

COMMONWEALTH OF VIRGINIA



Virginia Amusement Device Regulations "VADR"

(2003 Edition)

Effective November 16, 2005

**Virginia Department of Housing and Community Development
Division of Building and Fire Regulation
501 North 2nd Street
Richmond, Virginia 23219-1321**

PREFACE

Introduction

The Virginia Amusement Device Regulations (VADR) are state regulations promulgated by the Virginia Board of Housing and Community Development for the purpose of establishing standards for the construction, inspection, operation and maintenance of mobile and permanent amusement devices. Amusement devices are generally those devices or structures which are open to the public and convey or move people in an unusual manner for diversion. Passenger tramways (ski-lifts) are also included.

The technical provisions of the VADR are based on nationally recognized technical standards published by the American Society of Testing and Materials. The provisions of the Virginia Uniform Statewide Building Code are also applicable to amusement devices to the extent that the VADR does not supercede its provisions. Enforcement of the VADR is by the local building departments and inspections are conducted by certified local building inspectors or certified private amusement device inspectors.

Arrangement

The VADR is part of the Virginia Administrative Code (VAC), the official compilation of state regulations published under the authority and guidance of the Virginia Code Commission. In addition to being available in this pamphlet form from the Department of Housing and Community Development, the regulation may be accessed through the website of the Virginia Code Commission or by subscription to the VAC.

In keeping with the designations of the other building and fire regulations of the Department based on the edition of the model codes used, this version of the VADR is known as the 2003 edition.

Technical Assistance

Local building departments may be contacted for further information. Staff of the Department's State Building Code Administrative Office may also be contacted at (804) 371-7160.

PART I.
GENERAL PROVISIONS.

13 VAC 5-31-10. Purpose.

A. The purpose of this chapter is to establish standards for the regulation, design, construction, maintenance, operation, and inspection of amusement devices.

B. The provisions of the USBC, including but not limited to all administrative procedures shall apply in the administration and enforcement of this chapter and to amusement devices to the extent such provisions are not superseded by the provisions of this chapter.

13 VAC 5-31-20. Definitions.

A. The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

“Amusement device” means (i) a device or structure open to the public by which persons are conveyed or moved in an unusual manner for diversion and (ii) passenger tramways.

“Bungee cord” means the elastic rope to which the jumper is attached which lengthens and shortens to produce a bouncing action.

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

“DHCD” means the Virginia Department of Housing and Community Development.

“Gravity ride” means a ride that is installed on an inclined surface, which depends on gravity for its operation to convey a passenger from the top of the incline to the bottom, and which conveys a passenger in or on a carrier tube, bag, bathing suit, or clothes.

“Ground operator” means a person who assists the jump master to prepare a jumper for jumping.

“Harness” means an assembly to be worn by a bungee jumper to be attached to a bungee cord. It is designed to prevent the wearer from becoming detached from the bungee system.

“Jump master” means a person who has responsibility

1. American National Standards Institute (ANSI) Standard No. B77.1-1999 for the regulation of passenger tramways; and
2. American Society for Testing and Materials (ASTM) Standard Nos. F698-94 (2000), F747-97, F770-93 (2000), F846-92 (2003), F853-04, F893-04, F1159-03a, F1193-04, F1305-94 (2002), F1950-99, F1957-99, F2007-00, F2137-01, F2291-04 and F2374-04 for the regulation of amusement devices.

The standards referenced above may be procured from:

ANSI
25 W 43rd Street
New York, NY 10036

ASTM
100 Barr Harbor Dr.
West Conshohocken, PA 19428-2959

B. The provisions of this chapter govern where they are in conflict with any provisions of the standards incorporated by reference in this chapter.

C. The following requirements supplement the provisions of the ASTM standards incorporated by reference in this chapter:

1. The operator of an amusement device shall be at least 16 years of age, except when the person is under the supervision of a parent or guardian and engaged in activities determined not to be hazardous by the Commissioner of the Virginia Department of Labor and Industry;
2. The amusement device shall be attended by an operator at all times during operation except that (i) one operator is permitted to operate two or more amusement devices provided they are within the sight of the operator and operated by a common control panel or station and (ii) one operator is permitted to operate two kiddie rides with separate controls provided the distance between controls is no more than 35 feet and the controls are equipped with a positive pressure switch; and
3. The operator of an amusement device shall not be (i) under the influence of any drugs which may affect the operator's judgment or ability to assure the safety of the public or (ii) under the influence of alcohol.

D. Where an amusement device was manufactured under previous editions of the standards incorporated by

reference in this chapter, the previous editions shall apply to the extent that they are different from the current standards.

13 VAC 5-31-50. Certification of amusement device inspectors.

A. Any person, including local building department personnel, inspecting an amusement device relative to a certificate of inspection shall possess a valid certificate of competence as an amusement device inspector from the Virginia Board of Housing and Community Development.

B. Local building department personnel enforcing this chapter and private inspectors shall attend periodic training courses as designated and required by DHCD.

13 VAC 5-31-60. Appeals.

Appeals from the local building department concerning the application of this chapter shall be made to the local board of building code appeals established by the USBC. Application for appeal shall be filed with the local building department within 14 calendar days after receipt of the decision of the local building department. The board of appeals shall hear the appeal within seven calendar days after the application for appeal is filed. After final determination by the board, any person who was a party to the appeal may appeal to the Technical Review Board within 14 calendar days of receipt of the decision to be appealed. Such appeal shall be in accordance with the procedures established in the USBC, under the authority granted by § 36-98.3 of the Code of Virginia where the provisions of Chapter 6 of Title 36 of the Code of Virginia and the USBC apply to amusement devices.

NOTE: Because of the short time frames normally associated with amusement device operations, DHCD staff will be available to assist in finding a timely resolution to disagreements between owners or operators and the local building department upon request by either party.

**Part II.
Owner or Operator Responsibilities.**

13 VAC 5-31-70. Inspections.

The owner or operator of an amusement device shall be permitted to engage a private inspector to provide the necessary inspections for obtaining a certificate of inspection for an amusement device. If a private inspector is to be used, the owner or operator shall notify the responsible local building department as soon as practical. If a private inspector is not to be used, the

owner or operator shall give reasonable notice to the responsible local building department when an inspection for issuing a certificate of inspection is sought. The owner or operator may designate the specific day for the inspection to take place provided it is during the local building department's normal work week.

13 VAC 5-31-80. Owner or operator responsibilities.

In addition to other applicable requirements of this chapter, the owner or operator of an amusement device or devices shall be responsible for the following:

1. Submitting a permit application to the responsible local building department at least five days before a permit to operate, or renewal of a permit to operate, is sought. The permit application shall include (i) the name of the owner, operator or other person assuming responsibility; (ii) a general description of the device or devices to be permitted; (iii) any relevant serial or identification numbers; (iv) the location of the property on which the device or devices will be operated; and (v) the length of time the device or devices will be operating at the site;
2. Submitting an application for modification of any provision of this chapter when a modification is sought due to practical difficulties involved in complying with this chapter. The application for modification shall include documentation outlining the practical difficulties and method proposed to protect the public health, safety and welfare;
3. Submitting to the responsible local building department before or with the application for a permit to operate, or renewal of a permit to operate, proof of liability insurance of an amount not less than \$500,000 per occurrence or proof of equivalent financial responsibility and notifying the responsible local building department promptly of any change in the liability insurance or financial responsibility status during the period of operation to be, or which is, authorized by the permit;
4. Obtaining a permit to operate from the responsible local building department prior to operation or obtaining the renewal of a permit to operate when necessary prior to continued operation. Notwithstanding the above, a permit for a kiddie ride in which (i) the passenger height is limited to 54 inches or less; (ii) the design capacity is 12 passengers or less; and (iii) the assembly time is two hours or less need not be obtained if the device has an unexpired certificate of inspection issued by a local building department in this Commonwealth, regardless of whether the ride has been disassembled or moved to a new site; and
5. Making available to the inspector at the time of inspection for a certificate of inspection the information listed in §§ 2.1 through 2.6 of ASTM F698 when manufactured prior to 1978;
6. The operator of an amusement device shall review promptly upon receipt all manufacturer's notifications, service bulletins and safety alerts relating to such amusement device issued pursuant to ASTM F853. The operator of the amusement device shall comply with all recommendations and requirements set out in such documents as required by ASTM F853. A copy of each such document shall be retained by the operator. Whenever such amusement device is inspected pursuant to these regulations, the operator of the amusement device shall present each such document to the inspector. It is the responsibility of the operator of an amusement device to maintain contact with the manufacturer to insure that the manufacturer knows which devices are operated by the operator and to insure that the manufacturer has the current address of the operator.
7. Obtaining a certificate of inspection from the responsible local building department (i) prior to initial operation; (ii) prior to operation following a major modification; (iii) prior to each seasonal operation; (iv) at least once a year if operated more than seasonally; and (v) prior to resuming operation following an order from the local building department to cease operation. Notwithstanding the above, a certificate of inspection for a kiddie ride in which (i) the passenger height is limited to 54 inches or less; (ii) the design capacity is 12 passengers or less; and (iii) the assembly time is two hours or less need not be obtained if the device has an unexpired certificate of inspection issued by a local building department in this Commonwealth, regardless of whether the ride has been disassembled or moved to a new site; and

8. Ceasing operation upon receipt of a temporary order to cease operation issued by the responsible local building department.

associated inspections shall not exceed the following:

13 VAC 5-31-90. Accidents.

In the event of an accident involving serious injury or death the owner or operator shall:

1. Contact the responsible local building department as soon as practical, but not later than the next work day;
2. Cease operation until the responsible local building department approves resuming operation, except that approval from the responsible local building department for resuming operation is not required if the investigation required by subdivision 3 of this section provides reasonable evidence that the serious injury or death was not related to malfunction or improper operation;
3. Conduct an investigation to include (i) an examination of the accident scene; (ii) an interview of any witnesses or persons involved in the accident; and (iii) compiling a written report. The report shall contain a summary of the investigation and a description of the device involved, including the name of the manufacturer, the serial number and the date of manufacture, if available; and
4. Submit the investigation report to the responsible local building department within 24 hours after the time of the accident except that if its office is closed during the 24-hour period, the report shall be submitted within four hours after the office reopens.

**Part III.
Enforcement.**

13 VAC 5-31-100. Local building department.

The local building department's official or representative shall be permitted to do the following relative to an amusement device or devices intended to be, or being, operated at a site within their jurisdiction:

1. Collect fees for a permit to operate, renewal of a permit to operate and inspections conducted by staff to issue a certificate of inspection. The total for fees associated with one permit to operate and any associated inspections or one renewal of a permit to operate and any

- a. \$25 for each kiddie ride under the permit;
- b. \$35 for each circular ride or flat-ride less than 20 feet in height under the permit;
- c. \$55 for each spectacular ride under the permit which cannot be inspected as a circular ride or flat-ride in (b) above due to complexity or height; and
- d. \$150 for coasters which exceed 30 feet in height.

Notwithstanding the above, the fee for each amusement device under the permit shall be reduced by 50% when the inspection for obtaining a certificate of inspection for that device is conducted by a private inspector;

2. In addition to the above, require permits and charge fees as appropriate under the USBC for amusement devices which are being initially constructed in whole or in part at a site within the jurisdiction for intended operation at that site. This authorization does not apply to an amusement device which is only being reassembled or undergoing a major modification at a site or being moved to a site for operation;
3. Approve modifications of this chapter upon determination that the public health, safety and welfare are assured;
4. Conduct an inspection at any time when the device would normally be open for operation, or at any other time if permission is granted by the owner or operator, for compliance with this chapter; and
5. Issue an order to temporarily cease the operation of an amusement device upon determination that it may be unsafe or otherwise endanger the public. The temporary order shall remain in effect until a new certificate of inspection is issued.

13 VAC 5-31-110. Enforcement.

The local building department's official or representative shall enforce the provisions of this chapter as provided herein and as interpreted by the State Building Code Technical Review Board (TRB).

The local building department's official or representative shall be responsible for the following relative to an amusement device or devices intended to be, or being, operated at a site within their jurisdiction:

1. Approving or rejecting any application made for a permit to operate, or renewal of a permit to operate, within five days after submittal and issuing or renewing the permit when appropriate. The permit shall be issued or renewed for the length of time the device or devices will be operating at the site, except that if the length of time exceeds one year, the permit or renewal shall expire after one year. The permit to operate or renewed permit to operate shall state (i) the estimated length of time that the device or devices will be operated at the site; (ii) the name of, or otherwise identify, the device or devices covered by the permit; and (iii) the date when the permit expires;
2. When a certificate of inspection is sought by the owner or operator, conducting an inspection to assure compliance with this chapter unless the owner or operator is providing an approved private inspector. If the owner or operator has given reasonable notice that a certificate of inspection is sought and designated a specific day for the inspection, then the inspection shall be conducted on that day;
3. Accepting a written report of inspection from an approved private inspector;
4. When in receipt of a written report of inspection from an approved private inspector or after assuring compliance with this chapter through inspection, completing a certificate of inspection distributed by DHCD and causing the certificate to be posted or affixed on or in the vicinity of the device in a location visible to the public;
5. Accepting an existing certificate of inspection for a kiddie ride in which (i) the passenger height is limited to 54 inches or less; (ii) the capacity is 12 passengers or less; and (iii) the assembly time is two hours or less, provided the existing certificate of inspection for the ride was issued by a local building department in this Commonwealth less than one year prior to the date for which a certificate of inspection is sought, regardless of whether disassembly has occurred. Notwithstanding the above, if the kiddie ride is determined to be in violation of

this chapter, the existing certificate of inspection shall not be valid; and

6. Issuing an order to cease operation upon discovery or notification that an accident involving the device has caused serious injury or death, except where the owner or operator has determined that the serious injury or death was not related to malfunction or improper operation of the device. Whether or not the order to cease operation has been issued, the official or representative shall conduct an inspection, or accept an inspection report from an approved private inspector, to assure the device complies with this chapter and is safe for operation.

**Part IV.
Bungee Jumping.**

13 VAC 5-31-120. General requirements.

A. The provisions of this part are specific to bungee jumping and are in addition to other applicable provisions of this chapter.

B. Bungee jumping operations which are open to the public shall be permitted from structures designed for use as part of the bungee jumping operation. Bungee jumping from other types of structures, cranes or derricks is not permitted for public participation.

C. Bungee jumping activities which involve double jumping, sandbagging, catapulting or stunt jumping shall not be permitted to be open for public participation.

13 VAC 5-31-130. Bungee cords.

A. Bungee cords shall be tested by an approved testing agency or by an engineer licensed in Virginia. The following criteria shall be met:

1. Each lot of bungee cords shall have a minimum of 10%, but not less than one of the cords tested to determine the lowest ultimate tensile strength of the cords tested. A load versus elongation curve based on the test result shall be provided with each lot of bungee cords; and
2. The manufacturer shall specify the maximum number of jumps for which each cord or cord type is designed and the criteria for use of the cord.

B. Bungee cords shall be retired when the cords (i) exhibit deterioration or damage; (ii) do not react according to specifications; or (iii) have reached the

maximum usage expressed in number of jumps as specified by the manufacturer. Bungee cords retired from use shall be destroyed immediately by cutting the cord into five-foot lengths.

13 VAC 5-31-140. Jump hardware.

Jump harnesses shall be either full body-designed, which includes a waist harness worn in conjunction with a chest harness, or ankle-designed with a link to a waist harness. All jump harnesses, carabineers, cables and other hardware shall be designed and manufactured for the purpose or designed or analyzed by an engineer licensed in Virginia and shall be used and maintained in accordance with the manufacturer's or engineer's instructions.

13 VAC 5-31-150. Structure requirements.

Structures constructed on site for bungee jumping activities shall be designed by an engineer licensed in Virginia. Structures manufactured for bungee jumping activities shall be analyzed by an engineer licensed in Virginia and assembled and supported in accordance with the manufacturer's instructions.

13 VAC 5-31-160. Operational and site requirements.

A. Operators shall follow the criteria provided by the manufacturer for the use of bungee cords. A record of the number of jumps with each cord shall be maintained. All cords shall be inspected daily for wear, slippage, or other abnormalities unless the manufacturer specifies more frequent inspections.

B. The jump master or site manager shall be responsible for determining the appropriate use of all bungee cords in relation to the weight of the jumper and height of the platform. Bungee cords shall be attached to the structure at all times when in the connection area.

C. All harnesses shall be inspected prior to harnessing a jumper and shall be removed from service when they exhibit signs of excessive wear or damage. All carabineers shall be inspected daily and shall be removed from service when they exhibit signs of excessive wear or damage or fail to function as designed. The anchors shall be inspected daily and shall be replaced if showing signs of excessive wear.

D. A secondary retrieval system shall be provided in all operations. A locking mechanism on the line shall be used to stop and hold the jumper in place after being pulled back to the jump platform in a retrieval system. A dead man's switch or locking mechanism that will stop the lowering action shall be used in a friction lowering system.

E. The jump zone, preparation area and landing/recovery area shall be identified and maintained during bungee jumping activities. The landing/recovery area shall be accessible to emergency vehicles. Communication shall be maintained between all personnel involved with the jump.

F. An air bag, a minimum of 10 feet by 10 feet, shall be used. The air bag shall be rated for the maximum free fall height possible from the platform during operation. The air bag shall be located immediately below the jump space. The landing area shall be free of spectators and debris at all times and shall be free of any equipment or personnel when a jumper is being prepared on the jump platform and until the bungee cord is at its static extended state. A place to sit and recover shall be provided adjacent to, but outside, the landing area where the jumper shall be allowed to recover.

G. Where the jump space or landing area, or both, is over sea, lake, river, or harbor waters, the following shall apply:

1. The landing water area shall be at least nine feet deep and a minimum of 10 feet by 10 feet or have a minimum of 15 feet in diameter if circular;
2. The jump space and landing area shall be free of other vessels, floating and submerged objects and buoys. A sign of approved size which reads "Bungee Jumping! Keep Clear" shall be fixed to buoys on four sides of the landing area;
3. The landing vessel shall be readily available for the duration of the landing procedures;
4. The landing vessel shall have a landing pad size of at least five feet by five feet within and lower than the sides of the vessel;
5. A landing vessel shall be available that can be maneuvered in the range of water conditions expected and will enable staff to pick up a jumper; and
6. One person may operate the landing vessel where the vessel is positioned without the use of power. A separate person shall operate the vessel where power is required to maneuver into or hold the landing position.

H. Where the landing area is part of a swimming pool or the landing area is specifically constructed for bungee jumping, the following shall apply:

1. Rescue equipment shall be available, such as a life ring or safety pole;
2. The jump space and landing area shall be fenced to exclude the public; and
3. Only the operators of the bungee jump and jumper shall be within the jump zone and landing areas.

I. Storage shall be provided to protect equipment from physical, chemical and ultra-violet radiation damage. The storage shall be provided for any current, replacement and emergency equipment and organized for ready access and shall be secure against unauthorized entry.

13 VAC 5-31-170. Management and personnel responsibilities.

A. All bungee jumping activities shall have a minimum of one site manager, one jump master and one ground operator to be present at all times during operation of the bungee jump.

B. The site manager is responsible for the following:

1. Controlling the entire operation;
2. Site equipment and procedures;
3. Determining whether it is safe to jump;
4. Selection of, and any training of personnel;
5. Emergency procedures; and
6. Maintaining records.

C. A jump master shall be located at each jump platform and shall have thorough knowledge of, and is responsible for, the following:

1. Overseeing the processing of jumpers, selection of the bungee cord, adjustment of the rigging, final check of jumper's preparation, and countdown for and observation of the jump;
2. Verifying that the cord is attached to the structure at all times when the jumper is in the jump area;
3. Rescue and emergency procedures; and
4. Ensuring that the number of jumps undertaken in a given period of time will allow all

personnel to safely carry out their responsibilities.

D. The ground operator shall have knowledge of all equipment used and of jump procedures and shall have the following responsibilities:

1. Ensuring that the jumper is qualified to jump;
2. Assisting the jump master to prepare the jumper and attach the jumper to the harness and rigging;
3. Assisting the jumper to the recovery area; and
4. Maintaining a clear view of the landing area.

E. Each site shall have an operating manual which shall include the following:

1. Site plan, job descriptions (including procedures), inspections and maintenance requirements of equipment including rigging, hardware, bungee cords, harnesses, and lifelines; and
2. An emergency rescue plan.

F. The daily operating procedures shall be conducted in accordance with ASTM F770-93.

G. The qualification and preparation of jumpers shall include obtaining any pertinent medical information, jumper weight and a briefing of jumping procedures and safety instructions.

**PART V.
GRAVITY RIDES.**

13 VAC 5-31-180. General requirements.

A. The provisions of this part are specific to gravity rides and are in addition to other applicable provisions of this chapter.

B. A ride using carriers shall be designed and constructed to retain the passengers in or on a carrier during the operation of the ride and retain the carrier on or within the track, slide, or chute system during the operation of the ride.

C. A ride that conveys passengers not in or on a carrier shall be designed and constructed to retain the passengers within the chute or slide during the ride.

D. At each loading or unloading area, a hard surface which is other than earth and which is reasonably level

shall be provided. The surface shall be large enough to accommodate the intended quantity of passengers.

E. Where loading or unloading platforms are elevated more than 30 inches from the adjacent areas, guard rails conforming to the USBC shall be provided.

F. Passengers shall not have to step up or down more than 12 inches from the loading or unloading surface to enter or exit the ride.

G. The frequency of departure of carriers or riders from the loading areas shall be controlled by a ride operator. The minimum distance between departures shall be determined by the designer of the specific ride.

H. When a passenger has control of the speed or course of the carrier, the passenger shall have a clear sight distance along the course of the ride long enough to allow the passenger to avoid a collision with another person or carrier.

I. The unloading area of the ride shall be designed and constructed to bring riders and carriers to a safe stop without any action by the rider.

J. There shall be attendants at the loading and unloading area when the ride is in use. However, where the physical structure of the ride is such that it is not capable of accommodating an attendant at both the loading and unloading area and the entire ride is visible and under the supervision of a single attendant, attendants at both the loading and unloading areas shall not be required.

K. If the entire course of the ride is not visible to the operator, additional persons with communications equipment shall be provided or approved visual surveillance equipment shall be installed along the course of the ride which is not visible to the operator.

L. Any moving or hot parts that may be injurious to the ride operator or the public shall be effectively guarded to prevent contact.

M. Fencing or adequate clearance shall be provided that will prevent the riders from contact with persons or nearby objects.

**PART VI.
CONCESSION GO-KARTS.**

13 VAC 5-31-190. General Requirements.

In addition to other applicable requirements of this chapter, concession go-karts shall be operated, maintained and inspected in accordance with ASTM F2007.

**PART VII.
INFLATABLE AMUSEMENT DEVICES.**

13 VAC 5-31-200. General Requirements.

In addition to other applicable requirements of this chapter, inflatable amusement devices shall be operated, maintained and inspected in accordance with ASTM F2374.

**PART VIII.
ARTIFICIAL CLIMBING WALLS.**

13 VAC 5-31-210. General Requirements.

In addition to other applicable requirements of this chapter, artificial climbing walls shall be operated, maintained and inspected in accordance with ASTM F1159.