

## FIRE PROTECTION HISTORY-PART 235: 1915 (HORIZONTAL EXITS)

By Richard Schulte

The nineteenth Annual Meeting of the National Fire Protection Association was held in New York in mid-May 1915. Among the committees presenting reports at this meeting was the Committee on Safety to Life. The following is an excerpt of the Safety Life Committee's Report on the subject of horizontal exits:

*"Your Committee now takes up first the subject of horizontal exits and makes certain comments thereon.*

### **Horizontal Exits.**

*Your Committee feels that unwarranted credit is being given horizontal exits in division walls. No one doubts the ability to move persons more rapidly and safely through a wall opening or across a horizontal bridge than down a flight of stairs, but the trouble lies in the fact that simply passing through a wall in the same building does not guarantee safety to those who have escaped in this way. The New York Law requires a minimum of one stair exit on each side of a division wall. Such a stair on a building erected prior to October, 1913, may be only 36 inches wide. The minimum number of square feet of floor area per person is 32. It is possible under the existing act to have a condition such as the following:--*

- 1. An unsprinklered, joisted building of some height, with unprotected vertical openings and a hazardous occupancy.*
- 2. A single stairway on each side of a fire wall, wall being pierced in each story by one or more openings.*
- 3. Approximately 150 people working on each floor on each side of the wall in a building having areas of only 5,000 square feet per fire section.*
- 4. Fire breaking out in lower floor, making stairway impassable, and causing accumulation of 300 persons per floor on one side of wall.*
- 5. Fire spreading through the division wall, owing to fire door not being closed, unprotected belt opening, or other reason.*

6. Hundreds of people jeopardized by fire below them, and only means of exit a single open stairway.

As we understand it, the law would permit this. It is possible that the authorities under discretionary powers would forbid it, but *it seems desirable to limit the allowable persons per floor, where horizontal exit is provided, in some manner based fundamentally upon the stair capacity.* In the hypothetical case cited above, a 36-inch stairway would probably permit 28 persons per floor. To call upon that stairway to take care of 300 persons per floor is obviously unsafe. *The Wisconsin Law of 1914, where horizontal exits are provided, permits an increase of not to exceed 100 per cent of the persons accommodated by the stairways.*

That is the first local limit by percentage of the increase. This phraseology is satisfactory where the number of occupants is about equal on the two sides of a division wall, but for unbalanced conditions a 100 per cent increase in the larger area would throw too many persons into the smaller section in case of a fire. Your Committee recommends the following phraseology:-

*"If a horizontal exit is provided, the number of occupants may be increased 100 per cent of the normal capacity of a room, provided this increase does not exceed the total number of occupants allowed in the exit room."*

Let me give you an example of what that means. Assume a building with a division wall and with 100 people on one side and 50 people on the other. Now, if you cut a doorway through the division wall, it means that you could put on the side where there are normally 100 people, 50 people more (equal to the capacity of the smaller section), not 100 people more, because the smaller section, we think, would be seriously overcrowded if so many were transferred to it. The Committee discussed that point with considerable vigor, and I wish to confess to you frankly that while some doubt the ability to meet all conditions with one ruling, all of us realize the absolute desirability of some safe percentage arrangement based upon whatever the conditions may be. It is not safe to make a ruling, even as in Wisconsin, providing for a 100 per cent increase without taking into account the fact that one section may be very small and might be unduly crowded.

*The next subject is the one of stair capacity."*

The limitations on the egress capacity provided by horizontal exits being discussed in 1915 are the same as the limitations included on the use of horizontal exits included in present day codes.

\* \* \* \* \*

**Source:** "*Proceedings of the Nineteenth Annual [NFPA] Meeting*", New York, New York, 1915.

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