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FIRE PROTECTION HISTORY-PART 113: 1930 (CLASS B (LIGHT HAZARD) SPRINKLER EQUIPMENTS)

By Richard Schulte

The thirty-fourth Annual Meeting of the National Fire Protection Association was held in Atlantic City, New Jersey in May 1930. Among the Committee Reports presented at this meeting was the Report of Committee on Automatic Sprinklers. The Chairman of the Committee, E. P. Boone, New York Fire Insurance Exchange, presented the report. The following is an excerpt of the transcript of the Report:

"*The committee presents revisions to the Regulations for the Installation of Open and Automatic Sprinkler Equipments, as follows:*

1. *A "Class B" standard of sprinkler equipments is established for light hazard occupancies such as apartment houses, dwellings, hospitals, hotels, office buildings, schools, etc., where it is felt that some modification is permissible in the standard requirements which have heretofore been applied uniformly for these light hazard occupancies and for mercantile and industrial occupancies. The Class B standard provides for a wider spacing of heads, smaller pipe sizes, and less stringent requirements for water supply.*

[TEXT OMITTED]

The changes in this report refer to the Regulations for the Installation of Open and Automatic Sprinkler Equipments, Edition of 1928. These proposed changes are in addition to the previously adopted amendments to the regulations. (See PROCEEDINGS 1929, page 326; QUARTERLY, April, 1930, page 361.)

Division I.

CLASS B SYSTEMS.

[This division of the report has been submitted to ballot of the Committee, which consists of 39 members, of whom 24 have voted affirmatively, 4 of affirmatively with reservation, 6 negatively, and 5 (including the chairman) have not voted.]

For the time being it is not the intention to incorporate this division of the report in the Sprinkler Regulations, but to issue it as a separate publication.

STANDARD CLASS B SPRINKLER EQUIPMENTS.

General.

These regulations define certain modifications of the Regulations for the Installation of Sprinkler Equipments. The numbering in the following corresponds to the numbering in the Sprinkler Regulations, which are modified as indicated.

Occupancies where Permitted.

Class B Standard systems shall be permitted only in buildings housing one or more of the following, or similar, "light hazard" occupancies

Apartment Houses.	*Hospitals.*
Asylums.	*Hotels*
Club Houses.	*Libraries.*
Colleges.	*Museums.*
Churches.	*Office Buildings*
Dormitories.	*Schools.*
Dwellings.	*Tenements.*

Small stores in first floors and/or basements of the above listed occupancies, when not over 3,000 sq. ft. is occupied by any one store.

Approval of the use of Class B Standard systems must be secured in advance from the inspection department having jurisdiction, since this type of system may not furnish adequate protection for all buildings (or all portions of buildings) housing the listed occupancies.

Note: It is important that Class B Standard system shall not be installed in any building, the occupancy of which is likely to be changed subsequently to a classification not listed.

SECTION 2–LOCATION AND SPACING OF AUTOMATIC SPRINKLERS.

SPACING.

[TEXT OMITTED]

SECTION 3–PIPE SIZES.

Underground Pipe. *Cast iron pipe, not less than 4 in. in size shall furnish any underground service from water supply to sprinklers.*

311. General Schedule. *No pipe in excess of 2[-]½ in. shall be required inside of buildings where water pressure is sufficient to maintain 20 lbs. residual pressure at top of riser, with 250 gals. per minute flowing at top of riser. With long runs of pipe and/or many angles, or unusual areas, feed mains and risers may have to be increased above 2[-]½ in. to give this result.*

In no case shall the number of sprinklers on a given pipe size exceed the following:

Size of Pipe	*Maximum number of sprinklers allowed*
3/4 in.	*1*
1 "	*2*
1[-]1/4 "	*3*
1[-]½ "	*5*
2 "	*10*
2[-]½ "	*No limit*

No branch line in excess of six sprinklers shall be permitted.

The main supply pipes shall in no case be less than 4 in. in size; moreover, not less than 4 in. pipe shall be run to the base of each 2[-]½ in. (or larger) riser in any system having two (or more) such risers.

SECTION 7--WATER SUPPLIES.

711. *The inspection department having jurisdiction shall specify the water supply which shall be provided.*

721. Public Water. *Where a single supply is accepted, it should preferably be a connection from a reliable public water system of good pressure and adequate volume. The minimum requirements for such a water supply shall be 20 lbs. residual pressure at top of riser, with 250 gals. per minute flowing at top of riser.*

731. Pumps. *Where public water is deficient in pressure but adequate in volume, an electrically controlled automatic centrifugal pump of not less than 250 gals. per minute capacity, taking water from the city main may be accepted as the only supply to sprinklers, only, however, if there is also provided an approved supervisory service or an approved proprietary system or their substantial equivalent.*

741. Gravity Tanks. *A gravity tank is not generally recommended as a single supply for a Class B Standard sprinkler system due to the need for good pressure on widely spaced sprinklers with smaller feed mains and risers than are required ordinarily. Where a gravity tank is accepted it shall be of not less than 5,000 gals. capacity and bottom of tank shall be at least 40 ft. above the highest line of sprinklers.*

742. Pressure Tanks. *Where a pressure tank is accepted as the only water supply its total capacity shall be at least 4,500 gals.*

[TEXT OMITTED]"

The proposal to establish rules for "Class B" sprinkler equipments was a major advance in building fire protection. The "Class B" sprinkler equipments rules were a recognition that cost was a major impediment to the installation of sprinkler protection in buildings used by the public, such as hotels, hospitals and office buildings, and the proposal of rules for "Class B" sprinkler installations was the first attempt to address the issue of cost.

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Source: "*Proceedings of the Thirty-fourth Annual* [NFPA] *Meeting*", Atlantic City, New Jersey, 1930.