



# CALL FOR PAPERS

## 7<sup>th</sup> Arc Flash Conference

Perth, Australia – March 2022

**Are you an electrical engineer, technologist or technician working with electrical safety, arc flash hazards and risks from the mining, industrial plants, oil and gas or the utilities industry?** We are looking for a number of presenters to submit a topic idea and present their papers at the upcoming conference which has been developed to promote and help reduce the number of arc flash incidents in Australia.

### **What is Arc Flash?**

An arc flash is the explosive release of energy occurring when there is a phase-to-phase or phase-to-earth fault. It can be caused by various reasons including accidental contact, unsafe work procedures, corrosion, insulation failure or conductive dust or moisture/liquids. Heat generated by an electric arc is capable of reaching temperatures of around 1000°C, which can cause a significant amount of damage. The rapid heating of the air and vaporization of the conductive metals creates an intense pressure blast which exposes the electrical worker to shrapnel, air, vaporized metal, intense UV exposure and heat. Typical injuries resulting from arc flash include: burns, blindness, deafness, broken bones, lacerated and burnt skin, and damaged internal organs which can result in death or serious permanent disablement and disfigurement, exacerbated by the heat and intense UV light.

Arc flash is arguably one of the most topical issues being discussed today in the electrical engineering community in Australia (especially in the mining, utilities and manufacturing areas). Technology and safety procedures have significantly reduced most other forms of electrical injuries; however, incidents related to arc flash have surfaced as one of the leading causes of injury and death to workers.

The technical aspects and physics associated with arc flash are still somewhat debatable. There has been some concerns about the physics of electrical arcing faults being significantly different to those established by the USA with the NFPA 70E and the IEEE 1584 standards and the Canadian Standards Association (CSA) new arc flash safety standard CSA-Z462. Although arc flash is a contentious and critical issue in Australia, there are still no official local standards that deal with arc flash safety.

## Who should apply?

We are seeking speakers who have a desire to discuss the issues involved and want to help reduce the number of arc flash incidents in Australia. We need electrical professionals who are passionate about improving the procedures of arc flash safety. We want specific examples that showcase what can be learnt in terms of actual vocational skills, planning, tools, equipment, and environment that lead to arc flash incidents (and injury) and how they may better be avoided.

## SUGGESTED TOPICS:

- Arc flash and switching case studies
- Arc flash calculations
- Working distances & flash boundaries
- Arc flash assessments
- Practical solutions for reducing arc-flash hazards
- Electrical hazards & effects on humans
- Data collecting and system modeling
- Arc flash studies and research
- Personal Protective Equipment (PPE)
- Guidance on safe isolation procedures
- Isolator/disconnect switch techniques
- Isolator switch technology
- Flash protection approach boundaries
- Hazard risk category
- Codes and standards – changes, overview, review & critique – NFPA 70E/IEEE 1584 /ESAA NENS 09-2004/CSAZ462
- Practical electrical isolation for the avoidance of arc flash risk and injuries
- High voltage maintenance
- Arc flash compliance implementation in the workplace
- Safety in design, functional and process safety
- Earthing requirements for HV substations
- Testing of the latest SF6 HV-Switchgear
- IEC 61850 Standard for substation automation
- Safety integrity of protection systems
- Switchgear design for arc fault containment
- Magnetic fields
- Potential future mitigation technologies
- Generator protection
- Distribution overhead/underground
- Low voltage systems
- Effects on blast pressure as a result of arc flash event on human body
- Case studies from organisations that have implemented an arc flash program

## ALL SUBMISSIONS WELCOME

Note: We are seeking papers that cover a selection of case studies and examples of real-world working systems, and problem-solving scenarios. Sales or product-based presentations are not accepted. This event is an excellent opportunity to network with your industry peers and for speakers to gain significant new information and techniques on arc flash safety.

*Join your peers in a vigorous and positive exchange of views, building your career and public profile and contributing to Australian electrical engineering practice in this vital area!*

IDC Events do not allow vendors to “sell” their products but rather focus on practical applications and solutions – probably the best way to showcase your technologies and engineering skills. In particular we are seeking practical case studies, applications and the newest developments in this critical subject.

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### **What is required from you?**

- A **100-word abstract**, which outlines the topic you would like to present. This needs to be submitted electronically as soon as possible, to secure your place.
  - Once your topic is approved, your **technical paper and PowerPoint slides** will be due six weeks prior to the event.
  - Speaking slots are allocated on topic suitability and on a first come first served basis, so please register your interest today by emailing [emma.cameron@idc-online.com](mailto:emma.cameron@idc-online.com)
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