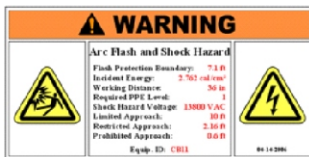


HAZARD ALERT Arc Flash Hazards

The demand for a continuous supply of power has brought about the need for qualified electrical workers to perform maintenance work on exposed live parts of electrical equipment. In addition to the possibility of electrical shock hazard from direct contact with live conductors, workers should also be aware of electric arcs striking across live conductors resulting in an arc flash.

An Arc Flash results from a flashover of electric current through air in electrical equipment from one exposed live conductor to another or to ground. Electric Arcs can produce temperatures up to 35,000 degrees Fahrenheit, a temperature at which all known materials are instantly vaporized. This intense heat can cause a sudden expansion of air resulting in a blast of very strong air pressure. The air blast can spread molten metal great distances with great force. An arc in an enclosure, such as a Motor Control Center or Switchgear, is magnified and the energy transmitted is forced to the open side of the enclosure toward the worker potentially resulting in significant heating and burn injuries.



Arc Flash Hazards are caused and can be initiated by: dust and impurities, corrosion, condensation of water on the surface of insulating material, spark discharge, accidental touching, dropping tools, improperly maintained electrical meters, over-voltages across narrow gaps, failure of insulating material, improperly designed or utilized equipment, improper work procedures, and human error.

To prevent such injuries, employers and employees should take these steps:

- Employers should conduct a hazard/risk assessment and implement control measures to protect the worker against arc flash hazards.
- Develop and implement an arc flash hazard program that meets the NFPA 70E Standard or equivalent.
- Workers should be trained to understand the hazard, how it is initiated and how to use appropriate PPE.
- Wherever practical, workers should be discouraged from working on energized equipment, ensure that work is carried out only by qualified competent person/s after equipment is de-energized and locked out, in accordance with the CSA Standard Z460-2004 - Control of Hazardous Energy, or equivalent.
- Electrical Equipment such as switchboards, industrial control panels and motor control centers in other than dwelling occupancies which are likely to require examination, servicing or maintenance while energized, shall be field marked to warn qualified persons of potential electrical arc flash hazards.

**Additional information is available from
the Occupational Health and Safety Division at
(709) 729-2706 or toll free at 1 800-563-5471**

