

ARC FLASH AND ISOLATION SAFETY CONFERENCE

Featuring Keynote Speakers:

HUGH HOAGLAND

International arc flash testing and electrical safety expert

Founder of ArcWear



KEN MORTON

HM Principal Inspector
FOD SG (Electrical Engineering)
(Power Systems & Ignition Hazards)
Health & Safety Executive



WHAT YOU WILL GAIN FROM THIS EVENT:

- Learn about UK, EU and US standards developments in arc flash
- Hear local and international case studies detailing the latest arc flash mitigation strategies and solutions
- Learn about electrical safety statistics and the implications for you
- Learn about UK and international standards
- Understand how to achieve a compliant and electrically safe work place
- Learn how to provide arc flash training for your staff
- Detail the steps to perform an arc flash hazard analysis
- Clearly understand what an arc flash is and the potential injuries that can result
- Define what personal protective equipment (PPE) is required on your site
- Learn practical considerations for PPE selection and testing
- Learn how to perform testing and maintenance on your PPE

WHO SHOULD ATTEND:

- Electrical Technicians, Engineers and Managers
- Engineering Managers
- Risk Assessors
- Design Engineers
- Manufacturers of PPE & Safety Equipment
- Safety Facilitators
- Instrumentation & Control Technicians and Engineers
- Process Safety and Loss Prevention Managers
- Government Safety Regulators/Inspectors
- OHS/Training Managers
- Tradespersons working in potentially explosive areas

9th & 10th
June 2015

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INTRODUCTION TO THE ARC FLASH AND ISOLATION SAFETY CONFERENCE

Arc flash is a topical issue in the electrical engineering community as many people in the UK receive severe and debilitating burns each year. 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 even death to workers. The technical aspects and physics associated with arc flash are still somewhat debatable. There have been 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. Although arc flash is a contentious and critical issue, there are still no UK specific standards to deal with arc flash safety. In terms of legislation, there is a requirement in the Management of Health and Safety at Work Regulations 1999 for 'suitable and sufficient' risk assessment to be undertaken. There is also the need to meet the requirements of the Electricity at Work Regulations 1989.

In addition to arc flash incidents, electrical workers in the UK suffer electric shock and burn injuries as a direct consequence of electrical contractors and others not implementing safe isolation procedures. In electrical engineering,

isolator/disconnect switches which can be secured in the OFF position, are commonly used to make sure an electrical circuit is completely de-energised for maintenance or service. Other devices such as fuses or mcbs with appropriate locking features may also be used. These switches and devices are commonly installed in electrical distribution and industrial settings for the purpose of safe isolation. Before working on or near high energy electrical sources they should be isolated, but this is not always possible. In most countries it is now illegal to work 'live' unless prescribed protective measures are taken. That does not stop workers from knowingly and unknowingly taking risks and carrying out live work, sometimes resulting in consequential arc flash. The hope is that the allotted personal protection equipment (PPE) when properly worn will be able to withstand the arc flash energy, but this is not always the case.

In some cases arc flash PPE is being extensively promoted as the solution to any problem but as the legislation clearly sets out, the way to tackle hazards such as arc flash is firstly to eliminate the hazard and turn off the power. If this is not possible then distancing the worker from the hazard is the next option, and if this is not possible only then providing appropriate PPE as a measure of last resort.

CONFERENCE DAY ONE – 9th June 2015

8.00am Registration

8.15am Opening Address

8.30am Session 1
HALF-DAY WORKSHOP

WORK SHOP

Electrical safety: more than arc flash

Hugh Hoagland – Founder of e-Hazard and ArcWear, ArcWear – USA



This paper will use statistics from electrical safety surveys to expand the case for comprehensive safety programs which address proper engineering, arc flash, lockout/tagout, shock protection, grounding, training and program auditing to prevent fatalities and severe injuries. Updates to standards in the EU and US will be covered focusing on NFPA 70E 2012 and National Electric Safety Code (NESC 2012).

Includes Morning Tea – 10.00-10.30am

Lunch – 12.00pm

1.00pm Session 2
Arc flash protection – the HSE perspective
Ken Morton – HM Principal Electrical Inspector, Health & Safety Executive – UK



KEY NOTE

The presentation will focus on the legal requirements of UK health and safety law with respect to arc flash issues. Topics covered will include the electrical hazards and risks, general legal requirements and principal relevant legislation, the approach to managing the risks, the role of PPE and its limitations will be discussed, focusing on the HSE's perspective of arc flash issues. There will be a question and answer slot at the end of the presentation to encourage debate.

2.00pm Session 3
Current and future directions for arc flash standards
Adrian Thorp – PPE and Product Consultant, DCL Safety

There is an abundance of PPE equipment in the market for arc flash protection and compliance to IEC/EN standards, which will protect against electrical arc flash risk. However there is much conflicting advice (especially on the internet) on what they mean and what they do. Here we will look at the direction of where the standards are going, especially as EN61482-2 is being revised at present. We will also look at how some product standards are seen by end users and manufacturers.

Afternoon Tea – 2.45pm

3.15pm Session 4
Practical solutions for reducing arc flash hazard
John Maplesden – Principal Consultant, Electrical Safety UK Ltd

This presentation will include a number of case studies where mitigation techniques have been applied to reduce the arc flash hazard. These will include, modification of existing protection settings to reduce incident energy levels, adoption of revised distribution system configurations, and the development of safe systems of work together with many other practical examples culled from experience. The emphasis will be on practical solutions to real world situations based on 20 years' experience in completing complex arc flash risk assessments within the UK and Europe, for many multinational organisations.

4.00pm Session 5
Arc flash hazard calculations – avoiding the flash
Andrew Hogan – Electrical Projects Lead Engineer, Premium Power

Arc flash is the by-product of an electrical short circuit fault. The consequences of an arc flash include burning, blindness, loss of hearing, impact injury and even death. These accidents typically occur while equipment is being worked on or operated which highlights the risks to those working on live electrical equipment, but also to those working nearby.

Accurately calculating the arc flash incident energy levels is critical to tackling arc flash hazard. Once calculated, the arc flash incident energy levels can be integrated into an electrical risk assessment, so the person(s) at risk such as electricians and people working close to electrical equipment can suitably implement control measures and mitigation solutions to reduce the likelihood and severity of the hazard.

Closing – 4.45pm



Networking Session – 5.00pm to 6.00pm

An hour dedicated for all attendees to meet and socialise with experts and industry peers at the Arc Flash and Isolation Safety Conference Cocktail Hour.



All conference papers are reviewed and selected for their high quality and technical value by our panel of specialists experienced in the theory and practice of arc flash and isolation safety.

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CONFERENCE DAY TWO – 10th June 2015

<p>8.30am Session 6 KEY NOTE</p>	<p>International standards for electrical safety, NFPA 70E 2015 and arc flash PPE standards from US and the EU</p> <p>Hugh Hoagland – Founder of e-Hazard and ArcWear, ArcWear – USA</p> <p>This workshop will provide an overview of international standards on electrical safety including shock and arc flash. It will cover the basics of the IEC, IEEE, ASTM, NFPA and CSA standards, and their inter-reliabilities. Section two covers arc flash PPE and research in PPE in arc flash, from clothing to flash hoods, shoes, gloves, fall protection devices and many other items worn by workers in arc flash incidents. The information derives directly from accident investigations performed by Mr Hoagland and his extensive arc flash testing research.</p>		<p>Lunch – 12.15pm</p>
<p>9.30am Session 7</p>	<p>Best practice for lockout tagout – preventing arc flash disasters</p> <p>Cathal McGrath – Director of Operations (Arc Flash PPE Division), Powerpoint Engineering Ltd</p> <p>Protecting workers from arc flash risk is the responsibility of UK employers. Here you will learn about lockout tagout compliance and legal requirements including UK, EU and USA/OSHA regulations to protect your employees. The development of safety programs and procedures will be covered and how to effectively implement these programs. The types of lockout devices such as electrical, valve, mechanical, padlock and tagging systems, storage and control and the benefits of colour coding will also be explored.</p>		<p>1.15pm Session 10 CASE STUDY</p> <p>Understanding the electric arc flash hazard</p> <p>Angus Long – Electric Arc Flash PPE Specialist, Skanwear</p> <p>Electric arc flash is unpredictable and the effect can be fatal, but it can be avoided as long as everyone involved is aware of the risks. Here you will learn about electrical hazards and their effects on humans including a case study, personal protective equipment (PPE), hazard risk categories, creating an FR/ARC program, PPE standards and options, arc flash hazard analysis and the difference between flame retardant and fire resistant clothing and open arc (IEC61482-1-1) & closed box arc tests (IEC61482-1-2).</p>
<p>Morning Tea – 10.15am</p>			<p>2.00pm Session 11 CASE STUDY</p> <p>How to assess electric arc hazards and protect workers – northern powergrid case study</p> <p>Elaina Harvey – Thermal & Electric Arc Specialist, DuPont Jean-Claude Duart – Technical Manager EMEA, DuPont</p> <p>This presentation will approach the importance of understanding and managing electrical arc hazards by following a “4 P” Approach (Predict, Prevent, Protect and Publish). Where the risk cannot be controlled by prevention or where there is a residual risk of injury then it may be necessary to consider Personal Protective Equipment (PPE) to prevent injury to the worker. In the Protect section, a lightweight, comfortable European layering approach will be summarised to ensure that the worker is not restricted from cumbersome clothing. A case study from UK distribution business Northern Powergrid will be covered.</p>
<p>10.45am Session 8 EQUIP- MENT DEMO & CASE STUDY</p>	<p>Safe switching – Guinness brewery power station case study</p> <p>Neil Brookes – UK General Manager, CBSARCSAFE</p> <p>This session will include an equipment demonstration of a racking unit which delegates will be invited to operate. This equipment has been designed with the safety of the operator in mind and this different approach to design will showcase how workers can switch or rack their electrical assets safely outside of the arc flash zone. After you attend this session you will be aware of how to undertake an arc flash study, the affects of arc flash, and the appropriate use of PPE as an enhancement, not a replacement for good working practices. Case studies from two sites will be covered, one from the Northern Ireland Guinness Brewery Power Station, and their request for a remote switching solution due to high arc flash incident levels.</p>		<p>Afternoon Tea – 2.45pm</p>
<p>11.30am Session 9</p>	<p>Arc flash: review of analysis history and an approach to risk management</p> <p>Simon Nicholson – VP Sales Europe, GSE Systems Ltd</p> <p>Arc flash incidents can result in significant damage to electrical systems, and injuries or fatalities to personnel. This paper discusses the importance of mitigation measures in the framework of a complete and on going management of the arc flash risk. An overview of conventional and innovative risk mitigation methods is presented. Data is derived from historical arc flash studies across a broad range of industries. Moreover, analysis of arc incident energies pre and post mitigation shows that risk control measures can lead to significant hazard reduction. Although a number of cost effective risk mitigation techniques exist, it is not always possible to reduce arc flash severity. Thus, within the context of studies into new ways to reduce the hazard, considering factors influencing the initiation and behaviour of the arc and quantification of other hazardous components of arc flash should be investigated for future arc model development and testing.</p>		<p>3.15pm Session 12 CASE STUDY</p> <p>Personal protective equipment for arc flash – common misunderstandings</p> <p>Simon Raglione-Hall – Technical Manager, Clydesdale Ltd</p> <p>Everyone knows that the correct personal protective equipment (PPE) is a key, final step in mitigating residual arc flash risks in an electrical system, and that it is vital to specify the right PPE solution for the work conditions. This presentation will cover common misunderstandings, misconceptions and areas of confusion when it comes to arc flash risk and PPE. The aim is to present an analysis of some common issues and offer reasoned solutions. Case studies from various industries will be covered. An interactive exercise allowing attendees to experience simulated work tasks while wearing full arc PPE will be provided.</p>
<p>FOR FURTHER INFORMATION:</p>	<p>Phone: +44 (020) 8335 4014</p>		<p>4.00pm Session 13</p> <p>Discussion Panel</p> <p>This session will provide delegates with the opportunity to ask our panel of speakers questions and to discuss safety issues in their workplace, covering typical problems and possible solutions.</p> <p>Closing – 4.30pm</p>

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KEYNOTE SPEAKERS

HUGH HOAGLAND

Founder of e-Hazard and ArcWear, ArcWear – USA

Hugh Hoagland is among the world's foremost experts on electrical arc testing and safety. He has helped develop most of the arc-resistant rainwear used in the world today as well as creating the first face shield to protect against electric arcs. Hugh has helped with the development of legislation and standards in both the United States and Europe and sits on several industry committees. Before moving to full-time training and consulting, Hugh also worked for Cintas developing their strategy for meeting the needs of OSHA 1910.269 and NFPA 70E standards.



KEN MORTON

HM Principal Electrical Inspector, Health & Safety Executive – UK

Ken Morton joined HSE in 1998 after 15 years project engineering experience in designing and installing electrical power systems in Rolls-Royce for UK and overseas customers. After 7 years in HSE, where he investigated many electrical accidents, he was promoted to Principal Inspector and took on the portfolio of Electrical Power Systems and Ignition Hazards. There he represents HSE on standards bodies, develops and revises guidance material and has presented many times on the subject of arc flash issues.



REGISTRATION FORM:

ARC FLASH AND ISOLATION SAFETY CONFERENCE

Tuesday 9th to Wednesday 10th June 2015

Marriott Hotel, Victoria & Albert, Manchester, UK

Simply complete this form online or return by email to conferences@idc-online.com.

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3. REGISTRATION & PAYMENT DETAILS

Prices shown are exclusive of VAT

PLEASE NOTE: Full payment is required prior to the commencement of the conference.

ARC FLASH AND ISOLATION SAFETY CONFERENCE - 9TH & 10TH JUNE 2015

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GENERAL INFORMATION

Confirmation Details

A confirmation email and invoice will be sent to delegates within 3 days of receiving the registration.

Cancellation Policy

A fee of 20% cancellation will apply for cancellations received 7 – 14 days prior to the start date of the conference. Cancellations received less than 7 days prior to the start date of the conference are not refundable, however substitutes are welcome.

Venue

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Food and Beverages

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