

STANDATA interpretation 19-BCI-025/18-ECI-009

Building/Electrical

Lightning Protection Systems

Date Issued: November 2021

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Purpose

Clarifies requirements for installing, altering, or adding to lightning protection systems. This clarification is for building owners, operators, designers, electricians, as well as safety codes officers (SCO) in the building and electrical disciplines.

Discussion

The National Building Code - 2019 Alberta Edition (NBC(AE)) provides requirements for lightning protection systems. The Electrician Trade Regulation classifies lightning protection systems as an electrical system. The Permit Regulation requires an electrical permit to install, alter or add to an electrical system.

Some of the questions raised are:

- 1) Which adopted codes reference the CSA B72 standard?

Sentence 3.6.1.3.(1) of the NBC(AE) requires lightning protection systems conform to CAN/CSA-B72-M, "Installation Code for Lightning Protection Systems". Rule 10-108 (Appendix B) of the 2018 Canadian Electrical Code (CE Code) lists the CAN/CSA-B72 standard as a recommended practice for the installation of lightning protection systems.

- 2) Which edition of the CSA B72 standard applies?

Both the NBC(AE) and the CE Code reference the CAN/CSA-B72-M87 standard.

Issued by the Provincial Building and Electrical Administrators

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3) What are the requirements for professional involvement?

Section 18 of the Administrative Items Regulation allows an SCO to request professional involvement for electrical systems if, in the opinion of the SCO, there are special safety concerns due to the size or complexity of the project. Professional involvement may also be required by the *Engineering and Geoscience Professions Act* or the *Architects Act*.

4) What are the requirements for a permit?

Section 1 of the Electrician Trade Regulation defines a lightning protection system as an electrical system. Per Section 18 of the Permit Regulation, an electrical permit is required to install, alter, or add to an electrical system.

5) What are the requirements for inspection and maintenance?

Appendix B of the CAN/CSA B72 standard contains guidelines for the inspection and maintenance of lightning protection systems.

Code References

National Building Code – 2019 Alberta Edition Division B, Sentence 3.6.1.3.(1) states:

3.6.1.3. Lightning Protection Systems

1) A lightning protection system, when provided, shall conform to the requirements of CAN/CSA-B72-M, "Installation Code for Lightning Protection Systems."

2018 Canadian Electrical Code, Part 1 states:

Rule 10-108 (Appendix B)

Recommended practices for the installation of a lightning protection system, including lightning rods, interconnecting conductors, and ground electrodes, are given in CAN/CSA-B72. Other national and international industry-recognized Standards on lightning protection are also available. It should be noted that the *National Building Code of Canada* mandates the use of CAN/CSA-B72 as the Standard for lightning protection systems.

Electrician Trade Regulation**Definitions**

1 In this Regulation,

- (c) "electrical systems" means any type of residential, commercial, institutional or industrial building or structural electrical system and without limiting the generality of the foregoing includes
 - (x) lightning protection systems;

Permit Regulation**Electrical permit**

8(1) A permit in the electrical discipline is required to install, alter or add to an electrical system.

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Administrative Items Regulation

Complex projects

18(1) If, in the opinion of a safety codes officer, the size or complexity of a project may give rise to special safety concerns, the safety codes officer may require that all plans and specifications, or any part of them, for the project's

(b) electrical systems,
be imprinted with a seal or stamp affixed in accordance with the *Engineering and Geoscience Professions Act* for engineering work, or the *Architects Act* for architectural work.

(2) If, in the opinion of a safety codes officer, the size or complexity of a project may give rise to special safety concerns, the safety codes officer may require that the construction of any or all of the project's

(b) electrical systems,
be reviewed during construction in accordance with the *Engineering and Geoscience Professions Act* for engineering work, or the *Architects Act* for architectural work.

Application

This interpretation applies to all structures where a lightning protection system is installed.

INTERPRETATION

- 1) The installation, alteration, or addition to a lightning protection system is required to comply with the CAN/CSA-B72-M87 standard.
- 2) An electrical permit is required for the installation, alteration, or addition to a lightning protection system. A building permit is not required.

This INTERPRETATION applies throughout the province of Alberta

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