

April 1, 2008

ELECTRICAL SAFETY REQUIREMENTS

**STATE of OREGON
BUILDING CODES DIVISION
700 SE EMIGRANT
PENDLETON, OREGON 97801
PHONE 541-276-7814 or 1-800-452-8156**

Subject: Carnivals, Circuses, Fairs, and Similar Events.
Electrical requirements for:

CONTRACTORS:

1 -Provide temporary services / feeders meeting the requirements of the National Electrical Code. If temporary services are installed in location accessible to other than qualified persons the temporary service equipment shall be lockable. The temporary service equipment shall be mounted on solid backing and installed in a secure manner acceptable to the inspection authority. Temporary services will not be permitted to be tied to poles or other structures with rope, or wire etc. Fabricated brackets and mounting devices can be made that will support and secure temporary services in a secure manner. (NEC 590.4, 525.10, 300.1 1)

2-Temporary services / feeders must be connected to a grounding electrode system meeting the requirements of the National Electrical Code. (NEC 250.24, NEC 250.30, NEC 250.32, NEC 250.50) (A grounding electrode conductor to the nearest fire hydrant would be acceptable).

3-Temporary services / feeders must comply with time constraints of the National Electrical Code. (NEC 590.3)

4-All temporary services / feeders must have permits and inspections before being energized. Serving utilities will not connect temporary services without inspection approval. (ORS 479.570)

PRIVATE CUSTOMERS PROVIDING TEMPORARY SERVICES (feeder and temporary branch circuits).

1 -When a private person or entity provide temporary services 1 feeders, they must meet and comply with the same requirements for contractor supplied services / feeders.

2-Provide reasonable access to temporary power outlets. Temporary power outlets should not be located more than 6' inside the structure, and not located behind furniture and other items not easily moved. Cords may pass through a doorway, through an operable window provided the doorway or window can be blocked open to prevent damage to the cord. Cords should not be installed or used in traffic patterns that will present a tripping hazard unless covered with nonconductive (rubber) mats or other approved means.

3-Temporary power must be provided from a grounded branch circuit that is large enough to handle the connected load, a 20 amp dedicated branch circuit is recommended as a minimum. Solid equipment grounding is required to prevent any conductive surfaces from becoming energized to reduce electrical shock hazards, and facilitate the operation of the over current device (circuit breaker or fuse). If temporary power outlets are not large enough to handle the connected load nuisance tripping of breakers and blown fuses

will occur, and or possible damage to the building electrical system. NEC 590.4, NEC 250 Part VI

VENDORS

1 -Provide Ground Fault Circuit Interrupter (GFCI) protection for personnel on all 120-volt outlets. Ground fault interrupter protection can be achieved by installing a GFCI outlet installed at the source of power, a GFCI circuit breaker, a GFCI protected extension cord cap, and portable GFCI cord sets. (NEC 525.23)

2-Provide extension cord rated for hard use, for outdoor use, for wet location use, and sunlight resistant. Extension cord caps and connectors lying on the ground shall be approved for use in wet locations. Extension cord caps and connectors may be protected with approved wet location boots. The cord caps and connectors may be installed on and secured to wood blocks 3/4" thick and be braced to prevent the block from tipping over, the cord cap and connector may then be wrapped with protective tape to prevent water from entering the cord cap and connector connection. The following types of cords are acceptable and available at most local hardware stores: type SJTW, SJOW, SOW, and STW. (NEC 525.20)

3-Provide extension cords with large enough wire size for the loads connected to them. See the rating marked on the extension cord package, or not more than 18 amperes connected to a # 14 gauge cord and not more than 25 amperes connected to a # 12 gauge cord. Distance and voltage drop should also be considered when selecting a cord size. You may have to ask for help from a qualified person to determine if the cord selected is of the correct size for the length you need. (NEC 525.22, NEC 400.5)

4-All temporary lighting provided for general illumination is required to be protected from accidental breakage and physical damage by installing suitable light fixtures or lamp holders with suitable guards. (NEC 525.21)

5-Conductors for festoon lighting shall not be smaller than # 12 gauge for spans of up to 40 feet, spans greater than 40 feet must be supported with a messenger wire. Festoon lighting conductors or messenger wires shall not be supported to fire escapes, down spouts, or plumbing equipment. Festoon lighting is a string of outdoor lights that is suspended between two points. Festoon light sockets are attached to two # 12 or larger conductors with outdoor type lamp sockets. Temporary lighting sockets with brass shells, paper-lined sockets, or other metal cased sockets shall not be used unless they are grounded. Brass shell, paper-lined sockets, or other metal cased sockets would have to be attached to a grounded lamp holder support or be connected to an equipment-grounding conductor. (NEC590.4, NEC 225.6)

6-All electrical metal raceways, electrical metal enclosures, and metal frames of concessions, trailers, trucks, or other equipment that contain or support electrical equipment are required to be electrically bonded together. Connecting the equipment grounding conductor of the circuit supplying the area may be used to ground this equipment. (NEC 525.3 0)

7-All extension cords and temporary wiring shall be protected from physical damage. Extension cords or cables run on the ground where accessible to the public shall be covered with protective nonconductive (rubber) mats or other approved means, physical protection shall be installed so as not to present a tripping hazard to the public. (NEC 525.6, NEC 525.20)