

STANDATA interpretation 23-BCI-004/23-FCI-015/22-LEG-PR-002/20-GCB-017

Building/Fire/Electrical/Gas

NFPA 33 spray booths, application of the safety codes

Date Issued: April 2024

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Purpose

This clarifies the requirements for permitting under the *Safety Codes Act* (SCA) and Permit Regulation for the installation of spray booths, spray areas, and spray rooms.

Discussion

There have been inconsistencies regarding the application of the National Building Code - 2023 Alberta Edition (NBC(AE)) and National Fire Code - 2023 Alberta Edition (NFC(AE)) related to the National Fire Protection Association (NFPA) 33, "Standard for Spray Application Using Flammable or Combustible Materials," and the requirement for applicable safety codes permits under the Permit Regulation pursuant to the SCA.

The NBC(AE) and the NFC(AE) are companion documents with many cross references. The authority having jurisdiction (AHJ) would apply the SCA and the Permit Regulation to installations which fall within the scope of NFPA 33. For example, the following would require safety codes permits:

1. HVAC system,
2. fire suppression system,
3. electrical system, and
4. gas system.

The installation of a spray booth system would be under the direction of a registered professional for design to be conducted under good engineering practice. The NBC(AE) further directs the user to the NFC(AE) by reference in Article 6.9.1.2. of the NBC(AE). The NFC(AE) specifically references the NFPA 33 standard. Additionally, NFPA 33 is identified in the appendix of the NBC(AE) as an NFPA standard for use by the registered professional.

Permit Regulation pursuant to the *Safety Codes Act*

Building permit

6(1) A permit in the building discipline is required for the following:

- (a) the construction of a building, including the renovation of or addition to a building;
- (b) a change in the occupancy classification of a building.

(2) A permit issuer may require a separate permit for specific parts of the undertaking to which the relevant building code declared in force under the Building Code Regulation (AR 31/2015) applies if the specific parts involve performing restricted activities in a designated trade under the *Skilled Trades and Apprenticeship Education Act*.

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Electrical permit

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

Gas permit

12(1) A permit in the gas discipline is required to install, alter or add to a gas system

Code References**NBC(AE) Division B, Sentence 6.2.1.1.(1)****6.2.1.1. Good Engineering Practice**

(See Note A-6.2.1.1.)

1) Heating, ventilating and air-conditioning systems, including mechanical refrigeration equipment, shall be designed, constructed and installed in conformance with good engineering practice such as that described in, but not limited to,

a) the ASHRAE Handbooks and Standards,

b) the HRAI Digest,

c) the Hydronics Institute Manuals,

d) the NFPA Standards,

e) the SMACNA Manuals,

f) "Industrial Ventilation: A Manual of Recommended Practice for Design" published by the ACGIH,

g) CSA B214, "Installation Code for Hydronic Heating Systems,"

h) CAN/CSA-Z317.2, "Special Requirements for Heating, Ventilation, and Air-Conditioning (HVAC) Systems in Health Care Facilities," and

i) EPA 625/R-92/016, "Radon Prevention in the Design and Construction of Schools and Other Large Buildings."

NBC(AE) Division B, Article 6.9.1.2.**6.9.1.2. Hazardous Gases, Dusts or Liquids**

1) Except as provided in Subsection 6.3.4., systems serving spaces that contain hazardous gases, dusts or liquids shall be designed, constructed and installed to conform to the requirements of this Code or, in the absence of specific requirements, to good engineering practice such as that described in the publications of the National Fire Protection Association and in the NFC(AE). (See Note A-6.9.1.2.(1).)

A-6.9.1.2.(1) NFPA Publications Pertaining to the Heating, Ventilating and Air-Conditioning of Spaces Containing Hazardous Gases, Dusts or Liquids.

NFPA 33, "Spray Application Using Flammable or Combustible Materials"

NFC(AE) Division B, Article 5.4.5.1.**5.4.5.1. Application**

1) This Subsection applies to spray coating processes involving the use of combustible dry powders, flammable liquids or combustible liquids.

NFC(AE) Division B, Article 5.4.5.2.

5.4.5.2. Design, Operation and Maintenance

1) The design, operation and maintenance requirements relating to spray coating processes shall conform to NFPA 33, "Spray Application Using Flammable or Combustible Materials."

Application

This joint interpretation applies to systems serving spaces that contain hazardous gases, dusts, or liquids (such as spray booths) where specific design, construction, and/or installation requirements are not stated in the NBC(AE) and good engineering practice is required to be utilized.

Interpretation

1. The publication of the NFPA standard applicable to systems serving spaces for spray application of flammable or combustible material is NFPA 33, "Standard for Spray Application Using Flammable or Combustible Materials."
2. Applicable safety codes permits are required for the building, electrical, and gas disciplines.

This INTERPRETATION is applicable throughout the Province of Alberta.

Unless stated otherwise, all Code references in this STANDATA to the National Building Code - 2023 Alberta Edition and the National Fire Code - 2023 Alberta Edition

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