

OSHA Issues Guidance for Protection Against Arc-Flash Hazards

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On Nov. 25, 2024, OSHA issued [guidance](#) for protecting employees who interact with live equipment or circuits, and those in power generation, transmission and distribution to identify, assess and mitigate arc flashes. The guidance notes the following common myths among employees performing electrical work:

Myth No. 1: My work is not energized.

According to the guidance, most electrical work is done while the equipment is energized, exposing workers to electrical shock and arc flash hazards. Many workers mistakenly believe that they do not need arc-rated (AR) personal protective equipment (PPE) because they don't perform energized work. Electrical equipment and circuits are either energized or they are locked-out/tagged-out for maintenance. "Deenergizing" is not the same as lockout/tagout, and most tasks where lockout/tagout has not been applied to equipment would be considered energized work. It is crucial to understand that deenergizing without locking/tagging out does not eliminate the electrical shock and arc-flash hazards.

Myth No. 2: My work is justified, so it is electrically safe.

Justified, energized work refers to specific situations where working on or near energized electrical equipment is deemed necessary and "justified" under certain conditions. It may not be feasible or practical to deenergize equipment for maintenance or other tasks (such as interrupting power to a hospital). Even when work is considered "justified," strict safety measures must be implemented and followed to minimize the risks associated with electrical hazards.

The guidance highlights the following three components as critical for protecting employees from arc flashes:

(1) Worker Participation

- Maintain an environment that allows (and encourages) workers to raise concerns about arc-flash hazards without fear of reprisal. Seek worker feedback and input in finding solutions to any arc-flash issues.
- Review and act on worker feedback to address reported concerns.
- Ensure workers have up-to-date information on arc-flash hazards, safety procedures, required personal protective equipment and emergency plans.
- Provide access to training materials and sessions on arc-flash hazards.
- Involve workers in developing (and revising) safety procedures for activities involving arc-flash hazards.
- Ensure analysis of arc-flash hazards in each step of routine and nonroutine jobs, tasks and processes.

- Design training with worker input to cover relevant arc-flash risks and protective measures, and include workers in safety inspections and audits to spot arc-flash hazards.
- Allow all workers to participate, regardless of skill level, education or language (implementing multilingual resources as needed), and provide necessary resources and time for workers to participate effectively in the safety and health program (i.e., safety and health meetings during regular work hours).

(2) Hazard Identification and Assessment

Hazard assessment should include identification of hazards (both electrical and non-electrical), the likelihood of occurrence for each hazard, the severity of harm if the hazard were to occur and hazard mitigation measures that will reduce the hazard to an acceptable risk. To identify and assess potential hazards, employers – in consultation with workers – should review existing information about workplace hazards and periodically conduct an inspection to identify if there are any additional hazards. Relevant to arc flashes, the potential sources of hazard may include, among others, faulty or malfunctioning electrical equipment, inadequate installation or maintenance practices, operating equipment beyond its rated capacity, unauthorized modifications or alterations to electrical equipment, lack of proper warning systems (such as warning signs and labels), assuming low-voltage equipment (240V and under) cannot produce arcs, and inadequate or insufficient PPE. Guidance is also a reminder of the importance of assessing and following safe approach boundaries for protection against electric shocks and arc flashes.

(3) Hazard Prevention and Control

In the “Prevention and Control” section of the guidance, OSHA reminds employers about adhering to the hierarchy of controls. In other words, preventive engineering controls (aimed at eliminating or minimizing hazards at their source to prevent them from occurring in the first place) should be considered first, as they are the most effective in ensuring workplace safety. Thereafter, protective controls (administrative controls and PPE) are utilized when it is not feasible or practical to eliminate the hazard completely. The guidance recommends that employers, in consultation with their workers, should evaluate their safeguards against arc flashes (including the use of the arc-rated, rubber-insulated and fire-resistant clothing/PPE as appropriate) on a regular basis, determine the effectiveness of reducing workers’ exposure and identify potential improvements.

While the guidance references the existing and applicable OSHA standards and does not create new legal obligations, OSHA notes that the recommendations contained therein are intended to assist employers in providing a safe and healthful workplace. As such, it may be prudent, to the extent feasible, to explore options for implementing the suggested safety measures for boosting protection of employees from arc-flash incidents.