



## Special Event Guidelines Power Distribution

**T**here are a number of local and state codes related to the use and distribution of electrical power. As an event organizer you are required to meet or exceed these codes and regulations. Failure to meet local and state codes may result in penalties or suspension of the use of the wiring or equipment until the corrective action is verified. It is illegal to use electricity tapped from public lights and other public utility outlets. The following section has been developed to provide you with general requirements regarding the use of electrical power.

### Electrical and Power Supply

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The installation and distribution of all electrical power used to support your event should be completed by a State of California licensed electrician. An Electrical Permit is not required when all power is distributed from a generator. An Electrical Permit may be required when power is provided from an existing tap box, panel, or other source. In some cases, electrical distribution plans and load calculations prepared by a California licensed electrical contractor or electrical engineer may be required. Existing city maintained lighting and outlet circuits may not be used for event power use unless prior approval is obtained in writing before the event date and time. The Fire Marshal may inspect power distribution safety at your event and may require onsite modifications.

Whether or not an electrical permit is required for your event, the installation of all electrical elements must comply with Article 525 - Carnivals, Circuses, Fairs and Similar Events of the current California Electrical Code (CEC) and all other applicable articles of the CEC. All wiring, equipment and devices must be maintained in a safe working condition for the duration of your event including set-up and dismantle.

### Summary of Electrical Code Requirements

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#### ***EQUIPMENT***

- Must be listed for the location of installation (e.g. indoor or outdoor, etc.).



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- Equipment in outdoor locations must be NEMA 3R rated.
- Outlets and luminaries (fixtures) must be wet or damp location as appropriate.
- Distribution and power generation equipment must not be accessible to the general public.
- Cable ramps or rubberized mats should be used to cover all cords, wires, hoses, etc. located within a path of travel.
- An alternate accessible path of travel is required when the public right-of-way is obstructed.

#### *RECEPTACLES*

- Must be protected at their listed ampacity.
- Must be Ground-Fault Circuit Interrupter (GFCI) protected as required in section 525.23 of the California Electric Code.
- All non-locking types must have GFCI protection.
- Supplying equipment must be inaccessible to the general public.

#### *EXTENSION CORDS*

- Must be protected at their listed ampacity.
- Must be wet or damp location listed as needed
- Must be sunlight resistant as needed.
- Must be routed outside of pedestrian and vehicular traffic or suitably protected or guarded.
- Must be listed for extra hard usage; single conductor is acceptable if type W as required in the California Electric Code.
- Must be supported as needed; supports must not cause damage to the cord.
- Must be continuous without splice between boxes and fittings.
- Cord connectors must not be laid on the ground, unless listed for wet locations.
- Connectors must not be placed in areas accessible to the public, unless guarded.



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#### *LIGHTING*

- Electrical lamps and lighting equipment must be kept away from combustible equipment.
- All lamps must be protected from accidental contact or breakage by means of a suitable fixture type or lamp holder with guard.
- Egress lighting must not be protected by a GFCI.
- Required egress lighting and exit signs must not be on the same circuit as general use receptacles or decorative lighting.

#### *PORTABLE DISTRIBUTION BOXES*

- When installed outdoors, must be wet location listed and mounted so that the enclosure is not less than six inches (6") above the ground.
- Boxes must be designed to ensure no live parts are exposed to accidental contact.
- Must be properly labeled identifying use of circuit.

#### *EQUIPMENT BONDING*

- Equipment connected to the same source must be bonded.
- Examples include; metallic raceways and metal sheathed cables, metal enclosures of electrical equipment, metal frames and metal parts of rides, concessions, tents, trailers, trucks, stages, or other equipment that contain or support electrical equipment.

#### *EQUIPMENT GROUNDING*

- All equipment requiring grounding must have grounding installed in accordance with Article 250 of the California Electric Code (section 525.31).

#### *PORTABLE AND VEHICLE-MOUNTED GENERATORS*

- Must be grounded unless generators meet the criteria of sections 250.34(A) and (B) of the California Electrical Code.
- Must use the identified grounding point on the generator.



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- Must be properly guarded to avoid contact by the general public.

### *GROUND RODS*

- Must be fully driven.
- Listed grounding clamps are required.
- Must be properly guarded to avoid contact by the general public.

### *OVERHEAD CONDUCTORS*

- Must have vertical clearance to ground in compliance with the California Electric Code (section 225.18).
- Amusement rides and attractions require a minimum fifteen feet (15') in any direction to conductors operating at 600V or less (except those supplying the ride or attraction).
- Amusement rides and attractions shall not be located under or within 15 feet horizontally of conductors operating in excess of 600V.