



Australian Government

UETDRDS008 Draft and layout a power system distribution substation minor upgrade

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 Release 2.0.

Application

This unit covers the drafting and laying out of minor low voltage (LV) distribution substation upgrades, including the estimating of the costs and/or resources for the work to be undertaken. It also encompasses on-the-job design, surveying techniques, the pegging and/or marking out of the trench position, the pit/pillar position and the cable position according to the work order and enterprise requirements.

The application of the skills and knowledge described in this unit may require a licence/registration to practice in the workplace subject to regulations for undertaking of electrical work.

Other conditions may apply under state and territory legislative and regulatory licensing requirements which must be confirmed prior to commencing this unit.

Pre-requisite Unit

UEENEEE101A Apply Occupational Health and Safety regulations, codes and practices in the workplace

UEENEEE102A Fabricate, assemble and dismantle utilities industry components

UEENEEE104A Solve problems in d.c. circuits

UEENEEE107A Use drawings, diagrams, schedules, standards, codes and specifications

UEENEEG101A Solve problems in electromagnetic devices and related circuits

UEENEEG102A Solve problems in low voltage a.c. circuits

UETDREL001 Apply environmental requirements

UETDREL005 Work safely in the vicinity of live electrical apparatus

UETDRIS005 Implement & monitor power system environmental & sustainable energy management policies & procedures

UETDRIS006 Implement and monitor the power system organisational WHS/OHS policies, procedures and programs

Competency Field

Design

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare/plan to draft and layout a distribution substation upgrade

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Work schedules, including drawings, plans, requirements, established procedures and material lists, are obtained and analysed, as necessary, by site inspection and the extent of the work determined for planning and coordination
- 1.2** Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes, to a quality standard and in accordance with established procedures
- 1.3** Risk control measures are identified, prioritised and evaluated against the work schedule
- 1.4** Relevant requirements and established procedures for the work are communicated to all personnel and identified for all work sites
- 1.5** Hazards are identified, work health and safety (WHS)/occupational health and safety (OHS) risks assessed and control measures are prioritised, implemented and monitored, including emergency exits kept clear, to ensure safe systems of work are followed and in accordance with established procedures
- 1.6** Relevant work permits are secured to coordinate the performance of work according to requirements and/or established procedures
- 1.7** Resources, including personnel, equipment, tools and personal protective equipment (PPE), required for the

job are identified, scheduled and coordinated and confirmed safe and in technical working order

- 1.8** Clients/customers are provided with possible solutions and/or options within the scope, acceptable cost and requirements
- 1.9** Liaison and communication issues with others/authorised personnel, authorities, clients and landowners are resolved and activities coordinated to carry out work
- 1.10** Personnel participating in the work, including plant operators and contractors, are fully briefed and respective responsibilities coordinated and authorised, where applicable, in accordance with established procedures
- 1.11** Site is prepared according to the work schedule and to minimise risk and damage to property, commerce and individuals in accordance with established procedures
- 1.12** Positioning of road signs, barriers and warning devices is planned in accordance with requirements

2 Carry out the drafting and layout of a distribution substation upgrade

- 2.1** WHS/OHS and sustainable energy principles and practices to reduce the incidence of accidents and minimise waste are monitored and actioned in accordance with requirements and/or established procedures
- 2.2** First aid, pole top rescue and other related work procedures are performed according to requirements and/or established procedures
- 2.3** Lifting, climbing, working in confined spaces and aloft, and use of power tools/equipment, techniques and practices are safely exercised according to requirements
- 2.4** Hazard warnings and safety signs are recognised and hazards and assessed WHS/OHS risks are reported to the immediate authorised persons for directions according to established procedures
- 2.5** Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and/or established procedures
- 2.6** Drafting and layout of a distribution substation upgrade is carried out in accordance with the work schedule and

requirements and/or established procedures

- 2.7 Essential knowledge and associated skills are applied in the safe drafting and layout of a distribution substation upgrade to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements
- 2.8 Solutions to non-routine problems are identified and actioned using acquired essential knowledge and associated skills according to requirements
- 2.9 Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality outcome is achieved for the client/customer and to a community/industry standard

3 Complete the drafting and layout of a distribution substation upgrade

- 3.1 Work undertaken is checked against work schedule for conformance with requirements, anomalies are reported and solutions identified in accordance with established procedures
- 3.2 Accidents and/or injuries are reported and followed up in accordance with requirements/established procedures
- 3.3 Worksite is rehabilitated, cleaned up and confirmed safe in accordance with established procedures
- 3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures
- 3.5 Relevant work permits are signed off and substation equipment, apparatus, wiring and instrumentation are returned to service and advised to client/customer in accordance with requirements
- 3.6 Work completion records, reports, as installed/modified drawings and/or documentation and information are confirmed, processed and appropriate personnel notified

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UET Transmission, Distribution and Rail Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UETDRDS34 Draft and layout a power system distribution substation minor upgrade.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=229bace1-b7bc-4653-9300-dffb13ecfad7>