ProGARM®
PROTECTING LIVES

CAUSES OF ARC FLASH

WHAT YOU NEED TO KNOW

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THE CAUSES OF ARC FLASH
WHAT YOU NEED TO KNOW

An important factor in keeping yourself safe is knowing the causes of Arc Flash incidents. Understanding what might prompt an Arc Flash will help you mitigate those risks, ultimately leaving you safer.

It's not just those who work directly on electrical systems who need to know about Arc Flash risks. Depending on the incident energy and whether it happens in a confined space (which focuses the energy forwards instead of allowing it to dissipate sideways), a blast from an Arc Flash can affect people many metres away. So it's important that all of your operational teams are aware of the causes of Arc Flash and how it might affect them.

ARC FLASH CAUSE
EQUIPMENT FAILURE

It stands to reason that if equipment fails or is improperly designed or installed, an Arc Flash incident could be caused. Faulty system design can also contribute to an increased likelihood of Arc Flash incidents, also known as electrical flashovers.

Damage to insulation, gaps, or wear and tear can also create the pathways needed for an unwanted electric discharge through the air. Exposed live parts or loose connections could also be the culprits. Regular inspections of your electrical systems and equipment will help to predict and prevent Arc Flash incidents.

ARC FLASH CAUSE
SPONTANEOUS

There are other factors that can increase the likelihood of an Arc Flash incident.

These causes include:

- Corrosion of electrical equipment
- A build-up of dust, which can conduct an electrical charge
- Moisture or vapor, which can also conduct an electrical charge
- Animal contact – mice, for example, can create the route needed for an Arc Flash to occur

ARC FLASH CAUSE
HUMAN ERROR

Human error is the most common cause of Arc Flash incidents. It could be a gang breaking ground and hitting a cable not marked on the services plan, a test probe touched to the wrong surface, or a tool dropped accidentally which hits a live switchgear.

Other ways that human error can cause an Arc Flash are through the improper installation of equipment, preventative maintenance that isn't carried out properly (or at all), and failing to de-energize equipment where it's possible.

A lack of appropriate training can increase the chances of human error causing an incident. But distractions, weariness, the pressure to get the job done quickly and restore power, or just an overly-relaxed attitude can make electrical engineers bypass safety procedures, which can all too easily result in a dropped tool or making contact between energized conductors.

Creating awareness of the severity of Arc Flash incidents and the potential injuries – **take a look at this blog for more on that** – can help to develop a culture within your workforce which actively seeks to avoid electrical and especially Arc Flash incidents.

KEEPING YOURSELF SAFE FROM AN ARC FLASH

If you understand the causes of Arc Flash incidents you can take steps to keep yourself safe. But when the majority of Arc Flash incidents occur due to human error or just sheer accident, what more can you do?

Ensuring there's a thorough Arc Flash hazard assessment for the system you're working on and understanding the **hierarchy of control** is both helpful in predicting Arc Flash incidents. Once you have done everything proactive to understand the system and its risks, personal protective equipment (PPE) specifically designed to protect against Arc Flash (not just simple fire resistance) is your last line of defence.

But having the right PPE isn't all of the story – if you were caught in an Arc Flash blast, wearing it properly could be the difference between walking out alive or not. Read our **free guide** to the top seven considerations when choosing Arc Flash PPE for critical information on layering, fire resistant vs Arc Flash, and the benefits of inherent protection within fabrics.

Not all Arc Flash protective garments are manufactured the same. Whilst many garments meet minimum standards you need to ensure that the level of protection and quality of the garment is sufficient to provide the protection the wearer needs.

Quality Arc Flash protective garments from ProGARM won't simply allow you to survive an incident, they will significantly reduce the level of injury that is sustained.

We believe when lives are at stake you should trust a specialist. Someone who is using 100% inherent fibres. Someone that develops highly durable garments that will continue to offer a high level of protection throughout their products lifetime. Someone that has a high level of production rigour to ensure consistent quality and garment traceability.

Mitchell's Arc Flash Story

ARC FLASH CAN BE A SERIOUS DANGER EVEN WHEN WORKING IN LOW VOLTAGE ENVIRONMENTS

Whilst working on the Dig Team for construction firm Clancy Group, Mitchell attended a house service where he experienced a cable strike, resulting in an Arc Flash. Thankfully Mitchell escaped without serious injury, thanks entirely to the ProGARM Arc Flash PPE he was wearing at the time of the incident.

Following the Arc Flash, Mitchell was able to return to work, and now in his new role as a Field Performance Manager, one of Mitchell's priorities is to make sure his team is fully educated on the danger, and to stress the importance of wearing Arc Flash PPE correctly.

We were fortunate enough to meet Mitchell and hear about his experience. The story emphasises why education about the dangers of Arc Flash and the correct specification of Arc Flash PPE is imperative in protecting workers from serious or even life-threatening injuries.

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