

Proposed Change 894

Code Reference(s):	NBC10 Div.B 9.10.15.3.
Subject:	Spatial Separation of Houses
Title:	Limiting Distance and Fire Department Services
Description:	This proposed change deletes the reference to the 10-minute response time for firefighters in Subsection 9.10.15. (Houses) and reverts the wording to that of the 2005 NBC with editorial revisions while keeping the sprinkler exemption introduced in 2010.

EXISTING PROVISION

9.10.15.3. Limiting Distance and Fire Department Response

- 1) Except for the purpose of applying Sentences 9.10.15.2.(2), 9.10.15.4.(3) and 9.10.15.5.(12), a *limiting distance* equal to half the actual *limiting distance* shall be used as input to the requirements of this Subsection, where
 - a) the time from receipt of notification of a fire by the fire department until the first fire department vehicle arrives at the *building* exceeds 10 min in 10% or more of all calls to the *building*, and
 - b) any *storey* in the *building* is not *sprinklered*.
 (See A-3.2.3. and A-3.2.3.1.(8) in Appendix A.)

PROPOSED CHANGE

9.10.15.3. 9.10.15.3. Limiting Distance and ~~Fire Department Response~~ Firefighting Services

- [1] 1) Except for the purpose of applying Sentences 9.10.15.2.(2), 9.10.15.4.(3) and 9.10.15.5.(12), a *limiting distance* equal to half the actual *limiting distance* shall be used as input to the requirements of this Subsection, where
 - [a] a) there are no firefighting services or the fire services' organization, training and equipment are limited in meeting the needs of the community~~the time from receipt of notification of a fire by the fire department until the first fire department vehicle arrives at the building exceeds 10 min in 10% or more of all calls to the building,~~ and
 - [b] b) ~~any storey in~~ the *building* is not *sprinklered*.
 (See A-3.2.3. and A-3.2.3.1.(8) in Appendix A.)

RATIONALE

Problem

Alberta has applied the 10-minute fire department response time to determine the spatial separation requirements for houses since 2009 and has been experiencing difficulties with measurement and application of fire department response time. It is likely that other communities will experience similar issues when the 2010 version of 9.10.15.3 is adopted.

The interpretation of the 10-minute fire department response is inconsistent and has resulted in difficulties for both builders and authorities-having-jurisdiction.

The fire department response time cannot be controlled or enforced by the building authority, which creates difficulties in enforcement and with the determination of limiting distance and therefore exposing building face construction.

The main issues are:

- the firefighting capability and needs of each municipality are different and so are the response times of the fire departments.
- the method of calculating response time differs greatly between municipalities, with some AHJs using a combination of methods including complicated computerized modelling and others using simple methods such as timers and clocks.
- the calculation of travel time is a variable that changes with conditions such as: weather, road conditions, construction, time of day and traffic conditions and it is not clear how to account within these variables for the 10% that do not have to fall within the 10-minute response time.
- depending on interpretation of the requirements, especially in suburban areas, construction requirements for houses may depend upon when a fire hall is completed.

As an unintended consequence, the use of the fire department response time as a basis for NBC requirements has become a new performance measure for the fire department rather than just a trigger to determine construction specifications.

Justification - Explanation

This code change proposes to delete the specific reference to 10 minute fire department response time for houses and offers a qualitative trigger for two levels of construction requirements. The basic level of spatial separation construction requirements applies where firefighting facilities are available and the more stringent requirements would apply where a fire department does not exist, is not organized, trained or equipped.

The objective of the current requirement is to limit the probability of spread of fire beyond the point of origin, including spread to an adjacent building. Several changes made to the 2005 NBC for the 2010 edition addressed that issue.

The resulting overall 2010 NBC requirements for spatial separation of houses are more stringent than the 2005 requirements.

There was no known serious issue raised with the 2005 requirements with regards to the fire services response. The rationale for introducing the 10 min response time into the 2010 NBC was to achieve consistency and uniformity with Part 3.

The proposed change still offers an AHJ to choose the more stringent construction requirements where fire department service is below performance expectations.

The proposed change returns to a more qualitative trigger with more positive wording than in the NBC 2005 and keeps the option of sprinklering the house (introduced in 2010) as an exemption from the more stringent requirements.

The wording refers to "firefighting services" rather than "firefighting capabilities" because the term 'services' includes equipment and personnel and is less subjective than 'capabilities'

The word "limited" was specifically chosen because it is more neutral than the word "inadequate". The word "limited" is meant to be read in conjunction with the term "in meeting the needs of the community".

The wording "in meeting the needs of the community" was maintained from the 2005 wording as most provincial-territorial fire legislation use this phrase as a basic requirement.

Cost implications

No additional construction requirements are proposed that could lead to incremental construction cost. Additional cost may depend on the changes that an AHJ would make:

- there will be no incremental cost of construction, where an AHJ keeps their current practice, of using lower performance of fire department response times or the non-existence of a fire service as a trigger for increased requirements
- where an AHJ changes their current practice, any potential cost saving or increase would depend on how the level of performance triggering increased requirements or less stringent requirements is changed.

Enforcement implications

The permit issuance and inspection processes would both be easier by eliminating the 10-minute response time requirement.

No additional inspections would be required.

The proposed change would allow greater flexibility by municipalities in resourcing fire departments by not specifying a particular performance criteria, but allowing them instead to determine performance criteria that better suit their needs.

Who is affected

Building officials, fire officials, builders, designers

OBJECTIVE-BASED ANALYSIS OF NEW OR CHANGED PROVISIONS

[9.10.15.3.] 9.10.15.3. ([1] 1) [F03-OP3.1]