

Is the SAFETY of your ELECTRICAL WORKERS ensured?

From the people who manufacture the **SURETECH™ HV/PT2...** the WORLD-CLASS, High Voltage Personal Tester that provides a safer working environment. Now make your electrical work place safer with:

ELECTRICAL SAFETY TRAINING

Four pillars of SAFETY

Safety is everyone's concern, and should be a continuous co-operative venture. Our model of SAFETY places it on four pillars. If any one of the pillars becomes faulty, or erodes, or cracks, then operator safety is jeopardised. Safety can never be absolutely guaranteed, but rather everyone concerned should take the approach of continuously improving safety. The four pillars of Safety are:

- 1. PROCEDURES:** Procedures should be set up by managers of engineering, safety, quality and any other division of the organisation that could contribute to these procedures. Organisational feedback mechanisms such as Quality Assurance personnel must ensure the efficacy and practicality of procedures. Operators should be engaged to contribute to the writing up of these procedures so that they can "own" them
- 2. TRAINING:** Managers should ensure that all staff operating under their control is trained effectively. Training material needs to be prepared and delivered to operators. Organisational feedback mechanisms such as Quality Assurance people, must ensure the efficacy and practicality of training
- 3. EQUIPMENT:** Electrical equipment and instrument suppliers should be engaged in the development and manufacture of equipment that continually enhances operator safety by informing them (unambiguously) of plant status at all times
- 4. OPERATOR:** Operators should be trained to take responsibility for their own safety by working intelligently, and with a clear mind. Operators also need to continually ensure for themselves that.
 - A. the procedures under which they are working, AND
 - B. the training that they have received, AND
 - C. the equipment and instruments that they are working on are ALL:
 - D. understood and applied to the task at hand in a diligent manner

Safety training course content:

General Operating Principles

- Safety awareness
- Access control to plant and equipment
- Communications procedures (Verbal, telephone, radio)
- Permit requirements
- Equipment operating procedures
- Avoiding errors

Dangers of Electricity

- Electric shock levels
- Arcs and faults, and fault levels
- Lightning, strike prevention and surge suppression
- Magnetic induction, and capacitive coupling
- LV lines (telephone and LV power lines) running near to HV power lines

- Effects of inadequate earthing
- Overloading

OHSact

- Health and working environment
- Safety procedures and equipment
- Training and supervision
- Regulations for machinery
- Reporting
- Responsibilities of employer and employee
- Electrical clearances
- Organisational requirements
- Legal implications of formal safety training

Earthing

- Concept of GME, resistivity of soils etc.
- Building and sub-station earthing

- Frames and support structure earthing
- Power system neutrals, and their earthing
- Earthing for safety
- Working on earth conductors
- Earth testing

Equipment & Instrumentation handling

- General operating modes of equipment
- Safety instrumentation for manual use
- Operational characteristics of electric and magnetic fields
- General testing modes of instrumentation
- Safety equipment
- Safety instrumentation built into plant
- Test procedures

What is it like to operate on electrical installations and power lines?

Field and project work often needs to be carried out near electrical installations, such as inspections, trench digging, power line surveys, regular maintenance, upgrading of equipment etc. Working personnel are often not qualified to determine whether the power line or transformer is energised or not, nor to determine how close they can approach the power line before it is unsafe. Normally operators obtain a permit to do the work required, and the permit together with other operating procedures, would specify operational restrictions. These procedures and permits are often designed to cover managers, who are responsible for the safety of their workers. Sometimes the procedures are not practically helpful to assist the operator due to bad communication. In many cases the job is done as an emergency, so permits get drawn up in a hurry (or sometimes after the job is done!!!), messages are transferred over the radio network, communications are not the best, and mistakes occur due to "cutting corners". Visual judgement of clearance between raised booms and power lines is subject to error. A background of trees, or a bright sky often impairs power line visibility. All of the above factors can easily result in tragedy.

Safety training course field work

- Electric shock levels, prevention and handling
- Operational Health and Safety Act (OHS Act) practice
- General Operating practices
- Earthing practice
- Equipment & Instrumentation handling

Who should attend a safety course?

Courses are designed for various groups of personnel

- Safety Officers and training managers
- LV electrical workers
- MV electrical workers
- HV electrical workers

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CAUTION: Before operating any equipment read the manual carefully



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