

Report of Committee on Standpipes and Outside Protection

Kenneth J. Carl, *Chairman*,

American Insurance Assn., 85 John St., New York, N. Y. 10038

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| <p>S. E. Auck, Underwriters' Laboratories, Inc.</p> <p>Allen S. Dimoff, Fire Insurance Rating Bureau.</p> <p>Douglas C. Doody, American Mutual Insurance Alliance.</p> <p>Chief Robert Ely, California Fire Chiefs Assn.</p> <p>Albert E. Hayes, Fire Marshals Assn. of North America.</p> <p>E. E. Hinderer, Caterpillar Tractor Co.</p> <p>R. H. Jensen, Illinois Institute of Technology.</p> <p>T. C. Jester, Manufacturers Standardization Society of the Valve & Fittings Industry.</p> <p>I. L. Lamar, South-Eastern Underwriters Assn.</p> <p>G. T. Mallory, National Automatic Sprinkler & Fire Control Assn.</p> <p>Richard Martineau, National Automatic Sprinkler & Fire Control Assn.</p> | <p>Edward P. McAniff, Bayside, Queens, N. Y.</p> <p>A. J. Mercurio, Factory Insurance Assn.</p> <p>Wallace T. Miller, Cast Iron Pipe Research Assn.</p> <p>Richard T. Montgomery, National Park Service.</p> <p>James W. Nolan, Chicago, Ill.</p> <p>C. F. Reininger, Standpipe Equipment Manufacturers Assn.</p> <p>W. A. Roessler, Association of Mill & Elevator Mutual Insurance Cos.</p> <p>J. S. Slicer, Factory Mutual Engineering Corporation.</p> <p>H. W. Stainsby, Underwriters' Laboratories of Canada.</p> <p>J. R. Welshman, National Automatic Sprinkler & Fire Control Assn.</p> <p>J. Milton Wright, Commerce and Industry Insurance Company.</p> |
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Alternates.

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| <p>Richard H. Erbe, Fire Insurance Rating Bureau. (Alternate to Allen S. Dimoff.)</p> <p>Joel B. Husted, Employers Group of Insurance Cos. (Alternate to Kenneth P. Carl.)</p> | <p>James G. O'Hanlon. (Alternate to Edward P. McAniff.)</p> <p>W. J. Swingler, Factory Insurance Assn. (Alternate to A. J. Mercurio.)</p> |
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Scope: Standpipe and hose systems; private underground piping systems supplying water for fire extinguishment; hose houses; supervision and care of valves controlling water supplies for fire protection; use of sprinkler systems by fire departments; the design of gate, check and hose valves, indicator posts, hydrants, and pipe fittings.

Part I

The Committee presents for official adoption the following amendments to Standard for the Installation of Standpipe and Hose Systems, NFPA No. 14 — 1963.

This part of the report has been submitted to letter ballot by the Committee which consists of 23 members of whom 19 have voted affirmatively. Four members have not returned their ballot.

**Proposed Amendments to
Standard for the Installation of
Standpipe and Hose Systems.**

NFPA No. 14 — 1963

1. *Change the title of Section 13 to read:*

13. Type of System.

2. *Revise the first line of 131 to read:*

131. Standpipe systems may be of the following types:

3. *Revise Chapter 2, Size of Standpipes, to read:*

21. Design Basis.

211. The size of standpipes in a given case is governed by the size and number of fire streams likely to be needed simultaneously and by the distance of the outlets from the source of water supply.

212. In standpipe systems for Class I and Class III services, each standpipe shall be sized for a minimum flow of 500 gallons per minute. Where only one standpipe is required, its supply piping shall be sized for a minimum flow of 500 gallons per minute. Where more than one standpipe is required, all common supply piping shall be sized for a minimum flow of 500 gallons per minute for the first standpipe plus 250 gallons per minute for each additional standpipe.

(a) Standpipes not exceeding 100 feet in height shall be at least 4 inches in size.

(b) Standpipes in excess of 100 feet in height shall be at least 6 inches in size.

(c) Standpipes shall be limited to 275 feet of height, and buildings in excess of 275 feet of height shall be zoned accordingly with each zone having separate and direct supply piping, not less than 8 inches in size. If any zone above the first zone has two or more risers there shall be more than one direct supply pipe.

213. In standpipe systems for Class II service each standpipe shall be sized for a minimum flow of 100 gallons per minute. Where one or more standpipes are required, all common supply piping shall be sized for a minimum flow of 100 gallons per minute.

(a) Standpipes not exceeding 50 feet in height shall be at least 2 inches in size.

(b) Standpipes in excess of 50 feet in height shall be at least $2\frac{1}{2}$ inches in size.

4. Delete Section 22, Schedule of Sizes, as this has been replaced by paragraphs 212 and 213 above.

5. Revise Paragraph 531 to read:

531. The minimum supply for Class I service shall be sufficient to provide 500 gallons per minute for a period of at least thirty (30) minutes. Where more than one standpipe is required, the minimum supply shall be 500 gallons per minute for the first standpipe and 250 gallons per minute for each additional standpipe, for a period of at least (30) minutes. The supply shall be sufficient to maintain a residual pressure of 65 pounds per square inch at the topmost outlet of each standpipe (including the roof outlet) with 500 gallons per minute flowing.

6. Add the following to 532, designating existing paragraph "a" and deleting note:

(b) Hose connections should be on the street side of building and shall be located and arranged so that hose lines can be readily and conveniently attached to the inlets without interference from any nearby objects including buildings, fences, posts, or other fire department connections.

7. Revise Paragraph 541 to read:

541. The minimum supply for Class II service shall be sufficient to provide 100 gallons per minute for a period of at least thirty (30) minutes. The supply shall be sufficient to maintain a residual pressure of 65 pounds per square inch at the topmost outlet of each standpipe (including the roof outlet) with 100 gallons per minute flowing.

8. Revise Paragraph 631 to read:

631. Pipe and tube used in standpipe systems should be of the materials listed in Table 631. The chemical properties, physical properties and dimensions of the materials listed in Table 631 should conform at least to the standards cited in the Table. Pipe and tube used in standpipe systems should be designed to withstand a working pressure of not less than 175 psi.

TABLE 631

<u>Material</u>	<u>Standard</u>
<u>Ferrous Piping (Welded and Seamless)</u>	
Black Steel Pipe	ASTM A-120-65 USASI Standard B-36.10—1959*
Hot Dipped, zinc coated (Galvanized) Steel Pipe	ASTM A-120-65 USASI Standard B-36.10—1959*
Wrought Iron Pipe	ASTM A-72-64T USASI Standard B-36.10—1959*

Non-Ferrous Tube (Drawn, Seamless)

Copper (Listed)	ASTM B-75-65 ASTM B-251-66
Brazing Alloy	AWS-ASTM Classification BCuP-3 ASTM Specification B 260-62T

*"Standard wall" schedule 40 pipe permitted for pressures up to 300 psi. Schedule 30 pipe acceptable in sizes 8" and larger.

9. Delete the second sentence and all following material in Paragraph 632 of Standard 14.

10. Revise Paragraph 633 to read:

633. Brazed joints for the connection of pipe or tube and fittings may be used. The fire hazard of the process shall be suitably safeguarded.

11. Revise Paragraph 642 to read:

642. Fittings should be of flanged pattern for sizes in excess of 6 inches. All piping shall be installed by means of screw or flanged fittings or other approved means. Welding of joints may be allowed. Permission for this work shall be obtained from the authority having jurisdiction. Welding should preferably be done in the shop and welding fittings used. Welding fittings should comply with USASI Standard B16.9—1964, USASI Standard B16.25—1964 and ASTM Designation A-234—65."

12. Revise allowable leakage figures in 713 to read:

Pipe Size	6-inch	8-inch	10-inch	12-inch	16-inch
Leakage, quarts per 10 joints per hour	2	2½	3	3½	5

13. Delete Tables 1 and 2 of the Appendix as these are not in agreement with revisions of 531 and 541.

Part II

The Committee recommends withdrawal of Standard for Fire Department Connections for Sprinkler and Standpipe Systems, NFPA No. 23. This standard presently appears in Volume 6 of the National Fire Codes and in separate pamphlet form.

This part of the report has been submitted to letter ballot by the Committee which consists of 23 members of whom 19 have voted affirmatively. Four members have not returned their ballots.

Part III

The Committee presents for official adoption the following amendments to Standard for Outside Protection, NFPA No. 24, edition of 1966.

This part of the report has been submitted to letter ballot by the Committee which consists of 23 members of whom 19 have voted affirmatively. Four members have not returned their ballot.

Proposed Amendments to Standard for Outside Protection

NFPA No. 24 — 1966

1. *Delete the note in paragraph 2605.*

2. *Revise paragraph 2608 to read:*

Hose connections should be on the street side of buildings and shall be located and arranged so that hose lines can be readily and conveniently attached to the inlets without interference from any nearby objects including buildings, fences, posts, or other fire department connections.

3. *Add a paragraph to present 2609, designating existing paragraph "a"*

b. If hose connection does not serve all of the building an appropriate and durable sign shall be attached.

4. *Revise paragraph 3402 to read:*

3402. When used, valve pits should be of adequate size and readily accessible for inspection, operation, testing, maintenance, and removal of equipment contained therein. They should be constructed and arranged to properly protect the installed equipment from movement of earth, freezing, and accumulation of water. Poured-in-place or precast concrete, with or without reinforcement, or brick (all depending upon soil conditions and size of pit) are appropriate materials for construction of valve pits. Other approved materials may be used. Where the water table is low and the soil is porous, crushed stone or gravel may be used for the floor of the pit.

5. *Replace the first sentence of 4101 with the following:*

Hydrants shall be of approved type and have not less than a 6-inch connection with the mains. A valve should be in-

stalled in the hydrant connection.

6. *Revise second sentence of 5301 to read:*

For typical hose houses see Figures 53-1 to 53-3 inclusive.

Add Note to 5301:

NOTE: Common materials used to construct hose houses are wood, steel and aluminum. Manufacturers have provided the photographs shown in this text, but they are not identified because nearly all major fire appliance distributors can furnish hose houses in designs similar in purpose to the designs shown. For equipment details of hose houses, see Section 55, 56, 57 and 58.

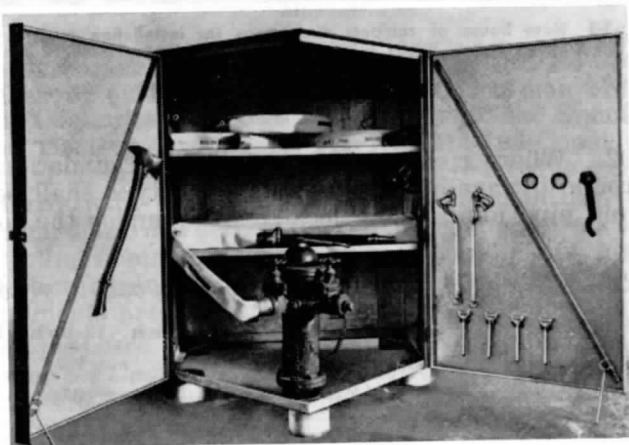


Fig. 53-1 House of five-sided design for installation over a yard hydrant. Such houses may be of wood or steel with a tight floor installed after erection.



Fig. 53-2 Steel house of compact dimensions for installation over a yard hydrant. House is shown closed. Top lifts up and doors on front side open for complete accessibility.

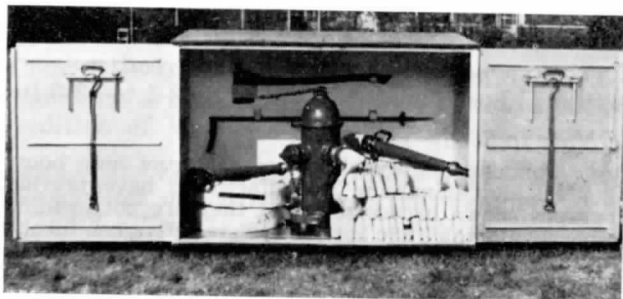


Fig. 53-3 Hose house of compact dimensions for installation over a yard hydrant. Construction may be steel or aluminum.

7. Add new paragraph 9302, redesignating present 9302 as 9303:

9302. Where riser is close to building foundations, underground fittings of proper design and type shall be used to avoid pipe joints being located in or under the foundations.

8. Revise allowable leakage figures in 9903b to read:

Pipe Size	6-inch	8-inch	10-inch	12-inch	16-inch
Leakage, quarts per 10 joints per hour	2	2½	3	3½	5