

### 675.15 Lightning Protection

If an irrigation machine has a stationary point, a grounding electrode system in accordance with Article 250, Part III, shall be connected to the machine at the stationary point for lightning protection.

Where the electrical power supply to irrigation machine equipment is a service, the requirements of Article 250 for grounding the system and equipment are applicable. Due to the physical location of irrigation equipment, the most likely grounding electrode of the types covered in 250.52 is a driven ground rod or ground plate. Consideration should be given to the requirements of 250.60 and NFPA 780, *Standard for the Installation of Lightning Protection Systems*, in areas where lightning protection is critical. A common electrode system is not permitted to be used for the dual function of grounding the electric service and grounding the lightning protection system. The separate electrode systems are required to be bonded together.

### 675.16 Energy from More Than One Source

Equipment within an enclosure receiving electric energy from more than one source shall not be required to have a disconnecting means for the additional source, provided that its voltage is 30 volts or less and it meets the requirements of Part III of Article 725.

### 675.17 Connectors

External plugs and connectors on the equipment shall be of the weatherproof type.

Unless provided solely for the connection of circuits meeting the requirements of Part III of Article 725, external plugs and connectors shall be constructed as specified in 250.124(A).

## II. Center Pivot Irrigation Machines

### 675.21 General

The provisions of Part II are intended to cover additional special requirements that are peculiar to center pivot irrigation machines. See 675.2 for the definition of *Center Pivot Irrigation Machine*.

### 675.22 Equivalent Current Ratings

To establish ratings of controllers, disconnecting means, conductors, and the like, for the inherent intermittent duty of center pivot irrigation machines, the determinations in 675.22(A) and (B) shall be used.

The ratings of electrical components of any circuit should be selected so as to avoid extensive damage to the equipment during a short circuit or ground fault. Requirements for

establishing ratings of components of special equipment for inherent intermittent duty are covered in 675.22. Also see the commentary following 110.10 and 430.52.

**(A) Continuous-Current Rating.** The equivalent continuous-current rating for the selection of branch-circuit conductors and branch-circuit devices shall be equal to 125 percent of the motor nameplate full-load current rating of the largest motor plus 60 percent of the sum of the motor nameplate full-load current ratings of all remaining motors on the circuit.

**(B) Locked-Rotor Current.** The equivalent locked-rotor current rating shall be equal to the numerical sum of two times the locked-rotor current of the largest motor plus 80 percent of the sum of the motor nameplate full-load current ratings of all the remaining motors on the circuit.

## ARTICLE 680 Swimming Pools, Fountains, and Similar Installations

### Summary of Changes

- **680.2 Permanently Installed Swimming, Wading, Immersion and Therapeutic Pools; Pool; and Storable Swimming, Wading, or Immersion Pool:** Added *immersion* to these definitions to include pools, other than swimming and wading pools, in which people are partially or totally immersed.
- **680.10:** Specified that underground raceways located 5 ft or less from the pool must be installed as a complete system.
- **680.12:** Established a minimum 5-ft horizontal clearance between disconnecting means and inside walls of pools, spas, and hot tubs.
- **680.21(A):** Clarified that 680.21(A)(1) is modified by 680.21(A)(2) through (A)(5).
- **680.22(A)(1):** Revised the receptacle clearance from 5 ft to 6 ft.
- **680.22(A)(2), 680.22(A)(3):** Revised the receptacle clearance from 10 ft to 6 ft.
- **680.22(B):** Added requirement for GFCI protection for all 15- and 20-ampere, 125- and 240-volt, single-phase receptacles and other outlets that supply pool pump motors.
- **680.22(E) and FPN:** Added clearance requirement for other outlets, including, but not limited to, fire alarm, communications, remote control, and signaling.