

## Electric Power Generation, Transmission, and Distribution and Electrical Protective Equipment Final Rule

The Occupational Safety and Health Administration (OSHA) updated its Electric Power Generation, Transmission, and Distribution and its Electrical Protective Equipment standards, further improving safety protections for America's workers. The updated standards harmonize construction and general industry requirements so that the same rules apply generally to the same kinds of work. In addition, OSHA based its revisions on the latest consensus standards and improvements in electrical safety technology.

Illustrating the need for these updates, the previous Electric Power Transmission and Distribution for Construction standard was issued in 1972 and referenced consensus standards of that time. The later Electric Power Generation, Transmission, and Distribution for General Industry (Operation and Maintenance) standard, issued in 1994, also needed updating based on advances in electrical safety technology. Together, the updated standards create a unified and up-to-date set of requirements to help employers more effectively establish work practices to protect their workers.

### Benefits

OSHA expects the updated standards to prevent at least an additional 118 workplace injuries and 20 fatalities annually, compared with the earlier standards. The Agency estimates the net monetized benefits of the final rule to be about \$130 million annually (\$179 million in benefits minus \$49 million in costs). In addition, the updated standards are easier to understand and to apply, thus improving safety by facilitating compliance.

### Rulemaking Background

OSHA published a notice of proposed rulemaking to update these standards on June 15, 2005. The Agency held a public hearing on the proposed rule from March 6 to March 14, 2006, and held an additional public hearing on a limited reopening of the proposed rule on October 28, 2009.

### Significant Changes to the Standards

#### General Training

- The degree of training must be determined by risk to the worker for the hazard involved.

- Qualified workers must have training to recognize and control or avoid electrical hazards present at the worksite.
- Line-clearance tree trimmers must have training to distinguish exposed live parts and to determine the voltage on those parts, and they must have training in minimum approach distances and how to maintain them.
- It is no longer necessary for employers to certify that workers are proficient in safe work practices.

#### Host Employers and Contractors

- Host and contract employers must share information with each other on safety-related matters and must coordinate their work rules and procedures.

#### Fall Protection

- On and after April 1, 2015, qualified workers must use fall protection when climbing or changing location on poles, towers, or similar structures unless climbing or changing location with fall protection is infeasible or creates a greater hazard than climbing or changing location without it.
- Fall arrest equipment must be capable of passing a drop test after exposure to an electric arc with a heat energy of  $40 \pm 5$  cal/cm<sup>2</sup> if the workers using the fall protection are exposed to flames or electric arc hazards.
- On and after April 1, 2015, work-positioning equipment must be rigged so that workers can free fall no more than 0.6 meters (2 feet).
- Information on the inspection of work-positioning equipment appears in appendices to the standards.

### **Minimum Approach Distances and Insulation**

- Revised minimum approach distances become effective on April 1, 2015.
- Information to help employers establish minimum approach distances appears in appendices to the standards.

### **Protection from Flames and Electric Arc Hazards**

- The employer must assess the workplace to identify workers exposed to flame or electric-arc hazards.
- No later than January 1, 2015, employers must estimate the incident heat energy of any electric-arc hazard to which a worker would be exposed.
- No later than April 1, 2015, employers generally must provide workers exposed to hazards from electric arcs with protective clothing and other protective equipment with an arc rating greater than or equal to the estimated heat energy.
- Information on protecting workers from flames and electric arcs appears in appendices to the standards.

### **Deenergizing Transmission and Distribution Lines and Equipment**

- Multiple crews working together on the same lines or equipment must either: (a) coordinate their activities under a single worker in charge and work as if all of the employees formed a single crew; or (b) independently comply with the standard and, if there is no system operator in charge of the lines or equipment, have separate tags and coordinate deenergizing and reenergizing the lines and equipment with the other crews.

### **Protective Grounding**

- Employers may use insulating equipment other than a live-line tool for placing grounds on or removing grounds from circuits of 600 volts or less under certain conditions.

- Information on protective grounding for deenergized lines appears in appendices to the standards.

### **Underground Electrical Installations**

- Special precautions apply when employees perform work that could cause a cable to fail.

### **Electrical Protective Equipment**

- The Electrical Protective Equipment for Construction standard applies to all construction work, not just electrical power generation, transmission, and distribution work. That standard also replaces the existing construction standard's incorporation of out-of-date consensus standards with a set of performance-oriented requirements that is consistent with the latest revisions of the relevant consensus standards.
- The final rule recognizes a new class of electrical protective equipment, Class 00 rubber insulating gloves.
- The standards adopt new requirements for electrical protective equipment made of materials other than rubber.

### **Foot Protection**

- In addition to revising the Electric Power Generation, Transmission, and Distribution, and the Electrical Protective Equipment standards, OSHA also revised the General Industry Foot Protection standard to clarify that an employer must ensure that workers use protective footwear as a supplementary form of protection when the use of protective footwear will protect the workers from electrical hazards, such as static-discharge or electric-shock hazards, that remain after the employer takes other necessary protective measures.

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