



Developing and Marketing ARC Flash Protection Products

The Opportunity, Challenges and Driving Forces

The Opportunity

There are ARC Flash risks in virtually every type of business. Some of those risks are associated with high level voltage risks as well, but the majority of them are not. While there are applications that require ARC level 0 or 00, often those applications do not require specially engineered products. The following is an estimation of the number of workers in the United States that should be wearing ARC Flash protection at varying levels beginning with ARC Level 1.

ARC Level 1
Estimated 475,000 workers

ARC Level 3
Estimated 125,000 workers

ARC Level 2
Estimated 1,650,000 workers

ARC Level 4
Estimated 350,000 workers

Historically, new product development has focused on meeting the needs of the most obvious and well known applications that involve high voltage, high ARC-rated risk categories. These applications are most prevalent in the Electrical and Utility markets. Most of the ARC Flash incidents over the past 5-7 years have occurred in industries other than Electrical and Utility, with workers not typically involved in jobs categorized as electrician or electrical maintenance related. In fact, ARC Flash incidents are more likely to occur in industries and applications where an awareness and understanding of ARC Flash risks is low or not obvious.

In high risk/high voltage applications and industries, workers don heavy duty protective products prior to performing tasks that expose them to voltage and ARC Flash risks and remove the product after their task is completed. This type of high level protection is very cumbersome and uncomfortable for a worker to wear and is very difficult to perform complicated tasks while wearing them. The greatest opportunity for new product success is in the lower risk categories with products that include the following performance attributes:

- **Comfortable enough that a worker can wear or use the product all day long**
- **Provides protection and productivity performance attributes that are required for what that worker does on a day-to-day basis, eliminating the need for specialty safety products**
- **ARC Flash protection and category level is easily identified**



The Challenges

Developing and marketing electrical safety products requires overcoming several unique challenges. A key issue being the drastic lack of education and understanding of the risk, of the contributors and of the NFPA 70E standard which guides the category. In a recent study conducted by MillerPierce with more than 700 Safety Directors, Plant and Facility managers, 8 of 10 surveyed had little to no understanding of the correct application of the NFPA 70E in their operation.

Compared with other worker injuries, ARC Flash incidents are quite rare and are not typically a key concern. However, ARC Flash injuries are almost always devastating and very, very costly. Therefore, in order to successfully penetrate the ARC Flash protection market, education is required.

Due to the need for in-depth education and understanding of electrical safety and the NFPA 70E by those who would sell ARC Flash protective products, a non-traditional sales and/or distribution channel may be necessary. All of these challenges can be addressed through innovative thinking and by engaging non-traditional methods.

Driving Forces

Several developments are propelling improvements in electrical safety, driving the awareness and sense of urgency around the topic. One is accelerated activity by OSHA in this area. Recently, OSHA released a statement requiring all employees working in the Oil and Gas industry to wear ARC protective clothing and follow NFPA 70E to the letter. OSHA has also recently levied significant fines to known violators (for example, USPS was levied a 8 million dollar fine). Others are certain to follow.

Changes are coming to the U.S. and international electrical standards that will provide more definition as well as introduce new equipment labeling requirements. It is anticipated that these changes will be ratified by the end of the year.

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