum of 10 days prior to the pre-agreed inspection dates.

Notes

- (1) The requirement for an in-line fuse for each luminaire **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.
- (2) All street or roadway lighting systems that are fed from an **underground service** shall have an accessible in-line fuse installed at the base of each pole that complies with the requirements 30-1008.
- (3) Any street or roadway lighting system mounted on a privately owned structure shall be provided with an in-line fuse.
- (4) If conductors are required to be replaced due to the integrity of existing conditions they shall be replaced with conductors having a UV rating in accordance with Rule 2-132 where exposed to sunlight.
- (5) The integrity of the system down ground conductors, non-metallic down ground covering, and metallic cable guards is the responsibility of NSPI to maintain and shall not be means to fail an electrical contractor's installation. Deficiencies observed in accordance with Section B (12), shall be noted on the conformance report as outlined in Section C.
- (6) A grounding conductor shall be installed where such a conductor does not exist or does not meet the minimum requirements in accordance with Section B (9).
- (7) This bulletin supersedes NSPI bulletin B-30-1000 dated October 1st 2012.