
First published in the Government *Gazette*, Electronic Edition, on 24th June 2011 at 5:00 pm.

No. S 343

AMUSEMENT RIDES SAFETY ACT 2011 (ACT 6 OF 2011)

AMUSEMENT RIDES SAFETY REGULATIONS 2011

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In exercise of the powers conferred by section 72 of the Amusement Rides Safety Act 2011, the Minister for National Development hereby makes the following Regulations:

PART I
PRELIMINARY

Citation and commencement

1. These Regulations may be cited as the Amusement Rides Safety Regulations 2011 and shall come into operation on 1st July 2011.

Definitions

2. In these Regulations, unless the context otherwise requires —

“access level”, in relation to a zip line, means a level surface below the zip line that permits the access and deployment of a fire engine via a road that —

- (a) has a minimum width of 4 metres;
- (b) is metalled, paved or laid with strengthened perforated slabs; and
- (c) has a minimum loading capacity of 20 tonnes of fire fighting appliances;

“aerial ropeway” means a device for the carriage of patrons with seats, chairs or enclosures which are lifted clear of the ground and are —

- (a) attached to or supported by a moving rope or cable; or
- (b) attached to a moving rope or cable but supported by a standing rope or cable or any other overhead structure, and includes a cable car, a chair-lift or a ski-lift;

“air-inflated enclosure” means a device that is —

- (a) made of plastic membrane or other similar material that is not air-permeable;
- (b) inflated to allow one or more patrons to be wholly enclosed within it; and
- (c) intended to be used for rolling or floating on any ground or water surface or bouncing against other similar devices, for the amusement or entertainment of patrons;

“American National Standards Institute” means the standards organisation of that name in the United States of America;

“applicable standard or code”, in relation to an amusement ride specified in the first column of the First Schedule, means —

- (a) the most current version of any standard or code, issued by any standards organisation or body, or by the Commissioner under regulation 28, corresponding to that amusement ride set out in the second column of that Schedule; and
- (b) if there is a combination of standards or codes set out in the second column of that Schedule corresponding to that amusement ride, collectively, the most current version of all the standards or codes specified in that combination;

“ASTM Committee F24 Standards” means the standards developed by the ASTM International Committee F24 on Amusement Rides and Devices and issued by ASTM International;

“ASTM International” means the international standards organisation of that name;

“authorised” —

- (a) in relation to the design and specifications or the proposed installation method and programme of an amusement ride that is to be or is being installed, means authorised by the installation permit authorising the installation of the amusement ride; and
- (b) in relation to the design and specifications or the proposed modification method and programme of an amusement ride that is to undergo or is undergoing a major modification, means authorised by the modification permit authorising the major modification of the amusement ride;

“British Standards Institution” means the standards organisation of that name in the United Kingdom;

“British Water Ski Federation Ltd” means the company of that name registered in England, which is also known as British Water Ski & Wakeboard;

“bumper cars” means an amusement ride consisting of one or more vehicles that are not attached either to another vehicle or to a common frame system, and that are each —

- (a) patron-controlled with respect to acceleration, speed, braking and steering; and
- (b) operated within a containment system intended to allow bumping or dodging of, or collision with, other such vehicles;

“bungee cord”, in relation to a bungee device, a trampoline bungee or a reverse bungee device, includes any wire, cable or spring, whether elastic or otherwise;

“bungee device” means a device whereby a patron is directly attached, or is on or in a chair, cage or other contraption which is attached, by one or more bungee cords to a tower or structure and is released from a height toward (but not landing on) the ground, with the bungee cord or cords extending and contracting, thereby allowing the patron, or the chair, cage or contraption which he is on or in, to bounce up and down;

“cable ski” means an amusement ride whereby patrons are towed along on a body of water by ropes attached to a powered, overhead, continuous cable system running around sheaves contained in support structures or towers;

“Canadian Standards Association” means the standards organisation of that name in Canada;

“carousel” means an amusement ride consisting of a circular conveyor on which patrons ride on figurines or other contraptions which might move up and down or rotate, and includes a power-driven merry-go-round;

“drop tower” means an amusement ride based around a central vertical structure or tower whereby a gondola is lifted to the

top of the structure or tower before being released and falling towards the ground;

“ferris wheel” means an amusement ride consisting of a rotating upright wheel with cars, chairs, gondolas or capsules attached to the rim for the carriage of patrons;

“flume ride” means an amusement ride whereby patrons are transported in a sled or cabin that is predominantly propelled by water flowing in a narrow shaped channel;

“foundation” means that part of any construction immediately below the footings of an amusement ride, which is in direct contact with the ground and through which the weight of the amusement ride is transmitted to the ground, and includes piling works;

“go-karts” means an amusement ride consisting of one or more vehicles that are not attached either to another vehicle or to a common frame system, and that are each —

- (a) powered without external connection;
- (b) patron-controlled with respect to acceleration, speed, braking and steering; and
- (c) operated within a defined perimeter or track;

“gyro tower” means an amusement ride consisting of a mechanised vertical mast, tower or structure with an observation deck that —

- (a) is capable of moving up and down; and
- (b) is capable of rotating around the mast, tower or structure,

so as to allow patrons to view the surroundings from a height;

“human-powered carriage” means a device consisting of a carriage or vehicle for the carriage of patrons that is manually powered, and that moves on or is suspended from an elevated track, or is by some other means elevated above ground or floor level;

[Deleted by S 229/2014 wef 01/04/2014]

“inflatable” means a device that is —

- (a) fabricated from flexible material;
- (b) kept inflated by one or more blowers and relies on air pressure to maintain its shape; and
- (c) intended to be used for bouncing on, climbing, sliding or interactive play for the amusement or entertainment of patrons;

“jump device” means an unpowered device consisting of a cable or cables that may be fixed to a structure, and provides controlled descent for patrons who are in harnesses or on seats after they jump or are released from height;

“lazy river ride” means a device whereby a patron, being wholly or partially immersed in water or lying on, or holding onto, a flotation device, is propelled by slow-moving water currents along the whole length of a channel of water that is level, or nearly level;

“luge” means a device consisting of one or more unpowered vehicles that are each —

- (a) driver-controlled with respect to braking and steering; and
- (b) operated within a containment system or a defined track down a gradient;

“motion-based simulator” means an amusement ride which —

- (a) consists of a self-contained unit mounted on a mobile base that moves along a defined course; and
- (b) uses motion picture simulation, along with mechanical movements of the self-contained unit, to simulate the experience of various activities;

“operator”, in relation to an amusement ride, means the person who holds an operating permit authorising him to operate the amusement ride;

“patron clearance envelope” means the minimum space around a patron properly positioned in an amusement ride or device, as

limited by the vehicle, seat geometry or patron restraint of the amusement ride or device, necessary to avoid contact between the patron and other objects likely to cause injury;

“patron restraint” means a system, device or feature that is intended to inhibit or restrict the movement of patrons while they are using an amusement ride or device;

“private club” means a members’ club or a proprietary club which provides one or more of the following facilities for the exclusive use of its members and their guests:

- (a) a swimming pool;
- (b) a badminton court, tennis court or squash court;
- (c) a gymnasium;
- (d) a golf course;

“reverse bungee device” means a device whereby a patron is directly attached, or is on or in a chair, cage or other contraption which is attached, by one or more bungee cords to a tower or structure and is hurtled into the air from a fixed position on the ground or a position fixed relative to the ground, with the bungee cord or cords providing propulsion force and extending and contracting, thereby allowing the patron, or the chair, cage or contraption which he is on or in, to bounce up and down;

“river rafting ride” means an amusement ride that simulates white-water rafting whereby patrons on a floating device are propelled along a channel of fast moving water that may have changes in its gradient or flow rate, or constrictions, obstructions, whirlpools or waterfalls along its course, thereby resulting in a turbulent flow;

“roller coaster” means an amusement ride that consists of a single car or multiple cars for the carriage of patrons, which run on or are suspended from tracks that are on or above the ground, but for the avoidance of doubt, excludes any similar device that is used primarily for transportation, such as a monorail or tram;

“roundabout” means an amusement ride whereby the seats, chairs or enclosures for the carriage of patrons (whether supported on the periphery of protruding elements or otherwise) are rotated about a central spindle that moves around a vertical axis or near-vertical inclined axes of rotation;

“safety device”, in relation to a bungee device, means a safety device which is designed to slow down and safely stop the fall of a patron in the event of a failure of any bungee cord, and includes a safety air bag and a specially constructed pool of water;

[S 229/2014 wef 01/04/2014]

“skydiving device” means a device whereby a patron is brought to a height by the force of wind that is directed upwards in a vertical wind tunnel;

[S 229/2014 wef 01/04/2014]

“Standards Australia” means the independent not-for-profit standards organisation of that name in Australia;

“Standards Council of New Zealand” means the Standards Council referred to in the Standards Act 1988 of New Zealand;

“static simulator” means a device which —

- (a) consists of a self-contained unit mounted on a static base or support; and
- (b) uses motion picture simulation, along with mechanical movements of the self-contained unit, to simulate the experience of various activities for the amusement or entertainment of patrons;

“structural elements” means those parts or elements of the support of an amusement ride which resist forces and moments, and includes foundations, beams, columns, shear cores, structural walls, struts, ground anchors, slabs, trusses, staircases, load bearing walls and all other elements that are designed to resist forces and moments but does not include doors, windows and non-load bearing walls;

- “swinging ride” means an amusement ride whereby the seats, chairs or enclosures for the carriage of patrons (whether supported on the periphery of protruding elements or otherwise) are mechanically swung about a horizontal axis or near-horizontal inclined axes;
- “train” means an amusement ride consisting of one or a series of connected railroad cars powered by electricity or pulled or pushed by one or more locomotives, but for the avoidance of doubt, excludes any similar device that is used primarily for transportation;
- “trampoline bungee” means a device whereby a patron is fastened to a harness attached to one or more bungee cords and propels himself upwards by jumping on a trampoline;
- “water slide” means a device consisting of a straight or twisting slide along which a continuous stream of water passes, down which patrons slide independently or riding on a sliding device such as a sled, mat or float, and which may empty into a catch pool or special use pool;
- “wave pool” means a swimming pool that utilises mechanical equipment to produce artificial waves for recreation;
- “wave-surfing device” means a device intended to simulate wave-surfing, whereby water waves are artificially created on a surface which patrons may ride on using a surf board or a piece of specialised equipment;
- “zip line” means a device consisting of a freely-moving pulley that is suspended on a cable, one end of which is mounted on higher ground, that is designed to enable a patron holding on or attached to the pulley to traverse from one end of the inclined cable to the other propelled by gravity.

Devices included in definition of “amusement ride”

3. For the purposes of paragraph (i) of the definition of “amusement ride” in section 2(1) of the Act, the other devices or combinations of devices prescribed to be amusement rides for the purposes of the Act shall be those specified in the Second Schedule, which are available

for use by members of the public upon their payment of a fee or otherwise.

Devices excluded from definition of “amusement ride”

4. For the purposes of paragraph (ii)(C) of the definition of “amusement ride” in section 2(1) of the Act, the devices or combinations of devices prescribed as not being amusement rides for the purposes of the Act are specified in the Third Schedule.

Major amusement rides

5. For the purposes of the Act, a major amusement ride refers to any of the amusement rides specified in the Fourth Schedule.

Major modifications to amusement rides

6. For the purposes of the Act, a major modification to an amusement ride refers to any of the changes, alterations or works specified in the Fifth Schedule.

Prescribed requirements for design, installation, operation, etc., of amusement rides

7.—(1) For the purposes of sections 6(2)(a)(i), (3)(b)(ii) and (4)(b), 7(2)(iii), 11(2)(b)(ii), 12(a)(i)(C) and (ii)(A), 14(2)(b)(i) and (3)(b)(ii), 17(1)(a)(ii), 18(1)(a)(iii)(B), 22(2)(b)(ii), 24(2)(a)(i), (3)(b)(ii) and (4)(b), 25(2)(iii), 29(2)(b)(ii), 30(a)(i)(C) and (ii)(A), 34(5)(ii), (8)(a)(i)(B) and (ii)(A), 40(1)(c)(ii)(B), 43(1)(c)(ii)(B) and 51(1)(b) of the Act, the prescribed requirements in relation to the design and specifications, proposed installation method and programme, proposed modification method and programme, installation works, modification works, relocation works and operation and maintenance of any amusement ride, shall be —

- (a) the applicable standard or code in respect of that amusement ride at the time the application is made for the installation permit, operating permit, renewal of operating permit or modification permit, as the case may be;
- (b) if there is more than one applicable standard or code in respect of that amusement ride, the applicable standard or code which

the applicant for, or holder of, the installation permit, operating permit, renewal of operating permit or modification permit, has opted to conform to, as indicated in the application or the permit, as the case may be; and

- (c) any other requirement specified in these Regulations in respect of that amusement ride,

but shall not include any part of the applicable standard or code that has been waived under regulation 31.

(2) Where any provision in an applicable standard or code is inconsistent with these Regulations, such provision in the applicable standard or code shall, to the extent of the inconsistency, either have effect subject to such Regulations or, where appropriate, having regard to such Regulations, shall not have effect.

Adverse incidents

8. For the purposes of paragraph (f) of the definition of “adverse incident” in section 2(1) of the Act, each of the following occurrences is an adverse incident for the purposes of the Act:

- (a) any accident arising from any installation, major modification, minor modification or relocation of the amusement ride;
- (b) any contact by a patron with a safety device during the patron’s use of a bungee device, other than in the course of normal operation of, or normal disembarkation from, the bungee device.

[S 229/2014 wef 01/04/2014]

Prescribed fees

9.—(1) The fees payable under sections 6(1)(c), 14(1)(c) and 24(1)(c) of the Act are specified in the Sixth Schedule.

(2) Any fee that has been paid under the Act or these Regulations shall not be refundable, whether in whole or in part.

PART II
INSTALLATION OF AMUSEMENT RIDES

Review of design and specifications, etc.

10. A qualified person appointed under section 6(2)(a)(i) of the Act to review the design and specifications and the proposed installation method and programme of an amusement ride must review the following aspects of the amusement ride and ensure that each such aspect conforms to the requirements prescribed under regulation 7:

- (a) the adequacy of the foundation and structural elements of the amusement ride, where such foundation or structural elements are not buildings as defined in section 2(1) of the Building Control Act (Cap. 29);
- (b) the determination of dynamic forces of the amusement ride and their effect on the safety and health of patrons using the amusement ride;
- (c) the adequacy of any patron restraint to be installed on the amusement ride, taking into consideration the forces to which the patron would be subjected during the patron's use of the amusement ride;
- (d) the adequacy of the mechanical parts and elements of the amusement ride (including its drives and brakes);
- (e) the safety of the electrical systems of the amusement ride;
- (f) the adequacy of the hydraulic and pneumatic components of the amusement ride;
- (g) the adequacy of the control systems (such as sensors and actuating devices) that are intended to implement the required safety functions necessary to achieve or maintain a safe state for the amusement ride;
- (h) the strength and suitability of the welds used for the amusement ride;
- (i) the suitability of the welding procedures to be used during the installation of the amusement ride and the qualifications of welders employed to carry out such welding;

- (j) the adequacy of the procedures and systems for the safe egress of patrons in the event of an adverse incident;
- (k) the adequacy of the risk assessment of the amusement ride (including hazards identification, risk evaluation and the adequacy of control measures);
- (l) the adequacy of patron containment and the patron clearance envelope;
- (m) the adequacy of the operations and maintenance manual and regime of the amusement ride;
- (n) the adequacy of the quality assurance programmes that have been applied or will be applied (as the case may be) during the manufacture or installation of the amusement ride;
- (o) the suitability and sufficiency of the tests conducted on the amusement ride or any part thereof (including non-destructive tests, and tests for the purposes of commissioning the amusement ride for public use upon the completion of the installation thereof);
- (p) the checks to be carried out on the components and materials to be used in the installation of the amusement ride; and
- (q) such other matter as the Commissioner may require.

Supervision of installation works

11.—(1) When performing his duties under section 7(2) of the Act, the qualified person supervising the installation of an amusement ride shall —

- (a) carry out regular inspections to ensure that the installation works and tests are at all times carried out in accordance with —
 - (i) the authorised design and specifications and the authorised installation method and programme of the amusement ride;
 - (ii) the conditions of the installation permit;
 - (iii) the requirements prescribed under regulation 7;

- (iv) any quality assurance programme applied during the manufacture or installation of the amusement ride; and
 - (v) any direction given by the Commissioner in respect of the installation works; and
- (b) where any deviation from the authorised design and specifications or the authorised installation method and programme of the amusement ride has been approved by the Commissioner under regulation 12, ensure that the deviation is properly carried out and documented and that the conditions imposed by the Commissioner in respect of the deviation are complied with.
- (2) Upon the completion of the installation works, the qualified person referred to in paragraph (1) shall issue a certificate certifying that he supervised the installation works and as to —
- (a) whether the installation works were carried out in accordance with —
 - (i) the authorised design and specifications and the authorised installation method and programme of the amusement ride;
 - (ii) the conditions of the installation permit;
 - (iii) the requirements prescribed under regulation 7;
 - (iv) any quality assurance programme applied during the manufacture or installation of the amusement ride; and
 - (v) any direction given by the Commissioner in respect of the installation works; and
 - (b) where any deviation from the authorised design and specifications or the authorised installation method and programme of the amusement ride had been approved by the Commissioner under regulation 12, whether the deviation was carried out in accordance with the approval under regulation 12 and whether the conditions imposed by the Commissioner in respect of the deviation were complied with.

Deviation from design and specifications, etc., in relation to installation works

12.—(1) Without prejudice to the generality of section 7(7) of the Act, any change in the design and specifications or the proposed installation method and programme before or during the installation of an amusement ride, which, if carried out after the completion of the installation, would constitute a major modification to the amusement ride, shall be considered a deviation in a material way from the design and specifications or the proposed installation method and programme as authorised by the installation permit.

(2) For the purposes of section 7(7) of the Act, the Commissioner may, if he thinks fit, on an application made by the holder of an installation permit in respect of an amusement ride, grant his approval for any deviation from the authorised design and specifications or the authorised installation method and programme of the amusement ride.

(3) An application under paragraph (2) shall be made to the Commissioner in such form and manner as the Commissioner may require and shall —

(a) specify the deviation required by the applicant and the reasons therefor; and

(b) be accompanied by —

(i) the approval in writing of the designer or manufacturer of the amusement ride for the deviation; and

(ii) such other documents and particulars as the Commissioner may require.

(4) Where, pursuant to an application made under paragraph (2), the Commissioner decides to grant his approval for any deviation from the authorised design and specifications or the authorised installation method or programme of the amusement ride, the Commissioner shall issue a direction in writing to the holder of the installation permit —

(a) specifying the approved deviation to the authorised design and specifications or the authorised installation method and programme of the amusement ride; and

- (b) requiring the holder of the installation permit to comply with such conditions as the Commissioner may impose in relation to the approved deviation.

PART III

OPERATION OF AMUSEMENT RIDES

Minimum limit of insurance coverage under section 13(1)(b)(iii) of Act

13. The minimum limit of the insurance coverage required for an amusement ride under section 13(1)(b)(iii) of the Act shall be not less than \$1 million per occurrence of any event giving rise to liability for injury to, or the death of, any person or persons.

Lapsing of operating permit if amusement ride relocated outside Singapore

13A. For the purposes of section 22(1)(c) of the Act, an operating permit in respect of an amusement ride shall automatically lapse if, at any time during the validity period of the operating permit, the amusement ride or part thereof is relocated to a place outside Singapore.

[S 229/2014 wef 01/04/2014]

Renewal of operating permit

14.—(1) An application for the renewal of an operating permit shall —

- (a) be made to the Commissioner in such form and manner as the Commissioner may require;
- (b) be submitted to the Commissioner together with such documents and particulars as the Commissioner may require; and
- (c) be accompanied by the appropriate fee specified in the Sixth Schedule.

(2) A person who is seeking the renewal of an operating permit must, before making an application under paragraph (1) —

- (a) appoint a qualified person to inspect the amusement ride to which the operating permit relates and to certify, in accordance with section 46 of the Act, that the amusement ride —
 - (i) conforms to the requirements prescribed under regulation 7 and satisfies the relevant conditions of the operating permit; and
 - (ii) is in a safe working condition and fit for operation; and
 - (b) in accordance with the Amusement Rides (Fire and Rescue Management System) Regulations 2011 (G.N. No. S 344/2011), apply for a renewal of the certificate of compliance in respect of the fire and rescue management system of the amusement ride from the Commissioner of Civil Defence.
- (3) Upon receipt of an application under paragraph (1) (including an application re-submitted under sub-paragraph (b)(ii)), the Commissioner may inspect the amusement ride in respect of which the application has been made or cause such amusement ride to be inspected by an enforcement officer, and thereafter —
- (a) subject to paragraph (4), renew the operating permit —
 - (i) in such form or manner as the Commissioner may determine; and
 - (ii) subject to such conditions as the Commissioner thinks fit to impose;
 - (b) in writing direct the applicant, at the applicant's own expense and within the time specified in the direction, to —
 - (i) take such measures or comply with such requirements (including the carrying out of any works or modifications to the amusement ride) as the Commissioner may specify for the purpose of ensuring that the amusement ride is in a safe working condition and fit for operation; and

- (ii) re-submit the application for the renewal of the operating permit upon having taken such measures or complied with such requirements; or
 - (c) refuse to renew the operating permit, in which case the Commissioner shall, if requested by the applicant, state in writing the reasons for the refusal.
- (4) The Commissioner shall not renew an operating permit unless the Commissioner is satisfied that —
- (a) the applicant is a fit and appropriate person to be issued an operating permit;
 - (b) the amusement ride in respect of which the renewal of the operating permit is sought has been inspected and certified by a qualified person appointed under paragraph (2)(a);
 - (c) the Commissioner of Civil Defence has renewed the certificate of compliance in respect of the fire and rescue management system of the amusement ride, and the fire and rescue management system of the amusement ride complies with such requirements, if any, as may be prescribed under section 38 of the Act;
 - (d) there will be in force for the duration of the operating permit, if renewed, an insurance policy referred to in section 13(1)(b)(iii) of the Act insuring the operator of the amusement ride or any other person responsible for the amusement ride against liability for any injury to or the death of any person arising out of the operation or use of such amusement ride in an amount that is not less than the limits specified in regulation 13; and
 - (e) the applicant has appointed at least one ride manager under section 16 of the Act to oversee, manage and supervise the daily routine operation and maintenance of the amusement ride at all times when the amusement ride is in operation.
- (5) If any direction given by the Commissioner under paragraph (3)(b) is not complied with within the time specified in that direction, or such further period as may be allowed by the Commissioner, the Commissioner may dismiss the application.

Inspection of amusement ride for grant or renewal of operating permit

15. When performing his duties under section 12(a) or 30(a) of the Act or regulation 14(2)(a), the qualified person inspecting and certifying an amusement ride in respect of which the grant or renewal of an operating permit is being sought must —

- (a) review the following aspects of the amusement ride and the operation thereof and ensure that each such aspect conforms to the requirements prescribed under regulation 7:
 - (i) in the case of renewal of the operating permit only, the foundation and structural elements of the amusement ride, including those falling within the meaning of “building” as defined in section 2(1) of the Building Control Act (Cap. 29);
 - (ii) the critical welds and joints of the amusement ride;
 - (iii) the safety devices and controls of the amusement ride, including safety interlocks and emergency stopping devices;
 - (iv) the adequacy of the patron restraints, patron containment systems and patron clearance envelope of the amusement ride;
 - (v) the safety of the electrical installations of the amusement ride;
 - (vi) the condition of the hydraulic, pneumatic and mechanical components of the amusement ride;
 - (vii) the mechanical load bearing components of the amusement ride;
 - (viii) the drive and brake systems of the amusement ride;
 - (ix) any safety equipment of the amusement ride that is not designed for function during normal operation of the amusement ride, including fall-back arrestors, emergency brakes and evacuation equipment;
 - (x) the guards, barriers and fencing of the amusement ride;

- (xi) the attachments and fittings of the amusement ride which could affect the safe operation of the amusement ride, including platforms, light fittings and theming and decorative fittings that could project into the path of the amusement ride;
 - (xii) the keeping of documents and records in relation to the operation of the amusement ride, including schedules for non-destructive tests and records of safety-critical repairs and modifications made to the amusement ride;
 - (xiii) the maintenance and operational logs relating to the amusement ride; and
 - (xiv) such other matters as the Commissioner may require;
- (b) supervise the carrying out of the tests for the purposes of commissioning the amusement ride for public use upon the completion of its installation or major modification; and
 - (c) supervise the carrying out of all functional tests for the purpose of the grant or renewal of the operating permit.

Duties of operators of amusement rides

16.—(1) The operator of an amusement ride shall, in addition to any duty imposed on him under the Act —

- (a) employ an adequate number of persons to carry out the functions that are necessary for the daily routine operation and maintenance of the amusement ride, for which purpose the number of persons to be so employed shall not be less than —
 - (i) the number of persons as recommended or specified by the designer or manufacturer of the amusement ride; or
 - (ii) in the absence of such recommendation or specification, such number of persons —
 - (A) as determined by the qualified person appointed under section 6(2)(a) or 24(2)(a) of the Act or regulation 14(2)(a) in respect of the amusement ride; or

- (B) as may be directed by the Commissioner;
- (b) ensure that every person employed pursuant to sub-paragraph (a) is provided with adequate instruction, information, training and supervision as are necessary for such person to properly carry out his functions (including instructions on the hazards to which the person and the patrons of the amusement ride are or may be subjected, and the safety precautions to be taken) and maintain an up-to-date record of any training undergone by each such person;
- (c) where there is more than one ride manager appointed in respect of the amusement ride, maintain a roster showing the name of each such ride manager and the days and hours during which he is on duty;
- (d) ensure that the amusement ride is at all times maintained in accordance with —
- (i) the maintenance requirements as specified by the designer or manufacturer of the amusement ride; or
 - (ii) in the absence of any maintenance requirements referred to in sub-paragraph (i), such other maintenance requirements as devised or endorsed by the qualified person appointed under section 6(2)(a) or 24(2)(a) of the Act or regulation 14(2)(a) in respect of the amusement ride;
- (e) ensure that the amusement ride is at all times operated in accordance with —
- (i) the operational procedures as specified by the designer or manufacturer of the amusement ride; or
 - (ii) in the absence of any operational procedures referred to in sub-paragraph (i), such other operational procedures as devised or endorsed by the qualified person appointed under section 6(2)(a) or 24(2)(a) of the Act or regulation 14(2)(a) in respect of the amusement ride;

- (f) ensure that adequate lighting is provided at all times for the safe operation and maintenance of the amusement ride;
 - (g) whenever so required by the Commissioner, an enforcement officer or the qualified person appointed under section 6(2)(a) or 24(2)(a) of the Act or regulation 14(2)(a) in respect of the amusement ride, make available for inspection all manuals, plans, reports and other documents relating to the installation, operation, modification, maintenance or relocation of the amusement ride; and
 - (h) keep for a minimum period of 5 years every record, document or log book for the daily routine operation and maintenance of the amusement ride kept by the ride manager under regulation 21, from the date on which such record, document or log book is made.
- (2) Where an amusement ride is exposed to the weather, or partly exposed to the weather, the operator of the amusement ride shall —
- (a) put in place a system acceptable to the Commissioner to monitor the weather and take certain precautions in the event of lightning, thunderstorms or other inclement weather; and
 - (b) stop the operation of the amusement ride whenever weather conditions are such as are likely to prejudice the safe operation of the amusement ride.
- (3) Where required by the Commissioner, the operator of an amusement ride shall —
- (a) put in place a communications system for the amusement ride acceptable to the Commissioner;
 - (b) ensure that every person employed in the operation of the amusement ride is properly trained on the use of the communications system, including the making of public announcements with the communications system; and
 - (c) ensure that the amusement ride is not operated unless the communications system is in good working order.

(4) The operator of an amusement ride shall cause to be displayed prominently at all times at the entrance to the amusement ride a notice stating the following information concerning the amusement ride:

- (a) any structural, electrical, mechanical or physical dangers of the amusement ride;
- (b) the maximum number of patrons permitted to be carried on the amusement ride during each ride;
- (c) the items that a patron is prohibited from carrying with him or on his person during his use of the amusement ride;
- (d) the class of persons for whom it would be unsafe to use the amusement ride (for example, patrons who are above a specified weight, who are above or below a specified height or who suffer from any physical or mental condition as would render it unsuitable for them to use the amusement ride);
- (e) the safety equipment that must be worn or used by patrons during their use of the amusement ride;
- (f) whether it is necessary for a person of or above a specified age to accompany or attend to a child using the amusement ride; and
- (g) such other information as may be required by the Commissioner or by the designer or manufacturer of the amusement ride.

(5) The Commissioner may give to the operator of an amusement ride such directions as the Commissioner thinks necessary or expedient in relation to the form, size and placement of any notice referred to in paragraph (4), and the operator of the amusement ride shall comply with the directions within such time as may be given to him by the Commissioner to do so.

(6) The operator of an amusement ride shall ensure that at all times when the amusement ride is in operation —

- (a) there are available for use when the necessity arises a sufficient number of first-aid boxes each of which —
 - (i) is in a serviceable and sanitary condition;

- (ii) is adequately equipped;
- (iii) is properly maintained;
- (iv) is checked frequently to ensure that it is adequately equipped and that all the items in it are usable;
- (v) is clearly identified as a first-aid box;
- (vi) is placed in a location that is well-lit and accessible;
- (vii) is under the charge of a person appointed by the operator; and
- (viii) contains only appliances and requisites for first-aid;

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- (b) there are in attendance to render first aid when the necessity arises, a sufficient number of persons who are properly trained by a first-aid training organisation acceptable to the Commissioner; and
- (c) there is a record of the persons who are employed as first-aid responders and the training that they have undergone (including the organisation from which each such person received first-aid training and the date of the last refresher course undergone by such person).

(7) The operator of an amusement ride shall ensure that arrangements are made at the amusement ride and the areas associated with it for the marshalling and control of persons using or intending to use the amusement ride so as to provide for safe and orderly traffic and embarkation and disembarkation of the amusement ride.

(8) The operator of an amusement ride shall —

- (a) within 7 days after receiving any safety bulletin from the designer or manufacturer of the amusement ride, submit a copy of such safety bulletin to the Commissioner; and
- (b) as soon as is practicable, implement any safety measure specified in such safety bulletin and inform the Commissioner of the implementation.

Further duties of operator of air-inflated enclosure

17. The operator of any air-inflated enclosure shall ensure that —
- (a) there is sufficient exchange of air in the air-inflated enclosure whenever there is a change of patron using the air-inflated enclosure;
 - (b) each person who wishes to use an air-inflated enclosure must declare whether he has any pre-existing medical condition, such as any heart, lung or breathing condition, and no person with any such medical condition shall be allowed to use the air-inflated enclosure;
 - (c) in the case of an air-inflated enclosure which is used in water —
 - (i) the depth of the water does not exceed 1.2 metres; and
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 - (ii) if the air-inflated enclosure is used in a man-made pool on or above the ground or floor —
 - (A) the height of the top of the pool walls from the ground or floor level does not exceed one metre; and
 - (B) there is padding or cushioning on the ground or floor surrounding the pool walls to cushion the impact of any air-inflated enclosure falling out of the pool;
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 - (d) the use of the air-inflated enclosure on land is at all times directly supervised by an employee of the operator, who shall not have more than 6 air-inflated enclosures under his supervision at any one time;
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 - (e) the use of the air-inflated enclosure in water is at all times directly supervised by an employee of the operator, who shall not have —
 - (i) in the case where the depth of the water does not exceed 0.5 metres, more than 6 air-inflated enclosures under his supervision at any one time; or

- (ii) in the case where the depth of the water exceeds 0.5 metres but does not exceed 1.2 metres, more than 3 air-inflated enclosures under his supervision at any one time;

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- (f) any employee supervising the use of an air-inflated enclosure in water does not have more than one pool of water under his supervision at any one time; and

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- (g) where the air-inflated enclosure is used in water the depth of which exceeds 0.5 metres but does not exceed 1.2 metres —

- (i) there is in attendance to render immediate rescue when the necessity arises, a sufficient number of life-guards who are properly trained and certified by an organisation acceptable to the Commissioner; and

- (ii) there is available for use on site when the necessity arises equipment (such as a pair of scissors and floatation devices) to conduct such rescue.

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Further duties of operator of go-karts

- 18.—(1)** The operator of go-karts shall ensure that —

- (a) there is installed in each go-kart a speed limiting device for the purpose of preventing the operating speed of the go-kart from exceeding the relevant speed limit as specified in paragraph (2); and

- (b) no person shall be allowed to drive any go-kart the speed of which may exceed the relevant speed limit specified in paragraph (2) in respect of that person.

- (2) For the purposes of paragraph (1), the relevant speed limit shall be —

- (a) in the case of a child below 9 years of age who is not accompanied by another person who is at least 18 years of age, 4 kilometres per hour;

- (b) in the case of a person who holds a valid Class 2, 2A, 2B, 3 or 3A driving licence issued under the Road Traffic (Motor Vehicles, Driving Licences) Rules (Cap. 276, R 27) or a foreign driving licence of an equivalent class, 50 kilometres per hour; and
- (c) in any other case, 30 kilometres per hour.

(3) The speed limiting device shall be installed in such a manner as to prevent the device from being adjusted or tampered with by any person who is not authorised by the operator of the go-karts to do so.

(4) The operator of the go-karts shall ensure that a remote emergency stop system is installed and is under the sole control of a person authorised by the operator of the go-karts.

(5) In this regulation —

“remote emergency stop system” means a remote control system that enables a person authorised by the operator of the go-karts to remotely stop the go-karts in the event of an emergency;

“speed limiting device” means a device that is installed in a go-kart to limit the speed of the go-kart, and includes throttle stops, pedal stops, governors, gearing and throttle linkage adjustors.

Further duties of operator of bungee device or reverse bungee device

19.—(1) The operator of a bungee device or reverse bungee device shall ensure that —

- (a) the bungee device or reverse bungee device is only operated using a static platform built and designed for that purpose;
- (b) no other platform not primarily designed for the operation of the bungee device or reverse bungee device, or any moving or airborne platform, is used except with the approval of the Commissioner and in accordance with such requirements or conditions as the Commissioner may impose;

- (c) no patron is allowed to use the bungee device or reverse bungee device while holding on to any weight so as to exert greater force on the bungee cords and releasing the weight so as to rebound with greater force (commonly known as the practice of sand bagging);
- (d) in the use of a reverse bungee device, the patron is on or in a chair, cage or contraption which is attached to the bungee cord or cords, and the patron is not attached to the bungee cord or cords directly or by way of a harness only;
- (e) in the use of a bungee device where the patron is attached to the bungee cord or cords directly or by way of a harness only, the patron is wearing a jumper harness that is properly adjusted to fit the patron;
- (f) the height of the bungee device from the jump point to the surface directly below the jump point must not exceed 50 metres, excluding the height of a deployed safety device; and

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- (g) there is, at all times during the operation of the bungee device, a safety device deployed in position.

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- (2) No operator of a bungee device shall allow —
 - (a) the use of ankle strapping or ankle harnesses as the only point of attachment of the patron to the bungee cord or cords; or
 - (b) tandem jumping, or more than one patron at a time to be attached to a single bungee cord.

- (3) The operator of a bungee device shall, in relation to the safety device referred to in paragraph (1)(g) —

- (a) appoint a qualified person to certify —
 - (i) the height or depth, width and length of the safety device required for a bungee jump at every height and the area necessary for all rebound angles; and
 - (ii) that a patron using a bungee device does not come into contact with the safety device other than in the course

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of normal operation of, or normal disembarkation from, the bungee device;

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- (b) ensure that the safety device covers the entire surface area necessary for all rebound angles, as certified by the qualified person in sub-paragraph (a)(i);

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- (c) use only a safety device certified or rated by the manufacturer of the safety device for use for the height of the bungee jump; and

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- (d) ensure that the bungee device is designed and operated such that a patron using the bungee device will not come into contact with the safety device during an incident-free jump, other than in the course of normal operation of, or normal disembarkation from, the bungee device.

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(4) For bungee and reverse bungee devices using bungee cords made of rubber, latex, or other elastic materials, whether natural or synthetic, the operator shall ensure that —

- (a) a specimen of the bungee cords to be used is subjected to a cycle frequency test performed, certified or verified by an accredited organisation or an equivalent organisation acceptable to the Commissioner, in order to determine the tested number of extensions of the bungee cords;
- (b) the specimen is destroyed upon completion of the cycle frequency test in sub-paragraph (a);

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- (c) the bungee cords are replaced no later than after one-fifth of the tested number of extensions as determined in the cycle frequency test in sub-paragraph (a) or after 200 extensions, whichever occurs first;

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- (d) the bungee cords and the non-metallic connectors are not to be used any time after the earliest of the following dates (where applicable):

- (i) a date that is 6 months after the date of manufacture of the bungee cords;
- (ii) for bungee cords made up of only one material —
 - (A) if the manufacturer of the material recommends a date for the expiry of such material, that recommended expiry date; or
 - (B) if there is no such recommended expiry date, a date that is 6 months after the date of manufacture of the material;
- (iii) for bungee cords made up of more than one material, the earliest date among the dates worked out under sub-paragraph (ii)(A) and (B) for each of the materials; and

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- (e) the bungee cords, the non-metallic connectors, the material making up the bungee cords and the emergency equipment are stored and organised for easy and orderly access, and at a location which —
 - (i) is dry, cool and sheltered;
 - (ii) is contaminant-free and affords protection against contamination, physical and chemical damage and damage from ultra-violet rays; and
 - (iii) is secured against unauthorised entry.

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(5) In this regulation —

“jumper harness”, in relation to a bungee device, refers to an assembly to be worn by a patron and to be attached to a bungee cord, which is designed as a full body harness or a sit harness with shoulder straps to prevent the wearer from becoming detached from the bungee cord;

“specimen”, in relation to the cycle frequency test on bungee cords, means a cord manufactured with the same design and material specifications, manufacturing method, equipment

and process as the bungee cord or cords intended to be used in the bungee device or reverse bungee device;

“tested number of extensions”, in relation to a cycle frequency test on bungee cords, means the number of extensions experienced by the specimen that is being tested until either of the following occurs:

- (a) the dynamic load at 350% extension or 4.5 times unloaded length reduces to less than the maximum designed dynamic load; or
- (b) there is evidence of more than 10% of threads exhibiting wear or 5% of the threads broken of the total number over the length of the bungee cord.

Further duties of operator of aerial ropeway

- 19A.—(1)** The operator of an aerial ropeway shall ensure that —
- (a) a visual inspection is performed on every grip of the aerial ropeway at least once every year, or such other interval as the manufacturer of the aerial ropeway may recommend for such inspection, whichever is the shorter;
 - (b) one or more types of non-destructive testing inspection (other than a visual inspection) is performed on every grip of the aerial ropeway at least once every 5 years, or such other interval as the manufacturer of the aerial ropeway may recommend for such inspection, whichever is the shorter;
 - (c) the results of each of the inspections referred to in sub-paragraphs (a) and (b) are certified by a qualified person;
 - (d) a visual inspection and a rope scan are performed on the carrying-hauling ropes, hauling ropes and track ropes in accordance with the inspection methods specified in the current version of the standard BS EN 12929 (Parts 1 and 2) issued by British Standards Institution at the following intervals:
 - (i) a visual inspection of every carrying-hauling rope, hauling rope and track rope at least once a month, or such other interval as the manufacturer of the aerial

ropeway may recommend for such inspection, whichever is the shorter; and

- (ii) a rope scan of every carrying-hauling rope, hauling rope and track rope at least once every 6 months, or such other interval as the manufacturer of the aerial ropeway may recommend for such scan, whichever is the shorter; and
 - (e) a rope scan referred to in sub-paragraph (d) is conducted by a person who has such knowledge, training and experience to carry out the rope scan and interpret the results in accordance with the requirements specified in the current version of the standard BS EN 12929 (Parts 1 and 2).
- (2) In this regulation —
- “grip”, in relation to an aerial ropeway, means a device which attaches the hanger to the rope, whereby the hanger is the load bearing structure from the rope to the carriage which carries the patrons;
- “rope scan” means a thorough examination of a rope over the entire length of the rope by means of a defectographic inspection or other similar methods.

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Qualification and practical experience of ride managers

- 20.**—(1) No person shall be appointed as a ride manager under section 16 of the Act in respect of an amusement ride unless he —
- (a) holds a university degree in any technical field and has at least one year of relevant practical experience;
 - (b) holds a diploma or certificate in any technical field and has at least 3 years of relevant practical experience;
 - (c) holds such other qualification or has such period of practical experience which, in the opinion of the Commissioner, is substantially equivalent to any qualification or relevant practical experience referred to in sub-paragraph (a) or (b); or

(d) has such knowledge and practical experience as the Commissioner may determine to be sufficient for the person to be able to competently carry out the duties of a ride manager.

(2) In paragraph (1), “relevant practical experience” means practical experience in the management or supervision of the operation or maintenance of amusement rides.

(3) The Commissioner may, for the purpose of ascertaining whether a person proposed to be appointed as a ride manager by the operator of an amusement ride will be able to competently carry out the duties of a ride manager, require that person to sit for and pass such examination, or to attend such interview, or both, as the Commissioner may specify.

(4) If a person proposed to be appointed as a ride manager by the operator of an amusement ride —

- (a) fails to sit for or to pass any examination specified by the Commissioner under paragraph (3);
- (b) fails to attend any interview specified by the Commissioner under paragraph (3); or
- (c) having attended such interview, fails to satisfy the Commissioner that he will be able to competently carry out the duties of a ride manager,

the Commissioner may require the operator of the amusement ride to appoint another person as the ride manager of the amusement ride.

Duties of ride managers

21.—(1) For the purposes of section 17(1)(b) of the Act, every ride manager appointed in respect of an amusement ride shall —

- (a) before the amusement ride is open for use by members of the public each day, ensure that —
 - (i) a thorough inspection of the amusement ride is carried out in accordance with the operations manual of the amusement ride; and
 - (ii) the amusement ride is in a safe working condition;

- (b) notwithstanding the requirements specified in the operations manual of the amusement ride, ensure that the inspection of the amusement ride carried out under sub-paragraph (a) includes checks on the structure, mechanical and electrical systems, seats and chassis, controls, safety devices, patron restraints, drives and such other parts of the amusement ride that are necessary for the safety of patrons using the amusement ride;
- (c) ensure that only persons who have been sufficiently trained to operate the amusement ride are permitted to operate the amusement ride;
- (d) ensure that no person is permitted to operate the amusement ride or assist in the operation of the amusement ride unless such person has been properly instructed on his role in the operation of the amusement ride, the risks to which he may be exposed, the measures that he has to take and the emergency procedures that he has to follow in the event of an adverse incident occurring in respect of the amusement ride;
- (e) ensure that the amusement ride is operated at all times in accordance with the operational procedures referred to in regulation 16(1)(e);
- (f) keep and maintain an operational log book in such form as the Commissioner may require, which shall be updated daily, containing the following information concerning the operation of the amusement ride:
 - (i) the dates on which the amusement ride is in operation;
 - (ii) the names and duties of the persons engaged in the operation of the amusement ride;
 - (iii) the operating hours of the amusement ride;
 - (iv) the inspections that are carried out on the amusement ride in accordance with the recommendation of the designer or manufacturer of the amusement ride or any qualified person appointed under section 6(2)(a) or 24(2)(a) of the Act or regulation 14(2)(a) in respect of the amusement ride;

- (v) details of every inspection of the amusement ride carried out under sub-paragraph (a);
 - (vi) details of any adverse incident occurring in respect of the amusement ride and the measures taken for the purposes of addressing such adverse incident;
 - (vii) details of any practice carried out for the taking of measures to address any occurrence of an adverse incident in respect of the amusement ride;
 - (viii) such other information as the Commissioner may require;
- (g) take all reasonable measures and precautions to ensure that any patron using the amusement ride does not take with him or on his person any item that is likely to prejudice the safe operation of the amusement ride or the safety of other patrons using the amusement ride; and
- (h) take all reasonable measures and precautions to ensure that the following persons are not allowed to use the amusement ride:
- (i) any person who appears to be under the influence of alcohol, drugs or any intoxicating substance;
 - (ii) any person who appears to be suffering from a contagious disease;
 - (iii) any person who appears to be suffering from any physical or mental condition and whose presence on the amusement ride is likely to prejudice the safety of that person or the safety of other patrons using the amusement ride; and
 - (iv) any person who is prohibited from using the amusement ride by virtue of any notice displayed under regulation 16(4).
- (2) In performing his duties under section 17 of the Act in relation to the maintenance of the amusement ride, the ride manager shall —
- (a) keep and maintain a written schedule for the periodic maintenance, in accordance with the maintenance

requirements referred to in regulation 16(1)(d)(i) or (ii), of all parts of the amusement ride, stating the intervals between inspections, lubrication, adjustments, replacements and any other works as recommended or required by the designer or manufacturer of the amusement ride, by any qualified person appointed under section 6(2)(a) or 24(2)(a) of the Act or regulation 14(2)(a) in respect of the amusement ride or by the Commissioner;

- (b) ensure that the periodic maintenance of the amusement ride is carried out in accordance with the recommendation or requirement as referred to in regulation 16(1)(d)(i) or (ii) and keep and maintain a written schedule for the carrying out of such periodic maintenance, stating the intervals between each occasion on which the components of the amusement ride are to be inspected, lubricated, adjusted or replaced, or on which any other work is to be carried out on the amusement ride in connection with such periodic maintenance; and
- (c) keep and maintain a maintenance log book in such form as the Commissioner may require, which shall contain —
 - (i) a record of —
 - (A) the periodic inspections of, and the carrying out of any maintenance work on, the amusement ride; and
 - (B) the servicing, repair or replacement of any component of the amusement ride (including a statement of the condition of such component); and
 - (ii) a report of any test carried out on any component of the amusement ride.

(3) Where required by the Commissioner, the ride manager shall make available for inspection by the Commissioner or any enforcement officer —

- (a) any operational log book referred to in paragraph (1)(f);
- (b) any maintenance log book referred to in paragraph (2)(c); and

- (c) any other document that relates or is relevant to the daily routine operation or maintenance of the amusement ride.

PART IV

MAJOR MODIFICATION OF AMUSEMENT RIDES

Review of design and specifications, etc.

22. A qualified person appointed under section 24(2)(a)(i) of the Act to review the design and specifications and the proposed modification method and programme relating to the major modification of an amusement ride must review such of the following aspects of the amusement ride as are proposed to be modified and ensure that each such aspect as so modified conforms to the requirements prescribed under regulation 7:

- (a) the adequacy of the foundation and structural elements of the amusement ride, where such foundation or structural elements are not buildings as defined in section 2(1) of the Building Control Act (Cap. 29);
- (b) the determination of dynamic forces of the amusement ride and their effect on the safety and health of patrons using the amusement ride;
- (c) the adequacy of any patron restraint to be installed on the amusement ride, taking into consideration the forces to which the patron would be subjected during the patron's use of the amusement ride;
- (d) the adequacy of the mechanical parts and elements of the amusement ride (including its drives and brakes);
- (e) the safety of the electrical systems of the amusement ride;
- (f) the adequacy of the hydraulic and pneumatic components of the amusement ride;
- (g) the adequacy of the control systems, such as sensors and actuating devices, that are intended to implement the required safety functions necessary to achieve or maintain a safe state for the amusement ride;

- (h) the strength and suitability of the welds used for the amusement ride;
- (i) the suitability of the welding procedures to be used during the major modification of the amusement ride and the qualifications of welders employed to carry out such welding;
- (j) the adequacy of the procedures and systems for the safe egress of patrons in the event of an adverse incident;
- (k) the adequacy of the risk assessment of the amusement ride (including hazards identification, risk evaluation and the adequacy of control measures);
- (l) the adequacy of patron containment and the patron clearance envelope;
- (m) the adequacy of the operations and maintenance manual and regime of the amusement ride;
- (n) the adequacy of the quality assurance programmes that will be applied during the major modification, or manufacture of any modified component, of the amusement ride;
- (o) the suitability and sufficiency of the tests conducted on the amusement ride or any part thereof (including non-destructive tests, and tests for the purposes of commissioning the amusement ride for public use upon the completion of the major modification thereof);
- (p) the checks to be carried out on the components and materials to be used in the major modification of the amusement ride; and
- (q) such other matter as the Commissioner may require.

Supervision of modification works

23.—(1) When performing his duties under section 25(2) of the Act, the qualified person supervising the major modification of an amusement ride shall —

- (a) carry out regular inspections to ensure that the modification works and tests are at all times carried out in accordance with —

- (i) the authorised design and specifications and the authorised modification method and programme for the major modification of the amusement ride;
 - (ii) the conditions of the modification permit;
 - (iii) the requirements prescribed under regulation 7;
 - (iv) any quality assurance programme applied during the major modification, or manufacture of any modified component, of the amusement ride; and
 - (v) any direction given by the Commissioner in respect of the modification works; and
- (b) where any deviation from the authorised design and specifications or the authorised modification method and programme for the major modification of the amusement ride has been approved by the Commissioner under regulation 24, ensure that the deviation is properly carried out and documented and that the conditions imposed by the Commissioner in respect of the deviation are complied with.
- (2) Upon the completion of the modification works, the qualified person referred to in paragraph (1) shall issue a certificate certifying that he supervised the modification works and as to —
- (a) whether the modification works were carried out in accordance with —
 - (i) the authorised design and specifications and the authorised modification method and programme for the major modification of the amusement ride;
 - (ii) the conditions of the modification permit;
 - (iii) the requirements prescribed under regulation 7;
 - (iv) any quality assurance programme applied during the major modification, or manufacture of any modified component, of the amusement ride; and
 - (v) any direction given by the Commissioner in respect of the modification works; and

(b) where any deviation from the authorised design and specifications or the authorised modification method and programme for the major modification of the amusement ride had been approved by the Commissioner under regulation 24, whether the deviation was carried out in accordance with the approval under regulation 24 and whether the conditions imposed by the Commissioner in respect of the deviation were complied with.

Deviation from design and specifications, etc., in relation to modification works

24.—(1) Without prejudice to the generality of section 25(7) of the Act, any change in the authorised design and specifications or the authorised modification method and programme, which would in itself constitute a major modification to the amusement ride, shall be considered a deviation in a material way from the design and specifications or the proposed modification method and programme as authorised by the modification permit.

(2) For the purposes of section 25(7) of the Act, the Commissioner may, if he thinks fit, on an application made by the holder of a modification permit in respect of an amusement ride, grant his approval for any deviation from the authorised design and specifications or the authorised modification method and programme of the amusement ride.

(3) An application under paragraph (2) shall be made to the Commissioner in such form and manner as the Commissioner may require and shall —

- (a) specify the deviation required by the applicant and the reasons therefor; and
- (b) be accompanied by —
 - (i) the approval in writing of the designer or manufacturer of the amusement ride for the deviation; and
 - (ii) such other documents and particulars as the Commissioner may require.

(4) Where pursuant to an application made under paragraph (2) the Commissioner decides to grant his approval for any deviation from the authorised design and specifications or the authorised modification method or programme of the amusement ride, the Commissioner shall issue a direction in writing to the holder of the modification permit —

- (a) specifying the approved deviation to the authorised design and specifications or the authorised modification method and programme of the amusement ride; and
- (b) requiring the holder of the modification permit to comply with such conditions as the Commissioner may impose in relation to the approved deviation.

PART V

MISCELLANEOUS

Procedure for revocation or suspension of permit

25.—(1) Before the Commissioner —

- (a) revokes or suspends an installation permit under section 11(2) or (3) of the Act;
- (b) revokes or suspends an operating permit under section 22(2) or (3) of the Act; or
- (c) revokes or suspends a modification permit under section 29(2) or (3) of the Act,

the Commissioner shall give the holder of the permit notice in writing of his intention to do so and shall in such notice call upon the holder of the permit to show cause within such time as may be specified in the notice (not being less than 7 days from the date of the notice) as to why the permit should not be revoked or suspended, as the case may be.

(2) If the holder of the permit —

- (a) fails to show cause within the period of time given to him to do so or such extended period of time as the Commissioner may allow; or
- (b) fails to show sufficient cause,

the Commissioner shall give to the holder of the permit notice in writing of the date from which the revocation or suspension of the permit shall take effect.

Period to notify Commissioner before relocation of amusement ride

26. For the purposes of section 34(1)(b) of the Act, the holder of an operating permit in respect of an amusement ride shall notify the Commissioner of his intention to relocate the amusement ride not less than 2 clear days before the date on which the relocation is to be carried out.

Qualified person vacating his appointment

27. Any qualified person who vacates his appointment under section 40, 41, 42, 43, 44 or 45 of the Act shall, in notifying the Commissioner of the fact, submit, in such form as the Commissioner may require, a summary report of all the duties and tasks which have been carried out by him or under his supervision pursuant to his appointment.

Power to issue and modify standards and codes, etc.

28.—(1) The Commissioner may, from time to time and in such form and manner as he thinks fit, issue any standard, code or other requirement relating to the installation, operation, modification, maintenance or relocation of an amusement ride, and may from time to time modify such standard, code or requirement.

(2) The standards, codes and requirements issued by the Commissioner under paragraph (1) shall not be inconsistent with the provisions of the Act or these Regulations.

Appeals to Minister

29. For the purposes of section 69(1) of the Act, an appeal to the Minister from any decision of the Commissioner shall be made within 14 days of the date on which the appellant is notified in writing of that decision.

Offences and penalties

30. Any person who contravenes regulation 16, 17, 18, 19 or 27 shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$10,000 or to imprisonment for a term not exceeding 12 months or to both.

Waiver

31.—(1) The Commissioner may, if he thinks necessary and expedient upon an application made by an applicant for, or the holder of, an installation permit, an operating permit or a modification permit in respect of an amusement ride, waive any of the requirements specified in the applicable standard or code relating to that amusement ride subject to such conditions as the Commissioner thinks fit to impose.

(2) An application for any waiver under paragraph (1) shall be made in such form and manner as the Commissioner may require.

FIRST SCHEDULE

Regulation 2

APPLICABLE STANDARDS OR CODES FOR AMUSEMENT RIDES

<i>First column</i>	<i>Second column</i>	<i>Third column</i>
<i>Amusement ride</i>	<i>Applicable standard or code</i>	<i>Issuer of standard or code</i>
1. Aerial ropeway	ANSI B77.1.	American National Standards Institute.
	CSA Z98-07.	Canadian Standards Association.
	BS EN 12929 (Parts 1 and 2).	British Standards Institution.
2. Air-inflated enclosure	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.

FIRST SCHEDULE — *continued*

<i>First column</i>	<i>Second column</i>	<i>Third column</i>
<i>Amusement ride</i>	<i>Applicable standard or code</i>	<i>Issuer of standard or code</i>
3. Bumper cars	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
4. Bungee device	AS/NZS 5848.	Standards Australia and Standards Council of New Zealand.
5. Cable ski	Code of Practice: Cable Tow Water Skiing, combined with either of the following:	British Water Ski Federation Ltd.
	(a) ASTM Committee F24 Standards; or	ASTM International.
	(b) BS EN 13814.	British Standards Institution.
6. Carousel	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
7. Drop tower	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
8. Ferris wheel	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
9. Flume ride	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
10. Go-karts	ASTM Committee F24 Standards.	ASTM International.

FIRST SCHEDULE — *continued*

<i>First column</i>	<i>Second column</i>	<i>Third column</i>
<i>Amusement ride</i>	<i>Applicable standard or code</i>	<i>Issuer of standard or code</i>
	BS EN 13814.	British Standards Institution.
11. Gyro tower	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
12. Human-powered carriage	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
13. [Deleted by S 229/2014 wef 01/04/2014]		
14. Inflatable	ASTM Committee F24 Standards.	ASTM International.
	BS EN 14960.	British Standards Institution.
15. Jump device	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
16. Luge	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
17. Motion-based simulator	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
18. Reverse bungee device	AS/NZS 5848, combined with either of the following:	Standards Australia and Standards Council of New Zealand.
		ASTM International.

FIRST SCHEDULE — *continued*

<i>First column</i>	<i>Second column</i>	<i>Third column</i>
<i>Amusement ride</i>	<i>Applicable standard or code</i>	<i>Issuer of standard or code</i>
	(a) ASTM Committee F24 Standards; or	
	(b) BS EN 13814.	British Standards Institution.
19. River rafting ride	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
20. Roller coaster	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
21. Roundabout	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
21A. Skydiving device	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
22. Static simulator	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
23. Swinging ride	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
24. Train	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	

FIRST SCHEDULE — *continued*

<i>First column</i>	<i>Second column</i>	<i>Third column</i>
<i>Amusement ride</i>	<i>Applicable standard or code</i>	<i>Issuer of standard or code</i>
		British Standards Institution.
25. Trampoline bungee	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
26. Water slide	ASTM Committee F24 Standards.	ASTM International.
	BS EN 1069 (Parts 1 and 2).	British Standards Institution
27. Wave-surfing device	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.
28. Zip line	BS EN 15567 (Parts 1 and 2).	British Standards Institution.
	AS 3533.	Standards Australia.
	Ropes Challenge Course and Zip Line Canopy Tour (Adventure Aerial Park) Standards.	Professional Ropes Course Association (PRCA).
	Challenge Course and Canopy/Zip Line Tour Standards.	Association for Challenge Course Technology (ACCT).
29. Any other ride	ASTM Committee F24 Standards.	ASTM International.
	BS EN 13814.	British Standards Institution.

SECOND SCHEDULE

Regulation 3

OTHER DEVICES OR COMBINATIONS OF DEVICES PRESCRIBED TO BE AMUSEMENT RIDES FOR PURPOSES OF ACT

1. An aerial ropeway.
2. An air-inflated enclosure.
3. A bungee device.
4. A human-powered carriage that is 5 metres or more above ground or floor level.
5. A skydiving device.
[S 229/2014 wef 01/04/2014]
6. An inflatable which a patron may enter upon or within or climb on —
 - (a) which has any enclosed space that is fully or partially roofed over or covered, the base of which enclosed space occupies an area equal to or exceeding 30 square metres;
 - (b) which has any enclosed space that is fully or partially roofed over or covered of any size, within which the maximum vertical displacement of a patron using the inflatable is equal to or exceeds 5 metres; or
 - (c) the base of which occupies an area equal to or exceeding 150 square metres, whether or not the inflatable has any enclosed space.
7. A jump device.
8. A luge.
9. A reverse bungee device.
10. A static simulator, whether coin operated or otherwise —
 - (a) where the patron experiences acceleration corresponding to that in Area 3, 4 or 5 in the restraint determination diagram in the standard ASTM F 2291-09b or BS EN 13814; or
 - (b) in relation to which the patron who is riding on the device may revolve about a horizontal or inclined axis through an angle equal to or greater than 60 degrees on either side of a theoretical vertical plane on which the axis of the device lies.
11. A trampoline bungee.
12. A water slide where the maximum vertical displacement a patron is taken through in the course of the ride is equal to or exceeds 5 metres, or where there is an

SECOND SCHEDULE — *continued*

additional mechanical or electrical device that propels the sliding device along any point in the ride.

13. A wave-surfing device.
14. A zip line where —
 - (a) the maximum vertical displacement a patron is taken through in the course of the ride is equal to or exceeds 5 metres; or
 - (b) at any point along the entire length of the zip line —
 - (i) the patron may be at a height that is equal to or exceeds 10 metres above the access level; or
 - (ii) there is no access level.

THIRD SCHEDULE

Regulation 4

DEVICES OR COMBINATIONS OF DEVICES
PRESCRIBED NOT TO BE AMUSEMENT RIDES
FOR PURPOSES OF ACT

1. [Deleted by S 229/2014 wef 01/04/2014]
2. Any power-driven amusement ride that has a total motive power rating of not more than 1.1 kilowatts.

[S 229/2014 wef 01/04/2014]
3. A lazy river ride.
4. A wave pool.
5. [Deleted by S 229/2014 wef 01/04/2014]
6. [Deleted by S 229/2014 wef 01/10/2014]
7. [Deleted by S 229/2014 wef 01/10/2014]
8. [Deleted by S 229/2014 wef 01/04/2014]

FOURTH SCHEDULE

Regulation 5

MAJOR AMUSEMENT RIDES

1. An aerial ropeway.
2. A bungee device.

FOURTH SCHEDULE — *continued*

3. A reverse bungee device.
4. A motion-based simulator.
5. A water slide where there is an additional mechanical or electrical device that propels the sliding device along any point in the ride.
6. A drop tower, skydiving device or jump device, where the maximum vertical displacement a patron is taken through in the course of the ride is equal to or exceeds 5 metres.

[S 229/2014 wef 01/04/2014]

7. A ferris wheel or gyro tower, where the maximum vertical displacement a patron is taken through in the course of the ride is equal to or exceeds 10 metres.
8. A flume ride, river rafting ride, roller coaster or train, where the acceleration that the patron is subjected to corresponds with Areas 3, 4, or 5 in the restraint determination diagram in either of the following standards:

- (a) ASTM F 2291-09b; or
- (b) BS EN 13814.

9. A carousel, roundabout, swinging ride or any other amusement ride in item 29 of the First Schedule where —

- (a) the acceleration that the patron is subjected to corresponds with Areas 3, 4, or 5 in the restraint determination diagram in the standard ASTM F 2291-09b or BS EN 13814; or
- (b) the maximum vertical displacement a patron is taken through in the course of the ride is equal to or exceeds 10 metres.

[S 229/2014 wef 01/04/2014]

FIFTH SCHEDULE

Regulation 6

MAJOR MODIFICATIONS TO AMUSEMENT RIDES

A major modification to an amusement ride consists of a change in any of the following aspects of the amusement ride:

- (a) structural and mechanical:
 - (i) structural components (including material specification changes).
 - (ii) loading (for example, a change in the seating arrangements).
 - (iii) range (for example, the height or distance travelled by the amusement ride).

FIFTH SCHEDULE — *continued*

- (iv) control mechanisms (for example, brakes, shock absorbers, speed limiters or position sensors).
 - (v) drive and brake mechanisms.
 - (vi) speed or operating cycle.
 - (vii) passenger harness, protection system and patron clearance envelope.
 - (viii) any safety-critical component, device or system.
- (b) processes:
- (i) fabrication method.
 - (ii) joining method and position (including welding, bolting, riveting and any other method).
 - (iii) testing procedure.
- (c) electrical and software:
- (i) generator, AC/DC supply, earthing, transformer, cables and conductors and motors.
 - (ii) software or programmed logic.

SIXTH SCHEDULE

Regulations 9(1) and 14(1)(c)

FEES

1. Application for an installation permit —
 - (a) for a major amusement ride \$1,000.
 - (b) for any other amusement ride \$300.
2. Application for the issue or renewal of an operating permit —
 - (a) for a major amusement ride \$500.
 - (b) for any other amusement ride \$50.
3. Application for a modification permit —
 - (a) for a major amusement ride \$500.
 - (b) for any other amusement ride \$150.

Made this 20th day of June 2011.

DESMOND KUEK
Permanent Secretary,
Ministry of National Development,
Singapore.

[ND 262/1-14 Vol. 2; AG/LLRD/SL/6A/2011/1 Vol. 2]

(To be presented to Parliament under section 74 of the Amusement Rides Safety Act 2011).