Australian Government

Assessment Requirements for UETTDREL16 Working safely near live electrical apparatus

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the UET Transmission, Distribution and Rail Sector Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least two separate occasions and include:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including the use of risk control measures
- applying sustainable energy principles and practices
- performing all of the following:
  - confirming safe working zone for safe work and access near live electrical apparatus
  - identifying relevant technical standards – acts, regulations and codes/guidelines
  - identifying established (enterprise) procedures
- performing all of the following:
  - confirming principles of electricity, three phase power system, electric shock and resuscitation, and power systems
  - recognising of aerial voltage systems
  - identifying of low voltage (LV) aerial circuits
  - identifying high voltage (HV)
- demonstrating all of the following:
  - procedures in the event of an incident
  - events constituting an incident
  - procedures for responding to incidents
  - hazard and risk assessment procedure
  - conduct worksite hazard assessment
  - confirmation of essential components of hazard assessment checks
  - applying hazard identification in electrical work
  - confirmation of the basic safety principles for work on electrical works
  - hazard identification and risk assessment
  - hazard control
  - risk assessment and management control
  - the hierarchy of controls, including evaluation, worksite hazard and risk assessment checklist, pre-job hazard assessment check (HAC) items, planned inspection and

pre-work hazard risk assessment form

- applying all of the following:
  - use of work permits and/or authorisation permits
  - sustainable energy principles and practices
  - possible effects of weather conditions on working near electrical apparatus as an electrical worker
- dealing with unplanned events on at least one (1) occasion.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- electrical safety and principles, including:
  - hazards encountered in an electrical environment and safety procedures for dealing with them - types of hazards (electrical shock, fire from an electrical source, chemical hazards and fall hazards.), factors indicating general unsafe work practices and conditions, and safety practices in the use of common tools and plant
  - rescue techniques and first aid treatment of an electric shock victim - methods to rescue an electrical shock victim in contact with live equipment or conductors; accepted first aid treatment for burns, bleeding and shock; and procedures for conducting expired air resuscitation (EAR) and cardiopulmonary resuscitation (CPR)
  - procedures for dealing with fires and hazardous chemicals associated with electrical equipment - selection and use of different types of equipment used to fight fires associated with electrical equipment, procedures for dealing with a fire associated with electrical equipment, and procedures for dealing with polychlorinated biphenyls (PCB)s
  - basic circuit components and state the function of each - sources of electrical supply, control switches, types and functions of resistive consuming devices, and basic circuit components symbols used in electrical diagrams
  - connection of basic electrical circuits and measurement of circuit parameters - connection of components that make up a single-source single-load circuit, relationship between voltage and current in such circuits, and consequences of a short-circuit and an open-circuit
  - determining voltage, current and resistance - calculation methods and measurement methods
  - cable and conductor terminations to Australian/New Zealand Standards - types of terminations, cable conductor preparation, prepare conductor for termination and termination method (conductor terminations include soldered and pressure types)
- transmission, distribution and rail systems encompassing:
  - relationship between the transmission, distribution and rail/tram system within an overall power system - different organisations responsible for generation, transmission, distribution and rail/tram; and how they correlate and their functions
  - characteristics of a transmission, a distribution and a rail system - principal components; typical voltage levels and methods of transmission and distribution, including grid type transmission systems, radial, parallel and ring main feeders

- relationship between an overhead and underground supply systems within an overall power system - advantages/disadvantages, applications and the basic steps for planning and installing an overhead and underground distribution system
- single line drawings and layouts - drawings and layouts of transmission and distribution systems, including radial, parallel and ring main feeders and the high voltage (HV) equipment associated with substations

- fundamentals for working safely near live electrical apparatus, including:
  - standards, guidelines/codes of practice, state/territory/local government legislation, supply authority regulations and-or enterprise requirements, including relevant certification and licensing applicable to working safely up to the defined safe working zone near energised electrical apparatus (including electrical powerlines) for non-electrical worker
  - definitions of terminologies - 'safe working zone' 'risk assessment', 'safe approach distances zones', 'safe working distances'.' work permits', access authorisation permits', 'technical standards' 'isolation procedures' and compliance requirements'
  - WHS/OHS policies and procedures for working safely - emergency response and first aid procedures, such as CPR; roles and responsibilities of employers, employees and other parties under WHS/OHS legislation; personal protective equipment (PPE); identifying hazards; assessing and controlling WHS/OHS risks; first aid procedures; duties of a safety observer; working at heights/confined spaces; permit to work systems and isolation procedures; and safe application of different types of tools and equipment
  - operation of mobile plant and machinery, such as elevated work platforms (EWP) near live electrical apparatus
  - electricity supply infrastructure assets and voltages
  - techniques and precautions in undertaking different work functions and working safely up to the defined safe working zone near energised electrical apparatus (including electrical powerlines) for non-electrical worker - work functions that may be performed, including vegetation control, scaffolding, rigging, painting, and/or any other activity that requires working safely near live electrical apparatus by a non-electrical worker.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated conditions involving realistic and authentic activities that replicate operational workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, facilities, equipment and PPE currently used in industry for working safely near live electrical apparatus
- applicable documentation, including workplace procedures, relevant industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

UET Training Package Companion Volume Implementation Guide is found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7