

## **4123:1-5-23 Electrical conductors and equipment.**

(A) Unless the electrical conductors or equipment to be worked on are isolated from all possible sources of voltage or are effectively grounded, the employer shall provide protective equipment approved for the voltage involved, such as rubber gloves with protectors, rubber sleeves, hot line tools, line hose, line guards, insulator hoods, blankets, and access boards. Employees shall be instructed in the use of such tools and equipment and, when working on or when working within contact distance of an energized conductor, shall use such tools and equipment.

(B) Effective grounding devices shall be provided when work is performed on deenergized circuits or equipment. Employees shall be instructed in the use of such grounding devices.

(C) Protective devices and equipment shall be stored in a clean, dry compartment or box that will protect such equipment from punctures, snags, or moisture.

(D) Minimum clearance.

Before an employee moves or operates power cranes, shovels, backhoes or any other type of material hoisting equipment within ten feet of an energized electrical conductor, the employer shall:

- (1) Assure that the conductor is deenergized and grounded, or
- (2) Assure that the conductor is moved, or
- (3) Assure that the conductor is guarded from accidental contact and an employee is designated to act as signalman to direct the operator in the movement of the equipment, or
- (4) Assure that an insulated boom or an insulated type guard about the boom or arm of the equipment and a dielectric insulator link between the load and the block are installed and an employee is designated to act as signalman to direct the operator in the movement of the equipment.

(E) Approach distances to exposed energized conductors and equipment.

- (1) The requirements of this paragraph apply only to the electric utility and clearance tree-trimming industries.
- (2) No employee shall be required to approach or take any conductive object closer to any electrically energized power conductors and equipment than prescribed in table 4123:1-5-23(E) to this rule unless:

- (a) The employee is insulated or guarded from the energized parts (insulating gloves rated for the voltage involved shall be considered adequate insulation); or
- (b) The energized parts are insulated or guarded from the employee and any other conductive object at a different potential; or
- (c) The power conductors and equipment are deenergized and grounded.

TABLE 4123: 1-5-23 (E)

**ALTERNATING CURRENT — MINIMUM DISTANCES**

<b>Voltage Range (phase to phase) kilovolt</b>	<b>Minimum Working and Clear Hot Stick Clearance</b>
2.1 to 15 .....	2 ft. 0 in.
15.1 to 35 .....	2 ft. 4 in.
35.1 to 46 .....	2 ft. 6 in.
46.1 to 72.5 .....	3 ft. 0 in.
72.6 to 121 .....	3 ft. 4 in.
138 to 145 .....	3 ft. 6 in.
161 to 169 .....	3 ft. 8 in.
230 to 242 .....	5 ft. 0 in.
345 to 362 .....	*7 ft. 0 in.
500 to 552 .....	*11 ft. 0 in.
700 to 765 .....	*15 ft. 0 in.

**\*NOTE: For 345-362kv, 500-552kv, and 700-765kv, the minimum working distance and the minimum clear hot stick distance may be reduced provided that such distances are not less than the shortest distance between the energized part and a grounded surface.**

(F) Approach distances to exposed energized conductors and equipment.

- (1) The requirements of this paragraph apply only to the telecommunications industry.
- (2) No employee shall be required to approach or take any conductive object closer to any electrically energized power conductors and equipment than prescribed in table 4123:1-5-23(F) to this rule unless:
  - (a) The employee is insulated or guarded from the energized parts (insulating gloves rated for the voltage involved shall be considered adequate insulation); or

(b) The energized parts are insulated or guarded from the employee and any other conductive object at a different potential; or

(c) The power conductors and equipment are de-energized and grounded.

TABLE 4123: 1-5-23(F)

**Approach Distances to Exposed Energized Overhead Power Lines and Parts**

<b>Voltage range (phase to phase, RMS)</b>	<b>Approach distance (inches)</b>
300 V and less.....	( <sup>1</sup> )
Over 300V, not over 750V .....	12
Over 750V not over 2kV .....	18
Over 2kV, not over 15kV .....	24
Over 15kV, not over 37kV .....	36
Over 37kV, not over 87.5kV .....	42
Over 87.5kV, not over 121kV .....	48
Over 121kV, not over 140kV .....	54

<sup>1</sup>Avoid contact.

(G) The requirements of paragraph (E) of this rule shall not apply to employees in insulated vehicle-mounted elevating and rotating work platforms.

Effective: 1/1/86