

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.

i. In the case of any rider or gravity propelled ride, including, without limitation, any water slide under 15 feet or any water-based recreation equipment, located in a youth day camp, the Department shall accept a valid Certificate of Approval from the Department of Health and Senior Services as evidence of compliance with the requirements of this chapter.

(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.

Amended by R.2011 d.129, effective May 2, 2011.
See: 43 N.J.R. 83(a), 43 N.J.R. 1203(b).
Added (d)4i.

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 erected to remain a part of the premises and not intended to be relocated. This definition also means and includes all amusement rides that are not mobile rides.

“Fixed location” or “fixed site” means an amusement area sited for more than 60 days during a 90-day period.

“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 the act of keeping an amusement ride in its existing state; preserving from failure or decline. This may include, but is not limited to, cleaning, painting, adjusting, lubricating, inspecting, and testing.

“Maintenance technician (MT)” means a person who has the degree of competence necessary, via documented training and/or experience, to perform assigned maintenance, set-up, or repair of amusement rides.

“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.

“Minor repair” means a repair, which does not involve a load-bearing structural member, requires minimal disassembly and assembly, and is accomplished using general or required hand tools of the trade. This may include, but is not limited to, replacement of electrical fuses and lamps operating at less than 150 volts to ground, patching of inflatable fabric, and patching of fiberglass.

“Mobile ride” or “portable amusement ride” means an amusement ride that is designed, constructed, and maintained to be readily disassembled and transported from one site to another and is intended to be relocated when environmental conditions exceed design criteria. The ride shall also have been designated by the manufacturer as a mobile or portable ride.

“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 who performs work not reserved to a maintenance technician or RCMT and who has the degree of competence necessary to perform assigned work on an amusement ride.

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

“Recognized certified maintenance technician (RCMT)” means an individual qualified in accordance with the provisions of N.J.A.C. 5:14A-2.18.

“Record” means writings, drawings, graphs, charts, checklists, logs, electronically stored information and any other data or data compilations stored in any medium from which information can be obtained and translated into a reasonably useable form.

“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.

“Ride perimeter” means the perimeter of the area recommended for safe operation of an amusement ride by the ride manufacturer.

“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.

“Set-up” means to assemble and erect a portable amusement ride for use by patrons, as described in the set-up manual (N.J.A.C. 5:14A-2.14).

“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”.
Amended by R.2008 d.355, effective December 1, 2008.
See: 39 N.J.R. 4474(a), 40 N.J.R. 6767(a).

In definition “Fixed amusement ride”, substituted “is erected to remain a part of the premises and not intended to be relocated” for “is designed to resist all applicable environmental loads for its intended location and is located at a fixed location”; in definition “Fixed location”, substituted “an amusement area” for “a location where an amusement ride is” and “more than 60 days during a 90-day period” for “operation with permanent foundations, electrical, and plumbing, as required”; rewrote definition “Mobile ride”; and added definitions “Ride perimeter” and “Set-up”.

Amended by R.2009 d.99, effective April 6, 2009.
See: 40 N.J.R. 5095(a), 41 N.J.R. 1394(a).

Rewrote definitions “Maintenance” and “Qualified person”; and added definitions “Maintenance technician (MT)”, “Minor repair”, “Recognized certified maintenance technician (RCMT)” and “Record”.

Case Notes

Initial Decision (2010 N.J. AGEN LEXIS 314) adopted, which found that respondent’s Eurobobble was a Type 4 inflatable carnival amusement ride requiring a permit; although the orb standing alone did not have any mechanical devices, the blower was an essential and integral part of the ride. Bureau of Code Services v. Nadler, OAL Dkt. No. CAF 6136-10, 2010 N.J. AGEN LEXIS 845, Final Decision (July 27, 2010).

Initial Decision (2009 N.J. AGEN LEXIS 550) adopted, which found that, in the Bureau’s action against an individual and his company for alleged electrical code violations relating to a traveling carnival business, the amusement rides were in “use” for purposes of inspection because the term included empty and non-moving rides and the inspector was authorized to require the carnival operator to demonstrate that the

ride was powered and ready for the public; additionally, any ride on site was presumed to be operational unless there was proper signage to the contrary. *Bureau of Code Services v. Cooke*, OAL Dkt. No. CAF 01837-09, 2009 N.J. AGEN LEXIS 607, Final Decision (August 20, 2009).

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”;

- vii. ASTM F 893-04, "Guide for Inspection of Amusement Rides and Devices";
- viii. ASTM F 1159-03a, "Practice for Design and Manufacture of Patron Directed, Artificial Climbing Walls, Dry Slide, Coin Operated and Purposeful Water Immersion Amusement Rides and Devices and Air-Supported Structures";
- ix. ASTM F 1193-04, "Practice for Amusement Ride and Device Manufacturer Quality Assurance Program and Manufacturing Requirements";
- x. ASTM F 1918-98, "Standard Safety Performance Specification for Soft Contained Play Equipment";
- xi. ASTM F 1957-99, "Test Method for Composite Foam Hardness Durometer Hardness";
- xii. ASTM F 2007-00, "Practice for the Classification, Design, Manufacture, and Operation of Concession Go Karts and Facilities";
- xiii. ASTM F 2137-01, "Practice for Measuring the Dynamic Characteristics of Amusement Rides and Devices";
- xiv. ASTM F 1305-94, "Guide for the Classification of Amusement Ride and Device Related Injuries and Illnesses";
- xv. ASTM F 1950-99, "Specifications for Physical Information to be Transferred with Used Amusement Rides and Devices";
- xvi. ASTM F 2291-04, "Practice for Design of Amusement Rides and Devices";
- xvii. ASTM F 2374-04, "Practice for Design, Manufacture, Operation, and Maintenance of Inflatable Amusement Devices";
- xviii. MIL-STD-17 (2000), "The Composite Material Handbook";
- xix. Mil-STD-882C (1993), "System Safety Program Requirements";
- xx. STP-1330, "Composite Materials: Fatigue and Fracture, 7th Volume";
- xxi. ASTM F 1292-99, "Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment";
- xxii. ASTM F 1772-99, "Standard Specification for Climbing Harnesses";
- xxiii. ASTM F 1773-97, "Standard Terminology Relating to Climbing and Mountaineering Equipment";
- xxiv. ASTM F 1774-99, "Standard Specifications for Climbing and Mountaineering Carabiners";
- xxv. ASTM F 1775-97, "Standard Specifications for Labeling of Climbing and Mountaineering Equipment";
- xxvi. ASTM F1487-01, "Consumer Safety Performance Specification for Playground Equipment for Public Use";
- xxvii. ASTM F 2376-06, "Standard Practice for Classification, Design, Manufacture, Construction, and Operation of Water Slide Systems"; and
- xxviii. ASTM F1292-99, "Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment";
6. The following standards are adopted and are available from the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126:
- i. ANSI/AWS D1.1/D1.1M (2002), "Structural Welding Code – Steel"; and
- ii. ANSI/AWS D14.4 (1997), "Specification for Welded Joints in Machinery and Equipment";
7. CDC 95th Percentile is adopted and is available from the National Center for Health Statistics at <http://www.cdc.gov/growthcharts>;
8. The following standards are adopted and are available from the MIT Press, 5 Cambridge Center, Cambridge, MA 02142-1493:
- i. Dreyfuss Human Scale 4/5/6;
- ii. Dreyfuss Human Scale 7/8/9;
9. The following standards are adopted and are available from the European Committee for Standardization, Central Secretariat, rue de Stassart 36, B-1050 Brussels, Belgium:
- i. EN 954-1 (1996), "Safety of Machinery—Safety-related parts of control systems—Part 1: General principles for design";
- ii. EN 1050 (1996), "Safety of Machinery—Principles for Risk Assessment";
- iii. EN 61496, "Safety of Machinery—Electro-sensitive protective equipment";
- iv. EN 1993-1-9 (2001), "Eurocode 3 Design of Steel Structures. Part 1.9 Fatigue Strength of Steel Structures";
- v. EN 1993-1-9 (2001), "Eurocode 3 Design of Steel Structures. Part 6.9 Crane Support Structures-Fatigue Strength";
- vi. EN 60947-1 (1999), "Low Voltage Switchgear and Controlgear";
- vii. EN 280 (2001), "Mobile Elevating Work Platforms — Design Calculations, Stability Criteria, Construction, Safety, Examination and Test";
- viii. EN 566 (1997), "Mountaineering equipment — Slings — Safety requirements and test methods";

- ix. EN 892 (1997), "Mountaineering equipment — Dynamic mountaineering ropes — Safety requirements and test methods";
 - x. EN 12275 (1998), "Mountaineering equipment — Connectors — Safety requirements and test methods";
 - xi. EN 12277 (1998), "Mountaineering equipment — Harnesses — Safety requirements and test methods"; and
 - xii. EN 12572 (1999), "Artificial climbing structures — Protection points, stability requirements, and test methods";
10. IBC—2000, "International Building Code," is adopted and available from the Building Officials and Code Administrators International, Inc., 4051 West Flossmoor Road, Country Club Hills, Illinois 60478-5795;
11. The following standards are adopted and are available from the International Electrotechnical Commission 3, rue de Varembé, P.O. Box 131, CH - 1211 Geneva 20, Switzerland;
- i. IEC-61508-1 (1999), "Functional safety of electrical/electronic/programmable electronic safety-related systems";
 - ii. IEC-60204-1 (2000), "Safety of Machinery – Electrical Equipment of Machines – Part 1 General Requirements";
 - iii. IEC-61496-1 (1998), "Safety of Machinery – Electrosensitive Protective Equipment – General Requirements and Tests";
 - iv. IEC-61511, "Functional Safety: Safety Instrumented Systems for the Process Industry Sector"; and
 - v. IEC-62061, "Safety of Machinery – Functional Safety – Electrical, Electronic, and Programmable Electronic Systems";
12. ISO 4414 (1998), "Pneumatic Fluid power - General rules relating to systems," is adopted and is available from the National Fluid Power Association, 3333 North Mayfair Road, Milwaukee, Wisconsin 53222-3219;
13. NDS—91, "National Design Specifications for Wood Construction," is adopted and is available from the American Forest and Paper Association, 1250 Connecticut Avenue/Suite 200, Washington, DC 20036;
14. The following standards are adopted and are available from the National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101:
- i. NFPA 10 1998, "Portable Fire Extinguishers";
 - ii. NFPA 70 (2005), "National Electrical Code";
 - iii. NFPA 79 1997, "Electrical Standard for Industrial Machinery";
 - iv. NFPA 261 1998, "Standard Method of Test for Determining Resistance of Mock Up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes;";
 - v. NFPA 701 1996, "Methods of Fire Tests for Flame Resistant Textiles and Films";
 - vi. NFPA 705 1997, "Recommended Practice for a Field Flame Test for Textiles and Films"; and
 - vii. NFPA-101 (2000), "Life Safety Code";
15. The following standards are adopted and are available from the National Fluid Power Association, 3333 North Mayfair Road, Milwaukee, Wisconsin 53222-3219:
- i. NFPA/T2.24.1R1-2000, "Hydraulic fluid power —Systems Standard for Stationary Industrial Machinery";
 - ii. NFPA/JIC T2.25.1M-1986, "Pneumatic fluid power—Systems Standard for Industrial Machinery";
16. OIPEEC Standards, Organisation Internationale Pour L'Etude De L'Endurance Des Cables International, are adopted and are available from The University of Reading, Department of Engineering, P.O. Box 225, Reading RG6 6AY, UK;
17. The following standards are adopted and are available from the SAE World Headquarters, 400 Commonwealth Drive, Warrendale, PA 15096-0001:
- i. SAE J211 (1995), "Instrumentation for Impact Test—Part 1—Electronic Instrumentation";
 - ii. SAE J833 (1989), "Human Physical Dimensions"; and
 - iii. SAE HS 4000 (1999), "Fastener Standards";
18. The following standards are adopted and are available from the Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, Illinois 60062-2096.
- i. UL 508 (2000), "Industrial Control Equipment"; and
 - ii. UL 508A (2000), "Industrial Control Panels";
19. The following standards are adopted and are available from the American Society of Metals International, 9639 Kinsman Road, Materials Park, OH 44073-0002.
- i. ASM Atlas of Fatigue Curves (1986); and
 - ii. ASM Handbook Volume 19: Fatigue and Fracture;
20. The following standards are adopted and are available from the American Society of Mechanical Engineers, ASME International Headquarters, Three Park Avenue, NY, NY 10016-5990:

- i. ASME B15.1-2000, "Safety Standard for Mechanical Power Transmission Apparatus"; and
 - ii. ASME A17.1-2002, "Safety Code for Elevators and Escalators";
21. The following standards are adopted and are available from the British Standards Institute, 389 Chiswick Road, London W4 4AL, UK.
- i. BS 5400-10 (1980), "Steel, Concrete and Composite Bridges – Code of Practice for Fatigue"; and
 - ii. BS 7608 (1993), "Code for Practice for Fatigue Design and of Steel Structures";
22. "DIN 15018-1 Cranes; Steel Structures Verification and Analysis Data" is adopted and is available from the Beuth Verlag GmbH (DIN – DIN Deutsches Institut für Normung e.V.), Burggrafenstraße 6, 10787 Berlin, Germany;
23. "Hollow Structural Section Connection and Trusses – A Design Guide," J.A. Parker and J. E. Henderson, is adopted and is available from Canadian Institute of Steel Construction;
24. "USDA-72 (U.S. Department of Agriculture) The Wood Handbook – Wood as an Engineering Material, Forest Service, Forest Products Laboratory," is adopted and is available from Federal Documents;
25. "NEMA 250 (1997) Enclosures for Electrical Equipment" is adopted and is available from National Electric Manufacturers Association (NEMA), 1300 N. 17th St., Suite 1847, Rosslyn, VA 22209; and
26. The following standards are adopted and are available from the Union Internationale des Associations d'Alpinisme, Monbijoustrasse 61 Pastfach, CH-3000 Bern 23, Switzerland:
- i. UIAA 101 (2004), "Mountaineering and climbing equipment - Dynamic Ropes";

- ii. UIAA 104 (2004), "Mountaineering and climbing equipment - Slings";
- iii. UIAA 105 (2004), "Mountaineering and climbing equipment - Harnesses"; and
- iv. UIAA 121 (2004), "Mountaineering and climbing equipment - Connectors."

27. The following standards are adopted and are available from the U.S. Government Printing Office (GPO), 732 N. Capital Street N.W., Washington, D.C. 20401:

- i. 16 CFR Part 1303(1/04), "Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint."

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

Rewrote the section.

Amended by R.2008 d.44, effective March 3, 2008.
See: 39 N.J.R. 2405(a), 40 N.J.R. 1079(a).

In (a)5xxix, (a)9vi and (a)24, deleted "and" from the end; added (a)5xxxi through (a)5xxv, (a)9viii through (a)9xii, and (a)26; and in (a)25, substituted "; and" for the period at the end.

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

In (a)3iii, deleted "and" from the end"; in (a)3iv, inserted a comma following "(1987)", inserted quotation marks around "Pneumatic Fluid Power System Standard for Industrial Machinery" and inserted "; and" at the end; added (a)3v; in the introductory paragraph of (a)5, substituted "ASTM International" for "American Society for Testing and Materials"; in (a)5xxiv, deleted "and" from the end; added (a)5xxvi through (a)5xxviii; in (a)14ii, substituted "(2005)" for "2002"; and added (a)27.

SUBCHAPTER 2. GENERAL ADMINISTRATIVE PROVISIONS

5:14A-2.1 Title; scope; intent

(a) This subchapter of the regulations, adopted pursuant to authority of the Carnival-Amusement Rides Safety Act and entitled "General Administrative Provisions," shall be known

3. For an application to be complete and acceptable, there shall be no outstanding documentation required from previous years; and there shall be no outstanding violations; and

4. The name and address for official correspondence, pursuant to N.J.A.C. 5:14A-4.15.

(f) For rides without a New Jersey serial number:

1. An application for an annual permit shall include the following information and shall be submitted on a form provided by the Department:

i. Required proof of insurance and fee, as stated in (d) above;

ii. Type certification/amended type certification number or individual approval/supplemental modification certification;

iii. Certification of the fabrication of the ride. (Certification of weld integrity shall be acceptable for a used ride, when the ride manufacturer does not provide a certification of fabrication.);

iv. A copy of certification that the manufacture has tested the ride in accordance with ASTM F 846 and determined that the ride is satisfactory. (Certification of testing from the ride owner shall be acceptable for a used ride, when the ride manufacturer does not provide a certificate.);

v. Certification of training;

vi. The name and address for official correspondence, pursuant to N.J.A.C. 5:14A-4.15; and

vii. For rides sited on foundation(s) or a separate structure, applicable documentation of N.J.A.C. 5:14A-2.13, Foundations for and siting of rides at fixed locations.

2. There shall be no outstanding documentation required from previous years and there shall be no outstanding violations.

3. When the Department's review determines that the ride information is complete and accepted, a New Jersey serial number shall be assigned, the annual permit shall be printed, and the annual permit and a New Jersey serial number plate shall be sent via first class mail to the owner at the address of record.

(g) Within 30 calendar days of receipt a complete and accepted application, the Department shall send to the applicant either a notification of approval or denial of the permit application.

1. The denial shall be in writing and shall outline the reason(s) for such denial.

2. Failure to issue a determination within 30 calendar days of submission of a complete application shall be deemed a denial for the purpose of appeal.

(h) The annual permit issued by the Department shall be continuously displayed in the vicinity of the entrance to the ride or where the inspector affixed it. The permit shall be encased in such a manner as to be protected from weather conditions.

(i) A duplicate plate may be obtained from the Department at a cost of \$100.00 for each plate.

(j) A duplicate permit may be obtained from the Department at a cost of \$20.00 for each permit.

(k) A ride for which no foundation is required may be moved during the season without obtaining a new annual permit. In this case, the owner shall notify the Department of the move. The ride shall be required to be inspected prior to being put back into use. Rides that are to be located on another structure shall comply with the siting requirements of N.J.A.C. 5:14A-2.13.

(l) When a ride for which a foundation is required is moved, it shall comply with the fixed site requirements of N.J.A.C. 5:14A-2.13 and shall obtain a new annual permit pursuant to this section.

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

In (c)1, deleted "and" from the end; in (c)2, substituted "; and" for a period at the end; added (c)3; in d(2), deleted "and" from the end; in (d)3, substituted "; and" for a period at the end; added (d)4; and rewrote (e).

Amended by R.2008 d.54, effective March 3, 2008.
See: 39 N.J.R. 2409(a), 40 N.J.R. 1082(a).

In (c)3, (d)4, and (e)1vi, substituted "official correspondence from the Department" for "service of process".

Amended by R.2008 d.370, effective December 15, 2008.
See: 40 N.J.R. 4650(b), 40 N.J.R. 6957(b).

Added new (b); recodified former (b) through (k) as (c) through (l); and in (f)1i, substituted "(d)" for "(c)".

Amended by R.2009 d.50, effective February 2, 2009.
See: 40 N.J.R. 5316(a), 41 N.J.R. 727(a).

Rewrote (d)3, (e)4 and (f)1vi.

5:14A-2.11 Inspections

(a) For all inspections, the owner, operator or manufacturer shall ensure that the ride is ready.

1. Where required, personnel shall be available to operate the ride at the scheduled inspection time.

2. Where required, power shall be provided to operate the ride.

3. If the ride is not ready at the time of the scheduled inspection, it shall be deemed to have failed the inspection. Another inspection shall be required to be scheduled.

(b) Following any pre-season or pre-operational inspection, the inspector shall provide a deficiencies list to the owner.

1. When the ride is presented as ready for opening to the public, any non-conformances from the deficiencies list that have not been corrected shall become violations and shall be included in an "Order to Cease Violations."

(c) Annual inspection: An annual inspection shall be performed before a ride operates each year. The annual inspection shall include, but not be limited to:

1. A review of the maintenance records, including periodic check lists;
2. A review of operator training records;
3. A review of required non-destructive testing records if these records were not submitted with the application;
4. A complete mechanical inspection, which may require the ride to be partially disassembled;
5. An operating inspection, during which all safety systems shall be checked and the ride shall be cycled as it is during normal operation; and
6. A test and inspection of the full emergency brake or anti-rollback system, as applicable.

(d) Reassembly inspection: The Department may perform a reassembly inspection at any new set-up. The reassembly inspection shall include, but not be limited to:

1. A review of the maintenance records including periodic check lists;
2. A review of operator training records;
3. A complete mechanical inspection, or at the discretion of the inspector, a partial inspection addressing only those portions disassembled; and
4. An operating inspection, during which all safety systems shall be checked and the ride shall be cycled as during normal operation.

(e) Acceptance inspection: An acceptance inspection shall be performed before a new ride, or a ride having undergone a major modification, may operate. The acceptance inspection shall verify conformance with the approved design and shall include, but not be limited to, the following:

1. A review of the maintenance records, including periodic check lists, if applicable;
2. A review of operator training records, including certification of training in accordance with the manufacturer's procedures or manuals;
3. A review of non-destructive testing records, when required;
4. For fixed rides, an erection and assembly certification. This certification shall be retained in the ride file at the Department;

5. Those parts of the assembly process that are required to be witnessed of which the owner was notified during the permit process;

6. A complete mechanical inspection, which may require the ride to be partially disassembled;

7. A check of redundant safety systems;

8. An operating inspection, during which all safety systems shall be checked and the ride shall be cycled as during normal operation; and

9. Any ride designed with g's in excess of 75 percent of the limits, as set forth in N.J.A.C. 5:14A-7, shall be tested in accordance with ASTM F 2137. Any ride that has peaks greater than 75 percent of any value in the pulse width of less than 60 seconds, in figures 5 through 9 of ASTM F 2291, no matter how long its total run time, requires a Department-witnessed accelerometer test. For a portable amusement ride, this test may be performed at the factory by a third party testing agency.

(f) Operational inspection: An operational inspection shall be performed several times each year. The operational inspection shall include, but not be limited to:

1. Observation of the ride operating when the operator has not been informed of the inspector's presence;
2. A review of operator training records; and
3. Information provided to the owner both verbally and in writing of the results of the inspection.

(g) Notwithstanding any appeal procedures of these rules, for any ride for which a permit has been suspended, the Department shall re-inspect a ride within 48 hours of receiving written notice from the owner of the ride that the condition or violation for which the permit was suspended has been corrected.

Amended by R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Rewrote (e).

Case Notes

Initial Decision (2009 N.J. AGEN LEXIS 550) adopted, which found that, in the Bureau's action against an individual and his company for alleged electrical code violations relating to a traveling carnival business, the amusement rides were in "use" for purposes of inspection because the term included empty and non-moving rides and the inspector was authorized to require the carnival operator to demonstrate that the ride was powered and ready for the public; additionally, any ride on site was presumed to be operational unless there was proper signage to the contrary. *Bureau of Code Services v. Cooke*, OAL Dkt. No. CAF 01837-09, 2009 N.J. AGEN LEXIS 607, Final Decision (August 20, 2009).

Initial Decision (2006 N.J. AGEN LEXIS 395) adopted, which dismissed charges for failure to have inspections made of two inflatable rides and a zip line ride; although fliers advertised the rides, there was no observation that the rides were in operation. *Diamond Gymnastics v. Bureau of Code Services*, OAL Dkt. No. CAF 1634-05 and 1053-06, 2006 N.J. AGEN LEXIS 852, Final Decision (September 11, 2006).

3. Set-up, in accordance with N.J.A.C. 5:14A-9.7; and
4. Repair, in accordance with N.J.A.C. 5:14A-9.11.

(d) A maintenance technician, under the supervision of an RCMT, shall be qualified to perform all work on amusement rides, including all:

1. Maintenance and inspections, in accordance with N.J.A.C. 5:14A-9.3(b);
2. Assembly and disassembly, in accordance with N.J.A.C. 5:14A-9.5;
3. Set-up, in accordance with N.J.A.C. 5:14A-9.7; and
4. Repair, in accordance with N.J.A.C. 5:14A-9.11.

(e) A qualified person, under the supervision of an RCMT, shall be qualified to perform only the following work on amusement rides, all:

1. Assembly and disassembly, in accordance with N.J.A.C. 5:14A-9.5;
2. Set-up, in accordance with N.J.A.C. 5:14A-9.7; and
3. Repair, in accordance with N.J.A.C. 5:14A-9.11.

New Rule, R.2009 d.99, effective April 6, 2009.
See: 40 N.J.R. 5095(a), 41 N.J.R. 1394(a).

5:14A-2.18 Qualifications of recognized certified maintenance technicians (RCMTs)

(a) An RCMT shall be qualified by one of the following means:

1. Holding a valid National Association of Amusement Ride Safety Officials (NAARSO) Level I, Level II, or Level III certification, or a valid Amusement Industry Manufacturers and Suppliers International (AIMS) Level I, Level II, or Level III maintenance certification, or certification from another professional organization that meets or exceeds the certification requirements as set forth by NAARSO for Level I Certification or AIMS for Level I Maintenance Certification;
2. Recognized by the Department in accordance with (b) below;
3. A licensed electrical contractor pursuant to N.J.A.C. 13:31, or equivalent license from a recognized authority that is acceptable to the Department, when working on electrical systems;
4. An employee, agent, subcontractor, or independent contractor designated by, or on behalf of, a ride manufacturer, when working on a ride manufactured by that company;
5. Holding a valid recognized certified maintenance technician card issued by the Department. Such certification shall be renewed biennially. An applicant is eligible for certification by the Department if the following conditions are met:

i. The applicant must apply for the certification and receive the certification by April 6, 2011;

ii. The applicant must have five or more years of documented relevant supervisory experience prior to April 6, 2009;

iii. Prior to applying, the applicant must have completed at least 40 hours of training sponsored by the Amusement Industry Manufacturers and Suppliers, National Association of Amusement Ride Safety Officials, International Association of Amusement Parks and Attractions, Responsible Operators of Amusement Rentals or an equivalent approved by the Department that is relevant to the maintenance of amusement rides and was completed within the five years prior to the date of application. For each two-year renewal period after the original issuance, the applicant must complete 32 hours of training relevant to amusement ride maintenance sponsored by a group as described in this subparagraph; and

iv. An application fee of \$50.00 is required at the time of initial application and each renewal; or

6. For a maximum of 60 days within a 365-day period, in the event an RCMT employed by an amusement ride owner for more than 60 days leaves employment of said owner, the owner may appoint a maintenance technician, employed by owner, temporarily to the position of RCMT.

(b) Until April 6, 2011, a maintenance technician with three or more years of documented relevant experience is permitted to perform all functions for which RCMT is needed.

New Rule, R.2009 d.99, effective April 6, 2009.
See: 40 N.J.R. 5095(a), 41 N.J.R. 1394(a).

SUBCHAPTER 3. RIDER RESPONSIBILITY

5:14A-3.1 Title; scope; intent

(a) This subchapter, adopted pursuant to authority of the Carnival-Amusement Rides Safety Act and entitled "Rider Responsibility," shall be known and may be cited throughout these rules as N.J.A.C. 5:14A-3, and when referred to in this subchapter may be cited as "this subchapter."

(b) This subchapter establishes the rider responsibilities as covered by the Act and these rules.

5:14A-3.2 Riders to comply with posted warnings and directions

(a) Each individual who rides a carnival-amusement ride shall comply with written warnings and directions posted by the operator of the carnival-amusement ride according to these rules. These include:

1. Height, weight, and size restrictions, if any, in accordance with N.J.A.C. 5:14A-9.34;

2. Rider warning signs in accordance with N.J.A.C. 5:14A-9.34;

3. Rider conduct signs in accordance with N.J.A.C. 5:14A-9.33; and

4. Any other signs or warning posted by the operator with the express intent to protect the safety and well being of riders, equipment and operators.

5:14A-3.3 Riders under the influence of alcohol or drugs

A rider shall not board or attempt to board any amusement ride if he/she is knowingly under the influence of any alcoholic beverage as defined in N.J.S.A. 33:1-1 or under the influence of any prescription, legend drug or controlled dangerous substance as this term is defined P.L. 1970, c.226 (N.J.S.A. 24:21-1 et al.) or any other substance which affects the rider's ability to use the ride safely and to abide by the posted and stated instructions.

SUBCHAPTER 4. OWNER RESPONSIBILITY

5:14A-4.1 Title; scope; intent

(a) This subchapter, adopted pursuant to authority of the Carnival-Amusement Rides Safety Act and entitled "Owner Responsibility," shall be known and may be cited throughout the rules as N.J.A.C. 5:14A-4, and when referred to in this subchapter may be cited as "this subchapter."

(b) This subchapter establishes the responsibilities of the owner of an amusement ride regarding the safe operation and maintenance of amusement rides.

5:14A-4.2 Ride equipment

(a) No one shall install, operate or allow to be operated any ride that does not have a current type certification, individual approval, supplemental modification certification or amended type certification issued pursuant to the requirements of this chapter.

(b) The owner of an amusement ride shall not knowingly permit a major modification of that ride without obtaining a supplemental modification certification or an amended type certification, as applicable, from the Department, pursuant to N.J.A.C. 5:14A-2.7 or 2.6.

(c) Existing equipment shall be maintained in accordance with this chapter.

(d) The owner of an amusement ride shall not offer or advertise that ride for use or rental within the State without a valid annual permit for that ride, pursuant to N.J.A.C. 5:14A-2.10. A ride brought to a site where another amusement ride is operating or advertised, or to a public event, is considered as being offered or advertised for use unless it has clear signage stating it cannot be operated in the State. This subsection shall not preclude promotional advertising for

coming attractions as long as it is noted that they are coming attractions and are not yet available for use.

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

Rewrote (b).

Amended by R.2008 d.54, effective March 3, 2008.
See: 39 N.J.R. 2409(a), 40 N.J.R. 1082(a).

Added (d).

Case Notes

Initial Decision (2009 N.J. AGEN LEXIS 1077) adopted, which found that respondent was improperly penalized for advertising for rent inflatable rides that had not been permitted or inspected. The evidence was insufficient that the rides were advertised for rent, as opposed to sale, which would not have required a permit. Dep't of Community Affairs, Bureau of Code Services v. AC Moon Bouncers, OAL Dkt. No. CAF 10373-09, 2010 N.J. AGEN LEXIS 820, Final Decision (January 13, 2010).

Initial Decision (2009 N.J. AGEN LEXIS 550) adopted, which found that, in the Bureau's action against an individual and his company for alleged electrical code violations relating to a traveling carnival business, the amusement rides were in "use" for purposes of inspection because the term included empty and non-moving rides and the inspector was authorized to require the carnival operator to demonstrate that the ride was powered and ready for the public; additionally, any ride on site was presumed to be operational unless there was proper signage to the contrary. Bureau of Code Services v. Cooke, OAL Dkt. No. CAF 01837-09, 2009 N.J. AGEN LEXIS 607, Final Decision (August 20, 2009).

5:14A-4.3 Annual permit application

(a) Each year, 30 days before commencing operations and in each year thereafter or, for continuously operated rides, 30 days prior to the beginning of a new year, the owner shall apply for a permit on an application form furnished by the Department.

(b) The application for an annual permit shall include all information required pursuant to N.J.A.C. 5:14A-2.10.

5:14A-4.4 Application for individual approval and grandfathering

(a) If a carnival-amusement ride was manufactured prior to December 16, 2002, or if type certification is not renewed by the manufacturer or is revoked by the Department, then the ride shall not be operated, installed, or used in the State unless the owner has obtained an individual approval from the Department.

1. For rides that have a valid type certification that the manufacturer is not renewing, the owner may apply for an individual approval pursuant to N.J.A.C. 5:14A-2.4 without undergoing engineering review.

2. For rides that have a New Jersey serial number and had an annual permit in the year of or the year prior to December 16, 2002, but are not type certified, the owner may apply for an individual approval pursuant to N.J.A.C. 5:14A-2.5 without undergoing an engineering review.

(b) For rides not grandfathered under the provisions of (a) above, the owner shall make application for individual approval of the ride as a new ride. The application for an

individual approval shall include the information required by N.J.A.C. 5:14A-2.5 and the ride shall undergo engineering review according to the applicable provisions of this chapter. The fees for these reviews will be consistent with type certification review fees.

1. Pursuant to N.J.A.C. 5:14A-2.1, information supplied by the owner in support of an individual approval application that has been designated by the manufacturer in an application for a type certification as proprietary shall be considered proprietary.

5:14A-4.5 Compliance with manufacturer's recommendations for modifications

(a) An owner shall comply with any manufacturer's recommendation or requirement including, but not limited to, the replacement or modification of a component of the ride, a change or addition to the maintenance schedule for a ride or the performance of a test on a ride.

1. A copy of all manufacturer's bulletins or recommendations received by the owner shall be forwarded to the Department within 14 days of receipt by the owner unless the ride has a current type certification, in which case the manufacturer shall be responsible for sending such information to the Department.

2. The Department may waive the requirement to implement a manufacturer's recommendation, at the owner's request, if failure to implement the recommendation does not jeopardize public safety.

5:14A-4.6 Assembly, disassembly, maintenance, repair, and nondestructive testing

(a) The owner of an amusement ride shall have assembly, disassembly, maintenance, or repair of that ride performed in accordance with applicable requirements of N.J.A.C. 5:14A-9.

(b) The owner of an amusement ride shall keep a record of assembly, disassembly, maintenance or repair performed, in accordance with N.J.A.C. 5:14A-9. When this work is performed by a party other than the ride owner, the owner shall obtain a summary of the work from that party as a record. These records shall be retained and available for review by the Department for a period of at least three years, with the most recent 12 months being on site of the ride.

(c) The owner of an amusement ride shall provide training to employees performing regularly scheduled maintenance of that amusement ride, pertaining to their assigned duties, and provide ready access by such persons to appropriate ride manual(s) (N.J.A.C. 5:14A-2.14) during performance of those duties. A record of such training shall be retained and available for review by the Department for a period of at least three years, with the most recent 12 months being on site of the ride.

(d) The owner shall have any required nondestructive testing, as specified by the Nondestructive Testing Plan (N.J.A.C. 5:14A-2.15), performed in accordance with N.J.A.C. 5:14A-9.24.

Amended by R.2009 d.99, effective April 6, 2009.
See: 40 N.J.R. 5095(a), 41 N.J.R. 1394(a).

Section was "Assembly or disassembly". Rewrote the section.

5:14A-4.7 Inspection and testing

(a) The owner of an amusement ride shall have inspection and testing of that ride performed in accordance with applicable requirements of N.J.A.C. 5:14A-9.

(b) The owner of an amusement ride shall keep a record of all maintenance and operational inspections and tests in accordance with N.J.A.C. 5:14A-9. These records shall be retained for a period of at least three years, with the most recent 12 months being kept on site of the ride and available to the Department for review.

(c) The owner of an amusement ride shall provide training to employees performing inspection or testing of an amusement ride, pertaining to their assigned duties, and provide ready access by such persons to appropriate ride manual(s) (N.J.A.C. 5:14A-2.14) during performance of those duties. A record of such training shall be retained and available for review by the Department for a period of at least three years, with the most recent 12 months being on site of the ride.

Amended by R.2009 d.99, effective April 6, 2009.
See: 40 N.J.R. 5095(a), 41 N.J.R. 1394(a).

Section was "Daily inspection, test and maintenance and inspection records". Rewrote the section.

Case Notes

Initial Decision (2007 N.J. AGEN LEXIS 608) adopted as modified, which concluded that where an employee at "Funtown Pier Amusements" was fatally electrocuted while working on a ride, and three other employees received electric shocks, the Bureau of Code Services sustained its burden of proving by a preponderance of the credible evidence the following violations: N.J.A.C. 5:14A-9.3(e), by failing to properly maintain a daily maintenance log; N.J.A.C. 5:14A-9.6(a), by permitting use of a defective or unsafe ride; N.J.A.C. 5:14A-9.10(b), by failing to "lock-out" ride; N.J.A.C. 5:14A-9.11(h) and (i), by failing to perform work pursuant to the manufacturer's specifications and provide documentation of repair; N.J.A.C. 5:14A-9.21(a), by failing to properly install and maintain electrical equipment; and N.J.A.C. 5:14A-4.7(d), by failing to retain records of all maintenance, inspections, and tests. *Bureau of Code Services v. Major, Jr., President, Funtown Pier Amusements*, OAL Dkt. No. CAF 593-06, 2007 N.J. AGEN LEXIS 851, Final Decision (December 6, 2007), aff'd as modified, No. A-2395-07T3, 2009 N.J. Super. Unpub. LEXIS 210 (App.Div. February 20, 2009) (reducing \$45,000 penalty to \$40,000).

5:14A-4.8 Training and certification of ride operators

(a) The owner shall ensure that all operators comply with the requirements of N.J.A.C. 5:14A-9.8 and 9.9.

(b) The owner shall ensure that, at the time of initial operation in the State, at least one operator trained by the manufacturer and having a certification from the manufacturer, in a format prescribed by the Department, is operating the ride.

(c) The owner shall ensure that operators are trained to operate the ride based on manufacturer requirements covered by the operational manual and any supplemental safety bulletins, safety alerts or other notices related to operational requirements.

(d) The owner shall ensure that ride operators operate no more than one ride at any given time.

(e) The owner shall ensure that operators give full attention to any ride they operate.

(f) The owner shall ensure that anyone who operates a ride shall have demonstrated the ability to operate the ride in compliance with all applicable requirements of this chapter and shall ensure that each operator has signed a ride-specific certification attesting that the operator:

1. Has read and understood the manufacturer's recommendations for the operation of the ride and, if applicable, any operations manual provided by the owner;

2. Knows the safety-based limitations, including height, weight or other rider requirements, on who may ride the ride;

3. Is well versed on what could be reasonably expected to go wrong, how to recognize it, and how to get the ride and riders into as safe a position as possible to minimize the risk of injury or damage;

4. Has had adequate training to operate the ride;

5. Knows how to do the pre-startup operational ride checks as required by the manufacturer or as established by the owner in compliance with this chapter;

6. Knows how to verify that the daily maintenance checklist has been done prior to operating the ride; and

7. Has knowledge of the use and function of all normal and emergency operating controls and the proper use of the ride.

5:14A-4.9 Insurance, bond or other security

No person shall operate a ride without insurance as required by N.J.A.C. 5:14A-2.9.

5:14A-4.10 Riders under the influence of alcohol or drugs

The owner of an amusement ride may not permit a person who is perceptibly or apparently under the influence of alcohol or drugs to enter or ride an amusement ride.

5:14A-4.11 Rider accident reporting requirement

The owner shall designate an office or location as a site for reporting accidents or injuries. The office shall be open during normal business hours and shall be marked with clear

signage. Forms with the minimum required information (see N.J.A.C. 5:14A-4.13(c)) shall be available for riders to fill out at this location. More than one office or location may be required so that the locations are within reasonable walking distance from any ride.

5:14A-4.12 Required notices of rider responsibility

(a) Signs advising of the rider reporting requirement (see N.J.S.A. 5:3-57) in English, and in at least one other language prevalent among riders, shall be posted in areas where rides covered by this chapter are operating, including all entrances, exits, locations for receiving forms and the first aid station(s).

(b) Each ride owner shall post warnings and directions for each ride which comply with manufacturer's requirements, N.J.S.A. 5:3-31 et seq. and this chapter. Such warnings shall be clearly legible and shall be in a conspicuous location.

(c) This sign shall be next to, above, below or may be combined with the required signs regarding accident reporting, rider conduct and warnings described in this section and in N.J.A.C. 5:14A-9.33 and 9.34.

5:14A-4.13 Accident, incident or mechanical breakdown reporting

(a) Shut down and report: When any incident occurs involving a death or serious injury, ejection from the ride or failure of a critical structural or mechanical component, regardless of cause, the owner shall:

1. Shut down the ride and secure the area;

2. Evacuate riders and provide care for any injured persons;

3. Report the incident to the Department immediately by telephone at the telephone number provided for this purpose; and

4. Prepare a written incident report and send it to the Department by telefacsimile at the telefacsimile number provided for this purpose within 24 hours of the incident.

i. A copy of the report submitted to the Department shall be sent to the manufacturer.

(b) Report within 24 hours: When any incident occurs involving a ride-related injury requiring first aid, or any mechanical malfunction, or an emergency evacuation of the ride, the owner shall:

1. Report the incident to the Department within 24 hours of the incident by telephone or by telefacsimile at the numbers provided for this purpose;

2. Prepare a written incident report and send it to the Department by facsimile at a number provided for this purpose within five days of the incident or by mail at PO Box 808, Trenton, NJ 08625 postmarked within five days of the

incident. The written incident report shall be on a form designed by the Department and shall include a description of any planned corrective action and a time frame for its completion; and

3. Repair the ride according to the manufacturer's instructions, if necessary, and submit a written report to the Department indicating the actions taken.

4. An evacuation due to an area-wide power failure or an evacuation at the normal discharge location of the ride shall not be considered an emergency evacuation for purposes of this subsection.

i. The removal of an individual rider or riders at other than the normal discharge location at the rider's request or due to rider behavior and having nothing to do with the operation or functioning of the ride shall be recorded in accordance with (c) below.

(c) Record: When any incident occurs that is not covered by (a) or (b) above involving any type of ride-related injury or complaint that was observed by the owner or operator or reported to the owner or operator by the rider, the owner shall keep a record of such incident, including pertinent information, in a form that is easy to access and read and that is readily available for inspection by the Department.

1. The information shall include at least the following:

- i. The name and address of the injured party;
- ii. The age and sex of the injured party;
- iii. A brief description of the injury;
- iv. The ride on which injury occurred;
- v. The time, date and weather conditions when the incident occurred; and
- vi. A description of the incident.

2. The removal of an individual rider or riders as described in (b)4i above shall be recorded.

5:14A-4.14 Transfer of ownership

The owner of an amusement ride shall notify the Department when ownership is transferred to another owner. In such case, the new owner shall obtain a new annual permit and become responsible for the individual approval, if applicable.

5:14A-4.15 Name and address for official correspondence

(a) The owner of an amusement ride shall maintain a name and address within the State of New Jersey, or designate the name and address of a representative within the State, for the purpose of accepting official correspondence from the Department.

1. Such address shall not be a post office box, but shall specify a physical location where such owner or representative may be found during normal business hours.

2. Where the owner or representative is a corporation, partnership, or other business entity, the name and address of an officer, or other responsible person, to whom correspondence is to be addressed, shall be provided.

3. It shall be the responsibility of the owner to notify the Department of any change in the identity, address or phone number of the owner or representative. Any change shall be reported to the Department in writing within 30 days of the change.

New Rule, R.2009 d.50, effective February 2, 2009.
See: 40 N.J.R. 5316(a), 41 N.J.R. 727(a).

SUBCHAPTER 5. MANUFACTURER RESPONSIBILITY

5:14A-5.1 Title; scope; intent

(a) This subchapter, adopted pursuant to authority of the Carnival-Amusement Rides Safety Act and entitled "Manufacturer Responsibility," shall be known and may be cited throughout the rules as N.J.A.C. 5:14A-5, and when referred to in this subchapter may be cited as "this subchapter."

(b) This subchapter establishes responsibilities for a ride manufacturer.

5:14A-5.2 General requirements

(a) The manufacturer shall ensure that all rides are designed and constructed in compliance with the requirements of N.J.A.C. 5:14A-7.

(b) The manufacturer shall affix a data plate to each ride in compliance with N.J.A.C. 5:14A-7.7.

(c) The manufacturer of an amusement ride shall not state or imply in any advertising that ride as being approved for use within the State without a valid type certification for that ride.

Amended by R.2007 d.75, effective March 19, 2007.
See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).
In (b), updated N.J.A.C. reference.
Amended by R.2008 d.54, effective March 3, 2008.
See: 39 N.J.R. 2409(a), 40 N.J.R. 1082(a).
Added (c).

5:14A-5.3 Ride type certifications

(a) The manufacturer shall apply for type certification, in accordance with the requirements of N.J.A.C. 5:14A-2.4, for each ride type to be used within this State.

(b) As provided at N.J.A.C. 5:14A-2.4, type certification shall be valid for a period of three years and may be renewed

every three years provided that the manufacturer continues to support the ride within the full meaning of this chapter.

5:14A-5.4 Amended type certification

(a) The manufacturer of an amusement ride type having a valid type certification shall not knowingly authorize a major modification of that ride type without obtaining an amended type certification from the Department, in accordance with N.J.A.C. 5:14A-2.6.

(b) Amended type certification shall be valid for a period of three years and may be renewed every three years provided that the manufacturer continues to support the ride within the full meaning of this chapter.

(c) If, as determined by the Department, an amusement ride is materially rebuilt or so modified as to change its original action, then a new type certification or individual approval shall be required as if it were a new ride.

iii. In Section 10.3.5, the words “not create additional hazard (for example, by releasing any locating pin, index drive engagement, latch, clamping or similar device)” shall be deleted and the words “be deleted” shall be inserted in their place.

iv. Add section “10.4 The design of pneumatic systems shall include means for isolating and locking-out stored pneumatic energy from ride components subject to maintenance and inspection.”

v. Add section “10.5 Pressure vessels shall conform to requirements of N.J.A.C. 12:90.”

11. Chapter 11, Safety Related Electrical/Electronic/Programmable Electronic Control Systems, shall be amended as follows:

i. Section 11.2.1: Following “IEC 61508-1,” and preceding the word “and,” the words “EN 61496, UL 508A,” shall be inserted.

ii. Section 11.3.1 shall be deleted and replaced with the following:

“11.3.1 General requirements:

11.3.1.1 The safety-related control system shall be capable of maintaining the designed safety integrity level under operating conditions.

11.3.1.2 Safety-related control systems and functions shall have priority over all other control systems and functions.

11.3.1.3 Non-safety-related functions within or outside of the safety-related control system shall be designed so that non-safety related functions cannot compromise the integrity of the safety-related control system.

11.3.1.3.1 This requirement shall not apply to necessary manual procedures (for example, reset, maintenance, evacuation) undertaken with adequate safeguards.

11.3.1.4 The safety-related control system shall be designed and constructed so that the principles of IEC 61508, Functional Safety of Electrical/Electronic/Programmable Electronic Safety-related systems, and UL 508A, UL Standard for Safety for Industrial Control Panels, are fully taken into account; and

11.3.1.5 The safety-related control system shall be maintained when faults occur.

iii. In Section 11.4.1.1, delete the word “control” where preceding the word “power” in two locations.

iv. In Section 11.4.1.2, the word “control,” where preceding the word “power,” shall be deleted in two locations.

v. Section 11.5: In the first sentence, the word “manufacturer” shall be deleted and the word “design” shall be inserted in its place. Also, in the first sentence, the word “manufacturer’s” shall be deleted.

vi. In Section 11.6, the words “that are” shall be deleted and the words “which shall be” inserted in their place.

12. Chapter 12, Electrical Requirements, shall be amended as follows:

i. Section 12.1.1: In the third sentence, the words “this guideline for North America” shall be deleted and the words “these requirements, except as modified by these rules.” In the fourth sentence, following the word “code,” insert the words “and standards.” In the fifth sentence, the words “authority having jurisdiction” shall be deleted and the word “Department” shall be inserted.

ii. Add new section “12.1.1.1 In subsection 525.21(A) of NFPA 70, National Electrical Code, ‘Rides, Tents and Concessions’, ‘Disconnecting Means’, the phrase ‘Where accessible to unqualified persons’ shall be deleted.”

iii. In Section 12.1.2.2, the word “Other” shall be deleted and the word “A” inserted in its place.

iv. Section 12.1.3, Table 1: In the subtitle line, the words “ASTM F 1159” shall be deleted and the words “ASTM F 2291” inserted in its place, in two locations. Also, in the subtitle line, the words “NFPA 70-2000” shall be deleted and the words “NFPA 70-2002” shall be inserted in its place. In the line starting with 12.6 (ASTM F 1159 Section Number), the corresponding NFPA 70 Chapter 7 shall be deleted and Chapters “6 and 8” shall be inserted in its place. In the line starting with 12.7 (ASTM F 1159 Section Number), the corresponding NFPA 70 Chapter 8 shall be deleted and Chapter “5” shall be inserted in its place.

v. Section 12.1.4.1: In the first sentence, the words “, other than for routine maintenance/repair,” shall be deleted. In the second sentence, the words “that changes the operation/function of the equipment” shall be deleted.

vi. Section 12.1.4.2 shall be deleted in its entirety.

vii. Section 12.1.4.3 shall be deleted in its entirety.

viii. Section 12.1.5.1: Add “F” after ASTM in line 10 and add “or ASTM F 2291” after 1159 in the same line.

ix. In section 12.1.5, Signage Requirements, add new subsection: “12.1.5.3 All electrical outlets operating at more than 120 volts to the ground shall be clearly marked to indicate their voltage.

x. In Section 12.2.1.1, the words “20-ampere line-neutral branch circuit” shall be deleted and the words

“125 volt, 20 ampere, branch circuit with GFCI protected receptacle outlet” shall be inserted in their place.

xi. In Section 12.2.2.1, following the word “be,” the words “grouped and shall be” shall be inserted.

xii. In Section 12.2.3.1, the words “Refer to” shall be deleted and the words “shall be used, except when overridden by this subchapter or chapter.” shall be added at the end of the sentence.

xiii. In Section 12.2.3, add a new section “12.2.3.3 No overcurrent protection device shall be installed in neutral or grounding conductors.”

xiv. In Section 12.2.3, add a new section “12.2.3.4 All stepping and control transformers shall be grounded.”

xv. In Section 12.3.2, the words “have a rating for the appropriate environment.” shall be deleted and the words “be rated minimum ‘NEMA 3R,’ equivalent or better as necessary to address environmental conditions.” shall be inserted in its place.

xvi. Section 12.4.1.4: Add the following words to the end of the first sentence, “except where riders and bystanders may have access to it.”

xvii. Section 12.5.1 shall be deleted in its entirety.

xviii. In Section 12.5.3.1, the words “NEC 2000” shall be deleted and “NEC/2002” shall be inserted in its place.

xix. In Section 12.5.3.2, the words “NEC 2000” shall be deleted and “NEC/2002” shall be inserted in its place.

xx. Section 12.5.4.1: In the first sentence, the word “located” shall be deleted and the words “shall be” shall be inserted in its place. Also, in the second sentence, the words “shall be” shall be inserted between the words “or” and “near.”

13. Chapter 13, Mechanical Systems and Components, shall be amended as follows:

i. In Section 13.2.2, the words “design/engineer specified” shall be deleted and the words “specified design” shall be inserted in their place.

ii. In Section 13.2, Chain, add new section: “13.2.12 Chains on lift hills shall be retained in the trough.”

iii. In Section 13.3.4, the words “design/engineer” shall be deleted and the word “the” shall be inserted in their place.

iv. In Section 13.3.5, the word “patch” shall be deleted and the word “path” shall be inserted in its place.

v. In Section 13.3.9, the word “should” shall be deleted and the word “shall” shall be inserted in its place.

vi. In Section 13.3.10, the word “should” shall be deleted and the word “shall” shall be inserted in its place.

vii. In Section 13.3.13, the words “should be considered” shall be deleted and the words “shall be in place,” shall be inserted in its place.

viii. Section 13.4.5: Delete the third sentence and replace it with the following sentence, “When a rollback has occurred, at least one anti-rollback device shall be engaged until the rollback has been corrected.”

ix. Section 13.6.3.3: In the first sentence, the word “should” shall be deleted and the word “shall” shall be inserted in its place.

x. In Section 13.7.2.1, the words “designer/engineer specified” shall be deleted and the word “design” inserted in their place.

xi. Add new section “13.7.2.1.1 If vehicles, or other components, of an amusement ride may collide upon failure of normal controls, a safety brake shall be provided to prevent such collision.”

xii. Add new section “13.7.2.2 Safety brakes shall be designed such that no single component failure can diminish the effectiveness of the brake(s) such that the intended safety brake function is compromised.”

xiii. Add new section “13.7.2.3 Safety brakes shall be equipped with an automatic system that causes correct positioning (closed or open) of the brakes, preventing a vehicle from entering a zone of block ahead of it that is occupied.”

xiv. Add new section “13.7.2.3.1 Safety brakes pursuant to 13.7.2.1.1 shall have a redundant safety system that, in the event of a single component failure, prevents two vehicles or two trains from occupying the same block at the same time.”

xv. Add new section “13.7.2.3.2 Alternative systems that achieve the same result may be used.”

xvi. Add new section “13.7.2.4 Amusement rides and devices that make use of multiple vehicles of trains shall be equipped with a ‘fail-safe’ braking system that, in the event of a complete power failure, is designed to stop all vehicles or trains at the next stopping location. If a stoppage occurs, some vehicles may be on elevated parts of the ride. A written procedure for evacuation shall be in place to address such situations.”

xvii. Add new section “13.7.2.5 All remote operator stations shall be equipped with an emergency stop button, or stop button, for the purpose of correctly positioning the safety brakes to stop the vehicle without allowing it to pass to another block.”

xviii. Add new section “13.7.2.6 Safety braking systems utilizing air to activate brakes shall have a pres-

sure sensing device installed after the main air source, which causes an emergency stop condition in the event of loss of air pressure.”

xix. Add new section “13.7.2.7 Safety braking systems utilizing air to activate brakes shall have an individual holding tank at each set of brakes with a ‘check valve’ or ‘one-way valve’ to prevent complete loss of air pressure, in the event of a line break or compressor fault.”

xx. In Section 13.7.3.1, the words “designer/engineer specified” shall be deleted and the word “design” inserted in their place.

xxi. Add new section: “13.8 Internal combustion engines.”

xxii. Add new section: “13.8.1 Internal combustion engines for amusement rides shall be of adequate type, design, and capacity to handle the design load.”

14. Chapter 14, Fencing, Guardrails, and Handrails for Amusement Rides and Devices, shall be amended as follows:

i. The words “Manufactured After January 1, 2003” shall be deleted from title.

ii. In Section 14.1, the word “patron” shall be deleted in two locations.

iii. In Section 14.2.1, the word “patron” shall be deleted in two locations.

iv. In Section 14.2.1.1, the word “patron” shall be deleted in four locations.

v. Section 14.2.1.2: Add the following words to the end of the first sentence, “and shall be designed to resist a load of 50 pounds per linear foot applied in any direction and to transfer the loads through the supports to the structure.”

vi. In Section 14.3.1.1, the word “patron” shall be deleted in two locations.

vii. In Section 14.5.2, the word “patron” shall be deleted.

viii. Add new section “14.5.3 Gates shall be self-closing and self-latching or have an operator at gate when ride is operating.”

ix. Add new section “14.6 For lift hills, guardrails shall have a top rail, an intermediate rail, and a toe board.”

15. Chapter 15, Welding, shall be amended as follows:

i. Section 15.1: Add the following sentence to the end of the section, “All welding used as a method of fabrication or assembly shall conform to AWS D1.1-2000, Structural Welding Code or equivalent.”

ii. In Section 15.4, the words “manufacturer’s retention policy” shall be deleted and the words “record retention requirements of N.J.A.C. 5:14A” shall be inserted in their place.

16. Chapter 16, Fasteners, shall be amended as follows:

i. In Section 16.1.4, the words “designer/engineer” shall be deleted and the word “design” shall be inserted in their place.

ii. Section 16.1.5: In the first sentence, the words “is the preferred” shall be deleted and the words “shall be the” shall be inserted in its place. Also, the second sentence shall be deleted in its entirety.

iii. Add new section “16.1.5.1 An exception may be made by the Department for items which cannot be through bolted or are not intended to be removed for service or maintenance. In these cases, other fastening methods may be used, if demonstrated by the design to be appropriate.

iv. In Section 16.1.6, the word “should” shall be deleted and the word “shall” shall be inserted in its place.

v. In Section 16.1.9, the word “should” shall be deleted and the word “shall” shall be inserted in its place.

vi. In Section 16.1, General, add new subsection: “16.1.10 All bolts, cap screws, and studs shall be SAE Grade 5, ASTM A325, equivalent or better.”

vii. Add new section, “16.1.10.1 An exception shall be permitted where the design demonstrates graded fasteners are not required.”

viii. Add new section, “16.1.10.2 In safety-related structures, fasteners shall be proof tested by lot.”

ix. In Section 16.2.2, the words “where specified torque values” shall be deleted.

x. Add new section “16.2.2.1 An exception shall be permitted where the design demonstrates hardened washers are not required.”

17. Annex A1, Loads and Strengths, shall be amended as follows:

i. Section A1.1.1: In the first sentence, the words “(that is, minimum design requirements and considerations) to be applied by the designer/engineer” shall be deleted and the words “for minimum design requirements that shall be used” inserted in their place.

ii. Section A1.1.2: In the second sentence, the words “by allowing the designer/engineer to determine” shall be deleted and the words “in defining” shall be inserted in their place. Also, in the third sentence, the words “determined and treated by the designer/engineer” shall be deleted and the words “used in the design” shall be inserted in their place.

iii. In Section A1.2.1, the words “the designer/engineer can design” shall be deleted. Also, following the word “device,” the words “may be designed” shall be inserted.

iv. Section A1.2.2.1: In the first sentence, “50%” and “43%” shall be deleted and “30%” shall be inserted in both places. Also, in the calculation, “0.43” shall be deleted and “0.30” shall be inserted in its place and “19,500 Operational hours” shall be deleted and “24,500 Operational hours” shall be inserted in its place.

v. Section A1.2.3: In the last sentence, the word “could” shall be deleted and the word “may” shall be inserted in its place.

vi. Section A1.2.4.1: In the first sentence, “19,500” shall be deleted and “24,500” inserted in its place. In the second sentence, the word “or” shall be deleted and the word “of” shall be inserted in its place. In the calculation, “19,500 Operational hours” shall be deleted and “24,500 Operational hours” shall be inserted in its place. Also, in the calculation, “2,394,000 load cycles” shall be deleted and “2,940,000 load cycles” shall be inserted in its place. In the last sentence, “ 2.39×10^6 ” shall be deleted and “ 2.94×10^6 ” shall be inserted in its place. Also in the last sentence, “19,950” shall be deleted and “24,500” shall be inserted in its place.

vii. In Section A1.3.1, the words “the designer/engineer to exempt” and the word “that” shall be deleted. Also, following the words “covered by 8.3.1,” the words “to be exempt” shall be inserted.

viii. Section A1.4.1: In the second sentence, the words “Designers/engineers and manufacturers that design” shall be deleted and the words “Design of” shall be inserted in their place.

ix. Section A1.5.1.2: In the second sentence, the words “designer/engineer is required to” shall be deleted and the words “design shall” shall be inserted in their place.

x. In Section A1.5.1.5, the word “should” shall be deleted and the word “shall” shall be inserted in its place.

xi. Section A1.5.1.6 shall be deleted in its entirety.

xii. Section A1.6.2 shall be deleted in its entirety.

xiii. Section A1.7.1: In the second sentence, the words “needs to” shall be deleted and the word “shall” shall be inserted in its place.

xiv. Section A1.8: In the last sentence, the words “as determined by the designer/engineer” shall be deleted.

xv. In Section A1.9.1.3, the words “Wind (operational)” shall be added.

xvi. Section A1.9.2.6 (5) shall be deleted in its entirety and the sentence “Validate analytical predictions with empirical testing as necessary.” shall be inserted in its place.

xvii. Section A1.9.2.7: Delete the first sentence and replace it with the following sentence, “The design shall account for the following loads:”

xviii. Section A1.10.4.4: In the fifth sentence, the word “must” shall be deleted and the word “shall” shall be inserted in its place.

xix. In Section A1.10.5, the words “designer/engineer” shall be deleted and the word “design” inserted in its place.

xx. Section A1.11.1: In the second sentence, the words “that would concern patrons and operators” shall be deleted.

xxi. Section A1.12.3: The third, fourth and fifth sentences shall be deleted in their entirety.

xxii. Section A1.14 shall be deleted in its entirety.

xxiii. Section A1.15.3: In the first sentence, “ASCE 16” shall be deleted and “AF&PA/ASCE 16” shall be inserted in its place.

xxiv. Section A1.16 shall be deleted in its entirety.

xxv. Section A1.17.2: In the first sentence, the words “Note also that” shall be deleted.

xxvi. Section A1.18.1.1: In the second sentence, the word “resent” shall be deleted and the word “present” shall be inserted in its place.

xxvii. In Section A1.18.1.2, the third and fourth sentences shall be deleted in their entirety and the sentence “A ratio of standard deviation to mean value of fatigue strength shall be taken as 18% for welded joints and 12% for parent materials.” shall be inserted in their place.

xxviii. Section A1.18.1.5 shall be deleted in its entirety and the following inserted in its place: “Stresses within a structure shall be less than the endurance limit for the material being used. This infers that the structure will last indefinitely without cracking for the given loading duty cycle. Where it is not feasible to keep the stresses within a structure less than the endurance limit for the material being used, where the presence of an endurance limit cannot be justified on the basis of available material data, or in the case of welded components, where the effect of corrosive agents on some metals, especially when in a welded configuration, leads to an S-N curve that does not exhibit a distinct flattened region at a high cycle count, a finite life calculation shall be required. See Fig. A1.1.”

xxix. Section A1.18.2.1: In the first sentence, the words "considered by the designer/engineer" shall be deleted and the word "followed" shall be inserted in their place.

(d) The ASTM standard F 2291-04 may be obtained from:

American Society for Testing Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959.

Repeal and New Rule, R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Section was "General design criteria".

5:14A-7.3 Speed-limiting devices and operator presence devices

(a) An amusement ride capable of exceeding its maximum safe operating speed shall be provided with a speed-limiting device.

(b) All powered amusement rides and devices shall be equipped with a properly functioning operator presence device.

1. Exception: For rides and attractions where the operator presence device does not add to safety, including roller coasters, bumper cars, log flumes, go-karts and some computer controlled rides, an operator presence device shall not be required.

Recodified from N.J.A.C. 5:14A-7.12 by R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Former N.J.A.C. 5:14A-7.3, Patron containment and restraint, repealed.

5:14A-7.4 Fire prevention

(a) Fabrics constituting part of an amusement ride shall be documented to have a flame resistance that meets NFPA 701, or shall meet the NFPA 705 field test. Products which do not meet any of these requirements or an acceptable equivalent standard approved by the Department shall not be permitted.

(b) All materials used in an amusement ride in rider compartments and larger volume or surface area materials shall comply with the following:

1. Materials used in fully enclosed rider compartments where riders cannot get out of the compartment independently shall have a Class I flame spread rating (0-25) in accordance with ASTM E 84 and shall have a smoke development rating of 450 or less. All padding or upholstered materials within the compartments shall have a char length not exceeding 1.5 inches when tested in accordance with NFPA 261.

2. All materials other than those used in fully enclosed rider compartments shall have a Class III flame spread rating (76-200) in accordance with ASTM E 84. For rides

in an enclosable building, materials shall have a smoke development rating of 450 or less.

3. Exception: Paints, wall coverings not greater than $\frac{1}{28}$ inch thick, lubricants and fuels shall not be required to meet the flame spread and smoke development rating requirements.

Recodified from N.J.A.C. 5:14A-7.14 by R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Former N.J.A.C. 5:14A-7.4, Patron clearance envelope design criteria, repealed.

5:14A-7.5 Construction requirements

(a) All rides shall be subject to approval pursuant to N.J.A.C. 5:14A-2. Any building or structure associated with, as a functional part of or housing the ride shall be constructed in conformance with the State Uniform Construction Code and maintained in conformance with the State Uniform Fire Code. Additionally, permits and inspections, as required by the State Uniform Construction Code, N.J.A.C. 5:23, or the State Uniform Fire Code, N.J.A.C. 5:70, shall be obtained for the following:

1. Footings and foundations;
2. Plumbing or electrical connections, whether permanent or temporary;
3. Closed construction;
4. Tents; or
5. Flame producing appliances.

Recodified from N.J.A.C. 5:14A-7.15 by R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Former N.J.A.C. 5:14A-7.5, Acceleration limits, repealed.

5:14A-7.6 Design for loading and unloading

(a) Safe and adequate means of loading and unloading each ride, ride element, or ride vehicle shall be provided. The ride shall be designed to protect against unsafe loading or unloading.

(b) When a ride is in a building, the following shall apply:

1. The minimum clear width to access a seat is 12 inches. If more than seven seats must be accessed, the access width shall be increased by 0.6 inches per seat up to a maximum of 22 inches; and

2. The maximum number of seats that can be accessed from one side is 24 seats or 30 feet, whichever is less.

Recodified from N.J.A.C. 5:14A-7.16 by R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Former N.J.A.C. 5:14A-7.6, Loads and strengths, repealed.

5:14A-7.7 Identification, data plates and manufacturer's information

(a) Amusement rides and devices shall be identified and have an Information Plate as required by ASTM F 698.

(b) The information plate shall be of metal, or equivalent, with information legibly impressed.

Repeal and New Rule, R.2007 d.75, effective March 19, 2007.
See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).
Section was "Metal structures".

5:14A-7.8 Quality assurance program

(a) The quality assurance program for manufacture, assembly, erection, modification, or reconditioning, shall contain, at a minimum, all of the following:

1. Drawings:

- i. Drawing numbers shall be unique;
- ii. Revision blocks shall be clear and track what changed in the revision;
- iii. If jigs were fabricated or used, each jig shall have a jig identification, and each jig used shall be identified, with appropriate settings, on the assembly or fabrication drawing;
- iv. Tolerances and finishes shall be specified, where necessary; and
- v. Drawings shall adhere to an accepted drawing standard;

2. Welding:

- i. Welding, when necessary, shall conform to AWS D1.1 or an equivalent standard;
- ii. Pre-qualified weld joints shall include base metal, electrodes, inserts, weld preparation, inert gas shielding requirement, backing, speeds, feed rates, techniques, preheat requirements, and postheat requirements;
- iii. AWS or equivalent certified welders shall be qualified on the pre-qualified weld joint(s) they actually weld; and
- iv. Welds shall be inspected by AWS or equivalent certified weld inspectors;

3. Machining requirements shall identify how requirements are met and how they are checked;

4. Materials:

- i. Material certifications shall be obtained for each material ordered that is related in any way to structure or safety;
- ii. Flame retardant certification shall be obtained for all materials with a specified flame retardance, including, but not limited to, fabrics and plastics; and

iii. A method shall be in place to verify that the material called for on the drawing is received and is actually used in the part or assembly;

5. A method shall be in place to assure that assemblies are done properly;

6. A method shall be in place to assure that erection of the ride is done properly;

7. Testing shall be performed, in accordance with ASTM F 846-92, on the ride, and subassemblies and parts, if necessary; and

8. When timber is used, it shall be stored and assembled in such a way as to eliminate or to minimize decay or rotting. Inspection points shall be set up so that timber may be evaluated at several steps during the process to ensure the highest quality.

i. Prior to assembly into the ride, fasteners shall be inspected to ensure that there is not corrosion sufficient to produce fretting in the timber thereby reducing joint strength.

Recodified from N.J.A.C. 5:14A-7.33 by R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Former N.J.A.C. 5:14A-7.8, Timber structures, repealed.

5:14A-7.9 Means of access and egress

(a) All walking surfaces, including, but not limited to, waiting areas, loading and unloading areas, platforms, landings, stairs and ramps, shall be stable, firm and slip resistant.

(b) Safe and adequate means of access to and egress from an amusement ride shall be provided. Stairways or ramps and connecting landings or platforms shall be provided where the entrance to or exit from a ride is not at grade.

(c) A building housing an amusement ride shall comply with the requirements of the Uniform Construction Code (N.J.A.C. 5:23).

(d) When a ride is in a building, the exit access travel distance shall be measured from the most remote point on the ride to determine compliance with the maximum exit access travel distance requirements of the Uniform Construction Code.

(e) Where the ride itself creates an enclosed space, two means of egress shall be provided.

1. A single means of egress shall be permitted if the occupant load does not exceed 50 persons and the exit access travel distance does not exceed 75 feet.

2. Dead end passageways shall not exceed 35 feet.

(f) The normal "access only" path may be used for egress in an emergency provided that the path is clearly marked as a means of egress and there are no obstructions (for example, one-way turnstiles) blocking egress travel.

(c) For rides and attractions which require a spoken message of instruction or warning prior to operation, this message shall be given in a manner that is clearly audible to all riders prior to the start of each ride cycle. This message shall be in writing in the operation manual.

(d) Any code of signals adopted for the operation of any amusement ride shall be printed and kept posted at both the operator and signalman's stations. All persons who may use these signals shall be carefully instructed in their use.

(e) Signals for the movement or operation of an amusement ride shall not be given until all riders and other persons who may be endangered are in a position of safety.

5:14A-9.14 Proximity to high voltage lines

Amusement rides shall be located so that they conform to the requirements of the High Voltage Proximity Act, N.J.S.A. 34:6-47.1 et seq.

5:14A-9.15 Ride loading and unloading

(a) The means of loading and unloading from each ride shall be maintained in compliance with the specifications and N.J.A.C. 5:14A-7.6.

1. Controls and dimensions in place as of the effective date of these regulations shall be permitted to remain. All replacement components shall comply with the requirements of N.J.A.C. 5:14A-7.6 to the greatest extent possible.

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) and in (a)1, updated the N.J.A.C. reference.

5:14A-9.16 Means of access and egress

(a) Safe and adequate means of access and egress from amusement rides shall be maintained and shall be free from debris, obstructions, projections and slipping, tripping and other hazards.

(b) A building housing an amusement ride shall comply with the requirements of the Uniform Construction Code (N.J.A.C. 5:23) or the Uniform Fire Code (N.J.A.C. 5:70-4), as appropriate.

(c) Handrails shall be provided for stairs or ramps with a change in elevation of 30 inches or greater. Guardrails shall be provided along all open-sided walking surfaces, platforms, stairways, ramps and landings which are located more than 30 inches above the floor or grade below.

1. Handrails or guardrails shall be continuous without interruption and shall be free of any sharp or abrasive elements.

2. Existing guardrails shall be at least 30 inches above the ramp surface or nose of steps and 42 inches above landings.

i. Newly-installed or replacement guardrails shall be at least 42 inches above the ramp surface, nose of steps or landing.

3. Handrails and guardrails shall be maintained so that they are not hazardous for use under emergency exiting conditions.

5:14A-9.17 Safety brakes

Safety brakes and anti-rollback devices shall be provided and maintained in compliance with sections 13.4 and 13.7 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2, and N.J.A.C. 5:14A-9.3.

Amended by R.2007 d.75, effective March 19, 2007.

See: 38 N.J.R. 1908(a), 39 N.J.R. 855(a).

Section was "Emergency brakes". Rewrote the section.

5:14A-9.18 Protection against moving parts or other hazards and clearance envelopes

(a) Owners, operators and operator assistants shall be aware of any construction equipment or vehicles operating in the immediate vicinity. Any equipment encroaching on the normal range of motion (clearance envelope) of the ride shall be removed to a safe distance or the ride shall not be operated.

(b) An amusement ride shall not be used or operated while any person is so located as to be endangered by it. Areas in which persons may be so endangered shall be fenced, barricaded or otherwise guarded against public intrusion.

(c) Where a public access, queuing, loading or unloading area is under the ride, overhead protection from objects that might reasonably be expected to fall from a ride (for example, items carried or worn by riders) shall be provided.

(d) Machinery used in or with an amusement ride shall be enclosed, barricaded or otherwise effectively guarded against contact. Guards removed for maintenance purposes shall be replaced before normal operation is resumed.

(e) Amusement rides which are self-powered and which are operated by a rider shall have the driving mechanism so guarded and the guard so secured in place as to prevent riders from gaining access to the mechanism.

(f) Each mechanical ride shall be rendered inoperable when not attended or in use.

(g) Clearance envelopes shall be maintained as per manufacturer's specifications at all times during the operation of an amusement ride.

(h) Decorations, such as flags, or lighting fixtures shall be secured in a fashion that they will not create a hazard to riders or members of the public in the event of high winds or normal vibration caused by moving equipment and shall be placed far enough from the ride so as not to encroach on the clearance envelope.

5:14A-9.19 Rider restraint, restrictions, containment

(a) Restraining, containing, or cushioning devices shall be maintained in compliance with the manufacturer's specifications and Chapter 6 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2.

1. The design requirements of Chapter 6 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2 shall not apply to devices in place as of December 16, 2002. Replacement devices shall comply with Chapter 6 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2 to the greatest extent possible.

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

Substituted "Chapter 6 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2" for "N.J.A.C. 5:14A-7.3" throughout.

5:14A-9.20 Overload and over speed

(a) An amusement ride shall not be overcrowded, or loaded in excess of its safe carrying capacity. The maximum safe number of riders listed in the manufacturer's operations manual and on the data plate affixed to the ride shall govern loading.

(b) Amusement rides and attractions clearly suitable for children only shall not carry adults, unless allowed by the manufacturer's operations manual.

(c) Amusement rides shall not be operated at an unsafe speed or at any speed beyond that recommended by the manufacturer. The maximum safe operating speed of an amusement ride can be found in the operations manual provided by the manufacturer and on the data plate affixed to the ride.

(d) An amusement ride capable of exceeding its maximum safe operating speed shall be provided with a maximum speed-limiting device.

1. An amusement ride requiring a maximum speed-limiting device shall have the device connected in the control circuit immediately bringing the ride to a safe stop if the ride exceeds the maximum safe operating speed or the device is disabled or malfunctioning.

2. The speed-limiting device shall not be by-passed or disabled in any way.

3. The Department, when necessary, shall require the testing of speed limiting devices by the owner or owner's representative for reasons of ensuring proper functioning of these devices.

5:14A-9.21 Electrical equipment and wiring

(a) All electrical equipment and wiring shall be installed and maintained in compliance with Chapter 12 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2.

1. Equipment and wiring in place as of December 16, 2002 shall be permitted to remain provided that it is not in an unsafe or hazardous condition. Replacement or new equipment or wiring shall conform to the requirements of Chapter 12 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2.

i. Such works shall be identified in the maintenance log required to be maintained pursuant to N.J.A.C. 5:14A-9.3.

2. The continuity of the grounding conductor system used to reduce electrical shock hazards shall be verified as outlined in section 525.32 of the NEC each time a portable ride is connected.

3. During assembly/disassembly, no energized points/surfaces shall be exposed to any personnel.

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 paragraphs of (a) and (a)1, substituted "Chapter 12 of ASTM F 2291, as amended in N.J.A.C. 5:14A-7.2" for "N.J.A.C. 5:14A-7.21".

Case Notes

Initial Decision (2009 N.J. AGEN LEXIS 550) adopted, which found that, in the Bureau's action against an individual and his company for alleged electrical code violations relating to a traveling carnival business, it would have been contrary to the letter and spirit of the National Electric Code to take the position that a repeat violation must be restricted to the exact same wire, connection or box being found in the same illegal condition on more than one occasion; an electrician who continued to make the same mistake on different connections creates the same violating condition and, having been directed on prior inspections to match the ampacity to overcurrent protection or to avoid use of welding wire not rated for that purpose, there was no colorable reason why respondent would not take that advice and apply it to all applicable cables. Bureau of Code Services v. Cooke, OAL Dkt. No. CAF 01837-09, 2009 N.J. AGEN LEXIS 607, Final Decision (August 20, 2009).

Initial Decision (2007 N.J. AGEN LEXIS 608) adopted as modified, which concluded that where an employee at "Funtown Pier Amusements" was fatally electrocuted while working on a ride, and three other employees received electric shocks, the Bureau of Code Services sustained its burden of proving by a preponderance of the credible evidence the following violations: N.J.A.C. 5:14A-9.3(e), by failing to properly maintain a daily maintenance log; N.J.A.C. 5:14A-9.6(a), by permitting use of a defective or unsafe ride; N.J.A.C. 5:14A-9.10(b), by failing to "lock-out" ride; N.J.A.C. 5:14A-9.11(h) and (i), by failing to perform work pursuant to the manufacturer's specifications and provide documentation of repair; N.J.A.C. 5:14A-9.21(a), by failing to properly install and maintain electrical equipment; and N.J.A.C. 5:14A-4.7(d), by failing to retain records of all maintenance, inspections, and tests. Bureau of Code Services v. Major, Jr., President, Funtown Pier Amusements, OAL Dkt. No. CAF 593-06, 2007 N.J. AGEN LEXIS 851, Final Decision (December 6, 2007), aff'd as modified, No. A-2395-07T3, 2009 N.J. Super. Unpub. LEXIS 210 (App.Div. February 20, 2009) (reducing \$45,000 penalty to \$40,000).

5:14A-9.22 Pressure vessels, air compressors, pneumatic and hydraulic systems

(a) Air compressors, air compressor tanks and appurtenances used in connection with amusement rides and attractions shall be designed, constructed, equipped and maintained to ensure safe operation.

1. Air compressors and holding tanks used in air systems for amusement rides shall be marked with one of the following certifications:

i. ASME: American Society of Mechanical Engineers; or

ii. An equivalent certification approved in advance by the Bureau of Boiler and Pressure Vessel Compliance in accordance with N.J.A.C. 5:11.

2. Air compressor tanks and other air receivers used in connection with air compressors shall be inspected to manufacturer's specifications at least once a year by a qualified person and a record of each inspection shall be kept in the maintenance log at the ride at all times.

3. Air compressor tanks and other air receivers used in connection with air compressors shall have the maximum allowable working pressure conspicuously marked thereon.

(b) Air compressor tanks and other receivers used in connection with air compressors shall comply with the provisions

set forth at N.J.A.C. 5:11, concerning boilers, pressure vessels and refrigeration.

(c) Air systems used in connection with safety-related devices on rides and attractions shall have a pressure-monitoring device which causes an emergency condition and ride stoppage in the event of loss of air pressure.

1. In the event of power or air system pressure failure, all components shall fail to a position which will put the ride into the safest condition even if a mechanical means is needed to do that.

2. In the event of restoration of air or power, the system shall not operate automatically without action by the operator to reset the system and restart the ride.

(d) Pneumatic tubing, hose and fittings shall conform to Society of Automotive Engineers (SAE) standards or equivalent.

(e) Hydraulic or pneumatic systems and other related equipment used in connection with amusement rides shall be