Training Program:

Advanced Low Voltage Electrical Troubleshooting for Technicians

Introduction:

This course is designed to increase the trouble shooting skills and fault diagnostic processes for technicians and maintenance teams on LV equipment. The practical elements of the course centre on advancing the candidate's knowledge of diagnosing electrical faults. The course will progressively move toward advancing the candidate's knowledge of the faults and their rectification on a range of electrical systems.

Who Should Attend?

Electrical Technicians who have the responsibility for maintaining LV electrical operating systems. Engineers who need to trouble shoot and understand LV systems and need to advance their knowledge and skills of these systems.

Pre-Requisites

All Attendees should have a sound power generation and electrical background.

Course Outcome

At the end of this course you will be able to troubleshoot low voltage systems.

Objective:

To gain a detailed understanding of the troubleshooting on LV equipment.

Course Outline

Day 1

- Introduction, course objectives, content and expectations
- Guidance on Electricity at Work and risk assessment
- Competence – the importance of your skills, capability, training and experience
- Fundamental electrical principles – Three effects of current on a conductor
- Electrical terminology – Volts, Amps, Ohms, Watts.
- Safe use of multi-meters and their limitations

Day 2

Three phase principles – Single and three phase generation

- Capacitance and inductance in electrical circuits – Safety implications
- Electrical test equipment – The safe use of Megger & Clip on ammeter
- Transformers – Centre tap, equipotential and isolating

Day 3

- Proving dead with approved methods and indicators
- Fuse types and M.C.B's
- Perception of electrical shock
- Methods of reducing the risk – R.C.D's and reduced voltage
- Prospective fault currents - fused leads video

Day 4

- Electric arcs – awareness session
- Discrimination and diversity in electrical systems.
- Earthing methods and bonding and the importance of earthing.
- Induction motor starting methods.
- Induction motor testing.
- Motor protection - Thermal, magnetic electro mechanical and electronic relays.
- Feeder, transformer and generator protection overview.

Day 5

- Methods of achieving discrimination with time, magnitude and comparison.
- Understanding of the component parts in common electrical control panels - Overloads, isolator, timers, relays, control, indication and power circuits.

- Safe systems of work for dead fault finding techniques and practice.
- Reading and understanding schematic diagrams.
- Course Review and Feedback

Accreditation:

BTS attendance certificate will be issued to all attendees completing a minimum of 80% of the total course duration.