

Featuring Keynote Speakers:

JIM POLLARD

Arc Flash Expert, Arc-Rated PPE,
Unlimited PPE Inc.
Canadian Regional Representative,
Oberon



BRAD GRADWELL

Managing Director, Hudson McKay
35 years of industry experience
IEEE1584P Working Group Attendee



TERRY BECKER

P.Eng., CESC, IEEE Senior Member
Senior Vice-President,
Electrical Safety Division
Danatec Educational Services Ltd.



6TH ARC FLASH CONFERENCE

11th & 12th
April 2018

Mercure Hotel
Perth, Australia

WHAT YOU WILL GAIN FROM ATTENDING THIS CONFERENCE:

- Learn about Australian and international standards developments in arc flash
- Hear local and international case studies detailing the latest arc flash mitigation strategies and solutions
- Understand how to achieve a compliant and electrically safe work place
- 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
- Detail the steps to perform an arc flash hazard analysis
- Learn practical considerations for PPE selection and testing
- Learn how to perform testing and maintenance on your PPE
- Hear case studies from the local arc flash industry
- Network with specialists in the field and your peers
- No sales pitches – Non-commercial presentations

WHO SHOULD ATTEND:

- Design Engineers
- Electrical Engineers
- Electrical Technologists
- Electricians
- Elevator Mechanics
- Engineering Managers
- Cathodic Protection Technicians
- Government Safety Regulators/Inspectors
- HVAC Technicians
- Instrumentation and Control Technicians and Engineers
- Instrumentation Mechanics
- Maintenance Managers
- Manufacturers of PPE and Safety Equipment
- OH&S Managers
- OH&S Professionals
- Operations Managers
- Power Line Technicians
- Power System Electricians
- Process Safety and Loss Prevention Managers
- Risk Assessors
- Safety Facilitators
- Supervisors
- Tradespersons working in potentially explosive areas

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CONFERENCE DAY ONE – 11th April 2018

| | | |
|------------------------------|---|-----------------|
| 8.00am | Registration | |
| 8.25am | Opening Address | |
| 8.30am | The Human Factor in Electrical Safety – Ways to reduce error and improve performance | |
| Session 1 | <p>Jim Pollard – Arc Flash Expert, Arc-Rated PPE, Unlimited PPE Inc. Canadian Regional Representative, Oberon</p>  | KEY NOTE |
| | <p>The leading cause of arc flash & shock incidents is human error. As the electrical safety industry evolves we're learning that human performance and behaviour must be addressed before we can eliminate fatalities caused by electrical hazards. New requirements have been introduced to both the NFPA 70E and CSA Z462 Standards; when completing a risk assessment employers are required to address the potential for human error and its negative consequences. Our existing safety related work practices involving electrical hazards must be examined to identify deficiencies that could be improved by the implementation of human performance methodologies. Even the simplest of controls such as your existing arc flash and shock PPE must be assessed to determine if you are unnecessarily burdening your workers. By addressing the human factor in electrical safety we can effectively drive down the probability of a workplace electrical incident.</p> | |
| 9.30am | IEEE 1584 – 2018, What's Different and What's the Impact in Australia | |
| Session 2 | <p>Brad Gradwell – Managing Director, Hudson McKay</p>  | KEY NOTE |
| | <p>Industry has for some time recognised the hazard of arc flash and has placed great significance on quantifying the risk and protecting people from consequences. IEEE 1584 – 2002 (Guide for Performing Arc-Flash Hazard Calculations) proposed a model, formulas, to quantifying the risk terms of incident energy levels for curable and non-curable burns. Other researchers since 2002 have found significantly different values of incident energies depending on the physical installation variables than calculated using the 2002 models. The IEEE/NFPA Collaborative Arc Flash Research Project conducted further testing and has developed new empirical models based on the various physical variables. IEEE 1584 – 2018 documents these new models and the results indicate that for most common installations found in industry that the calculated arc flash incident energy will increase materially. This presentation discusses these impacts and will demonstrate these impacts on a current installation.</p> | |
| Morning Tea – 10.30am | | |
| 11.00am | Arc Flash Hazard – Practical Risk Management | |
| Session 3 | <p>Matt Checksfield – Senior Engineer, Powerplan Engineers</p>  | KEY NOTE |
| | <p>The recent rise in the awareness of arc flash hazards has resulted in a wider use of risk management approaches that aim to improve the safety of personnel who work in the vicinity of switchboards. However, as formal guidance in this area is very much 'a work in progress', it is not uncommon for some risk mitigation measures to be considered as overly conservative. Frequent criticisms include: Impractical protective clothing requirements, especially when additional safety risks are introduced; and poor use of limited safety resources, particularly the funding requirements of large scale switchboard replacement programs.</p> <p>This talk discusses the following engineering tools that can help address the above criticisms and deliver more practical and cost effective management of arc flash hazard risks: Protection settings and schemes optimisation; switchboard arc fault containment assessment by calculation; and qualitative and quantitative risk assessments and demonstration of ALARP.</p> | |
| 11.45am | Name Considerations for Selection of Arc Flash Clothing | |
| Session 4 | <p>Geoff Wynn – Arc PPE Consultant</p> <p>Geoff will begin by covering the background on fabric types available in the PPE market and an update on current standards and the legal requirements under Work Cover's "general duty rules". He will also provide an update on new technology fabrics that have come into the market made in the last 2 years which are lighter weight, more breathable and produce less heat stress. Finally a regional overview on arc flash protection, trends and where NFPA70E is being followed.</p> | |

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| Lunch – 12.30pm | |
| 1.30pm | NFPA 70E 2018 – All About Risk Assessment! |
| Session 5 | <p>Terry Becker – Senior Vice-President, Electrical Safety Division - Danatec Educational Services Ltd.</p>  |
| | <p>NFPA 70E 2018 published in October 2017. It is all about risk assessment now! The NFPA 70E Standard for Electrical Safety in the Workplace continues to evolve to fully align itself with occupational health & safety management systems and industry risk assessment standards. Chapter 1 Safety-related work practices, Article 110, 120 and 130 have significant changes. Specific changes are now included with respect to the requirement for an electrical safety program, the required risk assessment procedure for every energized work task, establishing an electrically safe condition and the requirements of a work task's shock risk assessment and arc flash risk assessment for work involving electrical hazards. This presentation will highlight the key differences and provide additional explanation related to documenting a work task's Risk Assessment Procedure including a work task's specific shock risk assessment and arc flash risk assessment. Real work task examples will be used to explain how NFPA 70E 2018 should be applied in the field.</p> |
| 2.15pm | No "Live Work" - What more can be done to protect workers? |
| Session 6 | <p>David Stonebridge – ABB Australia</p>  |
| | <p>The dangers of arc explosions in LV Switchgear are well known, consequently a majority of organisations have conducted arc flash risk assessments and use the appropriate rating arc flash PPE when operating and maintaining their LV switchgear. But is this enough? For "green field" projects the majority of organisations specify Internal Arc Fault contained LV Switchgear. But is this enough? Work health and safety (WH&S) codes and practices are now mandating no "live work". When it comes to undertaking the simplest maintenance task that necessitates opening a door on a switchboard, it will require a shutdown. Undeniably this is in the best interest of safety. In continuous process industries if these simple maintenance tasks don't happen it can increase the risk of internal arcing. If the doors are open on a "live" switchboard to perform maintenance this is in breach of the law exposing the organisation to large fines. What more can be done to protect workers?</p> |
| Afternoon Tea – 3.00pm | |
| 3.30pm | Training and Use of Personal Protective Equipment to Prevent Electric Shock and Arc Flash Injury |
| Session 7 | <p>Paul Egan – Senior Electrical Training Specialist, Competency Training</p> |
| | <p>Electric shock and arc flash are risks faced by electrical workers, and there are situations where the associated hazards cannot be eliminated. To prevent injury, it is essential that personnel are appropriately trained to determine the appropriate category of personal protective equipment, to inspect it prior to use to ensure that it is fit for purpose, to use it correctly and to store it properly to ensure that it is not damaged.</p> |
| 4.15pm | Improving Electrical Safety on WA Mine Sites – Virtual Reality (VR) Equipment Demo |
| Session 8 | <p>Mark Martin – General Manager, Practon Group</p>  |
| | <p>Local electrical contractor Mark has seen first-hand the challenges in ensuring electricians are properly trained in the safe switching and maintaining of high voltage equipment and associated infrastructure. To address this problem Mark and his colleagues have been developing innovative Virtual Reality (VR) technology as a training platform consisting of a series of immersive VR environments to train electricians in the safe operation of high voltage switchgear and familiarise them with site systems and procedures. Using virtual reality as a training tool provides a safe environment to fail without the consequences of the real world, therefore, maximising the training outcomes whilst minimising the risk and cost.</p> |
| Closing and Networking Session – 5.00pm to 6.00pm | |
| <p>An hour dedicated for all attendees to meet and socialise with experts and industry peers at the 6th Arc Flash Conference Cocktail Hour.</p>  | |

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INTRODUCTION TO THE 6TH ARC FLASH CONFERENCE

The objective of this conference is to provide you with the latest developments and best practice to deal with arc flash hazards in Australia. You will have an opportunity to discuss your arc flash issues with our speakers, and gain practical applications for arc flash safety. The focus throughout is on the experiences of end users. The conference will be attended by those who are interested in technical solutions to their arc flash issues, industry trends, standards developments and new techniques to tackle existing arc flash threats.



CONFERENCE DAY TWO – 12th April 2018

8.30am **The Anatomy of Arc Flash PPE**
Session 9
HALF DAY WORK SHOP

Jim Pollard – Arc Flash Expert, Arc-Rated PPE, Unlimited PPE Inc.

This interactive workshop session on Arc Flash PPE that describes how the products are tested, certified, selected and pre-use inspected including care, use and maintenance guidelines to follow. Learn how to build a world class Arc Flash PPE program as part of your safety management system. Take away valuable knowledge to make informed decisions about your Arc Flash PPE to reduce human error, improve worker safety and productivity. Experience first-hand the latest innovations in product development using actual samples of Arc Flash PPE. Practical examples will be used to demonstrate how this protection works and a clear explanation of what Arc Flash PPE pitfalls to avoid.



Lunch – 12.00pm

12.45pm **Electrical Arc Flash Hazards in Mining**
Session 10
CASE STUDY

Roy Zylstra – Inspector of Mines - Electrical Engineer, Resources Safety Division, Department of Mines, Industry Regulation and Safety Government of Western Australia

Analysis of recent arc flash incidents in the mining industry highlights the need for hazard awareness and compliance to regulations and standards when designing, commissioning, operating, and maintaining electrical installations. Case study arc flash incidents will be reviewed from the regulator's perspective to examine direct causes and contributory factors. Preventative management of electrical arc flash hazards requires managers, electrical engineers, electrical supervisors, and electrical workers involved in the operation and maintenance of electrical installations to have the appropriate processes and systems in place.



1.30pm **Arc Flash – EU Compliance (Something from the Pommies)**
Session 11
CASE STUDY

Angus Long – Global Technical Manager - Arc & Flame PPE, Skanwear UK

This presentation has been developed to encourage best practise around the world in regards to personal arc flash protection. It shares with you information on the European approach to Personal Arc Flash Protection in the UK, touching on the ERIC PD acronym which is widely adopted across the UK. Powerful and engaging video including an extremely powerful testimonial from an arc flash survivor are used to underline the message. The attendees will hear why the UK in particular is one of the safest countries in the world to work and why our arc flash injury rate is very low in comparison to other developed nations. Nevertheless people are actually getting hurt, what is being done and what we need to do together to prevent this globally. We will explore current legislation, directives and physical safety practises that can and should be implemented in our bid to save lives. Last but not least will be a focus on 'your last line of defence'? Do you have one? These questions are combined with some stark imagery around what the potential consequences are of not taking electrical safety seriously.



2.15pm **Arc Flash – It's not just the big boards that bite!**
Session 12

Wayne Peters – Development Manager, Rapid Test Systems and General Manager ATS Australian Technical Services

Arc flash can originate from any size of switchboard or electrically supplied equipment. One of the most common causes of an arcing fault is by touching a test probe to the wrong surface or a slip with a tool causing contact with live parts. Another exposure is during routine compliance testing of RCD's (Residual Current Devices) conducted on a live switchboard. Any exposure to arc flash could be deadly but through recent innovation there are now test systems that remove this exposure while testing RCD's at a switchboard. This presentation will cover how you can eliminate exposure to arc flash in your workplace and meet your ongoing safety obligations by using RCD testing systems, including a live equipment demo.



Afternoon Tea – 3.00pm

3.30pm **Three Case Studies Looking at the Practicality of Arc Flash Risk Assessment in the Workplace**
Session 13
CASE STUDY

Pat Mynett – Director, HV Training and Consulting

CASE STUDY 1 – An electrician received second degree burns to his hand while working in an underground mine on 1000volt equipment.

CASE STUDY 2 – How a situation arose where not understanding arc flash hazards could have resulted in a production shut down and how it was resolved.

CASE STUDY 3 – An electrician received minor injuries from an arc flash when a 6.6kV isolation switch flashed over during opening. Incident energy is calculated as if doors are open, and no allowance is made for enclosure doors unless the enclosure is type tested to contain the arc flash. In this presentation, Pat will discuss the possibility of risk assessing an allowance for doors using three case studies from industry.



4.15pm **Maintaining and Handling Energised and De-Energised Switchboards and Apparatus**
Session 14

Shane Lee – Electrical Superintendent - St Ives Gold Mine, Gold Fields Australia

Shane has a work history spanning 30 years with much exposure to high voltage and high energy networks and infrastructure. As a leader in the maintenance and capital environments he understands that industry is faced with a number of challenges when it comes to addressing arc flash and high energy hazards. In this presentation Shane will highlight: the ownership and management challenges of growing infrastructure with a diminishing workforce; economic constraints and competing capital; balanced and sensible approaches to arc flash assessment on aged to new apparatus; de-energising apparatus safely and conducting risk assessments for work parties; and utilising remote racking and switching equipment technology where appropriate.



Closing – 5.00pm

Sponsorship Opportunities

Representing your business at the 6th Arc Flash Conference in 2018 will provide you the opportunity to reach key decision makers from a multitude of industries. For more information on sponsorship and exhibition opportunities please contact Sarah Montgomery via email conferences@idc-online.com

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.

CONFERENCE PRESENTERS

JIM POLLARD

Arc Flash Expert, Arc-Rated PPE, Unlimited PPE Inc.
Canadian Regional Representative, Oberon



Jim's goal is to save lives by helping companies be compliant with Arc Flash and Electrical Safety. He believes every workplace electrical fatality was preventable. He is passionate about providing specialised solutions for arc flash and shock compliance adhering with all relevant acts, codes, regulations and applicable best practice Standards. As a subject matter expert on arc flash personal protective equipment (PPE) Jim's experience and technical knowledge has been tapped by technical committees in Canada and the USA including CSA Z462, ASTM F18.15, CAN/ULC-S801, CSC/IEC/TC78 and ULC Live Working.

BRAD GRADWELL

Managing Director, Hudson Mckay
35 years of industry experience
IEEE1584P Working Group Attendee



Brad has over 35 years electrical industry experience and has worked in power generation, aluminum smelting, wastewater and mining and ports infrastructure. Brad is a member of the IEEE, has published several IEEE conference papers on arc flash mitigation and mitigation integrity. Brad regularly attends the IEEE1584P working group meetings held before the IEEE ISA Electrical Safety Workshop, holds a Patent on an arc flash mitigation technique used in the Australian mining industry, and is a regular presenter at Australian industry seminars and conferences. Brad is also a Chartered Professional Engineer on the National Engineers Register.

TERRY BECKER

P.Eng., CESC, IEEE Senior Member
Senior Vice-President, Electrical Safety Division, Danatec Educational Services Ltd.



Terry is the senior vice president of Danatec Educational Services Ltd.'s Electrical Safety Division specialising in electrical safety consulting services, arc flash studies and arc flash and shock training, based out of Calgary, Canada. Terry has over 25 years of experience as an electrical engineer and sits on several electrical standards committees. He is a NFPA Certified Electrical Safety Compliance Professional (CESCP), an IEEE Senior Member and regularly presents on CSA Z462, NFPA 70E and electrical safety principles at industry conferences and workshops both nationally and internationally.

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6TH ARC FLASH CONFERENCE

11th & 12th April 2018

Mercure Hotel, Perth, Australia

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Prices shown are inclusive of GST

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

6TH ARC FLASH CONFERENCE – 11TH & 12TH APRIL 2018

- OPTION 1: Early Bird Discount – 10% OFF**
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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

Mercure Hotel Perth
10 Irwin St, Perth WA 6000
AUSTRALIA
Phone: (08) 9326 7000

Accommodation

The conference venue has accommodation available and are offering a special accommodation conference rate of \$188.00 (room only) for a standard room. Please quote the conference reference number **IDC110418** to receive the discount. Please note this rate will be based on availability. Please book through their reservations team on 08 9326 7000 or h1754@accor.com.

Food and Beverages

All lunches, morning and afternoon refreshments are included in the registration fee.

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