

Field Marking - Arc Flash Protection

All Switchboards, panelboards, industrial control panels, and motor control centers shall be field marked with a black on yellow warning sign. The sign shall be a minimum of three inches wide and two inches high.. The sign shall read as follows: Line 1 Warning; Line 2 - Electrical Arc Flash Hazard; Line 3 - Serious Injury or Death; Line 4 - Only to be Serviced by Qualified Persons; Line 5 - Flash Hazard Boundary = XX Ft; Line 6 - Minimum Protective Clothing (PPE) = XX Cal/sq cm.

The marking shall be so located as to be clearly visible to qualified persons prior to exposing energized parts. For systems which are 600 volts and below, the arc flash protection boundary shall be 4.0 ft, based upon the product of clearing time of 6 cycles (.1 second) and available bolted fault current of 50 kA or any combination not exceeding 300 kA cycles. Where the four foot boundary is utilized the Personal Protective Equipment (PPE) rating shall be derived from the latest edition of NFPA70E.

The contractor under engineering supervision shall calculate the boundary for any system: of greater than 600 volts; exceeding the 300 kA cycles; where calculations are deemed necessary by the contractor. In these cases the boundary depth and the Personal Protective Equipment (PPE) rating calculations shall be done under engineering supervision, such calculations shall be performed according to the IEEE 1584 Standard and the included IEEE 1584 Arc Flash Calculator.

Calculations based upon programs integrated into short circuit analysis software will not be accepted unless such program utilizes the aforementioned calculator. When boundaries are calculated the process shall be based upon the fault current and the operating characteristic of the feeder circuit to the equipment.

The arc flash hazard field marking shall be completed prior to the energization of any equipment, where such equipment will be worked on while energized. The contractor shall be responsible for enforcing safe work practices relative to any work on energized equipment. The contractor shall be responsible for supplying personal protective equipment (PPE) where personnel are required to work on energized equipment. Only qualified and trained personnel shall work on energized equipment.