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Proposed Change 1724

Code Reference(s):	NECB20 Div.B 4.1.1.2. (first printing)
Subject:	Lighting
Title:	Application of Lighting Requirements
Description:	This proposed change extends the application of NECB Part 4 to lighting that is located on the building site, irrespective of whether or not the lighting is connected to the building's electrical service.
Related Code Change Request(s):	CCR 841

This change could potentially affect the following topic areas:

- | | |
|--|---|
| <input type="checkbox"/> Division A | <input checked="" type="checkbox"/> Division B |
| <input type="checkbox"/> Division C | <input checked="" type="checkbox"/> Design and Construction |
| <input type="checkbox"/> Building operations | <input checked="" 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 |

Problem

Sentence 4.1.1.2.(1) of the National Energy Code of Canada for Buildings (NECB) states that Part 4 of the Code applies to lighting components and systems, other than those listed in Sentence (2), that are connected to the building's electrical service. This provision inadvertently creates a loophole because a separate electrical service that is installed for lighting the building site, and not connected to the building's electrical service, could be interpreted by a Code user as being beyond the scope of the Code requirements for lighting power density and control.

Although existing explanatory Note A-4.1.1.2.(1) clarifies that the provision is intended to apply to all lighting components and systems in the building or on the building site, this application clarification is required to appear in the Code provision itself to be enforceable.

Justification

Section 4.2.3., Exterior Lighting Power, contains requirements for site lighting that apply to parking areas, building grounds and outdoor sales areas (including vehicle sales lots). Many office and retail complexes (e.g., shopping centres) are designed to have an electrical service that is metered separately from that of the building(s) so usage costs can be charged individually to tenants. As currently worded, the provision exempts these outside areas from the requirements simply because they are not connected to the building's electrical service. The current wording also creates a compliance loophole that could be exploited by simply installing a separate electrical service for site lighting.

The new explanatory Note clarifies that no compliance loophole exists by addressing the intended application of the lighting requirements for the energy-efficiency compliance of both internal and external lighting, specifically, based on the occupancy of the building. This specific application does not expand the scope of the Codes beyond the building environment and is similar to other Code requirements (e.g., those for barrier-free parking, egress paths, guards for sidewalks).

While there may not be full consensus by municipalities on the wording of Article 4.1.1.2., the intent statement for Sentence 4.1.1.2.(2) does allow any authority having jurisdiction to exempt "applications where, due to the nature of the occupancy, it is impractical to apply these requirements."

PROPOSED CHANGE

[4.1.1.2.] 4.1.1.2. Application

- [1] 1)** Except as provided in Sentence (2), this Part applies to lighting components and systems that are in the building, connected to the *building's* electrical service, or located on the building site. (See Note A-4.1.1.2.(1).)
- [2] 2)** This Part does not apply to the following lighting systems:
- [a] a) emergency lighting that is automatically off during normal hours of *building* operation,
 - [b] b) lighting within *dwelling units*, and
 - [c] c) lighting in *buildings* or parts of *buildings* and in certain exterior spaces associated with the *building* where it can be shown that the nature of the *occupancy* makes it impractical to apply these requirements (see Note A-4.1.1.2.(2)(c)).

Note A-4.1.1.2.(1) Application Building Site.

In Sentence 4.1.1.2.(1), "building site" is intended to include all areas in which subsidiary uses of the building occur. These areas may be located outside of the main building area, but support the building's use. The following are examples of such

~~areas: Part 4 is intended to apply to all lighting components and systems in or on the building or building site that are connected to the building's electrical service.~~

- areas contiguous with the building that share the same use (e.g., courtyards)
- automated teller machines (ATMs) and night depositories
- building facades
- dining areas
- drive-up windows and doors
- entrances and gatehouse inspection stations at guarded facilities
- parking areas and drives
- parking areas near 24-hour retail entrances
- paths that provide access to an exit and similar egress paths
- pedestrian and vehicular entrances and exits
- pedestrian tunnels
- plaza areas
- roof terraces
- staffed areas related to the building's occupancy (e.g., loading docks, outdoor sales areas, including vehicle sales lots, and sales canopies and overhangs)
- uncovered loading areas for law enforcement and emergency service vehicles
- walkways and ramps
- other areas as approved by the authority having jurisdiction

Impact analysis

This proposed change has no additional cost implications as it closes a loophole in the existing provision. Discussions with building owners have confirmed that providing external lighting in compliance with the NECB does not create a net negative cost impact as market products are competitive and energy savings further incentivize adopting energy-efficient infrastructure.

Enforcement implications

The proposed change can be enforced by the infrastructure currently in place to enforce the Code. The proposed change will also provide greater clarity to authorities having jurisdiction.

Currently the jurisdictions of Vancouver, Calgary and Winnipeg apply Sentence 4.1.1.2.(1) to building site lighting components. Provinces such as Ontario and Quebec have empowered their municipalities to enforce this scope as indicated in proposed Note A-4.1.1.2.(1) without having adopted the specific Code language.

While there may not be full consensus by municipalities on the wording of Article 4.1.1.2., the intent statement for Sentence 4.1.1.2.(2) does allow any authority having jurisdiction to exempt: "applications where, due to the nature of the occupancy, it is impractical to apply these requirements."

Who is affected

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

OBJECTIVE-BASED ANALYSIS OF NEW OR CHANGED PROVISIONS

[\[4.1.1.2.\]](#) 4.1.1.2. ([\[1\]](#) 1) no attributions

[\[4.1.1.2.\]](#) 4.1.1.2. ([\[2\]](#) 2) no attributions