

# SAFETY MEMO

November 30, 2020 – Arc Flash (2 of 2)



Did you know?

**Arc Flash Boundary-** Minimum distance from exposed energized parts. This assumes the worker is not wearing PPE. This is the boundary at which no one should pass without proper training and PPE. The incident energy level at this distance is  $1.2 \text{ cal/cm}^2$ .

**Limited Approach Limit-** Described as working near live parts. Personnel passing this limit require appropriate PPE and must be qualified. Unqualified workers can pass this boundary if they wear the appropriate PPE and are escorted by a qualified worker at all times.

**Restricted Approach Limit-** The area closest to the exposed and live parts. Personnel passing this limit require proper training and PPE. Only qualified workers can pass this limit. In order to perform work on the energized equipment, a work permit and documentation is regularly required.

**Prohibited Approach Limit-** Described as working on live parts. Passing this limit is considered the same as making contact with the live part.

## Boundary Markings

During work on energized electrical equipment, it is essential to clearly communicate this hazard to all workers directly involved in the work, as well as other workers in the vicinity. The boundaries must be clearly marked at all times when the electrical components are live and exposed. Failure to do so could be fatal.

## Arc Flash Personal Protective Equipment

The CSA Z462 Workplace Electrical Safety standard strictly forbids arc flash labels from listing PPE requirements. Employers are solely responsible for the safety of their employees and must select PPE that is properly rated for the arc flash incident energy level. Information on PPE requirements for varying incident energy levels is available in the CSA Z462 standard.

## Qualified Personnel

The CSA Z462 Annex C prescribes boundaries in which only qualified personnel can pass. This document also describes the criteria in which personnel are considered to be qualified. In general, qualified personnel have received training and demonstrated skills in the construction and operation of electrical equipment and the

hazards involved. Specialized training includes hazard recognition and control specific to arc flash.

In Canada, CSA Standard Z462 Workplace Electrical Safety describes the topic of worker training for qualified personnel.



Figure 3: A Worker wearing arc flash PPE.

## Recommendations

- Upon the start of a project, identify equipment with arc flash hazards. Review the label for the incident energy level, shock hazard and approach distance requirements.
- Complete a risk assessment including arc flash hazards and the controls to be used.
- Follow the proper Safe Operating Procedure (SOP) for work involving arc flash hazards.
- Do not enter arc flash boundaries without proper training, procedures/work permits and arc flash PPE.