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COURSE BROCHURE

Facility Electrical Distribution, Earthing and Safe Isolation Training Course

29 March – 2 April 2027
Madrid

Facility Electrical Distribution, Earthing and Safe Isolation Training Course

Ref: 3040_115343 **Date:** 29 March – 2 April 2027 **Location:** Madrid **Fees:** 6200 GBP

Facility Electrical Distribution, Earthing and Safe Isolation is a 1-week training course for facilities engineers in buildings and campuses who look after switchboards, final circuits and standby supplies, and who leave with a facility electrical maintenance and risk register. Ageing installations, rising loads and stricter safe working expectations put building electrical systems under closer scrutiny. Jupiter Prime Training delivers this course on facility electrical distribution, earthing and safe isolation.

Why Facility Electrical Distribution, Earthing and Isolation Matters Now

Three forces shape building electrical work today. Occupiers add chargers, servers and cooling to boards sized for lighter demand. Insurers and owners expect written evidence of isolation, inspection and testing. Experienced electricians retire faster than they are replaced. A facility that handles this well keeps tenants supplied and staff unharmed; one that handles it badly meets nuisance tripping, overheated joints, failed standby starts and shock or arc injuries. The course rests on accepted international practice for low voltage installations, protective bonding and permit-based isolation.

Who Gains Most from Facility Electrical Distribution, Earthing and Isolation

- Engineers responsible for switchrooms, boards and riser feeders in hospitals, hotels or campus estates
- Staff who authorise isolation, permits and lock-off
- Planners who schedule and check electrical maintenance by staff or contractors
- Engineers who look after generators and uninterruptible supplies
- Staff who hold installation records and test results

An estate team whose engineers and planner attend together gains most, leaving with one shared isolation routine.

Facility Electrical Distribution, Earthing and Isolation Capabilities

Participants work from single-line diagrams, board schedules and test sheets, linking electrical evidence to site choices.

- Trace a building supply on a single-line diagram — feeder loading decisions
- Assess earthing and bonding continuity — shock protection confidence
- Specify discrimination between upstream and downstream protective devices — tenant continuity and nuisance tripping
- Apply a written safe isolation and proving-dead routine — contractor and in-house staff safety
- Test standby generator and transfer switch performance under load — critical load owners and occupiers
- Build a risk-ranked electrical maintenance schedule — budget holders

Key Facility Electrical Distribution, Earthing and Isolation Terms

- Single-line diagram — a simplified drawing of how supply flows from intake through boards to final circuits.
- Earth fault loop impedance — the resistance of the fault current path, which sets how fast a device disconnects.
- Protective bonding — conductors joining exposed metalwork so dangerous voltage differences cannot appear during a fault.
- Discrimination — coordination so only the device nearest a fault operates.
- Proving dead — confirming with a tested indicator that a conductor is not energised before work.
- Residual current device — a device that disconnects a circuit when current leaks to earth.

Facility Electrical Distribution, Earthing and Isolation Day by Day

Day 1: The Building Supply in Context

- Intake, Main Switchboard and Metering Layout — Ownership Boundaries With the Supplier
- Single-Line Diagram Reading and Updating — Accuracy of Records Before Any Change
- Board Schedules and Circuit Charts — Traceability of Every Outgoing Way
- Load Growth From Chargers and Cooling — Spare Capacity at Each Board
- Installation Age and Condition Survey — Where Replacement Spending Goes First

Day 2: Lighting, Power Circuits and Protective Devices

- Final Circuit Design for Lighting and Small Power — Cable Sizing and Voltage Drop
- Circuit Breaker and Fuse Characteristics — Matching Devices to Connected Loads
- Discrimination Studies Between Board Levels — Limiting Outages to One Area
- Residual Current Protection Selection — Shock Risk in Wet and Public Areas
- Thermal Imaging of Joints and Busbars — Early Warning of Overheating Connections

Day 3: Earthing, Bonding and Testing

- Earthing Arrangements and Their Fault Paths — Choosing the Right Test Method
- Main and Supplementary Bonding Checks — Safety of Plant Rooms and Kitchens
- Earth Fault Loop and Insulation Resistance Tests — Accepting or Rejecting a Circuit
- Earth Electrode Resistance Measurement — Reliability of Lightning and Fault Paths
- Periodic Inspection Reports and Defect Coding — Urgency of Remedial Works

Day 4: Standby Supplies and Safe Isolation

- Generator Sets and Automatic Transfer Switching — Critical Load Continuity During Outages
- Uninterruptible Supply Units and Battery Care — Ride-Through for Data and Life Safety
- Load Bank Testing Routines — Confidence That Standby Plant Will Start
- Permit to Work and Lock-Off Procedures — Control of Contractors on Electrical Plant
- Proving Dead With Tested Voltage Indicators — Preventing Work on Energised Conductors

Day 5: Practising the Facility Electrical Maintenance and Risk Register

- Asset Criticality Ranking for Boards and Feeders — Order of Maintenance Attention
- Planned Maintenance Intervals From Test Evidence — Frequency Matched to Condition
- Applying Discrimination and Earthing Findings to Risk Entries — Likelihood and Severity Scores
- Applying Isolation and Standby Test Results — Residual Risk Owners and Actions
- Facility Electrical Maintenance and Risk Register — Completed Draft for the Estate

Applying Facility Electrical Distribution, Earthing and Isolation After the Course

- Walk the switchroom with the single-line diagram, correct board schedules and record spare capacity.
- Run a trial safe isolation on one board with a contractor using permit, lock-off and proving dead.

Facility Electrical Distribution, Earthing and Isolation Questions FAQ

What is facility electrical distribution, earthing and isolation and why does it matter now?

It is the care of a building supply from intake to final circuit, with sound earthing and safe switching off. Heavier loads and older boards now raise outage and injury risk.

Which roles gain most from facility electrical distribution, earthing and isolation training?

Facilities engineers who run switchrooms and boards gain most, followed by permit issuers and maintenance planners.

How does facility electrical distribution, earthing and isolation differ from a high voltage substation course?

It stays on the low voltage side of a building. A substation course covers utility transformers and protection; this one covers boards, bonding, standby plant and daily isolation.

What do you bring back from facility electrical distribution, earthing and isolation training?

You bring back a draft maintenance and risk register for your site, ranking boards by criticality and naming risk owners.

Facility Electrical Distribution, Earthing and Isolation: The Way Forward

The facility electrical maintenance and risk register first decides which boards, feeders and standby plant receive attention in the next maintenance cycle. Estate managers, planners and authorised persons use it to agree budgets and permit routines. After its first use, revisit the criticality ranking when fresh test results and load readings arrive, because building use keeps shifting.