

Switchroom & Substation Electrical Safety

Hands on learning in protection, relays, and Safe Systems of Work for engineers committed to safety and performance.

15th - 16th
September 2026

Online

SOUTH AFRICA: 7:00 AM - 1:30 PM

DUBAI: 9:00 AM - 3:30 PM

MALAYSIA: 1:00 PM - 7:30 PM

LONDON: 6:00 AM - 12:30 PM

Course Facilitator:

**David
Davenport**

Chief Consultant Engineer - ESIPAC

Technical Director - Transmag UK



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Course Overview

This **two-day training program** is designed for technicians and engineers to build a solid understanding of electrical safety, the perils of **ARC FLASH** and the **HIERARCHY OF CONTROL**. We then move on to **SAFETY PROCESSES AND DOCUMENTATION**, the **ASPECT OF LOCK-OUT TAG-OUT** requirements for augmented safety procedures and personnel protection.

The course follows international **NFPA/70E; IEC and IEEE standards**, combining theoretical fundamentals with practical applications and hands-on examples. Participants will start with the fundamentals of safety when arc flash PPE is and is not essential and what category via evaluation of the present incident energy and distance.

Then moving on to isolation switching/and the process for a secure Lock-out - Tag-out. Leading on to working on/or nearby live circuits, with time allocated for interactive Q&A and discussions.

Key Learning Outcomes

- Master switchroom & substation fundamentals—clear differentiation of switching devices and load handling
- Execute safe switching vs isolation—know what operates under load vs zero-load only
- Build robust maintenance strategies—covering schedules, black starts & load shedding
- Strengthen electrical safety culture—arc flash awareness + behavior-driven safety mindset
- Apply end-to-end safety protocols—Risk Assessments, Method Statements, PTW & LOTO
- Optimize isolation, testing & re-energisation practices across HV & LV systems
- Leverage Hierarchy of Control (HOC)—align with global standards (IEEE, NFPA, OSHA, IET)
- Develop practical documentation skills—write precise switching programs, permits & risk controls

Why You Should Attend?

- Gain practical knowledge to prevent electrical hazards and arc flash incidents
- Learn safe isolation, risk assessment, and industry-approved safety practices
- Understand protection systems, relays, and power network reliability
- Develop confidence to make safe and effective on-site decisions
- Enhance workplace safety and reduce downtime and operational risks
- Get hands-on experience with real-world electrical safety scenarios

Course Facilitator

David Davenport

CEng | FCMI |
MIET | MIEE |
IOSH | SAP | AE



David Davenport is a **Chartered Electrical Engineer with 40+ years** of global experience in **high-voltage power systems, electrical safety, and critical infrastructure**. David has led and commissioned complex projects across oil & gas, thermal and renewable power, automotive, and aerospace sectors—working with industry leaders such as Audi, BAe, National Grid, Rolls Royce, and Brush.

A recognised authority in safe switching operations and system protection, **David** combines deep technical expertise with hands-on operational leadership. Recently honoured at the House of Lords (2025) for services to industry, **David** is also a global keynote speaker, delivering high-impact insights at international conferences and executive forums.

David holds multiple senior authorisations in HV/LV systems, is an active contributor to global electrical standards, and serves on boards including ESIPAC and the British Standards Institution. His **credentials include Chartered Engineer status, IOSH certification, and advanced qualifications in electrical engineering and safety**.

Professional Certificates :

- **Senior Authorised Person** - Safe Switching Operation of High Voltage Power Systems
- **Wiring Regulations 17th Edition BS 7671**
- **Outside Safe Temporary Installations for Arenas BS 7909 and BS2391**
- **FCMI**
- **LV Authorised Person**
- **IOSH** occupational Safety and Health · Authorised HV and LV Engineer
- **Chief Electrical Engineer safety representative for Global Standards ESIPAC**

Professional Memberships :

- Member of **Institute of Electrical and Electronic Engineers (IEEE)**
- Member of the **Institution of Engineering and Technology (MIET)**
- Fellow of the **Institution of Leadership and Management (FInstLM)**
- Board Member of **ESIPAC Global Electrical Standards**
- Board Member of the **British Standards Institutes**
- **Awarded for Services to Industry in the House of Lords 2025**

Education & Qualifications :

- **City & Guilds** (Electrical Practice and Theories 5 year Certificate)
- **ONC** (Ordinary National Certificate)
- **HNC** (Higher National Certificate)
- **Chartered Electrical Engineering** (Power)
- **Chartered Electrical Engineer** (Projects)
- **IOSH** Health and Safety Diploma

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Day 1

Day 2

Electrical Safety and arc flash awareness and practices; Hierarchy of Control, understanding Safe Systems of Work Criteria and the implementation of proven process and documentation.

Arc Flash Solutions, Primary and Secondary Testing and Integration to Prime / Redundancy / Emergency Power

Session 1: Introduction & Electrical Safety Foundations:

- Align on course objectives & safety mindset
- Overview of HV/LV systems & protection schemes
- Understand arc flash causes & risk exposure

Session 2: Arc Flash Awareness & Safety Practices:

- Arc flash prevention strategies & planning controls
- Apply Hierarchy of Control for risk reduction
- Evaluate relays, solutions & safe work methods

Session 3: Safety Documentation & Processes:

- Develop switching schedules & method statements
- Build effective risk assessments (task-based vs dynamic)
- Execute PTW, toolbox talks & safe system compliance

Session 4: Hierarchy of Control (HOC) Deep Dive:

- Understand HOC principles & global best practices
- Integrate HOC into operational workflows
- Apply hands-on safety planning for real scenarios

Session 5: Safe Isolation - The 6-Step Method:

- Apply structured 6-step switching methodology
- Eliminate errors & unknown risks in isolation
- Hands-on validation of safe switching programs

Session 6: Generators & Redundancy Strategy:

- Differentiate critical vs essential loads
- Manage load shedding & seamless power transfer
- Evaluate CHP vs UPS vs DRUPS vs generators
- Execute black-start strategies & risk controls

Session 7: Transformer Protection:

- Identify transformer fault scenarios (internal/external/overload)
- Apply dedicated protection methods for reliability

Session 8: Protection Relays for Risk Prevention:

- Optimize relay settings for fast fault intervention
- Detect early warnings (thermal, humidity, partial discharge)
- Prevent catastrophic failures via smart integration

Session 9: Relay Testing & Commissioning:

- Execute primary & secondary injection testing
- Validate relay performance vs protection settings
- Ensure compliance, calibration & maintenance discipline

Final Wrap-Up: Q&A + Key Takeaways:

- Reinforce critical concepts & best practices
- Address real-world challenges & gaps
- Align learnings to operational safety execution

Programme Schedule

Session 1 - 1 hour 5 minutes - 10 minutes break
Session 2 - 1 hour 15 minutes - 10 minutes break
Session 3 - 1 hour 5 minutes - 45 minutes break
Session 4 - 1 hour 5 minutes - 10 minutes break
Session 5 - 45 minutes

The course will end at 03:30 pm

Who Should Attend?

- Chief Safety Officer (CSO)
- Chief Maintenance Officer
- Professionals Operations & Maintenance
- Asset Integrity / Reliability
- Safety, Health & Environment (SHE/HSE)
- Chief Asset Management Officer
- Protection & Control Systems
- Chief Electrical Engineer
- Chief Technical Officer (CTO)
- Chief Operations Officer (COO)
- Chief Engineer - Power Systems

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Registration Form

Event Code: IL-SSES-005

Please fill & sign below form & send us on
training@Corsol.net

Delegate 1
Name : _____
Job title: _____
Email: _____
Mobile: _____

Delegate 2
Name : _____
Job title: _____
Email: _____
Mobile: _____

Delegate 3
Name : _____
Job title: _____
Email: _____
Mobile: _____

Delegate 4
Name : _____
Job title: _____
Email: _____
Mobile: _____

Delegate 5
Name : _____
Job title: _____
Email: _____
Mobile: _____

Note: In case of 6 or more nominations make a duplicate of this form & fill in the details.

ORGANIZATION DETAILS:

Company : _____
Address: (to be used on invoice): _____

Telephone: _____
Country: _____

AUTHORIZED BY:

Signature: _____
Name: _____
JobTitle: _____
Email: _____
Date: _____

PAYMENT DETAILS:

Credit Card Holder's Details - To send Payment Link
First Name: _____
Last Name: _____
Email: _____
Country: _____

Course Fee

Registration Fees:

- Book 1 delegate Pay USD 695/delegate
- Book 2 or 4 delegates Pay USD 495/delegate
- Book 5 or more Pay USD 395/delegate

(All pricing excludes all taxes)

Payment Mode:

- Payments will be made by **Credit Card** or by **Bank transfer**, an Invoice will be sent soon after we receive the signed & filled registration form.
- Payment is required within **5 working days** after the receipt of the invoice.
- Payment must be received in full prior to the Course Origination.

Terms & Conditions:

- 1) Fee Includes (For Face 2 Face Training): the course fee covers all course material, lunch & refreshments. Please note that hotel accommodation is not included in the course fee.
- 2) Fee Includes (For Virtual Training): the course fee covers the live course session & the course material soft copies along with Certificates of Attendance.
- 3) Payment terms: Payments are required within 5 working days from the date of receipt of an invoice; all payments should be transferred by Credit Card/bank transfer to the Corsol International account. A receipt will be issued as payment is received.
- 4) Cancellation /Substitution Policy: Cancellation is only acceptable if submitted to us by email & will be subject to charges, cancellation received 60 days prior to the event 25% of the training fee will be charged, 30 Days prior to the event 50% of the training fee will be charged, 15 days prior to the event 75% of the training fee will be charged, 7 days prior to the event 100 % of the training fee will be charged. Substitution is the best option to avoid cancellation, as the cancellation is required in writing via email likewise Substitution is also required by email with complete details of the substituted delegates (Name, Position, Email & Mobile).
- 5) In the case of No Show, clients cannot claim any refund, & are not entitled to claim the Credit Voucher.
- 6) Cancellation by a paid client; does not subject to any cancellation charges, Corsol International will either accept the substitution or will provide a Credit Voucher of the Invoice amount which can be utilized in any of our future training, with validity up to 6 months.
- 7) Every possible effort is made to incorporate the event as it campaigns, however, due to any unforeseen circumstances Corsol International reserves the right to change the venue, location, and trainer. Also due to unforeseen circumstances, the event may be canceled or postponed, in this case, the paid delegate(s) Corsol International will process & refund the full amount, less the bank/service charges up to 5 % or less.
- 8) While all topics shown in this brochure will be covered in the course, the facilitator/instructor reserves the right to restructure and delivers them in a different order or sequence.
- 6) The client is considered aware of all the above terms and conditions, as they sign on this registration form & Corsol International will not be responsible for any expectation or monetary loss as indicated above.