

**LEGISLATIVE RULE
TITLE 42
DIVISION OF LABOR**

**SERIES 23
COMMERCIAL BUNGEE JUMPING SAFETY ACT**

§42-23-1. General.

- 1.1. Scope. -- This rule applies to all "bungee jumping", as that term is defined in the W. Va. Code §21-12-1 et seq.
- 1.2. Authority. -- W. Va. Code §21-12-3.
- 1.3. Filing Date. -- April 1, 1996.
- 1.4. Effective Date. -- April 1, 1996.

§42-23-2. Definitions.

- 2.1. "Accepted engineering practice" means that which conforms to accepted principles, tests, or standards of nationally recognized technical or scientific authorities. References given include; occupational Safety and Health Administration (29 CFR 1900-1919) and American National Standards Institute (ANSI) Safety Standards.
- 2.2. "Air Bag" means a device which cradles the body and which uses an air release breather system to dissipate the energy due to a fall, thereby allowing the person to land without an abrupt stop.
- 2.3. "Bungee Cord" means the elastic rope to which the jumper is attached.
- 2.4. "Bungee Jumping" means a commercial recreational activity where participants jump off a platform or other area, whether natural or man-made with a cord or other elastic device attached or otherwise affixed or connected to the jumper in order to prevent the jumper from striking the ground or earth below the jump platform, and which activity is engaged in for the purpose of giving the jumpers amusement, pleasure, thrills or excitement.
- 2.5. "Bungee Jumping Site" means the area designated for the bungee jumping facility by the owner or operator, and its attendant equipment, as approved by the West Virginia Division of Labor.
- 2.6. "Carabineer" means a shaped metal device with a gate used to connect sections of the bungee cord, jump rigging, equipment or safety gear. Carabineers used for life supporting activities must be of the locking design.
- 2.7. "Commissioner" means the Commissioner of the West Virginia Division of Labor.
- 2.8. "Division" means the West Virginia Division of Labor.
- 2.9. "Dynamic loading" means the load placed on the bungee cord, rigging, harness, and other equipment, by the weight of the jumper plus the G force involved.

- 2.10. "Staff" means any employee of the owner or operator of a bungee jumping facility.
- 2.11. "G force" means the unit of force equal to the gravity exerted on a body at rest.
- 2.12. "Harness" means an assembly to be worn by a jumper and to be attached to a bungee cord or safety line designed to prevent the wearer from becoming detached from the bungee cord or safety line.
- 2.13. "Jump Zone" means the maximum designed area in all directions within which the jumper could come in contact with the ground while attached to the bungee cord.
- 2.14. "Lift" means any equipment utilized to transport any person to any work area or platform.
- 2.15. "Military specification (Mil-spec) cord" means preloaded or pre-stretched rubber cords made in conformance with military specifications.
- 2.16. "Platform" means the launch area where jumpers assemble and from which they depart.
- 2.17. "Safe working load" means the maximum rated load as determined by the manufacturer which can be safely handled by equipment, or any of its components or rigging under specified conditions, expressed in pounds.
- 2.18. "Safety harness" means an assembly designed to be attached to a safety line to stop the wearer from falling.
- 2.19. "Safety line" means a line used to connect the harness or safety harness to an anchor point to prevent risk of a fall.
- 2.20. "Ultimate tensile strength" means the point when the applied load reaches a maximum prior to failure, expressed in pounds.
- 2.21. "Vertical safety space" is the distance between the maximum extension point of the bungee cord with jumper attached and the surface of the air bag, net or surface of the water,

§42-23-3. Permit required, application and fees.

- 3.1 Prior to the initial use of any bungee jumping site in this state, the owner or operator of the site shall obtain a permit from the Division. No permit shall be issued by the commissioner until after the receipt of a complete application, payment of fees, and receipt of a report from an inspector of the Division certifying that the site has been inspected and found to be safe for public use.
- 3.2. Each application for a permit must be received by the Commissioner not less than seven (7) days prior to the first intended date of operation. Each application shall include the following information:
 - a. The name(s) and address(s) of both the owner and the operator of the bungee jumping site and equipment;

- b. The name of the state(s) under where the owner(s) and operator(s) is incorporated, if a corporation; and proof of a West Virginia Certificate of Authority, if a non-West Virginia corporation;
- c. The make, model, and serial number of the bungee jumping device, and the name and address of the manufacturer if the device is portable or subject to relocation;
- d. Acceptable evidence of the liability insurance policy, bond or other security covering the bungee jumping site. The Commissioner may, at his or her discretion, require submission of the complete copy of the insurance policy;
- e. A copy of the request for inspection by the Division or a copy of the actual inspection report;
- f. A copy of the bungee jump site operations manual as approved by the Division or a copy of the manual and a request for approval;
- g. For portable/transient operations:
 - 1. A complete list of all scheduled appearances in West Virginia, including the dates and locations; and
 - 2. The names and addresses of sponsors or land owners at each location where operation is planned; and
- h. All such other relevant information as the Commissioner may consider necessary for the enforcement of this article.

3.3. A permit to operate a bungee jumping site is valid for twelve (12) months from the date of issue unless sooner revoked for cause or the relocation of the equipment.

3.4. The annual fee for a permit to operate a bungee jumping site is one hundred dollars (\$100.00). Where more than one device is located at the same site, a single permit and fee of one hundred dollars (\$100.00) is required.

§42-23-4. Records to be kept.

- 4.1. The operator shall maintain a jump log which shall include, at a minimum, the following information:
- a. The name, address and telephone number of the jumper;
 - b. The weight of the jumper as determined on an accurate weighing device;
 - c. The age of the jumper;
 - d. The method of age verification;
 - e. Where parental consent is required, the name, address and signature of at least one parent or legal guardian;

- f. The identification numbers of the cords and harnesses used;
- g. The date and time of the jump;
- h. Notations of any medical factors relative to the jumper; and
- i. The signature of the jump master.

4.2. The operator shall maintain an equipment log for bungee cords, harnesses and carabineers used or stored at the bungee jumping site. The log shall include, at a minimum, the following for each:

- a. An identification number;
- b. The name and address of the manufacturer;
- c. The name and address of the person or company from whom purchased;
- d. The date of purchase;
- e. The maximum load bearing capacity;
- f. The date of the most recent static test;
- g. The date of the most recent visual damage inspection;
- h. The number of jumps to date. The number of jumps must be updated daily and shall never exceed the maximum number recommended by the manufacturer; and
- i. The name and signature of person performing most recent equipment inspection

4.3. All required records shall be kept at the bungee jumping site and shall be available to the Division for inspection at any time. Records shall be kept on site for a period of not less than two (2) years.

§42-23-5. Inspection.

5.1. No bungee jumping site may be operated in this state without having first been inspected by the Division and certified safe for public use. Each site may be inspected at any time during the permit period, but at no less interval than once in each twelve (12) months.

5.2. The owner or operator shall, prior to construction or assembly, submit a report to the Division which contains the total site plans, safety zones, drawings and specifications of equipment and structures, and a copy of the site operating manual described in section fifteen of this rule.

§42-23-6. Site, equipment, and general requirements.

6.1. The operator shall maintain a side safety zone around the jump zone of no less than twenty (20) feet in all directions at each bungee jumping site. The side safety zone must be clear of all obstructions and persons other than staff.

a. Where jumps occur over water, the water shall be at least nine (9) feet deep. The vertical safety space shall be at least sixty (60) inches above the water. However, if the depth of the water is greater than nine (9) feet, no vertical safety space is required.

b. Where jumps occur over land an air bag or net must be used. The vertical safety space shall be at least sixty (60) inches above the air bag or net.

6.2. All platforms must be approved by the Division prior to use.

a. The maximum allowable weight on a platform shall never exceed the lower of the safe working load or twenty (20%) percent of the breaking load of the platform as those loads are determined by the manufacturer.

b. When the platform is not an integral part of the structure, the maximum allowable weight on the platform shall never exceed the lower of the safe working load or twenty (20%) percent of the breaking load of the platform or its attaching devices, as those loads are determined by their manufacturer(s)

c. The platform shall have a non-slip surface.

d. The platform shall have anchor points for safety harnesses, designed and placed to easily secure persons and so as flat to pose a hazard to anyone on the platform.

e. The platform shall be fitted with a permanent fence separate from the jump point to contain the jumper during preparation.

f. There shall be a gate across the jump point which shall remain closed when a jumper is not present.

g. The jump master shall stop the jumping operation when the wind speed affects the safe operation on the jump platform and/or the landing area.

h. A platform shall not be attached to a portable crane on other structure unless the crane or structure has been specifically engineered and constructed for the purpose of bungee jumping. No crane or structure shall be placed in use until the Division ascertains and certifies that the crane or structure will not be used in the manner contrary to its manufactured intent.

i. The system for lowering the jumper to the landing pad shall be operated by either the jump operator or jump master. There shall be an approved alternative method of jumper recovery should the main lowering system fail.

j. Hot air balloons and aircraft are not acceptable platforms. Bungee jumping from hot air balloons or aircraft is prohibited.

6.3. Bungee cord requirements:

a. The operating length of a bungee cord at its maximum designed dynamic load shall not exceed four (4) times its unloaded length.

b. The cord material and sheathing to be used shall be clearly specified in the site operating manual.

c. The cord and its non-metallic connectors shall be destroyed if any of the following conditions occur:

1. Exposure to daylight exceeds 250 hours. This does not apply when the cord cover or sleeve fully protects all of the cord from visible light and ultra-violet exposure;
2. Six months from date of manufacture elapses;
3. The threads exhibit wear, including bunching or uneven tension;
4. Broken threads exceed five (5) percent of the total threads;
5. Upon contact with solvents, corrosive or abrasive substances;
6. When any other flaws are found;
7. When the dynamic load of the cord reduces to less than the maximum designed dynamic load;
8. Upon five hundred (500) jumps on a particular cord; or
9. When the cord or its connectors are not in compliance with the manufacturer's specifications.

d. No particular cord may be used for successive jumps. At least five (5) minutes must be provided between jumps to allow the cord to fully return to its original unloaded length.

e. Bungee cords must be examined daily. Before starting the day's operations, the jump master shall visually inspect the entire length and circumference of the bungee cord for signs of wear. The inspection shall be repeated at least four (4) times during the daily operation and recorded in the site log.

f. When unexpected changes in bungee cord performance occur the bungee cord shall be replaced immediately. The bungee cord shall be subjected to inspection and testing as required by this rule.

6.4. Jump harnesses and ankle strappings shall be appropriate for their intended use. A jump harness shall be either a full body harness, a sit harness with shoulder straps or an ankle harness. A jump harness shall be available to fit the range of patron sizes accepted for jumping.

6.5. All ropes for holding and/or lowering the jumper shall have a breaking load of at least six thousand (6,000) pounds.

6.6. All hardware shall meet the following minimum requirements:

a. Carabineers shall be the screw gate type, manufactured of hardened steel, with a minimum breaking load of six thousand (6,000) pounds;

b. Pulleys and shackles shall be manufactured of hardened steel with a minimum breaking load of six thousand (6,000) pounds;

c. All pulleys shall be compatible with rope size; and

d. Webbing shall be flat or tubular mountaineering webbing or equivalent with a minimum breaking load of six thousand (6,000) pounds. If military specification cords are used, all webbing must have redundant connections.

§42-23-7. Testing requirements.

7.1. All jump rigging, harnesses, lowering system and safety gear shall be regularly inspected and tested by the operator as set forth in the operating manual. Inspections, findings and corrective action shall be recorded in the site log.

7.2. The operator shall immediately replace all hardware subjected to abnormal loadings, impacts against hard surfaces, or surface damage.

7.3 The operator shall inspect visually and by feel, all ropes, webbing and bindings shall for signs of wear, fraying, or damage by corrosive substances, in accordance with the site operating manual.

§42-23-8. Replacement of rigging and equipment.

8.1. Replacement equipment for the following items shall always be available on site:

- a. Bungee cords;
- b. All ropes;
- c. Rigging hardware;
- d. Binding and ankle strapping for jumpers;
- e. Jump harnesses;
- f. Safety harnesses; and
- g. Life lines and clips.

8.2. The operator shall immediately replace all items of equipment, rigging or personal protective equipment found to be damaged or defective.

8.3. The operator shall immediately cease all jumping activity when damaged or defective equipment cannot be replaced.

§42-23-9. Identification of equipment, rigging, bungee cord and safety equipment.

9.1. Each piece of equipment, rigging, bungee cord and safety equipment shall have its own permanent identification number. The number shall be unique and, upon destruction of the item, the number shall be retired.

9.2. The form of the identification shall not damage or detract from the integrity of the material.

9.3. The identification shall be clearly visible to the operators during daily operations.

9.4. The operator shall record the identification of each piece of equipment in the site operations manual.

§42-23-10. Jump zone requirements.

10.1. The following requirements apply where the jump zone is over land:

- a. A net or air bag shall be used. The net or air bag shall be designed to provide total coverage of the jump zone, which must be defined in the site operating manual. The net or air bag shall be rated for the maximum free fall height possible from the platform during operation;
- b. The net or air bag shall be in position before jumper preparation commences on the platform;
- c. Upon completion of a jump, the jumper shall be lowered onto the net or air bag, or other designated landing pad approved by the Division;
- d. The jump zone shall be free of spectators at all times;
- e. The jump zone shall be free of any equipment or staff when a jumper is being prepared on the platform and until the bungee cord is at its static extended state; and
- f. A place for the jumper to sit and recover shall be provided close to, but outside the jump zone.

10.2. The following requirements apply where the jump zone is over a body of water:

- a. A landing and recovery boat shall be positioned to recover jumpers;
- b. The landing boat shall have within it a landing pad approved by the Division, which is at least five (5) feet by three (3) feet;
- c. One person may operate the landing boat and assist the jumper to land if the boat is docked or moored, if the boat is not docked or moored, one person shall pilot the boat while another person assists the jumper to land;
- d. The boat shall be equipped with coast Guard approved life jackets and rescue equipment. The boat operators shall wear required life jackets; and
- e. The jump zone shall be free of all boats, floating or submerged objects, the public, and any spectators. When the landing boat- is in open waters, it shall be defined by the deployment of buoys. A sign at least two (2) feet by three (3) feet which reads "BUNGEE JUMPING - KEEP CLEAR" shall be attached to the four (4) sides of the landing boat.

10.3. When the landing area is a pool, the following requirements apply:

- a. The pool must be designed by a manufacturer specifically for bungee jumping use;
- b. The pool size shall at a minimum be equal to the jump zone;
- c. Rescue equipment shall be available, and the jump zone shall be secure; and
- d. Only staff shall be permitted within the jump zone. No one is permitted within the jump zone during jump preparation.

10.4. A fence must enclose the jump zone and the side safety zone. The fence shall be designed and constructed to prevent people, animals and objects from entering the landing area. A four (4) inch sphere shall not be able to pass through any section of the fence or gate.

§42-23-11. Site requirements.

11.1. Adequate storage shall be provided to protect equipment from physical, chemical and ultra-violet ray damage. The storage area shall be secured against unauthorized entry.

11.2. There shall be a public address system in operation during all hours of business, there shall be a radio communication link between the platform and the jump zone, the boat (for landings over water) and the recovery area

11.2. All staff must wear clothing or other identification that makes them readily identifiable as staff.

11.4. Instructions to jumpers shall be placed at the entrance to the site.

11.5. There shall be a means of communication to local emergency services within two hundred (200) feet of the operation.

11.6. Operator(s) shall allow jumps only under the direct control of a jump master.

11.7. Adjustments for the weight of each jumper shall be made by the jump master's selection of bungee cord and length of webbing or rope attached to the bungee cord.

11.8. A clearly visible sign shall be erected listing the medical and age restrictions for jumpers.

11.9. The operator shall brief all staff before each day's operations. This briefing shall include assignment of the designated jump master where more than one jump master is on site.

11.10. The operator shall record all registration information on jumpers in accordance with section four of this rule. All registration information required shall be recorded in the jump log.

11.11. Jumper preparation shall include: information to the jumper on jumping, landing, lowering, and recovery procedures; completing harness or binding activities; final inspection by the jump master; return of the jumper to the public area; and retrieval of the bungee cord to the platform or storage location.

§42-23-12. Jumper requirements.

12.1. The minimum age for jumping is eighteen (18) years of age. However, persons between sixteen (16) and eighteen (18) years of age may be allowed to jump with the written consent, and in the presence of, a parent or legal guardian. Parental or legal guardian consent shall be documented in the jump log to include the signature of the parent or guardian. No person below the age of sixteen (16) years of age is allowed to jump.

12.2. Proof of age is required and must be entered into the jump log.

12.3. Any jumper who, in the opinion of the Jump Master, represents a danger to themselves or others shall not be allowed to jump.

12.4. Jumpers who, in the opinion of the Jump Master, are visibly in an intoxicated state shall not be allowed to jump.

§42-23-13. Injury and damage.

13.1. The operator shall report all serious physical injuries and fatalities to the Division within twenty-four (24) hours of occurrence. The site shall be closed immediately upon occurrence of a serious physical injury or fatality and remain closed until the Division reopens it. The area shall be secured as to prevent tampering with or removal of potential evidence.

13.2. All-injuries, damages or incidents shall be recorded in a log established and maintained for that purpose and made available for inspection by the Division.

§42-23-14. Staff and duties.

14.1. The minimum age for staff shall be twenty-one (21) years of age.

14.2. To qualify as jump master for a bungee jumping site, a person shall complete two hundred and fifty (250) jumps under supervision, and have complete knowledge of all aspects of the operation.

14.3. The staff of a bungee jumping operation shall include at least three (3) persons, with the following roles:

a. Jump Master. The designated jump master shall have control over the operation and is responsible and accountable for the operation of the site. A jump master is the only person who may take the jumper through the final stages of preparation to the jump take-off. The jump master is responsible for the training of other staff and shall have thorough knowledge of the site equipment; procedures and staff. The jump master is responsible for checking selection of the bungee cord and adjusting the rigging at each jump platform. The jump master must possess certification of training in first aid and emergency procedures;

b. Jump Operator. The jump operator assists the jump master to prepare the juniper; assists the jumper into harnesses; safety belts, and other equipment; attaches the jumper to rigging; and operates the lowering system. The jump operator may carry out landing/recovery operator duties and assists in controlling the public;

c. Landing/Recovery operator. The landing/recovery operator assists the jumper to land on the net, air bag or landing pad; assists the jumper to the recovery area; and assists in controlling the public;

d. Registration clerk. The registration clerk's duties include; registration of the jumper; maintenance of the jump log; weighing of the jumper; controlling movement of a jumper to the jump platform; and controlling or assisting to control the public; and

e. Boat operator. The boat operator's duties include operating the landing and/or emergency boat.

14.4. Staff training shall be conducted by, or under the direct supervision of the jump master.

14.5. Staff who are in training shall be directly supervised at all times.

§42-23-15. Site operating Manual.

15.1. The operator shall maintain a site operating manual, approved by the Division, at each bungee jumping site. The site operating manual shall describe the system of operation to be used and shall include, but not be limited to, the following elements:

a. A site plan showing a plan view of the site with all components in place and with fencing and the jump zone defined;

b. A site plan showing a profile of the jump zone;

c. A complete description of all components in the rigging system including a manufacturer's specification or laboratory test certificate of each component;

d. A complete description of all operator, jumper and passenger safety equipment;

e. A complete description of all rescue equipment;

f. A complete job description of all staff employed on the site, with the minimum qualifications for each job, and complete detail of work periods required;

g. A complete description of staff selection criteria and the method of verifying an applicant's qualifications;

h. Rules concerning health and safety of staff, patrons and the public;

i. The owner's or operator's written policies prohibiting staff use of drugs or alcohol, and any testing procedures which may be required;

j. A complete description of the training program of staff;

k. A complete description of the standard operating procedures;

l. A complete description of the procedures to be taken in the event of an emergency;

m. A complete description of the procedure for reporting to the Division of incidents resulting in serious injury or fatality;

n. A complete description of the reporting procedure for any incidents which do not serious injury, but which were not in accord with normal operational procedures;

o. A complete description of equipment inspection procedures and the logging of those inspections;

p. A complete description of maintenance procedures;

q. A complete description of redundancy criteria and procedures for- all equipment; and

r. A complete description of the method of identifying or labeling all equipment;

15.2. Any requested change in procedures from the site operating manual shall be submitted in writing to the Division by the bungee site owner or operator. Approval must be obtained from the Division prior to implementation. Non-compliance with any of the criteria contained in the site operating manual may result in suspension or revocation of the permit.

§42-23-16. Emergency provisions and procedures.

16.1. Each site shall have an emergency plan, as part of the site operating manual.

16.2. A medium first aid kit, stretcher, back board and blankets shall be maintained on site.

16.3. All jump masters shall have current first aid certification and complete-an annual refresher course.

16.4. At sites where the jump or recovery is over water, the jump master and all landing/ recovery staff shall be holders of a current lifesaving certificate, and shall have passed the equivalent for "in-water rescue of spinal injuries or unconscious patients".

16.5. Where the site includes moving water or swift water, the site operating manual shall specify the rescue training and/or qualifications required for all operators and staff on the site.

16.6. Emergency lighting shall be provided at all jump sites that operates one-half (2) hour prior to sun set until one-half (2) hour after sun rise. The emergency lighting system shall illuminate the jump platform, the jump space and the landing area. The emergency lighting system shall have its own independent power source, or an immediately available independent back-up source.