

Report of the Committee on Fire Safety in Racetrack Stables

Lucy Reum, *Chairwoman*

(Rep. The National Association of State Racing Commissioners)

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| Sid E. Anton, Harness Tracks of America | James J. Nagy, Jr., Madison Square Garden Corp. |
| Frank R. Brown, National Automatic Sprinkler & Fire Control Assn. | Stanley Panco, The Garden State Thoroughbred Breeders & Owners Assn. |
| Richard F. Catchpole, American Wood Preservers Institute | Peter L. Rhulen, Rhulen Agency, Inc. |
| R. Anthony Chamblin, Horsemen's Benevolent & Protection Assn., Inc. | Robert B. Rogoff, Horsemen's Insurance Services |
| Peter Chiesa, National Foam System, Inc. | Jack C. Sanders, Fire Marshals Association of North America |
| George W. Dawson, Crystal Lake, Illinois | Joseph A. Steinhoff, Stickney, Illinois, Fire Department |
| David Gorman, National Association of Canadian Race Tracks | Randolph W. Tucker, Rolf Jensen & Associates |
| Ellis LeRoy Gragg, American Quarter Horse Association | John Van Brunt, New Jersey Racing Commission |
| Jerome L. Hauck, Harness Horsemen International | John W. Vaughan, Reed Shaw Stenhouse Ltd. |
| Chief John K. Hayden, Arlington Heights, Illinois, Fire Department | J. D. Verhaaren, Ogden Corp. |
| Alfred J. Longhitano, Gage-Babcock and Associates | R. G. Weigand, Schirmer Engineering Corp. |
| Robert J. Madden, Fire Equipment Mfrs. Association, Incorporated | Clifford W. Wickman, Thoroughbred Racing Protective Bureau |
| Stanley W. Morten, Illinois Dept. of Law Enforcement, Division of Fire Prevention | Richard S. Wilson, The United States Trotting Assn. |
| Kenneth L. Moses, Protection Mutual Insurance Co. | Angelo J. Zito, Melrose Park, Illinois |

Alternates

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| Jack DeFee, Sr., Horsemen's Benevolent & Protection Assn., Inc. (Alternate to R. A. Chamblin) | Warren D. Schweder, The National Assn. of State Racing Commissioners (Alternate to L. Reum) |
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This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred.

The Committee on Fire Safety in Racetrack Stables presents for official adoption the Standard on Fire Safety in Racetrack Stables, NFPA 150-1979.

This report has been submitted to letter ballot of the Committee which consists of 29 voting members, of whom 19 voted affirmatively, 6 voted negatively (Messrs. Brown, Catchpole, Hayden, Longhitano, Madden and Nagy), 1 abstention (Mr. Verhaaren), and 3 did not return a ballot (Messrs. Gragg, Morten, and Wilson).

Mr. Brown voted negatively, stating that the reference to NFPA Standard 13 limits the area of one sprinkler head to 130 square feet per sprinkler. In existing barns, some of the stalls are 12 by 12 feet, or 144 square feet, and one sprinkler in the stall would be adequate. The basis for Mr. Catchpole's negative vote is the lack of a provision in the standard which allows fire retardant treated wood to be used in lieu of noncombustible materials in partitions, roof assemblies, and stall dividers for types I and II constructions. Mr. Hayden voted negatively on the basis that (1) the area limitations for types II (222-111) unsprinklered and type II (000) unsprinklered; (2) Section 2-2.1, Combustible Barns, type II no sprinklers required; (3) no provisions for standpipes; and (4) failure to require the alarm system to be timed directly with the fire department. Mr. Longhitano's basis for a negative vote is that the proposed standard allows barns to be built which would be no better protected against fire than those presently existing. Specifically, Table 2-1.2 is based on a false premise, namely that building occupants can be made safe from fire by constructing noncombustible or fire resistant buildings. Considering the combustibility of the contents of a barn, it is inconceivable that the purpose of the standard can be achieved if large numbers of horses are permitted to occupy an undivided fire area full of combustible contents. The basis for Mr. Madden's negative ballot is that the proposed document is not in conformance with the scope of the Committee and does not effectively deal with the fire protection requirements in existing racetrack stables to prevent loss of animal life. Mr. Nagy has voted negatively because he feels that (1) the standard is too technical in certain areas for its intended use; (2) needs additional definitions; and (3) items have been included which are not within the purview of the Committee.


Fire Safety in Racetrack Stables

NFPA 150-1979

NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates explanatory material on that paragraph in Appendix A.

Chapter 1 General

1-1 Scope. This standard contains minimum requirements for the construction, fire protection and occupancy of racetrack stable areas, including those at state, county, and local fairgrounds. Dormitories and grandstand areas are the responsibilities of the Committees on Safety to Life and Tents, Grandstands, and Air Supported Structures, respectively (*Code for Safety to Life from Fire in Buildings and Structures*, NFPA 101; *Standard for Tents, Grandstands, and Air-Supported Structures Used for Places of Assembly*, NFPA 102).

1-2 Purpose. It is the intent of these requirements to prevent the loss of life (including animal life) and property from fire in racetrack stables.

1-3 Definitions.

Approved. Acceptable to the authority having jurisdiction.

Assigned Barn. The barn area where a trainer has been allocated stalls and space for his horses and equipment.

Assistant Trainer. The person next to the listed trainer of record, and the one who frequently handles the day-to-day affairs in training a horse or horses.

Concessionaires. The holders of a concession, such as the track kitchen, granted by the racetrack management.

Fire Door Assembly. A combination of a fire door, frame, hardware, and other accessories which together provide a specific degree of fire protection to the opening (*see Standard on Fire Doors and Windows*, NFPA 80).

Fire Resistance Rating. The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of *Standard Methods of Fire Tests of Building Construction and Materials*, NFPA 251.

Flame Spread Rating. The flame spread rating of a material refers to a numerical classification obtained according to the *Method of Test of Surface Burning Characteristics of Building Materials*, NFPA 255.

Halter. Piece of equipment which fits around a horse's head, like a bridle, but lacking a bit. It is used in handling horses around the stable. In the event of a fire, horses can be led from stalls by halter.

Listed. Equipment or materials included in a list published by an organization acceptable to the "authority having jurisdiction" and concerned with product evaluation, that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

NOTE: The means for identifying listed equipment may vary for each organization concerned with product evaluation, some of which do not recognize equipment as listed unless it is also labeled. The "authority having jurisdiction" should utilize the system employed by the listing organization to identify a listed product.

Mechanical Hotwalker. An electrical device which automatically walks a horse or several horses in a circle with an approximate radius of 10 to 15 ft.

Mixed Occupancy. A building or stable area where both horses and humans reside.

Racetrack Management. The persons who control or execute the affairs of the track itself.

Smoke Developed Rating. The smoke developed rating of a material refers to a numerical classification obtained according to the *Method of Test of Surface Burning Characteristics of Building Materials*, NFPA 255.

Tack. Stable gear; also riders' racing equipment.

Tack Room. A storage area for tack and stable equipment.

Track Security. Persons employed to protect racetrack property and to insure the proper passage of licensed personnel; track security may be internal or external.

Trainer. The person responsible for the care and training of a horse or horses.

Chapter 2 Construction

2-1 New Construction.

2-1.1* Types of Construction. The types of construction listed in *Standard for the Types of Building Construction*, NFPA 220, shall be deemed suitable for the construction of buildings included in the scope of this standard.

2-1.2 Stall and Area Limitations. Stall and area limitations for various types of construction shall be in conformance with those designated in Table 2-1.2.

Table 2-1.2 Stall and Area Limitations (See Note.)

Construction Type	Stalls		Area Limitations	
	Sprinklered	Unsprinklered	Sprinklered	Unsprinklered
Type I (443-332) (Fire resistive)	Unlimited	240	Unlimited	60,000 sq ft (5574.18 m ²)
Type II (222-111) Protected noncombustible/limited combustible	Unlimited	120	Unlimited	32,000 sq ft (2972.9 m ²)
Type II (000) Noncombustible/limited combustible	Unlimited	60	Unlimited	16,000 sq ft (1486.45 m ²)
Type III (211-200) Protected ordinary and ordinary construction	80	Not Permitted	20,000 sq ft (2229.67 m ²)	Not Permitted
Type IV (2HH) Heavy timber	100	Not Permitted	24,000 sq ft (2229.67 m ²)	Not Permitted
Type V (111-000) Protected wood frame and unprotected wood frame	60	Not Permitted	16,000 sq ft (1486.45 m ²)	Not Permitted

NOTE: The number of stalls refers to stalls only, and does not include feed storage rooms, tack rooms, wash racks, drying rooms, toilets, etc.

2-1.3 Minimum Occupancy Separations.

2-1.3.1 For the purpose of this standard, occupancies in barns shall be grouped as follows:

- Group A: Stalls for housing horses.
- Group B: Human sleeping rooms/quarters.
- Group C: Feed rooms, tack rooms, equipment storage rooms and other related rooms.
- Group D: Blacksmith shops.
- Group E: Toilet facilities.

2-1.3.2 Minimum occupancy separation shall be as depicted in Table 2-1.3.2.

Table 2-1.3.2 Minimum Occupancy Separation in Hours
(See Note.)

Occupancy Group	A	B	C	D	E
A	—	—	—	—	—
B	1 hr	—	—	—	—
C	2 hrs	2 hrs	—	—	—
D	2 hrs	2 hrs	2 hrs	—	—
E	1 hr	0	1 hr	—	—

NOTE: A 50-percent reduction in the requirements shall be allowed in fully sprinklered buildings.

2-1.4 Exposure Protection. Adjacent buildings shall be separated in accordance with the *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*, NFPA 80A.

2-1.5 Height Restrictions. Barns shall be limited to two stories in height.

Exception: Fully sprinklered buildings.

2-1.6* Exit Travel Distances. All structures shall have exits within 100 ft of travel distance from any point in the structure. This distance may be increased by 50 percent for fully sprinklered buildings.

2-1.7 Electrical, mechanical and fuel burning equipment shall be installed in accordance with the following appropriate NFPA standards:

- Standard on the Installation of Oil Burning Equipment*, NFPA 31
- National Fuel Gas Code*, NFPA 54
- National Electrical Code*, NFPA 70
- Air Conditioning and Ventilating Systems*, NFPA 90A
- Warm Air Heating and Air Conditioning Systems*, NFPA 90B
- Chimneys, Fireplaces, and Vents*, NFPA 211
- Liquefied Petroleum Gases, Storage and Handling*, NFPA 58

2-1.8 Insulation. Exposed noncombustible insulating material shall be permitted. Exposed foamed plastic insulating material shall not be permitted (see *Tentative Guide for Plastics in Building Construction*, NFPA 205M-T).

2-1.9 Stall Dividers.

2-1.9.1 In sprinklered buildings, stall dividers shall be constructed of materials which meet Class A, B, or C interior finish rating as defined in *Code for Safety to Life from Fire in Buildings and Structures*, NFPA 101.

2-1.9.2 In unsprinklered buildings, stall dividers shall be constructed of materials which meet Class A interior finish rating as defined in *Code for Safety to Life from Fire in Buildings and Structures*, NFPA 101.

2-2 Existing Construction.

2-2.1* Combustible Barns. Existing barns of Types III, IV, and V construction shall be equipped throughout with an approved automatic extinguishing system.

2-2.2* Minimum Occupancy Separations. Existing barns shall comply with the minimum occupancy separation as specified in 2-1.3.

Chapter 3 Occupancy Requirements

3-1 Management Responsibilities.

3-1.1 All trainers or their assistants and all concessionaires or their assistants shall serve as liaison with the track security and fire protection supervisors.

3-1.2 All trainers or their assistants and all concessionaires or their assistants shall acquaint themselves and brief their employees as to the following:

- (a) Smoking regulations.
- (b) Location of fire alarm notification system in immediate area of assigned barn.
- (c) Location of all fire extinguishers and extinguishing equipment in assigned barn area.
- (d) Regulations regarding occupancy, use of extension cords for extending electrical circuits and use of electrical appliances.
- (e) Regulations regarding storage and use of feed, straw, tack and supplies.
- (f) Track regulations with regard to fire and security, copies of which shall be provided to all trainers or their assistants and concessionaires or their assistants. These regulations shall be used in instructing members of the trainers' and concessionaires' staffs assigned to the barn area.

3-1.3 All security personnel, trainers and concessionaires or their assistants shall be available for instruction in basic fire protection practice.

3-1.4 Signs shall be posted in every barn, and associated buildings dealing with the following information:

- (a) Location of alarm pull boxes, emergency telephones or other method of fire alert.
- (b) Location of fire protection first-aid appliances.
- (c) Emergency procedures specific to the particular track facilities.

3-2 Kitchens. Track kitchens shall be protected in accordance with the *Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment*, NFPA 96.

3-3* Open Burning. No open burning shall be permitted.

3-4 Smoking. Smoking shall be prohibited except in designated safe areas. Proper warning signs shall be posted.

3-5 Waste Removal and Housekeeping.

3-5.1 An adequate and systematic procedure for general housekeeping, cleanliness, waste removal and orderliness shall be maintained.

3-5.2 Adequate detached noncombustible trash containers, for other than stall waste, shall be provided and a frequent removal program established.

3-5.3 Hay or straw shall not be stored in aisles.

3-6 Use of Electrical Appliances.

3-6.1 Use of any portable electrical appliance shall be restricted to the following conditions:

- (a) Multiple outlet adaptors shall be prohibited.
- (b) Not more than one continuous extension cord shall be used to connect one appliance to the fixed receptacle and such cord shall be listed and properly sized for the intended application.
- (c) Extension cords shall be used only on a temporary basis.

3-6.2 Extension cords shall not be supported by any metal object such as nails, screws, hooks and pipes.

3-6.3 Plug caps and receptacles used in extension cords shall be heavy duty type equipped with a reliable grounding pole and attached to the cord in a manner to provide strain relief.

3-6.4 All electrical appliances, used in the stable area, shall be listed.

3-6.5 Electrical appliances shall be installed in accordance with the requirements of the *National Electrical Code*, NFPA 70.

3-6.6 Outdoor electrical appliances (e.g., mechanical hotwalkers) served by the barn electrical system shall be installed in accordance with the *National Electrical Code*, NFPA 70, and shall be permitted to be equipped with ground-fault circuit-interrupters.

3-6.7 Portable cooking and heating appliances shall be used only in spaces designated for such use provided they are separated from the stabling and storage areas of the barn by construction as set forth in 2-1.3.2.

3-6.8 Portable electrical heating and cooking appliances shall be of a type which automatically interrupts electrical current to the heating element when the appliance is not in its normal operating position (tip-over disconnect).

3-6.9 Use of exposed element heating appliances such as immersion heaters shall be prohibited.

3-6.10 The electrical distribution system, in barns to be constructed, shall be so installed that at least one receptacle is provided immediately outside each stall. Receptacles and wiring shall be installed in positions which minimize the possibility of damage by horses.

3-6.11 Permanently installed lighting facilities shall be provided throughout the barn.

3-7* Hot Water. Permanently installed facilities for the production and distribution of hot water shall be provided in each barn.

3-8. Flammable Liquids. The storage of flammable liquids, except those used for medicinal purposes, shall be prohibited.

3-9 Control of Vehicular Traffic. All vehicular access shall be subject to local established rules. Aisles shall be maintained clear of obstruction at all times and access to fire equipment shall not be blocked.

3-10 Animal Evacuation Aids. A halter shall be worn by each horse at all times.

Chapter 4 Fire Protection

4-1 Sprinkler Protection.

4-1.1 Where automatic sprinklers are required, the system shall be installed in accordance with the *Standard for the Installation of Sprinkler Systems*, NFPA 13.

4-1.2 Automatic sprinkler systems shall be designed in accordance with Ordinary Hazard Group 2 classification.

4-2 Water Supplies. The water supply shall be capable of providing pressure and discharge capacity required for automatically supplying sprinklers, hydrants, and hose lines.

4-3* Fire Hydrants. Fire hydrants shall be provided as follows:

(a) All portions of major track structures such as barns, kitchens, and maintenance buildings shall be within 300 ft (91.44 m) of a fire hydrant.

(b) Fire hydrants shall be located so that a fire department pumper can approach to within 10 ft (3.05 m) of the hydrant. Fire hydrants shall be protected from vehicle damage.

4-4 Fire Extinguishers. Fire extinguishers shall be provided in accordance with *Portable Fire Extinguishers*, NFPA 10. Such extinguishers shall have a minimum 2A rating and shall be not less than 75-ft (22.86-m) travel distance from any point within a building.

4-5 Alarm Systems.

4-5.1 All major unsprinklered track buildings such as barns, kitchens and maintenance buildings shall have a manual fire alarm system. The alarm system shall sound an audible alarm in a constantly manned location for purposes of initiating emergency action.

4-5.1.1 Manual fire alarm stations shall be so located as to be readily available in all portions of the premises in accordance with the *Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems*, NFPA 72A.

Appendix A

This Appendix is not a part of the requirements (recommendations) of this NFPA document . . . but is included for information purposes only.

A-2-1.1 Since 1960 Fire Retardant Treated Wood (FRTW) has been recognized by Insurance Rating Bureaus and Model Building Codes as an alternate for noncombustible in some building areas. Such uses are applicable to nonbearing partitions of 1-hr fire resistance or less in Types I and II constructions, and for stall dividers in barns. (Every piece of fire retardant treated lumber and plywood should be identified by an approved seal or label of a nationally recognized testing laboratory.)

A-2-1.6 Exit distances are more stringent than those specified in the *Code for Safety to Life from Fires in Buildings and Structures*, NFPA 101, because of the difficulty of evacuating panicked horses from the structure.

A-2-2.1 Installation of an automatic extinguishing system in existing barns of Types III, IV and V construction should be accomplished on an individual-facility basis as negotiated with the local authority having jurisdiction.

A-2-2.2 Compliance with minimum occupancy separations in existing barns should be accomplished on an individual facility basis as negotiated with the local authority having jurisdiction.

A-3-3 Open Burning. This restriction is intended primarily to prohibit open flame heaters in the stable area. It is not intended to limit properly installed and equipped devices such as gas water heaters and blacksmith forges as long as they are approved by the authority having jurisdiction.

A-3-7 Hot Water. Heated water is required by trainers and grooms for care of the horses. Without the provision of permanently piped hot water, sundry devices, even though prohibited, will be used to heat the water. When planning such installations it is desirable to provide at least 2 gal of water per hr ($2.103 \times 10^{-6} \text{ m}^3/\text{sec}$) at 140°F (60°C) for each stabled horse.

A-4-3 Hydrant spacing requirements are more stringent than those specified in the *Standard for Outside Protection*, NFPA 24, due to the difficulty of manipulating long lines in such congested areas.

Appendix B

This portion of the Appendix contains publications which are included for information purposes only . . . it is not considered part of the requirements of the document.

B-1 Referenced Publications.

B-1.1 NFPA Standards. This publication makes reference to the following NFPA codes and standards and the year dates shown indicate the latest editions available.

- NFPA 10-1975, *Standard for Portable Fire Extinguishers*
- NFPA 13-1976, *Standard for the Installation of Sprinkler Systems*
- NFPA 24-1977, *Standard for Outside Protection*
- NFPA 31-1974, *Standard for the Installation of Oil Burning Equipment*
- NFPA 54-1974, *National Fuel Gas Code*
- NFPA 58-1976, *Standard for Storage and Handling of Liquefied Petroleum Gases*
- NFPA 70-1978, *National Electrical Code*
- NFPA 80-1977, *Standard for Fire Doors and Windows*
- NFPA 96-1976, *Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment*
- NFPA 101-1976, *Code for Safety to Life from Fire in Buildings and Structures*
- NFPA 102-1972, *Standard for Tents, Grandstands, and Air-Supported Structures Used for Places of Assembly*
- NFPA 211-1977, *Standard for Chimneys, Fireplaces, and Vents*
- NFPA 220-1975, *Standard Types of Building Construction*
- NFPA 251-1972, *Standard Methods of Fire Tests of Building Construction and Materials*
- NFPA 255-1976, *Standard Methods of Fire Tests of Surface Burning Characteristics of Materials*
- NFPA 72A-1975, *Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems*
- NFPA 80A-1975, *Recommended Practice for Protection of Buildings from Exterior Fire Exposures*
- NFPA 90A-1976, *Standard for Air Conditioning and Ventilating Systems*
- NFPA 90B-1975, *Standard for Warm Air Heating and Air Conditioning Systems*
- NFPA 205M-T-1973, *Tentative Guide for Plastics in Building Construction*

Report of the Committee on Foam

Norman R. Lockwood, *Chairman*
Mobile Research & Development Center
Rep. American Petroleum Institute
(Alternate to R. F. Murphy)

Herb E. Wolff, *Secretary*
Reliance Insurance Companies
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Lewis E. Allen, Jr. , Industrial Risk Insurers	Charles H. Lindsay , Elmira, NY
Wayne E. Ault , Rolf Jensen & Associates, Inc.	Jack P. McLaughlin , Union Carbide Corp.
C. F. Averill , National Automatic Sprinkler & Fire Control Assn.	D. N. Meldrum , National Foam System, Inc.
Francis X. Bender , NFPA Industrial Fire Protection Section	Robert C. Merritt , Factory Mutual Research Corp.
William G. Boyce , U. S. Coast Guard	Richard F. Murphy , American Petroleum Institute
R. R. Burford , 3M Company	H. B. Peterson , U. S. Naval Research Laboratory
William M. Carey , Underwriters Laboratories Inc.	L. E. Rivkind , The Mearl Corp.
J. R. Corcoran , Edison Electric Institute	Eugene Stauffer , Fire Equipment Mfrs. Assn.
MacDonald Curless , The FPE Group	Sturgis L. Stentz , Lorcon Foam, Inc.
F. L. Deacon , Alliance of American Insurers	Dr. Richard L. Tuve , Johns Hopkins University
John A. Krembs , M & M Protection Consultants	Ray H. Vliet , NFPA Fire Service Section
Arthur Lagadinos , Insurance Services Office	Laurence D. Watrous , Brown & Root, Inc.

Alternates

Layard E. Campbell , National Automatic Sprinkler & Fire Control Assn. (Alternate to C. F. Averill)	Miles R. Suchomel , Underwriters Laboratories Inc. (Alternate to W. M. Carey)
Edward J. O'Donoghue , Industrial Risk Insurers (Alternate to L. E. Allen)	G. A. Toyek , Insurance Services Office (Alternate to A. Lagadinos)
C. E. Saunders , Alliance of American Insurers (Alternate to F. Deacon)	Klaus Wahle , U. S. Coast Guard (Alternate to W. Boyce)
	Kenneth A. Zuber , Fire Equipment Mfrs. Assn. (Alternate to E. Stauffer)

Nonvoting

Desmond Hird, Angus Fire Armour Corp.

This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred.

The Committee on Foam presents for official adoption amendments to NFPA 18, *Standard on Wetting Agents*. NFPA 18 is published in Volume 2 of the 1978 National Fire Codes and in separate

pamphlet form. The standard has been rewritten according to the NFPA Manual of Style and equivalent SI units have been added to the customary units. The substantive changes to the standard are indicated by vertical lines and these are the only parts that are open to comment.

The report has been submitted to letter ballot of the committee which consists of 25 voting members of whom 20 have voted affirmatively, one has voted negatively (Mr. Carey, stating that he believed the document needed further study), one has not voted (Mr. Burford), and 3 have not returned their ballots (Messrs. Rivkind, Tuve and Watrous).