

**CHAPTER 14A
CARNIVAL-AMUSEMENT RIDES**

Authority

N.J.S.A. 5:3-36.

Source and Effective Date

R.2008 d.158, effective May 19, 2008.
See: 39 N.J.R. 2301(a), 40 N.J.R. 3626(a).

Chapter Expiration Date

Chapter 14A, Carnival-Amusement Rides, expires on May 19, 2013.

Chapter Historical Note

Chapter 14A, Carnival-Amusement Rides, was adopted as new rules by R.2002 d.400, effective December 16, 2002. See: 34 N.J.R. 2554(a), 34 N.J.R. 4343(a).

Public Notice: The notices of adoption that appeared in the December 16, 2002 New Jersey Register (at 34 N.J.R. 4343(a) and 4412(a), respectively) contained no illustrations and figures within the rule text. An advisory concerning this omission was sent by the publisher, West Group, to all New Jersey Register subscribers, as was a corrected replacement run of that issue of the New Jersey Register.

Subchapter 14, Climbing Wall Amusement Rides, was adopted as new rules by R.2008 d.44, effective March 3, 2008. See: 39 N.J.R. 2405(a), 40 N.J.R. 1079(a).

Chapter 14A, Carnival-Amusement Rides, was readopted as R.2008 d.158, effective May 19, 2008. See: Source and Effective Date.

Subchapter 12, Water Amusement Rides, was adopted as new rules by R.2008 d.172, effective June 16, 2008. See: 40 N.J.R. 1413(a), 40 N.J.R. 3620(b).

CHAPTER TABLE OF CONTENTS

SUBCHAPTER 1. GENERAL PROVISIONS

- 5:14A-1.1 Title; scope; intent
- 5:14A-1.2 Definitions
- 5:14A-1.3 Standards adopted

SUBCHAPTER 2. GENERAL ADMINISTRATIVE PROVISIONS

- 5:14A-2.1 Title; scope; intent
- 5:14A-2.2 Classification of and height requirements for rides
- 5:14A-2.3 Categories of certification and approval
- 5:14A-2.4 Type certification
- 5:14A-2.5 Individual approval
- 5:14A-2.6 Amended type certification
- 5:14A-2.7 Supplemental modification certification
- 5:14A-2.8 Fees
- 5:14A-2.9 Insurance, bond or other security
- 5:14A-2.10 Annual permits and issuance of serial number plates
- 5:14A-2.11 Inspections
- 5:14A-2.12 Engineering review
- 5:14A-2.13 Foundations for and siting of rides at fixed locations
- 5:14A-2.14 Manuals
- 5:14A-2.15 Non-destructive testing requirements and reports
- 5:14A-2.16 Variations

SUBCHAPTER 3. RIDER RESPONSIBILITY

- 5:14A-3.1 Title; scope; intent
- 5:14A-3.2 Riders to comply with posted warnings and directions
- 5:14A-3.3 Riders under the influence of alcohol or drugs

SUBCHAPTER 4. OWNER RESPONSIBILITY

- 5:14A-4.1 Title; scope; intent
- 5:14A-4.2 Ride equipment
- 5:14A-4.3 Annual permit application
- 5:14A-4.4 Application for individual approval and grandfathering
- 5:14A-4.5 Compliance with manufacturer's recommendations for modifications
- 5:14A-4.6 Assembly or disassembly
- 5:14A-4.7 Daily inspection, test and maintenance and inspection records
- 5:14A-4.8 Training and certification of ride operators
- 5:14A-4.9 Insurance, bond or other security
- 5:14A-4.10 Riders under the influence of alcohol or drugs
- 5:14A-4.11 Rider accident reporting requirement
- 5:14A-4.12 Required notices of rider responsibility
- 5:14A-4.13 Accident, incident or mechanical breakdown reporting
- 5:14A-4.14 Transfer of ownership

SUBCHAPTER 5. MANUFACTURER RESPONSIBILITY

- 5:14A-5.1 Title; scope; intent
- 5:14A-5.2 General requirements
- 5:14A-5.3 Ride type certifications
- 5:14A-5.4 Amended type certification
- 5:14A-5.5 Quality assurance manual
- 5:14A-5.6 Retention of documents, drawings and calculations
- 5:14A-5.7 Notification, bulletins and other information as required by the Department

SUBCHAPTER 6. VIOLATIONS, PENALTIES, REMEDIES AND INVESTIGATIONS

- 5:14A-6.1 Title; scope; intent
- 5:14A-6.2 Revocation of carnival-amusement ride permit, certification or approval
- 5:14A-6.3 Administrative penalties
- 5:14A-6.4 Appeals and hearings
- 5:14A-6.5 Suspension or revocation of permit
- 5:14A-6.6 Re-inspections following a suspension or shut down and investigations
- 5:14A-6.7 Departmental remedies for non-compliant manufacturers
- 5:14A-6.8 Stop work orders

SUBCHAPTER 7. DESIGN AND CONSTRUCTION

- 5:14A-7.1 Title; scope; intent
- 5:14A-7.2 Adoption as amended of ASTM practice F 2291-04
- 5:14A-7.3 Speed-limiting devices and operator presence devices
- 5:14A-7.4 Fire prevention
- 5:14A-7.5 Construction requirements
- 5:14A-7.6 Design for loading and unloading
- 5:14A-7.7 Identification, data plates and manufacturer's information
- 5:14A-7.8 Quality assurance program
- 5:14A-7.9 Means of access and egress
- 5:14A-7.10 through 5:14A-7.37 (Reserved)

SUBCHAPTER 8. INSTALLATION REQUIREMENTS (RESERVED)

SUBCHAPTER 9. OPERATION

- 5:14A-9.1 Title; scope; intent
- 5:14A-9.2 Required notice, itinerary and book-on rides
- 5:14A-9.3 Daily maintenance and operations inspections and tests
- 5:14A-9.4 Identification, data plates and manufacturer's information
- 5:14A-9.5 Inspection after assembly
- 5:14A-9.6 Prohibited use

- 5:14A-9.7 Site layout
- 5:14A-9.8 Control of operation
- 5:14A-9.9 Operator qualifications and training
- 5:14A-9.10 Lock-out procedure
- 5:14A-9.11 Set up, maintenance and repair operations affecting structural integrity or key components
- 5:14A-9.12 Vehicle integrity
- 5:14A-9.13 Voice communication and signal system
- 5:14A-9.14 Proximity to high voltage lines
- 5:14A-9.15 Ride loading and unloading
- 5:14A-9.16 Means of access and egress
- 5:14A-9.17 Safety brakes
- 5:14A-9.18 Protection against moving parts or other hazards and clearance envelopes
- 5:14A-9.19 Rider restraint, restrictions, containment
- 5:14A-9.20 Overload and over speed
- 5:14A-9.21 Electrical equipment and wiring
- 5:14A-9.22 Pressure vessels, air compressors, pneumatic and hydraulic systems
- 5:14A-9.23 Fire prevention
- 5:14A-9.24 Non-destructive testing
- 5:14A-9.25 Wind and storm hazards
- 5:14A-9.26 Accident, incident or mechanical breakdown reporting
- 5:14A-9.27 Imminent danger
- 5:14A-9.28 Cleanliness
- 5:14A-9.29 Water quality
- 5:14A-9.30 Lighting
- 5:14A-9.31 Wire rope
- 5:14A-9.32 Internal combustion engines
- 5:14A-9.33 Rider conduct
- 5:14A-9.34 Warning sign

SUBCHAPTER 10. SPECIAL PROVISIONS FOR BUNGEE JUMPING OPERATIONS

- 5:14A-10.1 Title; scope; intent
- 5:14A-10.2 Definitions
- 5:14A-10.3 Prohibited activities, practices and conditions
- 5:14A-10.4 Inspection fee and permit fee
- 5:14A-10.5 Operating manual
- 5:14A-10.6 Insurance, bond or other security
- 5:14A-10.7 Engineering review
- 5:14A-10.8 Engineering certification
- 5:14A-10.9 Mechanical equipment
- 5:14A-10.10 Communication

SUBCHAPTER 11. GO-KART OPERATIONS

- 5:14A-11.1 Title; scope; intent
- 5:14A-11.2 Control of operations
- 5:14A-11.3 Driver limitations
- 5:14A-11.4 Adoption as amended, of ASTM practice F 2007-00

SUBCHAPTER 12. WATER AMUSEMENT RIDES

- 5:14A-12.1 Title; intent; scope
- 5:14A-12.2 Definitions
- 5:14A-12.3 Owner responsibility
- 5:14A-12.4 Manufacturer responsibility
- 5:14A-12.5 Design and construction
- 5:14A-12.6 Operation
- 5:14A-12.7 Adoption as amended of ASTM practice F 1487-01
- 5:14A-12.8 Adoption as amended of ASTM practice F2376-06
- 5:14A-12.9 Adoption as amended of ANSI/IAF-9 (2005)

SUBCHAPTER 13. INFLATABLE RIDES

- 5:14A-13.1 Title; scope; intent
- 5:14A-13.2 Type classification
- 5:14A-13.3 Type certification
- 5:14A-13.4 Individual approval
- 5:14A-13.5 Design and construction
- 5:14A-13.6 Manuals
- 5:14A-13.7 Anchorage

- 5:14A-13.8 Ride loading and unloading
- 5:14A-13.9 Materials
- 5:14A-13.10 Electrical equipment, wiring and generators
- 5:14A-13.11 Fire prevention
- 5:14A-13.12 Identification and data plate
- 5:14A-13.13 Assembly and disassembly
- 5:14A-13.14 Auxiliary equipment
- 5:14A-13.15 Operation

SUBCHAPTER 14. CLIMBING WALL AMUSEMENT RIDES

- 5:14A-14.1 Title; intent; scope
- 5:14A-14.2 Definitions
- 5:14A-14.3 Owner responsibility
- 5:14A-14.4 Manufacturer responsibility
- 5:14A-14.5 Design and construction
- 5:14A-14.6 Operation
- 5:14A-14.7 Adoption as amended of ASTM practice F 1773-97

SUBCHAPTER 1. GENERAL PROVISIONS

5:14A-1.1 Title; scope; intent

(a) These rules shall be known and may be cited as chapter 14A, Carnival-Amusement Rides of Title 5, N.J.A.C.

(b) The purpose of this chapter is to provide reasonable standards for the design, construction and operation of amusement rides for the safety of the public.

(c) No person shall manufacture or sell for use in this State, operate, arrange for or cause to be used any ride that is not in compliance with this chapter.

1. No person shall change a ride in any way that makes the ride less conforming with the provisions of this chapter.

(d) This chapter shall apply to:

1. An amusement ride subject to the Carnival-Amusement Ride Safety Act, N.J.S.A. 5:3-31 et seq.;

2. An amusement ride as defined in N.J.A.C. 5:14A-1.2;

i. Amusement ride shall include a water slide exceeding 15 feet in height with the height of a water slide calculated as the difference in elevation between the highest point on the sliding surface and the lowest allowable elevation of the water surface into which the slide discharges; and

ii. A water amusement ride as defined in N.J.A.C. 5:14A-1.2;

3. Any mechanical device which carries, conveys, or directs riders along, around, or over a fixed or restricted route or course for the purpose of giving its riders amusement, pleasure, thrills or excitement; and

4. Any rider or gravity propelled ride, including, but not limited to, any water slide or water-based recreation

equipment when located in an amusement area or park in which there are other rides covered by the Act.

(e) This chapter shall not apply to:

1. A locomotive weighing more than seven tons, operating on a track the length of which is one-half mile or greater, the gage of which is three feet or greater, and the weight of which is at least 60 pounds per yard;

i. Such locomotives shall be under the jurisdiction of the New Jersey Department of Transportation for the purposes of safety inspection;

2. A manually, mechanically or electrically operated, coin-operated ride, which is customarily placed, singly or in groups, in a public location and which does not normally require the supervision or services of an operator; or

3. A rider-or gravity-propelled ride that is not a mechanical device, or is not limited to a fixed or restricted course, and is not located in an amusement area or park.

(f) Where there is a conflict between these rules and any referenced standard, these rules shall govern.

5:14A-1.2 Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise or the term is redefined for a specific section or purpose.

“Acceleration” means the change in velocity per unit time. It is usually expressed in units of ft/sec² or m/sec². Acceleration is also expressed in its relation to the acceleration due to gravity at sea level. “One” g means acceleration that is the same as the acceleration due to gravity at sea level. (that is, a body subjected to one g would experience the equivalent of its own weight.)

“Accepted engineering practice” means that which conforms to accepted principles, tests, or standards of accredited authorized agencies, and to standards or generic principles and practices of safety engineering.

“ACI” means American Concrete Institute.

“Act” means the Carnival-Amusement Ride Safety Act, N.J.S.A. 5:3-31 et seq.

“Adult ride” see “major ride.”

“AISC” means American Institute of Steel Construction.

“Alteration” see “modification.”

“Amended type certification” means a certification that is granted to the manufacturer by the Department after review of an application for modification of a type certification.

“Amusement area or park” means any indoor or outdoor location where at least one amusement ride subject to the Act is available for use by the general public.

“Amusement park operator” means any person, firm or corporation that owns, leases, manages or operates an amusement park.

“Amusement ride” see “carnival-amusement ride.”

“ANSI” means American National Standards Institute.

“ASCE” means American Society of Civil Engineers.

“ASME” means American Society of Mechanical Engineers.

“ASTM” means American Society for Testing and Materials.

“AWS” means American Welding Society.

“Block system” means a system on an amusement ride with separate vehicles designed to limit the number of vehicles in a certain area of the ride.

“BOCA” means Building Officials and Code Administrators International, Inc.

“Book-on ride” means a ride that is not owned by the primary owner of rides being placed in use at the same amusement area.

“Carabiner” means a shaped metal device of spring loaded design with a gate used to connect sections of bungee cord, jump rigging, equipment, or safety gear.

“Carnival” means a mobile enterprise principally devoted to offering amusement or entertainment to the public in, upon, or by means of portable amusement rides or devices or temporary types of structures in any number or combination, whether or not associated with other structures or forms of public attraction.

“Carnival-amusement ride,” “amusement ride,” “carnival ride” or “ride” means any mechanical device or devices, including, but not limited to, a water slide exceeding 15 feet in height, which carries or conveys passengers along, around, or over a fixed or restricted route or course for the purpose of giving its passengers amusement, pleasure, thrills, or excitement; and any passenger or gravity propelled ride when located in an amusement area, amusement park or water park in which there are other rides covered by P.L. 1975, c.105 (N.J.S.A. 5:3-31 et seq.), including all water slides in amusement areas or parks; provided, however, that this shall not include locomotives weighing more than seven tons, operating on a track the length of which is one-half mile or greater, the gauge of which is three feet or greater, and the weight of which is at least 60 pounds per yard.

“Carnival ride” see “carnival-amusement ride.”

“CFM” means cubic feet per minute.

“Child” means a person 12 years of age or younger.

“Clearance envelope” means the area in and around an amusement ride which, under normal operating and riding conditions, provides a “safe zone” for the riding public.

“Commissioner” means the Commissioner of the Department of Community Affairs.

“Critical structural or mechanical component” means a component whose failure will result in uncontrolled operation or movement of the ride or failure of the restraint system.

“Dead load” means the weight of the ride itself. Dead load does not fluctuate with respect to time.

“Department” means the Department of Community Affairs.

“DIN” means Deutsches Institut für Normung (English Language Version).

“Discontinuities” means any and all indications found during the course of non-destructive testing. These indications include, but are not limited to, cracking, loss of thickness, undercutting of welds and lack of penetration.

“Dynamic load” means load that fluctuates with time because of the action of the ride during the ride cycle.

“EN” means Europäische Norm. These standards may be obtained through the European Committee for Standardization, Central Secretariat, rue de Stassart 36, B-150 Brussels, Belgium.

“First aid” means the one-time treatment or subsequent observation of scratches, cuts not requiring stitches, burns, splinters, contusions and minor complaints. For purposes of these rules, “first aid” shall not include first response to a serious injury.

“Fixed amusement ride” or “fixed ride” means an amusement ride that is designed to resist all applicable environmental loads for its intended location and is located at a fixed location. This definition also means and includes all amusement rides that are not mobile rides.

“Fixed location” or “fixed site” means a location where an amusement ride is sited for operation with permanent foundations, electrical, and plumbing, as required.

“GFCI” means ground fault circuit interrupter, a device capable of de-energizing a circuit or portion thereof within an established period of time when a current to ground exceeds some predetermined value that is less than that required to operate the over-current protective device of the supply circuit.

“Go-kart” or “go-cart” means a one or two rider self-propelled motor vehicle designed to convey riders along a restricted roadway while being operated and controlled by one rider who will be called the driver.

“Height restriction” means a stature requirement for riders to be permitted on a specific ride which is contained on the list of height restrictions maintained by the Department in accordance with N.J.A.C. 5:14A-2.2.

“High speed” means greater than 37.5 mph, 55 ft/sec or 16.8 m/sec.

“IBC” means International Building Code.

“Imminent danger” means a condition that presents an excessive risk of serious injury to riders.

“Impact” means a force or acceleration that occurs over a time span of less than 0.2 seconds.

“Individual approval” means an approval that is granted to an owner of an individual ride that is not type certified, which is granted by the Department after review of a ride application and is applicable only to that individual ride.

“Inflatable” means an amusement device that incorporates a structural and mechanical system and employs a high strength fabric or film that achieves its strength, shape, and stability by tensioning from internal air pressure.

“Inspection” means the physical examination of an amusement ride and relevant documentation by an inspector.

“Key component” means a component or system that has been designated by the manufacturer as requiring special fabrication, maintenance, inspection or operation due to its importance to the continued proper and safe operation of the carnival-amusement ride device.

“Kiddie ride” means a ride designed primarily for riders weighing 90 pounds or less.

“Live loads” mean those loads produced by the use and occupancy of the ride, not including dead load or environmental loads. Live loads fluctuate with time, but not necessarily during one ride cycle.

“Maintenance” means performing maintenance or inspections according to a maintenance or operational checklist.

“Major modification” means any material change to a load-bearing structural member, a mechanical, electrical, hydraulic or pneumatic drive or control feature, or a restraint or other protective feature.

“Major ride” or “adult ride” means a ride not classified as a “kiddie ride” or a “super ride” by the Department.

“Manufacturer” means a person who obtains type certification for a carnival-amusement ride and who has responsibility for the design and manufacture of any carnival-amusement ride to be used or installed in this State, or sold for use in this State, and includes any entity controlled by the manufacturer.

“Mechanical malfunction” means any breakdown that constitutes a structural failure of a load bearing element, mechanical or electrical failure of a drive or control system component or failure of a restraint system which materially compromises ride safety. Mechanical malfunction does not include a foreseeable malfunction that actuates a safety system.

“Mobile ride” or “portable amusement ride” means an amusement ride that may not be designed to resist all applicable environmental loads for its intended location, generally does not require a foundation or footing, and is designed and constructed to be readily racked and transported from one site to another.

“Modify” means to make a modification.

“Nationally recognized testing agency” means a laboratory, such as the Underwriters’ Laboratories, Inc., or the Factory Mutual Engineering Corporation or any similar testing organization acceptable to the Department.

“NDT” or “non destructive testing” means to examine and evaluate parts, areas, or items for defects at or below the surface. The testing when required is done by a qualified individual and is done without harm or damage to the tested item.

“NDT statement” means a non-destructive testing plan or a statement from the manufacturer that NDT is not required.

“New Jersey serial number” means a unique identifying number assigned to each individual ride at the time that a permit is first issued for it, which remains with the ride as long as it exists in this State.

“New ride” means a ride of a type that has not previously been assigned a type certification by the Department, that has not obtained individual approval or that does not have a New Jersey serial number.

“NFPA” means the National Fire Prevention Association.

“N.J.A.C.” means the New Jersey Administrative Code.

“N.J.S.A.” means the New Jersey Statutes Annotated.

“Operating manual” means the document that contains the required procedures and forms for the safe operation of an amusement ride at the stated site.

“Operator” see “ride operator.”

“Operator assistant” means a person whose duties include, but are not limited to, loading and unloading riders, collecting tickets, checking seatbelts, lap bars and other restraints and occupying the entrance or exit areas to prevent intrusion while ride is in operation, but who is not the primary operator.

“Operator presence device” means a device which, when activated, requires an operator to remain in contact with the switch during the entire ride cycle.

“Over speed” means a condition present when a ride achieves a speed, whether forward or reverse, that is faster than the approved manufacturer’s safe operating speed.

“Owner” means a person who owns, leases, controls, or manages the operations of a carnival-amusement ride, including individuals, partnerships, corporations, both profit and non-profit, and the State or any of its political subdivisions and their Departments and agencies.

“Passenger tramway” means a device used to transport riders in cars on tracks or suspended in the air, by the use of steel cables, chains, belts, or by ropes and usually supported by trestles or towers with one or more spans.

“Patron” see “rider.”

“Permit” means a permit to operate an amusement ride issued annually by the Department.

“Person” includes corporations, companies, associations, societies, firms, partnerships, and joint stock companies as well as individuals, unless restricted by the context to an individual.

“Qualified person” means an individual assigned by the owner who has the degree of competence necessary to perform the work on an amusement ride so that the ride will be safe. In the case of weld or metal crack inspections recommended or required by the manufacturer based on a safety bulletin, the qualified person shall be designated by the manufacturer or shall be an AWS Certified Weld Inspector or SNT-TC-1A Certified Level II or III Inspector, as appropriate.

“Reassembly” means the installation, erection, or reconstruction of an amusement ride following transportation or storage and prior to operation.

“Redundant restraint devices” means independent restraints in the sense that the secondary device, for example, lap bar, containment enclosure, etc., is able to restrain the patron in case of failure of the primary restraint.

“Repair” means to restore or fix an amusement ride or ride component with like components or materials that meet or exceed current design specifications for the ride.

“Ride” see “carnival-amusement ride.”

“Ride operator” or “operator” means any person or persons actually engaged in or directly controlling the operations of a carnival-amusement ride.

“Rider” or “patron” means a person riding on or utilizing an amusement ride.

“SAE” means Society of Automotive Engineers.

“Safety bulletin” means a supplemental notification delivered by the manufacturer or the holder of a supplemental modification certification to the owner that contains new information or new recommendations for inspections, testing, repair, operation or training. For the purposes of ASTM F 853, this term includes, but is not limited to, Safety Alerts, Service Bulletins, and Notifications.

“Serious injury” means any injury in which the injured person has lost consciousness, broken a bone, was transported to an emergency medical facility or an injury for which medical treatment by a physician beyond first aid was required.

“Service proven” means an amusement ride, device or modification to an amusement ride or device of which:

1. Units have been in service to the public for a minimum of five years; and
2. Unit(s) that have been in service have done so without any significant design related failures or significant design related safety issues that have not been mitigated.

“Super ride” means a ride designed to propel riders at high speed or acceleration in any direction which requires an accelerometer test according to the provisions of N.J.A.C. 5:14A-7.5.

“Supplemental modification certification” means a certification that is granted to a person other than the manufacturer by the Department after review of an application for modification of an individual approval.

“Time tested” means a type of amusement ride which is found by the Department to be simple in operation and impose insignificant forces on riders or which is service proven.

“Type certification” means a certification that is granted to a manufacturer by the Department after review of a new ride application and that is applicable to all rides of essentially the same design and manufacture with regard to structural, mechanical, electrical, hydraulic drive and control features, and restraint and other protective features.

“Use” means that an amusement ride is in operation, whether it is empty or carrying riders.

“Vehicle” means any carrier (for example, car, tub, tube, gondola, chair, capsule, compartment, etc.) on or in which riders are supported or contained and carried when participating in or riding on an amusement ride.

“Water amusement ride” means an amusement ride intended for use by riders in bathing attire where the action of the ride involves purposeful immersion of the rider’s body, in whole or in part, in water.

Amended by R.2007 d.75, effective March 19, 2007.
See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Deleted definitions “Acceleration, impact”, “Acceleration, sustained”, “Automatic mode”, “Closed”, “Containment”, “Electrical (E)/Electronic (E)/Programmable Electronic Systems (PES) (E/E/PES)”, “Electro-sensitive protective equipment (ESPE)”, “Emergency stop (e-stop)”, “Fail-safe”, “Fence”, “Force limiting”, “Gate”, “Guardrail”, “Hand mode”, “Handrail”, “Latched”, “Locked”, “Manual release”, “Modification”, “Primary circulation area”, “Restraint” and “Safety-related control system”; and added definitions “Fixed amusement ride”, “Fixed location”, “Major modification” and “Mobile ride”.

Amended by R.2008 d.172, effective June 16, 2008.
See: 40 N.J.R. 1413(a), 40 N.J.R. 3620(b).

Rewrote definition “Water amusement ride”.

5:14A-1.3 Standards adopted

(a) The standards listed below are adopted and incorporated as part of this chapter. In the event that any provision in any of the following standards conflicts with a provision of this chapter, this chapter shall govern.

1. The following standards are adopted and are available from the American Concrete Institute, P.O. Box 19150, Detroit, Michigan 48219:

- i. ACI 301—99, “Specifications for Structural Concrete for Buildings”;
- ii. ACI 318-02, “Building Code Requirements for Reinforced Concrete”

2. The following standards are adopted and are available from the American Institute of Steel Construction, 400 North Michigan Ave., Chicago, Illinois 60611;

- i. AISC, “Manual of Steel Construction ASD, 9th Edition”;
- ii. AISC 316 (1989) Manual on Steel Construction, Allowable Stress Design (ASD); and
- iii. AISC M015 (1986) Manual on Steel Construction, Load and Resistance Factor Design (LRFD);

3. The following standards are adopted and are available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036:

- i. ANSI B11.TR3 (2000), “Technical Report on Risk Assessment and Reduction”;
- ii. ANSI B77.1—1999, “American National Standard for Passenger Ropeways, Aerial Tramways, Aerial Lifts, Surface Lifts, Tows and Conveyers—Safety Requirements”;
- iii. ANSI/ASME B15.1, “Safety Standards for Mechanical Power Transmission and Conveyors and Related Equipment”;
- iv. ANSI B93.114M (1987), “Pneumatic Fluid Power System Standard for Industrial Machinery”; and
- v. ANSI/IAF-9 (2005), “American National Standard for Aquatic Recreation Facilities.”

4. The following standards are adopted and are available from the American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, Virginia 20191-4400:

- i. ASCE 7 (1998), Minimum Design Loads for Buildings and Other Structures; and
- ii. ASCE 16 (1995) Standard for Load and Resistance Factor Design (LRFD) for Engineered Wood Construction;

5. The following standards are adopted and are available from the ASTM International, 100 Barr Harbor Drive, P.O. Box C700, W. Conshohocken, PA 19428-2959:

- i. ASTM E 84, “Test Method for Surface Burning Characteristics of Building Materials”;
- ii. ASTM F 698-94, “Specification for Physical Information to be Provided for Amusement Rides and Devices”;
- iii. ASTM F 747-97, “Terminology Relating to Amusement Rides and Devices”;
- iv. ASTM F 770-93, “Practice for Operation Procedures for Amusement Rides and Devices”;
- v. ASTM F 846-92, “Guide for Testing Performance of Amusement Rides and Devices”;
- vi. ASTM F 853-04, “Practice for Maintenance Procedures for Amusement Rides and Devices”;

(d) Book-on rides included after initial notification in (b) above shall provide the same information as in (b)2 and 3 above.

(e) When a book-on ride is included outside of the initial notification, the owner shall give at least 72 hours advance notice to the Department before the ride is placed in operation.

5:14A-9.3 Daily maintenance and operations inspections and tests

(a) Operators shall not operate any ride that has not had a daily maintenance inspection and operational inspection, if applicable, and checklist done prior to opening to the public on that day.

(b) Daily maintenance checklists and operational checklists, if applicable, are to be completed by a qualified person experienced and instructed in the proper operation and maintenance as per the manufacturer's specifications of the ride. Maintenance and operations shall be performed within the timeframe specified in the maintenance or operating manual and records shall be made and retained in compliance with N.J.A.C. 5:14A-4.7.

(c) The Department shall not inspect or issue a permit for a carnival-amusement ride without a current copy of the following items being on site and available to the inspector:

1. The manufacturer's set up and assembly manual;
2. The manufacturer's maintenance manual;
3. The manufacturer's operation manual;
4. The daily maintenance inspection and checklist;
5. The daily operational inspection and checklist;
6. The daily maintenance log; and
7. The NDT plan, if applicable.

(d) The maintenance or operational checklist shall include, but not be limited to, the following:

1. The name of the ride being checked;
2. The name and signature of person completing the checklist;
3. The date of the checklist;
4. A detailed list and description of all items being checked. Items listed shall be at a minimum those required by the manufacturer; and
5. Testing within the timeframe specified in the operating manual of all control devices, speed-limiting devices, block system, emergency brakes, automatic and manual lowering devices and any other equipment provided for safety.

(e) A daily maintenance log shall be kept for all work performed on each ride. The daily maintenance log entry shall include, but not be limited to, the following:

1. The name of the ride;
2. The name and signature of the maintenance person or persons performing the maintenance; and
3. The nature of the work, for example, malfunction, maintenance, violation abatement, etc.;
 - i. If other than routine maintenance, a notation as to the reason;
 - ii. If safety bulletin, a reference to the manufacturer's bulletin;
 - iii. If "order to cease violations" issued by a regulatory agency, a reference to said order;
 - iv. Account of all work performed and all parts repaired or replaced;
 - v. A copy of the manufacturer's recommendations for repair or repair procedures, if any.

(f) The maintenance checklist shall be done prior to the ride being opened to the public. The maintenance checklist may be done by the same person that will be operating the ride as long as that individual is qualified to perform the maintenance checklist.

(g) After all required maintenance is completed and prior to opening the ride to the public, the ride operator shall perform the operational inspection and complete the checklist.

(h) Individual tubs, sweeps, vehicle chassis, bents, towers, and supports to ground shall be uniquely identified and marked with no more than a combination of six characters or numbers to facilitate identification during maintenance and inspection.

5:14A-9.4 Identification, data plates and manufacturer's information

(a) A data plate that conforms to the requirements of N.J.A.C. 5:14A-7.7 shall be affixed to each ride.

1. Where no manufacturer's serial number is available and the ride was manufactured prior to December 16, 2002, an identification number supplied by the owner and registered with the Department shall be used.

Amended by R.2007 d.75, effective March 19, 2007.
See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

In the introductory paragraph of (a), updated the N.J.A.C. reference.

5:14A-9.5 Inspection after assembly

An amusement ride shall be inspected for compliance with the manufacturer's assembly requirements by a qualified person each time the ride is assembled.

5:14A-9.6 Prohibited use

(a) No person shall knowingly use or permit to be used an amusement ride which is not properly assembled or which is defective or unsafe in any of its parts, components, controls or safety equipment.

(b) No ride shall be used if all manufacturer's requirements, based on current bulletins, have not been completed.

(c) No ride shall be used without a current Certificate of Compliance issued by the local fire inspector, if required.

(d) No ride shall be used without a valid Certificate of Occupancy or Certificate of Approval issued by the local construction official, if required.

(e) No ride shall be used without a current and valid annual ride permit except as allowed by this chapter.

(f) No ride shall be used without a New Jersey State serial number except as allowed by this chapter.

(g) No ride with a maximum safe operating wind speed shall be used if the wind velocity exceeds the manufacturer's recommended safe operating wind speed. Wind speeds shall be measured with an anemometer mounted at a high point capable of being read from ground level or the operations office or tied into the control system to prohibit starting or to shut down the ride if operating.

(h) No ride shall operate after being issued a shut down order from the Department until the ride has had and passed a complete inspection by the Department unless the order allows operation to resume or unless re-inspection is waived by the Department.

(i) No ride requiring NDT shall be operated without the receipt of a current NDT report by the Department based on the current NDT plan filed with the Department.

(j) No ride shall be permitted to operate without correction of all items on the list of non-conformances issued by the inspector unless the inspector gives the operator a specific completion date and permission to operate until that date.

5:14A-9.7 Site layout

(a) The site on which rides are to be erected shall be reasonably:

1. Free of large rocks and debris that might pose a hazard;
2. Well maintained to ensure safe operation;
3. Free of holes that might pose a hazard;
4. Sufficiently level to allow safe operation of the ride; and

5. Far enough away from vehicle traffic to provide a safe environment for the public.

(b) Wherever required by the manufacturer, proper protection between the amusement device and the ground shall be provided.

(c) Whenever foundations are required for a ride, the owner shall submit the required documentation pursuant to N.J.A.C. 5:14A-2.12 and 2.13.

5:14A-9.8 Control of operation

(a) All amusement rides shall have an operating manual. The owner of an amusement ride shall operate the ride in accordance with the manufacturer's operating manual. In the absence of a manufacturer's operating manual, the owner shall write an approved operating manual. Where any conflict occurs between the operating manual and this chapter, this chapter shall govern. The operating manual shall be kept at the site where the ride is in use and shall be available for use by the Department.

(b) The owner shall ensure compliance with the requirements of N.J.A.C. 5:14A-4.8 for ride operators.

(c) The ride operator shall not allow anyone obviously under the influence of alcohol or drugs to ride the ride.

(d) The ride operator shall operate no more than one ride at any given time.

(e) The ride operator shall monitor the riders until the ride is completed.

(f) The correct number of operators necessary to safely operate the ride, based on the operating manual, shall be on site and in the correct location(s).

(g) The Department may require additional operators in the event of "blind spots." An additional operator with emergency stop capabilities shall be stationed in each "blind spot" location during operations.

(h) An operator shall not leave the ride unattended without disabling the controls so the ride cannot be started by unauthorized persons. If the ride is left unattended and disabled during an operational day, the operator, upon returning, shall run a complete cycle of the ride.

(i) The operator or operator assistants shall check each and every restraint, constraint, seatbelt, lap bar and any other device used in securing riders into a vehicle individually to assure that it is locked properly and that the rider fits properly in the safety system.

(j) Additional operation start button(s) shall be provided where loading and unloading operations are being performed in an extended area where safety restraints, harness and other devices are required to prevent ejection from the ride during operations. The start button(s) shall work in series in that all

button(s) shall be depressed by operators before the ride will start.

(k) The operator or operator assistant shall check the height, weight or size of riders, as applicable, with the height mark, scale or other means of measurement provided by the owner. The means of measurement shall enable the operator to determine whether a rider meets the required limit in a "go, no go" fashion. No one who does not meet the required limits shall be permitted to ride the ride.

1. When the weight of a rider is used to determine entry to or use of an amusement ride, an accurate scale shall be provided.

2. A rider not meeting the approved height restriction may be accompanied by a companion if provided for in the manufacturer's operations manual or otherwise specified by the manufacturer. Companions shall meet any requirements given in the manufacturer's specifications. The larger person shall be by the exit door to ensure it stays closed and latched during operation unless this arrangement of riders creates a conflict with (k)3 below.

3. Where riders are of disparate sizes, riders shall be placed in the ride such that any action caused by centrifugal forces shall push the weight of the lighter rider into the heavier rider.

iii. Section 12.2.3 shall be deleted in its entirety.

iv. Section 12.2.4 shall be deleted in its entirety.

11. Section 13, Water supply, shall be amended as follows:

i. Section 13.1: The words "article 15" shall be deleted and the words "N.J.A.C. 8:26" shall be inserted.

12. Section 15, Sanitizing equipment, chemical feeders, and chemical operational parameters, shall be amended as follows:

i. Section 15.1 shall be deleted in its entirety and the words "Sanitizing and chemical feeder system(s) shall be designed and constructed to conform to the requirements of N.J.A.C. 8:26" shall be inserted.

ii. Section 15.2 shall be deleted in its entirety.

iii. Section 15.3 shall be deleted in its entirety.

iv. Section 15.4 shall be deleted in its entirety.

v. Section 15.5 shall be deleted in its entirety.

vi. Section 15.6 shall be deleted in its entirety.

vii. Section 15.7 shall be deleted in its entirety.

13. Section 17, Restroom and sanitary facilities, shall be deleted in its entirety.

14. Section 19, Food consumption, shall be deleted in its entirety.

15. Section 20, Operations, shall be deleted in its entirety.

16. Section 21, Entries/exits, stairs and ladders, swim-outs, and benches, shall be amended as follows:

i. Add new section "21.9.8 Underwater seats and benches shall not be permitted in water depths of five feet or greater."

17. Section 22, Signs, shall be deleted in its entirety.

18. Section 23, Entry and exit requirements for persons with disabilities, shall be deleted in its entirety.

(d) The ANSI standard ANSI/IAF-9 may be obtained from:

American National Standards Institute
11 West 42nd Street
New York, NY 10036

SUBCHAPTER 13. INFLATABLE RIDES

5:14A-13.1 Title; scope; intent

(a) This subchapter, adopted pursuant to authority of the Carnival-Amusement Rides Safety Act and entitled "In-

flatable Rides," shall be known and may be cited throughout the regulations as N.J.A.C. 5:14A-13, and when referred to in this subchapter may be cited as "this subchapter."

(b) The purpose of this subchapter is to provide reasonable standards for the design, construction, and operation of inflatable amusement rides as a separate class of rides. The requirements contained in this subchapter are intended to supplement the requirements found in the balance of this chapter.

(c) This subchapter shall apply to inflatable devices that are designed to allow riders to bounce, slide or be supported on them. The structures shall be fabricated from flexible material, kept inflated by one or more blowers, and rely on air pressure to maintain their shape.

(d) When an individual component may be used as a stand-alone ride, the review, registration, permitting, and inspection of attachable rides shall be based on the individual components of the ride.

5:14A-13.2 Type classification

(a) Air-supported structures shall be classified as one of the following four types:

1. Type 1 shall be air-supported structures that are:

i. Either sealed or continuously or intermittently inflated; and

ii. Are intended to have no human inside or supported by it during operation.

iii. Examples shall include, but not be limited to, ball throws and golf simulators;

2. Type 2 shall be air-supported structures that are either:

i. Sealed or continuously or intermittently inflated; and

ii. That allow entry by the public, but where the public is not supported by the structure. Occupants stand on the ground.

iii. Examples shall include, but not be limited to, inflatable buildings and entrance gates;

3. Type 3 shall be air-supported structures that are sealed, and:

i. Are intended to be occupied or ridden by the public; and

ii. That the public enters or mounts.

iii. Examples shall include, but not be limited to, pillows and ball crawls; or

4. Type 4 shall be air-supported structures that are continuously or intermittently inflated by a mechanical device, and:

- i. Are intended to be occupied or ridden by the public; and
- ii. That the public enters or mounts.

iii. Examples shall include, but not be limited to, moonwalks and inflatable slides.

(b) Air-supported structures, Type 4, as described in (a) above, shall be considered amusement rides, regardless of their location, and shall comply with this subchapter.

(c) Air-supported structures, Types 1 and 2, as described in listed in (a) above, shall not be considered rides.

1. A building permit pursuant to the Uniform Construction Code, N.J.A.C. 5:23, shall be required for a tensioned membrane structure of more than 900 square feet or greater than 30 feet in any dimension or of any size if it contains appurtenances such as platforms or electrical equipment.

2. Owners may apply for a ride permit in lieu of a building permit when such structures are to be located with amusement rides subject to the Act.

(d) Air-supported structures, Type 3, as described in (a) above, shall be considered amusement rides only when located with other rides covered by the Carnival-Amusement Rides Safety Act.

1. A building permit pursuant to the Uniform Construction Code, N.J.A.C. 5:23, shall be required when such a structure is not located with other rides covered by the Carnival-Amusement Rides Safety Act and the structure is more than 900 square feet or greater than 30 feet in any dimension or of any size if it contains appurtenances such as platforms or electrical equipment.

5:14A-13.3 Type certification

(a) Prior to selling the units to ride owners in the State, manufacturers shall obtain from the Department the applicable type certification for their inflatable rides.

(b) Registration of one inflatable ride design per application is required.

(c) Manufacturers shall submit the following documentation for each inflatable ride:

1. An illustration or picture of the ride;
2. A description of the ride (height, width, length, and, if applicable, slide length);
3. Calculations for tie-down requirements for both soft and hard surfaces with a list of the requirements;
4. Operation, maintenance, and set-up manuals as required by N.J.A.C. 5:14A-2.14 and 13.6;
5. Design calculations per inflatable ride, or class of ride if the wind load areas are comparable, indicating the number of anchorage points and anchor size based upon live and wind loads. The calculations shall be signed and sealed by a licensed professional engineer; and

6. Flame resistant standards to which all materials used in the fabrication of the ride were tested and which those fabrics passed. Fabric manufacturer test certifications shall be available from the ride manufacturer for each inflatable unit.

5:14A-13.4 Individual approval

An owner may apply for an individual approval of a ride that has not been type certified. Such application shall contain the same information required for type certification in N.J.A.C. 5:14A-13.3.

5:14A-13.5 Design and construction

(a) The inflatable ride shall be constructed to sustain appropriate design loads.

(b) The inflatable ride design shall ensure that no parts of the device or ancillary equipment, such as sharp edges or exterior angles, are accessible to users that may cause injury if contact is made with them.

(c) The inflatable ride design shall have no significant trapping points between adjacent surfaces.

(d) The outside walls shall be sufficient in height and strength, and shall be attached to the base, to prevent riders from bouncing over the wall and to prevent the wall from collapsing if run into by a rider.

1. When the inflatable ride design allows for jumps, obstacles, or other structures upon which a rider may climb, the ride shall provide an extended base or floor beyond the main area of the ride to ensure that the rider does not fall outside the ride.

(e) The number and maximum size or weight of riders that the structure can safely hold at any one time shall be specified in the operating manual.

(f) The design shall be such that no one can be injured or trapped by deflation, and deflation time shall be sufficient to allow the structure to be safely evacuated.

(g) Designs with open fronts that serve as both an entrance and an exit to a ride shall have a safety mat if the base of the inflatable ride is more than 7.5 inches above the ground. The minimum distance this "step" shall extend from the inflatable ride shall be 36 inches.

5:14A-13.6 Manuals

(a) The operations manual shall contain a description of the ride, its intended use, and full operating instructions. At a minimum, the manual shall contain:

1. The number of required operators;
2. An emergency evacuation plan;
3. Disassembly, cleaning and storage instructions;

4. Information on setting up and maintaining the inflatable ride may be in the operations manual or in separate maintenance and erection and assembly manuals;
5. Instructions and drawings that clearly describe the steps to be followed in the assembly and inflation, and the disassembly and deflation; and
6. The number of anchorage points per inflatable ride.

5:14A-13.7 Anchorage

- (a) The number of anchorage points per inflatable ride shall be clearly indicated and pictured in the manuals.
- (b) The size and number of anchorage points shall be adequate for the structure, and take into account live and wind loads.
- (c) Anchors may be straight stakes, screw stakes, ground weights or sandbag ground anchors, and shall be specifically described within the inflatable ride design documents. If substitutions are allowed by the manufacturer, such substitutions shall be clearly indicated in the design documents and manuals
- (d) Ground stakes shall be a minimum of 40 inches long for slides 15 feet or higher.
- (e) Manufacturers shall include one set of ground anchors with each inflatable ride.
- (f) All anchors shall be protected to prevent them from being a hazard to the public.

5:14A-13.8 Ride loading and unloading

- (a) Safe and adequate means of loading and unloading from amusement rides shall be provided.
- (b) For completely enclosed, dark structures:
 1. Exits shall be marked by readily visible signs in compliance with IBC 2000, Section 1003.2.10 in all cases where it is not immediately visible to the riders;
 2. An independent system shall be provided for any lighting, emergency lighting, and loudspeaker system;
 3. The electrical installation shall conform to Article 700 of the electrical subcode; and
 4. Structures designed to accommodate more than 50 people shall have more than one exit at opposite ends or sides. All additional exits shall be clearly marked as exits and shall have a latching gate, door, or an operator to prevent entrance at that point.
- (c) For structures not covered by (b) above:
 1. Entrances and exits shall be clearly marked as such and shall be staffed at each location;

2. Riders waiting to board the ride shall be in a controlled area and shall not be permitted to gather around the entrance; and
3. If rides have exits as well as entrances, the exit shall be staffed and a fenced area shall direct riders away from any equipment, such as generators or transportation equipment.

5:14A-13.9 Materials

- (a) Knitted and woven fabrics, whether coated or uncoated (such as netting, webbing, and fabrics), shall meet the specifications of NFPA 701, Standard Methods of Fire Test for Flame Resistant Textiles and Films, or an equivalent standard.
- (b) Foam padding shall meet the requirements of ASTM F 1918, Section 11.5.2

5:14A-13.10 Electrical equipment, wiring and generators

- (a) Blowers shall be specific to the inflatable ride to avoid over inflation and possible rupture or under inflation, and shall be suitably guarded at the inlet and outlet. Blowers shall not be sited internally unless they are in a part of the structure not used by riders and out of possible contact with riders.
- (b) Extension cords shall be of minimum length, proper gauge, and connected to a GFCI (ground fault circuit interrupter) receptacle.
- (c) Extension cords shall not be connected.
- (d) Extension cords shall be protected and secured so as not to present a tripping hazard.
- (e) When an electrical generator is used, the generator shall:
 1. Be in good operating condition;
 2. Be free from leaks;
 3. Have a proper spark arresting muffler arranged such that the exhaust fumes are directed away from the blower intake;
 4. Have circuit protection with ground fault interrupt outlets; and
 5. Be located at a safe distance from the inflatable ride and the public.
- (f) All riders shall be removed from the inflatable ride during refueling of the generator.

5:14A-13.11 Fire prevention

Fire prevention shall be provided per N.J.A.C. 5:14A-9.23.