# 16 DEPARTMENT OF PUBLIC SAFETY

219 OFFICE OF THE STATE FIRE MARSHAL

Chapter 29: RULES AND REGULATIONS RELATING TO STRUCTURES USED BY THE PUBLIC AS SPECTATORS DURING MOTOR VEHICLE RACING

SUMMARY: This chapter contains rules and regulations relating to structures used to accommodate and protect spectators during motor vehicle racing. It contains specific rules and regulations to assure the safe and proper construction and maintenance of grandstands, bleachers, stadiums, arenas, safety barriers and the surface upon which they are placed.

29.01 Definitions

When used in these Regulations the following terms and definitions shall prevail:

A. Commissioner shall mean whatever individual is duly appointed and qualified as Commissioner of Public Safety under the provisions of Section 2 of Chapter 56 of the Revised Statutes of 1944.

B. State Fire Inspector shall mean and include whatever individual is duly appointed by the Commissioner of Public Safety in accordance with Section 29 of Chapter 85 of the Revised Statutes of 1944.

C. Inspector shall mean and include individuals in cities and towns designated as such under the provisions of Section 21 of Chapter 85 of the Revised Statutes of 1944.

D. Architect or Engineer shall mean whatever individual is duly registered under the provisions of Section 1 of Chapter 74 of the Revised Statutes of 1944.

E. Grandstand: A permanent structure having a solid floor and individual seats.

F. Bleacher: A structure with open risers with or without individual seats.

G. Stadium: A structure with its enclosures.

H. Arena: The area in the central part of the stadium.

I. Portable Grandstand or Bleacher: An assembly of prefabricated units, readily erected for a specific period of motor vehicle racing.

29.02 Scope of Rules

These regulations shall apply to grandstands, bleachers, stadiums, or arenas as the use of the structure warrants. If in the opinion of the Commissioner of Public Safety an existing structure may be dangerous to life or limb, he shall order the owner thereof to furnish a certificate from a licensed architect or engineer showing the calculations for anchorage and footing including soil test data, and live, dead, sway, and wind loads of structural members. Such certificate to be submitted with plans of changes which he deems necessary to make the structure safe.

29.03 Plans and Specifications

A. Plans and Specifications: No structure which is designed to be used, or in which alternations shall be made for the purpose of using it or continuing its use as a grandstand, permanent bleacher, stadium or arena, shall be erected, and no alternations shall be made therein until plans and specifications in triplicate, have been deposited with the Commissioner of Public Safety. The Commissioner of Public Safety may require plans showing all details of construction, including the size of materials of all members with methods of anchorage and footings, including soil test data, and calculations and live, dead, sway and wind loads for all structural members, and then further require an affidavit from a licensed architect or engineer certifying as to such calculations for structural members. The Commissioner of Public Safety may require that space under a grandstand or permanent bleachers used for commercial purposes shall be enclosed in one-hour fire resistive materials, and also make such further requirements as may be necessary to prevent the spread of fire.

B. Plans and specifications of portable bleachers, shall be approved by the Commissioner of Public Safety before the bleacher is erected or relocated. The Commissioner shall require that all grass or vegetation shall be cut and removed, and no combustible material shall be allowed to accumulate under the bleacher.

29.04 General Construction Requirements

A. Permanent grandstands shall be erected upon and attached to concrete or masonry foundations extending below the maximum depth of frost and at least six (6" ) inches above natural grade.

B. Grandstands shall be designed to support, in addition to their own weight, a uniformly distributed live load of not less than one hundred (100) pounds per square foot of gross horizontal projection of the grandstand. All seats and foot-board members shall be designed for live loads of not less than one hundred twenty (120) pounds per linear foot. Grandstands shall be designed to resist, without live load, a horizontal wind load of thirty (30) pounds per square foot of all vertical projections of the stand, and with full live load, one half of such wind load. Grandstands shall be designed to resist a horizontal swaying force applied to the seats in a direction parallel to the length of the seats, of twenty-four (24) pounds per linear foot of seats, and in a direction perpendicular to the length of the seats of ten (10) pounds per linear foot of seats.

C. Portable grandstands and bleachers shall be provided with wood sleepers or mud sills of at least two inch (2") plank, or shall be supported on masonry footings. If so directed, sills shall be placed both parallel and at right angles to seating platforms. All bearing surfaces shall make contact as the Commissioner shall direct.

D. Mud sills or sleepers shall be of adequate area to support superimposed loads without settlement, and shall be secured against lateral movement. The toe of each stringer shall be secured to the mud sill or sleeper, all horses or posts shall be provided as directed. No more than one cantilever seat shall be permitted.

29.05 Aisles

A. A grandstand having a railing along the front shall be provided with aisles so located that no portion of any seat shall be more than thirty (30') feet from the nearest aisle. A grandstand having seats with backs shall be provided with aisles so located that no portion of any seat shall be more than thirty (30') feet from the nearest aisle.

B. Aisles shall not be less than three feet six inches (3' 6") in width, provided, that where an aisle is divided into two parts, each part shall be two (2') feet in width. Where an aisle is elevated above ground level, each aisle shall be provided with a stairway or ramp not less than the width of the aisle.

C. Grandstands or bleachers having more than thirty (30) row of seats shall have transverse aisles not less than forty-five (45') feet apart leading to stairs or ramps. The Commissioner Of Public Safety may require that a transverse aisle end on a stairway. Transverse aisles shall not be less than five (5') feet in width.

D. Aisles shall be located as directed by the Commissioner of Public Safety. Bleachers without aisles shall have not more than fifteen (15) rows of seats.

29.06 Seats and Seating Platforms

A. Seats and Seating Platforms: The horizontal distance back-to-back of bleacher seat platforms used without individual chairs shall not be less than twenty-two (22") inches. Where the same level is used for seats with backs these levels shall not be less than twenty-four (24") inches in width. Where chairs are used, the horizontal distance back-to-back shall be thirty (30") inches.

B. Seats shall be securely fastened to their supports in such a manner that they cannot accidentally be displaced. Foot rests shall be supported in such a manner that they cannot accidentally be displaced. Foot rests which are lapped shall be provided with some positive means to prevent displacement of one piece on the other. All chairs shall be securely fastened in place.

C. Where seats are not provided or marked off, a width of eighteen (18") inches shall be considered one seat.

29.07 Exits

A. Outdoor grandstands, bleachers, stadiums or arenas shall be provided with exits calculated on the basis of one (1') foot in width for each three hundred (300) persons, or fraction thereof served. Exits shall not be less than three feet six inches (3' 6") in width, nor less than seven (7') feet clear height, and shall be located as directed by the Commissioner of Public Safety.

B. Each exit shall be designated by a sign bearing the word "EXIT" in letters not less than five (5") inches in height and one half (1/2") inch in width, having red letters on a white background, or white letters on a red background, located as directed. Each change in direction of a way of egress shall be designated by a directional sign, located as directed by the Commissioner of Public Safety.

C. Exits, aisles, and ways of egress shall be properly illuminated at all times when the structure is in use. Where artificial illumination is required, a secondary source of illumination shall be provided as directed by the Commissioner of Public Safety under Section 29.12.

D. Egress doors or gates shall be determined by the Commissioner-of Public-Safety. Turnstiles shall not be permitted in any required egress unless adjacent thereto a suitable exit is provided.

E. Railings eighteen (18") inches in height shall be provided: (a) along back of all grandstands if the rear seat is more than four (4') feet above the ground; (b) along those portions of the ends where the seats are more than four (4') feet above the ground; (c) along the front if the foot rest is more than two (2') feet above the ground.

29.08 Sanitation

Grandstands and permanent bleachers shall be provided with reasonably accessible toilet rooms for either sex having not less than one urinal and one water closet for men and not less than two water closets for women for each three hundred (300) persons, or fraction thereof, served. Toilet rooms shall be vented to atmosphere as directed by the Commissioner of Public Safety Through urinals are prohibited.

29.09 Crash Barrier Construction - Indoor and Outdoor Tracks

Crash Barrier Construction - Indoor and Outdoor Race Tracks: Automobile or motorcycle race tracks hereafter erected shall have a bumper rail, a primary type A or B crash barrier and a secondary crash barrier at the outer circumference of the track and shall conform to either of the following types of construction: Type A for tracks without earth traps Type B for tracks with earth traps

A. Type "A" Barriers Defined: There shall be a bumper rail secured to 6" x 6" posts set at least three feet six inches (3' 6") below grade. Posts shall be spaced not more than eight (8') feet apart. The top of the rail shall not be more than two (2') feet above the surface of the track and shall be placed at right angles to the surface of the track.

1. There shall be a primary crash barrier outside and consisting of a chain link fence or equivalent barrier. Poles shall be of 2 1/2” pipe, set at least below grade or below frost line, spaced not more than ten (10') feet on center. The fence shall be not less than four (4') feet in height.

2. The first or lowest seat or chair or platform of the grandstand shall be not less than ten (10') feet above track level.

B. Type "B" Barriers Defined: There shall be a primary barrier in the form of an earth trap and embankment not less than thirty-five (35') feet in width at the outside of the track, and an embankment not less than two (2') feet above the outer edge of the track.

1. There shall be a bumper rail placed at a minimum distance of thirty-five (35') feet from the outer edge of the track and made as follows: rail shall be hard wood, secured to 6"x 6" posts set at least three feet six inches (3' 6")below grade. Posts shall be spaced not more than eight (8') feet apart. The top rail shall not be more than two (2') feet above the surface of the embankment and placed at right angles to the surface of the ground.

2. Placed approximately in same position as bumper rail there shall be a catch fence, constructed of not less than five (5') foot high heavy gauge hog wire to be secured to posts of not less than five (5") inches in diameter, placed in the ground not less than three feet six inches (3' 6") and at an angle away from the grandstands and bleachers sufficient to catch flying objects. Posts shall not be placed more than eight (8’) feet apart.

3. Outside the thirty-five (35' ) foot earth trap and embankment barrier and bumper rail and catch fence, there shall be a secondary crash barrier, not less than four (4') feet in height consisting of chain link fence. Poles shall be of two and one-half (2 1/2") inch pipe set at least three feet six inches (3' 6") below grade and spaced ten (10') feet on center.

C. Utility gates providing access to the racing area shall be so secured as to prevent access to the public. The public shall be excluded from the area within the secondary crash barrier, and a police officer or guard, at the expense of the management, shall be stationed at each utility gate during each race for the purpose of enforcing this regulation.

D. Electric light standards or other poles shall be placed not less than two (2') feet outside the primary crash barrier on type "A” construction and not less than two (2') feet outside the wood bumper rail on type "B" construction.

E. There shall be an area not less than four (4') feet in width extending the full length of the grandstand or bleachers, between the first row of seats and the secondary crash barrier for type "B" construction and an area not less than twenty (20') feet in width between the first row of seats and the secondary crash barrier for type "A" construction.

F. All wire fences and crash barriers shall be grounded.

G. All earth traps, earth embankments, bumper rails, catch fences and crash fences shall extend the entire length and not less than twenty-five (25') feet beyond each end of all grandstands and/or bleachers.

29.10 Fire Safety

A. Extinguishers of an approved type, in a number to be determined by the Commissioner of Public Safety shall be made available at all times. In addition such other fire extinguishing equipment may be required by the head of the fire department in the city or town where motor vehicle racing is held shall be provided.

B. The individual firm or corporation holding the period of motor vehicle racing shall arrange for the detailing of at least one member of the local fire department or a larger number as deemed necessary by the head of the fire department. They shall be on duty from the beginning to the end of the racing daily.

C. Any unforeseen condition that presents a fire hazard, or would contribute to the rapid spread of fire, or would delay or interfere with the rapid exit of persons from the grandstand, bleachers, stadium or arena, or would interfere with or delay the extinguishment of a fire, and which is not otherwise covered by these rules and regulations, shall be immediately abated, eliminated or corrected as ordered by the inspection authority.

29.11 Insurance

No motor vehicle racing shall be conducted until a certificate of Public Liability Insurance has been filed with the Insurance Commissioner. Such certificate shall indicate that a policy providing Bodily Injury Liability Insurance with minimum limits of $50,000 each person, $1,000,000 each accident and Property Damage Liability Insurance of $25,000 each accident has been issued by an Insurance Company acceptable to the Insurance Commissioner. Ten (10) days notice of cancellation of Liability Insurance shall be given in writing to the Commissioner of Public Safety.

29.12 Auxiliary Lighting

A. The use of electricity supplied by a 110-115 V generator or approved storage battery system for secondary means of illumination is permitted and shall be connected to the emergency lighting panels through an automatic throw-over switch which will operate immediately in the event of failure in the general lighting supply. At no time shall the connected secondary lighting load be greater than the rated capacity of the generator or storage battery system. The generator or storage battery system shall have sufficient capacity to supply the lighting circuits so connected for not less than one and one-half (1 1/2) hours. The automatic throw-over switch shall be connected so that when the principal lighting supply is restored it will throw back to normal operating position. Provision shall be made for automatic charging of all wet batteries of such lighting systems. Batteries and generators shall be inspected and tested at intervals of not less than once a week. The automatic throw-over switch shall be tested each day.

B. No open flame shall be used for illumination or decorative effect.

29.13 Wiring Construction

All wiring for electricity shall be done in accordance with the best practice. In case any question arises as to what is the best practice, work done according to the requirements of the National Board of Fire Underwriters shall be considered as so done.

STATUTORY AUTHORITY: M.R.S.A. Title 8 Sec. 562

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