



## Electrical Installation Requirements for Private Boat Docks

### Expanded Electrical Installation:

- All electrical installations shall be in compliance with the 2011 National Electrical Code (NEC) and as amended by the following guidelines and requirements.
- All conductors on branch circuit and feeders shall be insulated copper conductors approved for the conditions of use. Aluminum may be used if approved by the authority having jurisdiction (AHJ).
- Each docking facility requiring electricity shall be supplied by only one (1) set of feeder conductors from the residential house panel.
- Overcurrent device(s) or disconnecting means designed to disconnect all electrical power supplying the docking facility shall be located onshore and within six (6) feet of the docking facility ramp it serves.
- The bottom height of the overcurrent device(s) or disconnecting means shall be 42 inches above the dock walkway at the shore connection.
- A grounding electrode (in compliance with NEC 250.52 and 250.53) shall be installed at the onshore overcurrent device(s) or disconnecting means.
- An insulated grounding electrode conductor (sized in compliance with NEC 250.66, but not smaller than #6 AWG) shall be installed connecting the grounding electrode to the equipment grounding terminal at each onshore sub-panel or disconnecting means enclosures.
- An insulated equipment-grounding conductor (sized in compliance with NEC 250.122, but not smaller than #12 AWG) shall be installed inside all conduit systems with the circuit conductors.
- All conductors (Feeder and Branch Circuit) shall be sized for the overcurrent device protecting the conductors in NEC 215.3 FPN 2 – 210.19 FPN.
- Conduits, boxes and fittings approved for the condition of use, shall protect all feeder and branch-circuit conductors.
- All underground conduit systems shall be approved for the condition of use and shall comply with NEC 300.5(A), (B), (D)(4), (F) (minimum covering requirements).
- All conduits shall be sized in compliance with NEC Chapter 9 Tables 1, 4 and 5. Where conductors are all of the same size and type, Annex C shall be permitted for sizing of conduits.
- Liquidtight Flexible Metal Conduit (with grounding bushings) or Liquidtight Flexible Nonmetallic Conduit with suitable fittings shall be permitted where flexibility is required in a conduit system such as hinge points of ramps and floating structures subject to elevation changes due to the change in water levels.
- All non-current carrying metal parts of the docking facility such as metal piping, metal equipment enclosures, metal frames of the structure and ramps, metal swim ladders, boat lifts, stiff arms and other metals in contact with the water or may become electrically energized shall be electrically bonded to the equipment grounding system.
- A bonding jumper (sized in compliance with NEC 250.66 but not smaller than #6 AWG) shall be installed from the grounding electrode on shore to the metal parts of ramps leading to a floating structure.\*
- A bonding jumper with a loop (sized in compliance with NEC 250.66 but not smaller than # 6 AWG) shall be installed around all hinge points of metal ramps, floating structures, and docks subject to elevation changes due to the changes in the water levels.\*
- All non-current carrying metallic parts of the electrical system shall be bonded to the equipment grounding system.
- All receptacle outlets shall be GFCI protected for personnel unless the outlet is for a dedicated purpose and installed in an enclosed area of the structure protected from the weather. All receptacle outlets and switches shall be installed at least 36 inches above the finish dock surface or as approved by the authority having jurisdiction (AHJ).
- All “Marine Shore Power Outlets” shall be GFCI protected for personnel with a disconnecting means within 30 inches.

*(continued on back)*

\* All bonding jumpers shall be connected with a through bolt and locking nut (self tapping screws are not approved). NEC 250.8 Connection of Grounding and Bonding Equipment lists acceptable connections.

- All large metallic enclosures, such as panels, cabinets, cutout boxes, etc. installed in wet location areas, shall be installed with a minimum of ¼ inch air space between the enclosure and the supporting surface they are mounted on.
- All electrical equipment installed within eight (8) feet vertically from the dock finish surface or exposed to the weather shall be suitable for use in wet locations and shall have weep holes.
- All electrical equipment installed below roofed open areas, protected from the weather and installed above eight (8) feet vertically from the dock finish surface shall be suitable for use in damp locations.
- All general use receptacle outlets shall be installed in weatherproof enclosures with "In Use Type" weatherproof attachment plug covers.
- All general use switches shall be installed in weatherproof enclosures with weatherproof switch covers.
- All luminaries (lighting fixtures) installed exposed to the weather shall be suitable for use in wet locations. All luminaries (lighting fixtures) installed where protected from the weather shall be suitable for use in damp locations.
- All electrical equipment such as receptacle outlets, switches, junction boxes, lighting fixtures, etc. shall not be installed within six (6) feet of any ladders attached to the docking facility.
- All metal ladders permanently attached to the docking facility shall be bonded to the equipment grounding system.
- All metal ladders not permanently attached to the docking facility shall have means for bonding to the equipment grounding system.
- All conductors from the shore to the docking facility shall be protected from physical damage. Conduits shall be approved for the conditions of use (weatherproof, sunlight resistance, etc.).

**Lake area Fire Districts and the Village of Four Seasons require a permit and inspection when installing or modifying a dock and any time work is being performed on the electrical system of a dock. Contact the appropriate inspection agency for assistance with your permit and inspection. If your area is not supported by one of the Districts or Villages below, you will need to hire a qualified electrician to inspect the dock as Ameren Missouri does not conduct electrical inspections.**

City of Camdenton  
437 W. US Hwy 54  
Camdenton, MO 65020  
573.346.3600

Northwest Fire Protection District  
P.O. Box 128  
Climax Springs, MO 65324  
573.347.3110

Sunrise Beach Fire Protection District  
30 Porter Mill Springs Dr  
Sunrise Beach, MO 65079  
573.374.4411

Lake Ozark Fire Protection District  
1767 Bagnell Dam Blvd  
Lake Ozark, MO 65065  
573.365.3202

Osage Beach Fire Protection District  
1170 Bluff Drive  
Osage Beach, MO 65065  
573.348.1221

Village of Four Seasons  
133 Cherokee Road  
Four Seasons, MO 65049  
573.365.3833

Mid-County Fire Protection District  
184 N. Hwy 5  
Camdenton, MO 65020  
573.346.2049

Rocky Mount Fire Protection District  
20401 Brendel Blvd  
Rocky Mount, MO 65072  
573.392.4301



## Shoreline Management Office

P.O. Box 993  
3 Willmore Lane  
Lake Ozark, MO 65049

573.365.9203  
[AmerenMissouri.com/lake](http://AmerenMissouri.com/lake)

