

**MINIMUM REQUIREMENTS: RETROFIT OF LUMINAIRES TO INCLUDE THE USE OF
LIGHT EMITTING DIODES****Date of Issue: Aug 5, 2022****Directive No: IB-EL 2017-01****REVISION: 02**

This bulletin provides clarification on permit and certification requirements for work performed on light fixtures (luminaires) when upgrading for energy efficiency or converting them to the light emitting diode (LED) type. Qualified persons must apply new labels to the luminaire or the lamp when retrofitting. Procedures for installations within Technical Safety BC jurisdictions are provided below.

Permit requirements

Under section 11 of the Electrical Safety Regulation, a permit is required for electrical work, such as:

- replacement of complete luminaires; or
- upgrades of existing luminaires.

Subject to section 18 of the Electrical Safety Regulation, a permit would not normally be required for:

- replacement of lamps; or
- electrical work required to replace defective components of existing luminaires, provided there is no change to the characteristics of the luminaire.

Certification requirements

The requirement for a certification mark on electrical equipment is found in the Electrical Safety Regulation, section 21. Alterations to fluorescent luminaires for energy efficiency upgrades will likely result in the product no longer meeting the standards required by the certification agency that authorized the use of the certification mark. (See *Safety Standards Act*, section 68).

Approved fixtures that are not modified will continue to be recognized as being approved.

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Variance requirements for fluorescent luminaire modifications

A variance must be associated with either an operating permit or a contractor installation permit. Variances for acceptance of altered fluorescent luminaires will not be issued under a homeowner installation permit.

1) Operating permit

A variance must be applied for, and if approved will apply to all work performed under that operating permit. The following terms and conditions will be applied to the variance:

- The variance only applies to fluorescent luminaires as part of an energy efficiency upgrade.
- All components must be certified for the application.
- Luminaires operating above 150V to ground must comply with the disconnect requirements of rule 30-308(4).
- Labels on the luminaires must be changed following the requirements of rule 2-100 to show the new electrical characteristics and additionally, to show the permit number and date of work.
- All work is noted in the maintenance log.

2) Contractor installation permit

No fee will be charged for the variance if the permit notes “FL Efficiency Upgrade, Variance from ESR 21 Requested” under the “Description of work” section of the form. A permit is required for each site and must only be for the lighting upgrade project, which may include complete luminaire replacement. If other electrical work is to be performed, that work must be requested on a separate permit.

Issuance of the permit confirms approval of the variance request with the following terms and conditions:

- The variance only applies to fluorescent luminaires modified as part of an energy efficiency upgrade.
- All equipment and components must be certified for the application.
- Luminaires operating above 150V to ground must comply with the disconnect requirements of rule 30-308(4).
- Labels on the luminaires must be changed following the requirements of rules 2-100 and 2-102 to show the new electrical characteristics, and additionally, to show the permit number.

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- The contractor's final declaration must include a statement that all labels have been modified as required.

Installation instructions

Always follow manufacturer's recommendations that are supplied with the ballast.

Certified retrofit kits

Fixture retrofit kits that bear evidence of approval are available and permitted to be installed by qualified persons. These kits come with labels that may contain new nameplate information, including a new certification mark. The qualified person must install the new label as described in the installation instructions. The field application of a certification mark by someone other than a certification body's representative is relatively new. However, assurance has been received from the certification companies that they (qualified persons) are authorized to apply the label on their behalf in accordance with the installation instructions.

Retrofitted fixtures that must be used with a specific lamp will not always be provided with an approval label on the fixture itself. In this case, the label will be placed on the replacement lamp. When this replacement occurs, rule 2-106 must be followed and new labelling of the fixture must occur to indicate the new characteristics. In all cases, the installation instructions provided with the retrofit kit must be followed. Products such as LED lamps that bear evidence of retrofit approval and are intended for retrofit use in existing fixtures may be used following manufacturer specifications.

Field modified luminaires

Field modified luminaires not incorporating a certified kit will require re-approval and marking. Re-approval is required if:

- the electrical work involves modifications to the existing ballast and secondary wiring connecting directly to the existing lamp receptacles; or
- where the existing ballast and secondary wiring is completely removed or replaced.

The above typically refers to the SPE-1000 Model Code (Special Inspection) as described in Information Bulletin B-E3 071019 3.

If practicable, the fixtures may be removed from site and modified in a certified shop when the shop is licensed to perform the tasks and apply a new nameplate and certification mark.

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Provincial Safety Manager

References:

Safety Standards Act

Electrical Safety Regulation

Safety Standards General Regulation

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