



Safety Message of the Day for IMEA Members



Arc Flash Precautions: A Review

Substation Entry

Every company I work with has a different policy on entering a substation. Some companies require a full set of arc-rated clothing just to unlock the gate and enter the yard. This is a policy, not a regulation – unless the exposure of an arc at the gate is 2 cal/cm^2 , you are entering a minimum approach distance zone of energized conductors greater than 600 volts, or an arc could ignite your clothing or material in the immediate vicinity. Following are the regulations associated with exposure found in 1910.269(l)(8)(iv): “The employer shall ensure that the outer layer of clothing worn by an employee, except for clothing not required to be arc rated under paragraphs (l)(8)(v)(A) through (l)(8)(v)(E) of this section, is flame resistant under any of the following conditions:

“1910.269(l)(8)(iv)(A): The employee is exposed to contact with energized circuit parts operating at more than 600 volts,

“1910.269(l)(8)(iv)(B): An electric arc could ignite flammable material in the work area that, in turn, could ignite the employee’s clothing,

“1910.269(l)(8)(iv)(C): Molten metal or electric arcs from faulted conductors in the work area could ignite the employee’s clothing, or

“1910.269(l)(8)(iv)(D): The incident heat energy estimated under paragraph (l)(8)(ii) of this section exceeds 2.0 cal/cm^2 .”

Some substations are very small, and sometimes they are very large with great distances between the gate and equipment. So, there are a few things to consider. Where is the 2-cal exposure? How far away from the equipment is that point if there were a catastrophic failure? If I’m not wearing arc-rated clothing and I’m not in a zone that requires it, what would happen if I were asked to perform a different task? There could be an exposure. In this scenario, take the safest, most conservative approach.