

Bulletin 66-1-0
Carnivals
Rules 66-000, 66-404

Issued October 2023

Scope

- 1) Amusement Devices
- 2) GFCI protection
- 3) Amusement Devices and overhead powerlines
- 4) Protection of electrical equipment

1) Amusement Devices

The Technical Standards and Safety Authority (TSSA) is responsible for regulating Amusement Devices (AD) under the TSSA Act. O. Reg. 221/01 Amusement Devices *applies to the design, construction, installation, use, maintenance, repair, service and operation of amusement devices.*

As part of TSSA's mandate to promote and enforce public safety, they inspect amusement devices found at carnivals, fairs, amusement parks and other venues, to ensure compliance with the applicable safety legislation. The TSSA under their authority, issues a device permit number for each ride (see example in Photo B1) which is affixed on the ride.

Photo B1-Device Permit



Direction

- An AD with an active device permit issued by the TSSA as the designated authority of O.Reg. 221/01 “Amusement Devices” will be accepted by ESA as being approved and safe to be connected to a source of electricity under the Ontario Electrical Safety Code (OESC) and the O. Reg. 438/07 “Product Safety”. No further approval by a certification body or field evaluation will be required by ESA.
- ESA will inspect the electrical installation(s) and connections up to the disconnecting means of the AD.
- ESA will issue a defect when they notice an apparent safety issue with the AD and notify the TSSA. ESA will not permit the energization of the AD if there is a significant issue.

2) GFCI protection

Rule 66-404 requires receptacles having a CSA configuration 5-15R or 5-20R intended to supply loads outdoors or in damp locations be protected by a Class A ground fault circuit interrupter (GFCI).

Question 1:

Do the GFCI receptacle requirements in accordance with Rule 66-404 apply to receptacles as part of the amusement device?

Answer 1:

No.

Rationale 1:

Amusement devices fall under the TSSA's approval requirements including all electrical up to the rides disconnect switch (demarcation point). GFCI requirements will only apply when installing branch circuits that are not part of the ride.

Question 2:

Do the GFCI receptacle requirements in accordance with Rule 66-404 apply to existing outdoor installations such as parks or temporary panels used for carnivals where the receptacles may not be of the GFCI type?

Answer 2:

No. However as per direction in OESC Bulletin 26-29-* when replacing a non GFCI outdoor receptacle, Rule 26-704 requires receptacles having CSA configuration 5-15R or 5-20R installed outdoors and within 2.5 m of finished grade be protected with a ground fault circuit interrupter of the Class A type.

3) Amusement Devices and overhead powerlines

The installation of a structure such as an AD may pose electrical shock hazards to the installers or public during and after the installation. Their typical setup and take down schedules can be short and involve installers working long hours, after sundown or in poor weather conditions, further increasing the probability of a contact. Additionally, direct contact with the AD or equipment such as cranes or other high reach equipment does not have to occur for a member of the public or a worker to receive an electrical shock; a flashover (arc) may occur if the AD or equipment is erected in close proximity to the overhead powerline.

Direction:

When an AD is set up under or near overhead power lines including lines owned by the supply authority, ESA will issue a defect to the carnival to have the AD relocated.

4) Protection of electrical equipment

Rule 66-102 requires all electrical equipment be protected in accordance with Rule 2-200. Provisions shall be made for the safety of persons and property and for protection of electrical from mechanical or other damage to which it's liable to be exposed.

Rule 66-400 2) states cords, cables, conduits and other electrical equipment shall be protected from physical damage. Questions have been asked what are the acceptable methods to protect cords and cables used to supply rides and other electrical equipment and does it also apply to locations where public cannot access (aka back of house).

ESA will accept any matting heavy enough for the area. If in vehicular area, it would be required to protect damage from vehicles, if pedestrian only, heavy enough to protect from crushing or cutting from people walking on it (rubber mats, heavy carpet mats, wooden ramps/boxes etc) (see Photo B2). This will apply to all locations including where the public cannot access. If damage can occur due to people walking or driving on the cables, then protection is required.

Photo B2- Example of acceptable mats for pedestrian traffic based on the location

