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Proposed Change 1863

Code Reference(s):	NECB20 Div.C 2.2. (first printing)
Subject:	Alteration of Existing Buildings
Title:	Alteration of Lighting Systems
Description:	This proposed change adds administrative requirements related to the alteration of lighting systems.
Related Proposed Change(s):	PCF 1858

This change could potentially affect the following topic areas:

- | | |
|--|---|
| <input type="checkbox"/> Division A | <input type="checkbox"/> Division B |
| <input checked="" type="checkbox"/> Division C | <input checked="" type="checkbox"/> Design and Construction |
| <input type="checkbox"/> Building operations | <input type="checkbox"/> Housing |
| <input checked="" type="checkbox"/> Small Buildings | <input checked="" type="checkbox"/> Large Buildings |
| <input type="checkbox"/> Fire Protection | <input type="checkbox"/> Occupant safety in use |
| <input type="checkbox"/> Accessibility | <input type="checkbox"/> Structural Requirements |
| <input type="checkbox"/> Building Envelope | <input checked="" type="checkbox"/> Energy Efficiency |
| <input type="checkbox"/> Heating, Ventilating and Air Conditioning | <input type="checkbox"/> Plumbing |
| | <input type="checkbox"/> Construction and Demolition Sites |

General information

See the summary for subject Alteration of Existing Buildings.

Problem

Division C of the National Energy Code of Canada for Buildings (NECB) requires that the authority having jurisdiction be provided with adequate documentation and other information, such as drawings and equipment specifications, in order to verify compliance with the Code. With the introduction of requirements for the alteration of existing buildings in the NECB 2025, there will be a need for information and calculations related to the extent of the alterations.

Failure to provide adequate documentation and level of detail regarding the alterations would make it difficult for authorities having jurisdiction to verify that the proposed alterations conform to the Code. This situation could also lead to inconsistency in the

design, construction and performance of the alterations, which could cause confusion and conflict between designers, manufacturers, authorities having jurisdiction and the legal community.

These conflicts would occur when

- authorities having jurisdiction request documentation during permit reviews to prove Code compliance,
- designers require Code compliance for use of their design specifications on a project, or
- disputes arise which require litigation.

Justification

Providing administrative guidance in Division C on the proper reporting techniques for documentation and calculations related to the alteration of existing buildings for compliance with the NECB is necessary to ensure building officials are provided with an appropriate level of detail to assess Code compliance.

PROPOSED CHANGE

[2.2.] 2.2. Administration

[2.2.1.] 2.2.1. Administration

[2.2.1.1.] 2.2.1.1. Conformance with Administrative Requirements

[2.2.2.] 2.2.2. Information Required for Proposed Work

[2.2.2.1.] 2.2.2.1. General Information Required

[2.2.2.2.] 2.2.2.2. Design Calculations and Analysis

[2.2.2.3.] 2.2.2.3. Documentation on the Building Envelope

[2.2.2.4.] 2.2.2.4. Documentation on Lighting Systems

[2.2.2.5.] 2.2.2.5. Documentation on HVAC Systems

[2.2.2.6.] 2.2.2.6. Documentation on Service Water Heating Systems

[2.2.2.7.] 2.2.2.7. Documentation on Electrical Power Systems and Motors

[2.2.2.8.] 2.2.2.8. Documentation Requirements for Building Performance Compliance

[2.2.3.] -- Information Required for Alteration Work

[2.2.3.1.] --- Documentation on the Alteration of Lighting Systems

[1] --) The following documentation on the *alteration* of lighting systems shall be provided:

- [a] --) an as-built single-line diagram of the lighting control system showing the location of each illuminated zone and associated switches and controls, including the extent of the areas subjected to *alteration*.
- [b] --) *installed interior lighting power*, in kW, of the new and altered luminaires within the scope of the *alteration*.
- [c] --) if the total wattage of new and altered luminaires is not greater than the threshold stated in Sentence 13.4.2.1.(2)-2025 of Division B (PCF 1858), the *interior lighting power*, in kW, of existing lighting systems within the scope of the *alteration*.
- [d] --) average lighting power density, in W/m², for the areas within the scope of the *alteration*, obtained by dividing the *installed interior lighting power* by the total floor area of the *alteration*.

- [e] --) if the *building area* method is used to determine the *interior lighting power allowance*, the associated lighting power density, in W/m^2 , and the gross lighted area, in m^2 ,
- [f] --) if the *space-by-space* method is used to determine the *interior lighting power allowance*, a detailed line-by-line breakdown of spaces, their floor area, in m^2 , the associated lighting power densities, in W/m^2 , and the resulting lighting power allowances, in kW,
- [g] --) *interior lighting power allowance*, in kW, for the scope of the *alteration*,
- [h] --) installed interior automatic controls and justification for exemptions,
- [i] --) *exterior lighting power*, in kW, including a detailed line-by-line breakdown of spaces and/or functions, and the extent of areas subjected to *alteration*,
- [j] --) if the number of new and altered exterior luminaires within the scope of the *alteration* is less than the threshold stated in Sentence 13.4.2.1.(3)-2025 of Division B (PCF 1858), the *exterior lighting power*, in kW, of existing *exterior lighting systems* within the scope of the *alteration*, and
- [k] --) installed exterior automatic controls within the scope of the *alteration* and justification for spaces and/or functions exempted.

Impact analysis

Administering the enforcement of the Code is the normal business of the existing enforcement infrastructure. The enforcement of these administrative requirements is not expected to be time-consuming or add significantly to the workload that is the normal course of business for building inspectors. The overall impact would be a significant improvement in the ability of authorities having jurisdiction to successfully verify Code compliance.

Enforcement implications

The enforcement of the administrative requirements for the alteration of lighting systems in existing buildings can be accomplished with the same means and resources involved in the enforcement of NECB Part 4. However, there could be an increase in enforcement and permit-review responsibilities.

Requiring information about alteration work would facilitate enforcement.

Who is affected

Designers, specification writers, manufacturers, contractors, building owners and building officials.