



## CEP & AEP Certification

### Introduction

This is the proposal for Electrical Competency training, assessment & certification for CEP-Competent Electrical Person & AEP – Authorised Electrical person positions. The certification process will include;

- ✓ **Classroom based knowledge training & assessment ( 2 Days)**
- ✓ **Field based skill Assessment & Certification ( 1 day for 1 person )**

### **Classroom based Knowledge training & Assessment**

This session will be delivered for both the CEP and AEP candidates in the same group. There will be additional modules for AEP candidates.

**Knowledge assessment for CEP candidates – 1 ½ hours**

**Knowledge assessment for AEP candidates – 1 ½ hours**

Those who score minimum 70% will be considered for a pass. The candidates who complete the training and knowledge assessment (score 70% and above) will be allowed to attend the skill assessment.

### **Skill assessment and Certification**

Skill assessment will be carried out on live/real systems. All candidates must complete another set of UPK – Underpinning knowledge questions (10 questions) before the skill assessment.

Skill assessment duration will be a full day for one candidate. Acceptable strength is 2 to 3 candidates per day for skill assessment.

**Learning outcomes/Competencies to be developed**

- 🌙 Skills to safely isolate and de isolate HV & LV electrical equipment and systems before and after maintenance.
- 🌙 Understanding of major hazards and its consequences while executing various routine and non- routine electrical tasks on an electrical equipment/system.
- 🌙 Understand the procedures for isolation, de-isolation, commissioning, start up, switching ON & OFF electrical equipment/systems
- 🌙 Understand the details of permits/authorisations required before executing work on electrical systems.
- 🌙 Understand the procedures to work on electrical equipments in Hazardous environment.
- 🌙 Enhanced capability to safely isolate & de-isolate, switch ON & OFF, commission & start up electrical equipment/systems
- 🌙 Develop the required underpinning knowledge and score minimum required performance in assessment for attending LV electrical skill assessment
- 🌙 Handling electrical emergencies, if any happens during electrical Operations & maintenance, etc.

**Course modules – Classroom training**

- 🌙 **Introduction,**
- 🌙 **Glossary & Terminologies**
- 🌙 **Definitions,**
- 🌙 **General SAFETY requirements,**
- 🌙 **Basic Electrical Rules**
- 🌙 **Power Systems**
- 🌙 **Basics of electricity**
- 🌙 **Electrical drawings & Control circuits**
- 🌙 **Inspection & testing of electrical systems**
- 🌙 **Electrical Equipment/Systems industries**
  - **Transformers**
  - **Motors HP/LP**
  - **Switch gears**
  - **Protection relays**
  - **Generators**

- **UPS & Battery**
- **VFDs- Variable Frequency Drives**
- **Electrical measuring instruments**
- 🌙 **Competent Electrical Person - CEP**
  - Qualifications & level of experience
  - Competencies required to demonstrate
  - Roles & Responsibilities
- 🌙 **Switching Operations**
- 🌙 **LV apparatus- Live line testing**
  - Case studies
- 🌙 **HV apparatus - Testing**
- 🌙 **Earthing,**
  - Circuit Main Earth - CME
  - Additional Earth - AE
  - LV earth
  - Portable Earthing
- 🌙 **Isolations & de-isolations**
  - KEY SAFE
  - SAFETY PADLOCK
- 🌙 **Electrical Documents.**
  - Issue & Control
  - Electrical Permit to work-EPTW
  - Electrical Isolation certificates.
  - SFT- Sanction for Test
  - CofA- Certificate of appointment
  - LOA – Limitations of Access
  - Mobilisation- immobilisation certificates
  - Excavation Certificates
- 🌙 **Live Line Working and Washing.**
- 🌙 **Safety Distances**
- 🌙 **Contraventions & Objections Handling**
- 🌙 **Discussions & Clarification**
- 🌙 **Assessment & validation**
- 🌙 **Feedback**
- 🌙 **Close out**

**Course structure**

- **40%** - Classroom lecture supported with highly visual PowerPoint graphics including case studies
- **40%** - Videos, individual & group assignments
- **20 %** - Assessment , Feedback sessions

**Skill Assessment** on Live electrical Systems.