

# High Voltage Switching Systems Operations Course



## College of Electrical Training (CET)

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*Connect Your Mind*

## Course Overview

The course provides the student with the knowledge required for entry to the High Voltage Switching industry. The course is designed for persons who require an understanding of or who are required to operate high voltage equipment.

## Course Requirements

It is mandatory that course participants should hold either an 'A' Grade Electrical Licence, Marine Engineers Certificate or have a Certificate III in Electrotechnology.

## Course Aims

The course aims to:

- provide an understanding of hazards associated with switching high voltage equipment
- highlight the dangers to personnel and the damage that could occur to equipment should incorrect procedures be followed
- provide participants with knowledge of fault levels and how these can be effected by operating various high voltage equipment
- be able to write switching programs to ensure that high voltage equipment can be safely isolated and earthed for access to work on that equipment

## Course Content

Nationally Recognised under training package UET 06

Units of Competency:

- UETDRISO4A - Perform high voltage field switching operation to a given schedule
- UETDRISO5A - Perform substation switching operation to a given schedule
- UETDRISO8A - Develop HV switching schedule
- UETDRISO8A - Coordinate permit procedures
- UETDRIS10A - Coordinate and direct switching operations
- UETDRIS11A - Coordinate and direct switching schedules
- UETDRSBO2A - Carry out substation inspection

Students are trained in various aspects of High Voltage Systems Operations including:

## Basic Electrical Theory

- Voltage & Current
- Resistance & Reactance
- Transmission Systems
- Circuit Impedance
- Transmission Systems
- Energy
- Connection Methods
- Star & Delta Connections
- Distribution Transformers &
- Distribution Systems

## Power Systems

- System Arrangement & System Reliability
- Power Systems - Operating Parameters
- HV Distribution Reticulation Systems
- Single Wire Earth Return Systems (S.W.E.R)

## Substations

- Working Conditions & Arrangements
- Current & Voltage Transformers

## Rating & Fault Current

- Equipment Ratings
- Fault Currents

## Permits and Safety

- Practical Application of "Electrical Safety Instructions"
- Electrical Access Permit (EAP)
- Vicinity Authority (VA)
- Sanction To Test (STT)
- Handover Certificate

## Distribution Equipment

- Poles, Conductors, Insulators & Insulator Types
- Types & Sizes of Underground & Overhead Service Cables
- Underground (Insulated) Cabling Systems
- Switches & Pole Mounted Switchgear
- Distribution Transformers
- Parallel Operation of Distribution Transformers
- Let Through Current of Transformers
- Ferro Resonance

## Reclosers & Sectionalisers

- Operation - Closing & Tripping
- Sequence Timing & Resetting
- Power System Protection

## Power System Protection

- Protective Relaying Protection Zones
- Distribution System Protection
- Overcurrent Relays
- Protection of a Typical Distribution Feeder
- Zone Substation Protection & Protection Schemes

## Power Transformers

- Thermal Protection
- On Load Tap Changers
- Transformer Gas Protection

## Ring Main Switchgear

- Ring Main Equipment

## Switching Programs

- Effects on the System
- Terminology
- Preparation for Writing a Switching Program

## Course Duration

4 Days - full time

## Course Fees

Subsidised course fees may be available to persons currently working in the building and construction industry or unemployed persons who have worked in that trade in the previous 6 months. The fee subsidy does not apply to persons working in the security and mining industries and Government employees. Please refer to the course registration form for current subsidised and non-subsidised course fees. To be eligible for subsidised course fees students must sign the 'Fee Subsidy Declaration' on the course registration form and Work History Form.

## Skills Recognition

Our skills recognition process benefits students, who have achieved prior training skills or knowledge and applies to Skills Recognition, Recognition of Prior Learning (RPL), Credit Transfer, Advanced Study or Exemption. If you believe you are entitled to any of the abovementioned we encourage you to fill out the Application Form for Skills Recognition, which is available from our administration team. Your application will be assessed on an individual basis.

## Cancellation Policy

|   |                 |
|---|-----------------|
| 8 days or more prior to course commencement | 100% fee refund |
| 2 to 7 days prior to course commencement    | 90% fee refund  |
| 1 day or less prior to course commencement  | Nil fee refund  |

## How to Enrol

Simply complete the course registration form and return to the CET together with your payment.

**In order to guarantee your booking for any course your payment and registration must be completed.**

**Under no circumstances will registration without payment entitle you to a position.**

**\*Work History Form MUST be filled out and submitted if paying the Subsidised Fee\***

Should you have any queries please do not hesitate to contact:

**Balcatta Campus: Taya Marshall**

Phone: (08) 9240 7700 Email: admin4@cet.asn.au

**Jandakot Campus: Jessica Kalmund**

Phone: (08) 9417 8166 Email: admin14@cet.asn.au

## Registration Form - High Voltage Switching Systems Operations Course

How did you find out about the CET? \_\_\_\_\_

Surname \_\_\_\_\_

First Name \_\_\_\_\_

Date of Birth \_\_\_\_/\_\_\_\_/\_\_\_\_

Private Address \_\_\_\_\_

Suburb \_\_\_\_\_ Postcode \_\_\_\_\_

Telephone \_\_\_\_\_

Mobile \_\_\_\_\_

E-mail \_\_\_\_\_

Facsimile \_\_\_\_\_

Company \_\_\_\_\_

Company Address \_\_\_\_\_

Company Ph No. \_\_\_\_\_

Course Date \_\_\_\_\_

**Please note** apprentices are not eligible for this course. You must provide one of the following (please tick and provide a copy of applicable):

Unrestricted Electrical Licence

(Licence Number: \_\_\_\_\_)

Marine Engineers Certificate III

Certificate III in Electrotechnology or equivalent

## Course Fees (as of courses in 2010)

Please find enclosed my cheque / money order / credit card authority / company purchase order payable to the CET for (please tick):

**NonSubsidised Fee**

\$1950.00

Total Payment Enclosed: \$ \_\_\_\_\_

**Subsidised Fee**

\$390.00

Paid by (if other than student, please provide name and address details)

\_\_\_\_\_  
\_\_\_\_\_

Persons paying the subsidised fee must complete the following:

## Fee Subsidy Declaration - High Voltage Switching Systems Operations Course

I \_\_\_\_\_ (full name)

(please tick)

- Am currently working in the building & construction industry
- Am currently unemployed and have worked in the building & construction industry in the past 6 months

*Please note: If the CTF declines this subsidy application you will be required to pay the full (non subsidised) fee immediately.*

Name of Employer \_\_\_\_\_

(required to claim the fee subsidy)

(Signature) \_\_\_\_\_

(Date) \_\_\_\_\_

**NOTE: The CTF subsidy reduces the student fee by up to 80%.**



The Supplementary Skills Program is subsidised by the Construction Training Fund Board and we would like to acknowledge the Board's continued support of skills development in the building and construction industry.

**Registration on this course is subject to receiving payment of course fees. Persons paying the subsidised fee must complete the form overleaf as well as the BCITF Work History Form available from CET .**

Please forward this form with your payment to:  
See address details on front page

