

# **ELECTRICAL BULLETIN**

## **2011-06**

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Provincial Chief Electrical Inspector

Pg 1 of 5  
+ Attachment

Date: March 21, 2011

Subject: Requirements for the retrofit, upgrade or replacement of a luminaire under a recognized luminaire retrofit program

There is a large movement occurring to improve energy efficiency and in doing so older existing luminaires need to be retrofitted, upgraded or replaced.

There are rebate or incentive programs that are being developed and implemented for all types of facilities and even roadway and street lighting to improve their energy efficiency.

Retrofitting a luminaire may void the original certification approval of the luminaire and therefore the luminaire may not be permitted to be used as it has no valid approval.

Therefore in order to permit the retrofitted luminaire to be used, typically, a special inspection by a recognized Inspection Body ( IB ) is required.

An **exemption** to require the special inspection will be granted on all luminaires that are retrofitted under a recognized luminaire retrofit program in accordance with this bulletin otherwise Electrical Bulletin 2011-05 shall apply.

Definitions:

a) Recognized luminaire retrofit program- a program typically involving rebates or incentives offered by the Government, electric utility or similar organization in which they contract with a local electrical service provider who is responsible to administer the retrofit process. They determine who qualifies for a rebate and contract local electrical contractors to perform the luminaire retrofits. In some instances luminaires are upgraded or replaced under this program.

**The program must be recognized and acceptable to the Provincial Chief Electrical Inspector in order for the exemption for a special inspection to apply.**

b)Retrofit- the replacement of **all** of the following individual components of a luminaire, the ballast, lamp and pin socket(s) with more energy efficient components or the use of a manufacturer's supplied complete conversion kit which is approved for that particular type of luminaire. The replacement or installation of a lense or reflector may also be included in the retrofit.

c)Upgrade-the replacement of **only** the ballast and lamps with more energy efficient components and possibly the lense. The installation of the reflector is not included in an upgrade.

Exit signs in which their lamps are changed to a more efficient type may be included in an upgrade.

d)Replacement-the complete removal of the existing luminaire and the installation of the same, similar or a completely different type of approved luminaire.

The following requirements of Scenario's A & B shall be used in combination with the general notes.

#### **A ) Requirements for the retrofit of a luminaire under a recognized luminaire retrofit program**

1. The Administrator of the recognized luminaire retrofit program shall apply to Provincial Chief Electrical Inspector for recognition and acceptance of the program before any work is permitted to be performed under the requirements of this bulletin.

The Administrator ,upon request by the Provincial Chief Electrical Inspector, shall provide adequate documentation indicating how all the requirements of this bulletin will be adhered to.

2. It is the responsibility of the Administrator of the recognized program to oversee and audit the program to ensure compliance with the requirements of this bulletin and to advise this office as soon as possible of any issues or problems should they arise.

3. Failure to comply with all the requirements of this bulletin may result in the exemption from requiring a special inspection being revoked for the recognized program.

4. All work shall be performed by a certified construction electrician which has been contracted by the electrical service provider through the recognized program and all their work done in accordance with those contracts and as indicated in this bulletin.

Certain terms and conditions of any contracts may be subject to review, if requested, by the Provincial Chief Electrical Inspector.

5. All electrical components used or installed (i.e. ballast, lamps, pin sockets, wiring etc ) in a retrofit shall be:

- a) approved ( ie. CSA, cUL, cETL ) for their installed application and location,
- b) properly rated and compatible for overall interconnection,
- c) physically compatible with the existing luminaire ,and
- d) installed so as to not affect the mechanical integrity of the luminaire

6. All retrofitted luminaires shall have a new permanently affixed and legible information label applied to the luminaire providing the following minimum information:

- a) new electrical characteristics ( input voltage, total wattage, total amperage, frequency),
- b) new lamp type and wattage rating,
- c) date of modification , and
- d) permit number

7. The electrical contractor shall complete the “Lighting Retrofit Conformance Report “

LAE-LRCR-001, as attached at the end of this bulletin ,for every retrofit project and provide a copy to the electrical inspector prior to their inspection or as directed by the electrical inspector ,except as indicated in note 7.

Providing an unacceptable report or working on an unacceptable installation ,see note 10, may result in the installation not receiving a final electrical inspection report and possibly the requirement for an additional inspection to ensure compliance.

8. The contractor shall keep a copy of the conformance report to provide upon request at any future date to the inspection department or Provincial Chief Electrical Inspector.

**B ) Requirements for the upgrade or replacement of a luminaire under a recognized luminaire retrofit program:**

1. Where an upgrade on a luminaire is performed, no special inspection is required.

2. All electrical components used or installed ( i.e. ballast, lamps, pin sockets, wiring etc ) in an upgrade shall be:

- a) approved ( ie. CSA, cUL, cETL ) for their installed application and location,
- b) properly rated and compatible for overall interconnection,
- c) physically compatible with the existing luminaire ,and
- d) installed so as too not affect the mechanical integrity of the luminaire

3. Any replacement luminaire shall be properly approved ,if not a special inspection by a recognized IB is required.

Where the quantity of luminaires exceeds 30 for the total project the contractor shall receive approval from the Provincial Chief Electrical Inspector ,prior to starting the project ,to determine if the quantity of luminaires proposed to have a special inspection is acceptable.

**General Notes:**

1. This bulletin **only** applies to the retrofit, upgrade or replacement of luminaires under a recognized luminaire retrofit program.

The scope as to what type of building ,facility or location to which this bulletin applies is only limited by the type of recognized programs that are put forward for acceptance by Provincial Chief Electrical Inspector and therefore as new situations develop so will the application of this bulletin.

2.This bulletin supercedes NSPI Bulletin B-2-024.2 Retrofitting of Luminaires

3. This bulletin does not cover work performed in a hazardous location as per sections 18 , 20 or 22 of the Canadian Electrical Code Part 1 (CEC ) , consult the Provincial Chief Electrical Inspector for specific details on any such work prior to starting.

4. All work indicated in this bulletin shall be performed under a wiring permit by a certified construction electrician ,unless otherwise indicated in this bulletin, and shall be inspected by the electrical inspection department and pass the final inspection prior to the luminaires being permanently energized.

5. Any installation or installer that does not comply with all of the requirements of this bulletin may have an order issued to have the installation disconnected or de-energized.

6. Coordination of any inspection is the responsibility of the installer and should be made well in advance with the electrical inspection department .

7. Where a retrofit is performed using a complete manufacturer's supplied conversion kit approved for that particular style of luminaire, the lighting retrofit conformance report is not required.

However, the installer shall be able to produce documentation of the approval of the kit to the electrical inspector or Provincial Chief Electrical Inspector upon request.

8. Only a construction electrician may retrofit, upgrade or replace a luminaire, in accordance with this bulletin , regardless of the luminaire voltage or the type of facility in which the work is being performed.

9. The retrofit, upgrade or replacement of a luminaire under a recognized luminaire retrofit program can not be performed under an annual maintenance permit.

10. An unacceptable report may be a report that is not completely filled out, not signed or any of the CEC requirements indicated have a reply of “ no “ .

An unacceptable installation may be a retrofit, upgrade or replacement in which the branch circuit does not comply with the CEC ( i.e. no bond wire ) or the fixture is improperly supported or possibly the luminaire is considered unsafe and not compliant with this bulletin or the CEC.

Any electrical contractor that finds an unacceptable installation shall advise the electrical inspector of what corrective action, if any, should occur to ensure the installation passes inspection.

The installation may not pass the final inspection unless the entire installation of the luminaire and the manner in which it is fed and supported, for example, complies with the CEC.

The electrical contractor shall not retrofit, upgrade or replace a luminaire unless all aspects of that luminaires installation complies with the CEC.

11. At the request of the electrical inspector, the electrical contractor shall be responsible to provide access, assistance and any necessary equipment for the electrical inspector to inspect any installation under this program.

12. The electrical inspector shall be responsible, during their inspection, to check an adequate random sample of the installations for workmanship and for confirmation of the items specified in the “Lighting Retrofit Conformance Report “ where applicable or for the requirements under scenario B of this bulletin and for general compliance to the CEC.

13. Where reference to a construction electrician is made, a registered electrical apprentice may perform the work within the restrictions and requirements of the Apprenticeship Trade Regulations.

\*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 a deviation or 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](mailto:macleodd@gov.ns.ca)

\*\*\* For other Electrical Bulletins from the Provincial Chief Electrical Inspector visit : <http://www.gov.ns.ca/lwd/electricalsafety>

\*\*\*\* See attached Lighting Retrofit Conformance Report LAE-LRCR-001 ( 1 page ) which is required to be completed in accordance with this bulletin.

## LIGHTING RETROFIT CONFORMANCE REPORT

<b>Date</b>	
<b>Contractor</b>	
<b>Permit Number</b>	
<b>Buisness Owner</b>	
<b>Site Address</b>	
<b>Program Type</b>	

Fixture Type	Quantity	Voltage	Amperage	Max Wattage

CEC Requirements		YES / NO
2 - 024	Components are approved for the application	
2 - 100	New labels have been affixed / old labels removed	
2 - 108	Mechanical integrity of fixture has not been compromised	
2 - 118	New labels are installed in a suitable location	
2 - 132	All wiring is free of shorts and grounds.	
30 - 110	Bonding of all metal parts has been confirmed	
30 - 300	No live parts are exposed to contact	
30 - 308	Disconnect means installed and labeled as required	

\*\*\*\* The undersigned hereby declares that the above CEC requirements have been reviewed and the luminaires are acceptable to be permanently energized

<b>Electrical Contractor ( Print )</b>			
<b>Electrical Contractor ( Signature )</b>			
Prepared By	David MacLeod, P. Eng.	Date	2011-03-01
	Provincial Chief Electrical Inspector	Rev. 1	
		LAE - LRCR - 001	