

Low Voltage, Earthing & Arc Flash Conference



27th & 28th August 2025
Melbourne, Australia



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Overview

7th Australian Low Voltage Conference

This conference brings together leading safety and engineering experts to explore the latest advancements, challenges, and innovations in low-voltage electrical safety, earthing, and risk mitigation across a number of growing industries

As electrical systems grow increasingly complex, the safety risks associated with their design, installation, and maintenance are also escalating. Engineers are under greater pressure than ever—working to tight project deadlines, navigating contract-driven execution models, and integrating new infrastructure. These conditions heighten the potential for electrical incidents if safety is not embedded at every stage.

This conference will provide attending delegates with practical strategies and proven engineering solutions to reduce risk, enhance system integrity, and protect personnel and assets. Focusing on real-world applications and compliance and standards, it is a must-attend for all committed to creating safer electrical environments in high-stakes industries.

Key topics include:

- › **Neutral Earthing & MEN Systems.**
Understanding their role in Australian installations, common misconceptions, and how poor earthing can create persistent and dangerous voltages.
- › **Arc Flash Hazards** – Exploring causes, consequences and prevention in low voltage systems, with practical risk assessment and mitigation methods aligned with global best practice.
- › **Surge Protection & Standards** – A deep dive into the latest AS/NZS 3000 and AS 1768 updates, focusing on internal surge protection and alignment with IEC standards.
- › **Static Electricity & Hazardous Areas**—Real-world case studies, fatalities, and lessons shaping how regulators and workplaces manage static ignition risks and maintain compliance.
- › **Electrical Earthing in Rail-Adjacent Developments** – Navigating the unique design challenges posed by developments built over or near electrified rail corridors, with solutions to protect people and infrastructure.
- › **Grounding in Oil & Gas Facilities** – Lessons learned from common grounding issues, with best practice for mitigating electrical noise, ensuring compliance, and maintaining safe operations.
- › **Human & Organisational Performance (HOP)** – A hands-on workshop demonstrating how applying HOP principles can reshape your electrical safety, investigations, and system improvement approach.

This conference is essential for engineers, safety leaders, project managers, and technical professionals seeking to enhance their knowledge, comply with evolving standards, and ultimately, build safer electrical environments.

Who Should Attend?

- › Chief Electrical Engineers
- › Compliance Engineers
- › Consulting Engineers
- › Control Systems and Instrumentation Engineers
- › Design and Project Engineers
- › Electrical Draftsman and Project Supervisors
- › Electrical Superintendents
- › Electricians and Electrical Technicians
- › Engineering and Safety Managers
- › Field Engineers
- › Government Safety Regulators and Inspectors
- › Maintenance Engineers and Technicians
- › Maintenance Supervisors and Specialists
- › Manufacturers of PPE & Safety Equipment
- › Process Control Engineers
- › Process Safety and Loss Prevention Managers
- › Risk Assessors
- › Tradespersons working in potentially explosive areas

Featuring Keynote Speakers



International Keynote Speaker

Mitch Cini, *Global Human and Organisational Performance (HOP) and Investigations Manager, ABB*

Meet Mitch Cini – Rethinking Electrical Safety

Mitchell began his career as a Safety and Technical Officer, supporting electrical contractors in creating safer work systems. Mitch specialised in health, safety, and human factors, focusing on complex incident investigations and the role of human behaviour in electrical safety.

Now based in Malaysia, Mitchell leads global HSE initiatives at ABB as the Global Human and Organisational Performance (HOP) and Investigations Manager. His expertise challenges traditional safety thinking and promotes a systems-based approach to incident prevention.

At our upcoming conference, Mitchell will share valuable insights into HOP, electrical safety, and incident investigation, encouraging us all to see safety through a new lens.



Keynote Speaker

Matthew Bale, *Engineering Director, RPEV, Safearth*

Meet Matthew Bale– Leading Expertise in Electrical Earthing

With over 18 years of specialised experience, Matthew is a recognised authority in electrical earthing across design, auditing, testing, commissioning, training, and forensic investigations. His career spans critical sectors including power generation, transmission, rail, mining, construction, oil & gas, and large-scale renewables.

As Engineering Director, Matthew leads a team of specialist engineers and provides technical and commercial direction. He is also an accomplished author, trainer, incident investigator, and subject matter expert.

At our conference, Matthew will bring deep technical insights and practical expertise to help attendees navigate the complexities of earthing in high-risk industries.



Day One | Wednesday 27th August 2025

8:00am **Registration Opens**

8:45am **Welcome Address**

9:00am **Session One | Keynote Presentation**

LV installation Earthing:

Understanding the MEN system, its behaviour and common pitfalls.

Matthew Bale: Engineering Director, RPEV, Safeearth



The MEN or TNCS system of earthing - required in Australian installations - is an important and ubiquitous safeguard against indirect electric shocks. However, the wide application of neutral earthing often creates poorly diagnosed issues of current flow in earth paths and persistent voltages; some prove harmless, but some have been fatally hazardous. This presentation will describe the MEN system and include common misconceptions. Using case study examples, where neutral earthing has been applied, it will highlight the benefits and outline the importance of maintaining and verifying integrity (and methods for this), and outline situations that can result in harmful conditions.

10:00am **Morning Tea**

10:30am **Session Two | Presentation**

Introduction to Surge Protection: AS 1768

Edward Bonnici: Regional Manager, ERICO, ERIFLEX



While people and equipment within buildings may be protected from a direct lightning strike, many circumstances arise where the effects of lightning are transmitted within the building, placing people and equipment at risk. AS/NZS 3000:2018 & AS 1768:2021 detail the requirements for the design, installation, maintenance and testing of surge protection for low-voltage electrical and electronic systems.

The recent update to AS 1768 is a major revision. It seeks to align with IEC standards and recognises modern building practices in a way that elevates the relative importance of surge protection internally over external lightning protection measures. This presentation outlines the changes to surge protection selection and installation in accordance with these standards.

11:15am **Session Three | Presentation**

Electrical Safety Management for Low-Voltage Assemblies

Chris Stephens: Product Manager, Low Voltage Circuit Protection and Enclosures ANZ CPC – Eaton Electrical



This session will explore strategies to minimise risk in power distribution systems, focusing on arc flash hazards in low voltage (LV) switchboards. It will cover the causes and consequences of arc flash incidents and outline practical approaches to risk control in LV assemblies. Topics will include preventative design measures, technologies to reduce the severity of arc flash events, and methods to enhance overall system safety. Attendees will also gain insights into arc flash calculations and risk assessment processes, enabling better-informed decisions in the designing, operating, and maintaining LV systems to protect personnel and equipment.

12:00pm Session Four | Presentation

Turn-Key Arc Flash Solution Partner

Keith Holsgrove: Manager – Research and Engineering, *Innovent Engineering Group Pty Ltd*



Innovent Engineering is a full turn-key solutions provider specialising in SMP, E&I services—delivering end-to-end support across design, engineering, project management, procurement, manufacturing, installation, commissioning, and maintenance. When it comes to arc flash, Innovent offers a truly unique, integrated solution—from site assessments and detailed arc flash studies to mitigation planning and full implementation. As an Eaton board building partner and an exclusive provider of Eaton’s ARCON Main and ARCON Lite technologies, Innovent delivers industry-leading arc flash protection tailored to meet evolving safety standards. With a focus on safety, innovation, and practical execution, Innovent ensures critical infrastructure remains safe, compliant, and operational.

12:30pm Lunch



1:30pm Session Five | Presentation

From Ground to Grid:

Harmonizing Low Voltage, Earthing & Arc Flash Standards

George Sfinas: Engagement Manager, *Standards Australia*



As electrical systems evolve, so too must the standards that ensure their safety and reliability. This presentation explores the latest developments in Low Voltage, Earthing, and Arc Flash standards, highlighting key updates, harmonisation efforts, and emerging best practices. Attendees will gain insights into where key standards are up to, and the role of standards in safeguarding personnel and infrastructure. This session aims to foster a deeper understanding of how robust standards contribute to a safer, more resilient electrical environment across industries, and attendees will also gain an insight into how they can participate in the development of key standards.

2:00pm Session Six | Presentation

WorkSafe Victoria Hazardous Areas, Static Electricity Controls and Dangerous Goods

Dr. Rodi Sferopoulos: Principal Dangerous Goods Specialist, *WorkSafe Victoria*



There have been several significant incidents recently in Victoria that have resulted in two fatalities, injuries, substantial property damage and disruption to community infrastructure. The presentation will cover WorkSafe Victoria’s approach to the transfer of flammable liquids, hazardous areas and static electricity controls. Insights include case studies into incidents, learnings from investigations and key controls to prevent recurrence, as well as the expectations from WorkSafe Victoria for sites to demonstrate earthing and bonding controls are effective and in good working order. National regulators are increasingly adopting these learnings to ensure a consistent approach across Australia for the management of these high-risk activities.

2:45pm Afternoon Tea

3:15pm Session Seven | Presentation (Virtual)

Switchroom & Substation Safety, The Hierarchy of Control

David Davenport: Technical Director, Transmag UK Ltd



The presentation will run through the Hierarchy of Controls, recognised globally as the best approach to controlling safety when working on electrical equipment, by organisations such as OSHA; BEAMA; IET, NFPA 70E, IEEE, HSE, ESIPAC.. This presentation will cover some of the many solutions that are available to ensure electrical workers do not suffer the consequences of an Arc Flash and offer solutions to preventing the catastrophic failure of electrical equipment.

3:30pm Session Eight | Presentation

A Look at Static Electricity Incidents, Regulations & Standards specific to Earthing & Bonding

Carmello (Cem) Novella: Managing Director, Novella Group Pty Ltd
TA Static Electricity Control



In 2024, Australian regulators met in Melbourne to discuss concerns relating to static electricity in the aftermath of 3 serious fires and two fatalities. Facilities that store, mix and/or blend dangerous goods materials have been identified as workplaces where static electricity is considered a “significant” ignition risk, requiring the site to understand, identify and control static electricity. How does a workplace control static electricity and comply with the requirements of Australian Standards and that of the regulators?

This presentation will look at what a site must do to comply with Australian Standards and it will demonstrate some of the “practical” static electricity controls, paying particular attention to Earthing & Bonding

4:30pm Conference Soirée



Day Two | Thursday 28th August, 2025

9:00am Session Nine | Presentation

Earthing for Installations Over and Adjacent to the Electrified Rail Corridor

Andrew Russack: Engineering Director, *Southern Services, Safearth*

As our cities become more populous, developing housing around and over transport hubs, especially electrified railways, is becoming more common. In these circumstances, designing the earthing system for the electrical installations supplying the housing developments becomes more challenging. An electrified railway, whether AC or DC, will give rise to traction return currents that will flow via the ground and may impact the electrical installations of the developments.

This presentation will outline various design solutions which will minimise the impacts of the railway traction systems on people and the infrastructure of housing developments in the vicinity of the electrified rail corridor.



9:45am Morning Tea

10:15am Session Ten | Presentation

The Impact of Electrical & Instrument Grounding on Safety and Reliability in Oil & Gas Facilities

Muhammad Zaheer Ahmad: Operations Engineer Specialist (Electrical), *ARAMCO*

The proper design and implementation of electrical and instrument grounding systems are critical to the operational reliability and safety of oil and gas facilities. This presentation will explore real-world challenges, lessons learned, and best practice in managing grounding systems. Topics will include grounding segregation, protection against electrical noise, and compliance with vendor-specific grounding requirements.

By drawing on extensive field experience, this session will highlight common issues such as nuisance trips and equipment failures. It will offer practical, cost-effective solutions, such as surge protection, floating ground elimination, and enhanced preventive maintenance, to ensure long-term system stability and performance.



11:00am Session Eleven | Presentation

Defining the unknown –

How to establish an Arc Flash management program with limited data?

Scott Mitchell: Technical Executive Electrical Infrastructure, *WSP*

Arc Flash has become an increasing concern for organisations, with many unable to quantify their exposure without detailed analysis. To undertake the analysis requires significant resource commitment, leaving many organisations without a reasonable means to move forward with addressing the risk. This presentation will focus on development of an Arc Flash program when defining risks and mitigation controls with little to no information available. Further it will look at how existing organisational philosophies and approaches can be leveraged to strengthen an Arc Flash program.



11:45am Lunch

12:45pm **Session Twelve | Keynote Presentation**

Applying Human and Organisational Performance (HOP)

Principles to mitigate electrical incidents

Mitchell Cini: Global Human and Organisational Performance (HOP) and Investigations Manager, *ABB*



Join Mitch for an engaging 90-minute workshop on “Applying Human and Organisational Principles (HOP) to mitigate electrical incidents”. HOP Principles are an innovative approach to safety management that focuses on learning from regular work, rather than relying solely on reactive safety measures. This workshop will explore the benefits of embedding HOP Principles within your organisation to mitigate electrical incidents and how they can help organisations achieve a more proactive safety culture. Participants will have the opportunity to put HOP-related tools into practice and be challenged to consider how to do electrical safety differently. Don't miss this thought-inspiring workshop that will revolutionize your approach to electrical safety management.

2:00pm **Afternoon Tea**

2:30pm **Session Thirteen | Presentation**

Arc Flash Modelling and Calculations based on IEEE1584-2018

Viknesh Manoharan: Electrical Engineer, *WSP*



This presentation explores arc flash modelling and calculations based on IEEE 1584-2018 and NFPA 70E, covering both AC and DC systems. It focuses on the key factors that influence incident energy and their impact on arc flash hazard levels- such as system voltage, fault current, electrode configuration, working distance, switchgear dimensions and clearing time and how these variables interact within the IEEE 1584-2018 model. The session will also address DC arc flash calculations, highlighting the methodologies endorsed by NFPA 70E. The content aims to enhance hazard evaluations, guide proper PPE selection, and promote safer work practices in electrical environments.

3:15pm **Session Fourteen | Presentation**

Circuit Protection Devices/Selectivity

Jeffrey Davis: Channel Manager - Consulting Standardization and Regulation, *NHP Electrical Engineering*



Correct design of electrical reticulation system ensures the operation and compliance to electrical standards. Circuit protection devices are a major part of this network the appropriate selection and setting ensure the installation will provide the correct fault loop, overload, short circuit, and response to internal arc faults. This requires detailed design decisions and an understanding of how a circuit breaker operate.

4:00pm **Day Two Final Speaker Briefing**

4:30pm **Conference Close**

General Information

Conference Venue & Accommodation

Low Voltage, Earthing & Arc Flash Conference will take place at the: Novotel Melbourne on Collins
270 Collins Street, Melbourne VIC 3000

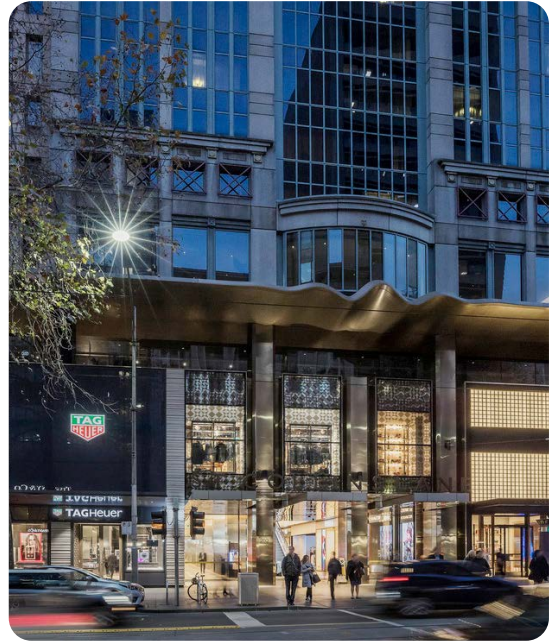
Hotel: +61 (0) 3 9667 5800

Email: h1587@accor.com

Web: novotelmelbourne.com.au

Accommodation

Accommodation is not included in the conference ticket and should be booked separately if required. Please use [this booking link](#) to access the delegate discount. Once you open the link, please see the highlighted area on the left corner where you can amend the dates you wish to book. The “residential seminars: rate” is the one to select.



Delegate Package

Delegate day package includes all catering, morning, afternoon tea and a sit down lunch. Plus a ticket to the conference soiree, a copy of the conference manual with all the papers and presentations which is sent out post conference electronically. Certificate of attendance on request.

Cancellation Policy

A 20% cancellation fee 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.

If you are unable to attend the full conference

Please contact us at conferences@idc-online.com for details to attend individual sessions or to purchase the Conference Resource Kit.

Tickets & Registration

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